

Summary of Comments: Lake level discussion
September 17, 2008
UW-Madison
Prepared by D. Einstein

Attendees:

Kris Ackerbauer, assistant director, Physical Plant
Gary Berger, Wisconsin Alumni Association
Dave Bonfield, plumbing shop supervisor, Physical Plant
Gary Brown, assistant director, Campus Planning and Landscape Architecture
Cathie Bruner, field manager, Lakeshore Nature Preserve
Kris Clark, rowing coach, Athletics
Daniel Einstein, program manager, Lakeshore Nature Preserve
Ray Guries, chair, Lakeshore Nature Preserve committee
Jim Rogers, Hoofers
Gene Turk, grounds department supervisor, Physical Plant
Bob Wright, Union Outdoor Rentals

Invited, but unable to attend

University Housing
Recreational Sports
Nelson Institute, Water Resources
Center for Limnology (email comments below)

In your experience, what affect does a high lake level have on campus facilities/operations?

Gary Berger, Wisconsin Alumni Association

For the first time ever this past summer, the elevator shaft in our building flooded. Shoreline erosion is evident (from Lake Street to Park Street) but funds are not available to repair this.

Dave Bonfield, plumbing shop supervisor, Physical Plant

We needed to plug the storm sewer at the Alumni building to prevent water from entering the building in high water.

Kris Clark, rowing coach, Athletics

The “no wake rule” affects the designated rowing zone within 300ft. of the shore. Our boats almost always operate in this zone. The high lake level is not a problem for us, but if lake levels were reduced more than, say, one foot, it might be more difficult to row this close to shore, or over ‘the bar’ at University Bay. The new boathouse was constructed high enough that high lake levels no longer pose a problem for our building, but the floating piers were partially under water at the hinge point.

Jim Rogers, Hoofers

Hooper piers were underwater most of the summer. Windsurfing deck flooded in high water – we had to sand bag. Some flooding occurred into Hooper building area. In the past, floating bogs have collided with pier.

Gene Turk, grounds department supervisor, Physical Plant

In winter, high water and ice dams will push up onto crew house ramp.

What might happen if the lake level were dropped (no depth specified)?

Dave Bonfield, plumbing shop supervisor, Physical Plant

Can't think of any negative affects if water level drops. There are 50 storm sewer outfalls on campus shoreline-no change. The water intake for the power plants (off-shore near Limnology building) is in deep water and would not be affected.

Kris Clark, rowing coach, Athletics

Would not anticipate significant additional costs/impacts if lake lower. No infrastructure would be exposed by lower water. A rowing shell has a draft of about 6-8"

Bob Wright, Union Outdoor Rentals

Lower water would result in the loss of the University Bay mooring field. Between a quarter and a half of the moorings in Field #2 (area between Willows Beach and Elm Dr.) would be un-usable. (Note: mooring fields can be viewed on the Preserve interactive web map. To turn on this map layer go to: "wayfinding" pull up menu, and check the "visitor amenities" box.)

Jim Rogers, Hoofers

Keel boat (painted like Holstein cow) would run aground (6-foot draft) with a lake level more than a foot lower. Would not anticipate significant additional costs if lake lower.

Memo

11 September 2008

To: Daniel Einstein and colleagues

From: Jim Kitchell, Steve Carpenter, John Magnuson, Emily Stanley and Jake Vander Zanden

Re.: Lake Level discussion

Unfortunately, members of the Center for Limnology faculty cannot attend this meeting. Three are traveling, one is on sabbatical and one is teaching at that time. We have discussed our response to the issues and assembled the collective view represented below. In addition, we've attached two articles that offer both some background and estimates of a likely future for the Madison lakes.

Our major concerns are as follows:

1. The CFL has an all-campus obligation to support field programs on the Madison lakes through facilities of the Hasler Laboratory. That's been in place since 1981.

2. We are the home base for many major research and teaching programs that involve work on the lakes. Among those using the boat facilities are courses in several departments (Zoology, Nelson Inst., Geol. and Geophysics, Atmospheric and Ocean Sciences, Civil and Env. Engineering., etc.). Every summer, we provide facilities and support to major and important outreach efforts such as College for Kids, Grandparents Univ., and several offerings through the Center for Biology Education. We also provide logistic support to major research programs, especially the Long Term Ecological Research Program, that include faculty and students from 12 academic departments.

3. Since the building was opened in 1963 we've been flooded four times during summer months, our most active field season. That includes 2000, 2003 and twice in 2008. Those have caused major problems. In addition to concerns about property damage (erosion of our dock apron area) and dangerous conditions, those have caused compromise for or cancellation of some teaching, research and outreach activities. As a result of excessive high water levels, our boat slip staging area is unsafe and our pier is damaged by high waves to the point where it cannot be used.

4. It's clear that the increasing response of lake level to local rain events creates these problems. That is unlikely to change and, in fact, will probably become more problematic. We know that Lake Mendota has become more responsive to single extreme rain events. For example, a 15cm (6 inch) rain event increased the level of Lake Mendota 15 cm (6 inches) in 1935 but 25 cm (10 inches) in 1995. This is the consequence of the increase in impervious surfaces in the watershed since 1935. It's clear that anticipating such events by lowering the lake level would be a necessary, appropriate and adaptive response.

5. We share concerns about effects of lower lake levels on wetland habitats and the potential effects on spawning by fishes. Advice from DNR fishery managers would be helpful in planning a "rule curve" for lake level management. That would assure access to spawning marshes in early spring (e.g., for northern pike that spawn at about ice out), followed by a progressive drop of lake levels in anticipation of late spring and early summer rainstorms. Other fishes would be little affected by this practice and critical wetland habitat would be less vulnerable to erosion due to high summer lake levels.

6. We share concerns about property damage to other lakeshore facilities associated with the campus, all shoreline areas of Lake Mendota and others of the Madison lakes. We imagine that those are more common and certainly more important than concerns about the inconvenience of access to shallow-water docks for a small group of lakeshore residents. We strongly encourage communication of these concerns to the Dane County Lakes and Watershed Commission.

In short, we must learn to live with and plan for increasing variability in lake levels. We view that lowering lake levels in anticipation of run-off events will assure a greater good for the greatest number of those in the UW community. Much the same will develop for the majority of those who reside on the lakeshores of both Mendota and the downstream lakes of the Yahara chain. Clearly, proper management of lake levels can assure lessened safety hazard, reduce property damage, support more successful pursuit of campus-based activities, and offer a more ecologically beneficial plan for seasonal fluctuations of lake levels.

Thank you for organizing this effort and soliciting our input. We look forward to a report of the discussion that transpired during this important meeting. If we can be of help in the future, please contact us.

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