



Water Resources Operations Report RKLD Annual Meeting 2011

July 30, 2011

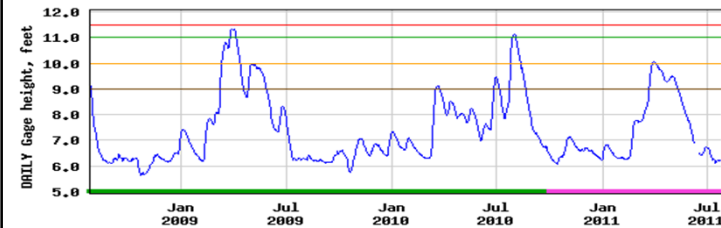
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Water Level Criteria for Slow No Wake

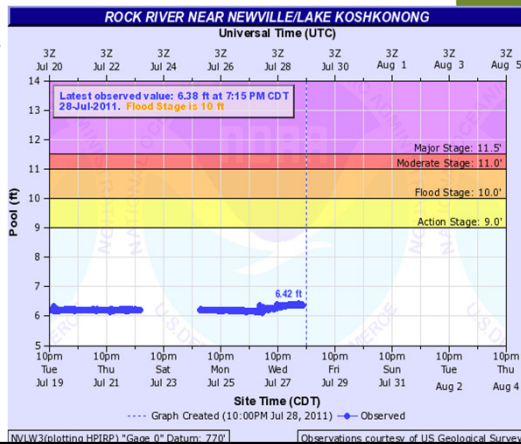
- Rock County
- Current situation: request-driven
- Flood typically rise faster than they fall
- Need for objective criteria

USGS 05427235 LAKE KOSHKONONG NEAR NEWVILLE, WI



Weather Bureau Flood Prediction

- Web based
- Includes predictions
- Flood levels based on when "things start to flood"
- Defines an "Action Stage"
- Action Stage for Lake Koshkonong is 779.0
- <http://water.weather.gov/ahps2/hydrograph.php?wfo=mkx&gage=nvlw3&view=1,1,1,1,1,1%22>



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NVLW3(plotting HP1RP) *Gage 0" Datum: 779'

Observations courtesy of US Geological Survey

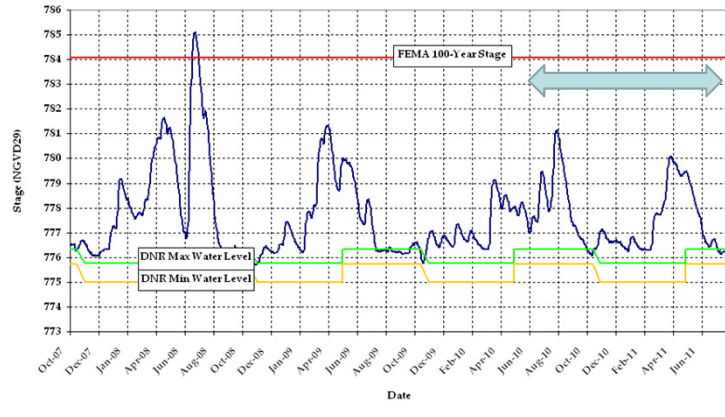
Proposed Slow-No-Wake Criteria

- Action Stage at Lake Koshkonong gage
- Use same Action Stage for SNW on and SNW off
- Action stage at Lake Koshkonong correlates well with Action Stage at Indianford Dam

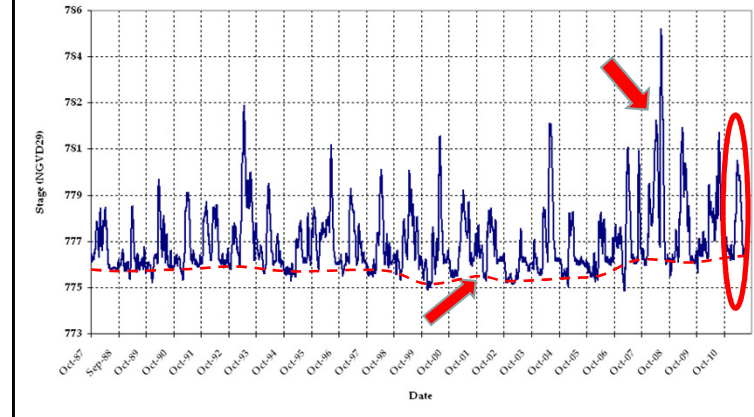
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The last year on Lake Koshkonong



Water Levels, 1987 - Present

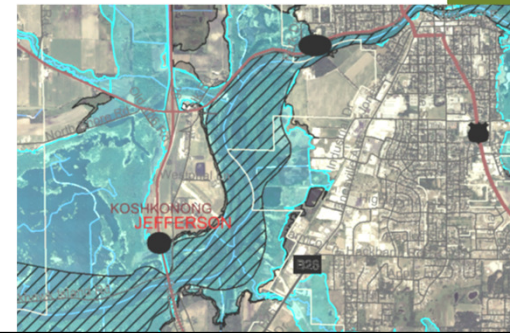


Observations on Recent Hydrology

- 2011 Flood peak about average in height for record since 1987.
- Flows have generally been higher than average for the last five years – low stages have not been as low as they were previously.
- Winter and summer stages typically above operating order targets.
- Aquatic vegetation on Lake Koshkonong

Floodplain Revision for the Rock River

- Restudy initiated by DNR, partly in response to 2008 flood
- 100 Year flood stage change
- Floodplain zoning: floodway, floodfringe



Rock River TMDL



- A draft of the TMDL for the Upper and Lower Rock River Basins is finished and available online.
- There are approximately 40 waters in the Rock River Basin that are impaired by excess phosphorus (TP) and total suspended solids (TSS).
- All of the Rock River & Lake Koshkonong are designated "impaired"
- The DNR is responding to public comments and a final draft will be available soon.

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RKLD Support for USGS gages

RKLD currently supports gages at:

- Indianford Dam
- Lake Koshkonong
- Ft Atkinson

Indianford Dam gage has accuracy limitations, Ft Atkinson & Lake gages record high quality data

USGS requested change:

- **STH 59 at Newville**
- Lake Koshkonong
- Ft Atkinson

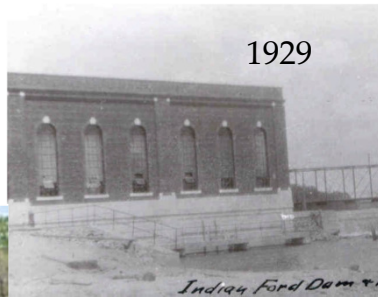
Newville gage (already installed) measures stage and velocity directly, similar to Ft Atkinson

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Restoring hydropower at Indianford Dam

- Recognize value of renewable energy
- Recognize value of income stream



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Hydropower Implementation

- Analyze revenue potential
- Analyze required installation: turbines, generators, switchgear, operating needs
- Evaluate permitting & licensing
- Evaluate investment & return
- Go/No-go
- Start permitting and possible equipment procurement
- Contract for installation & start-up
- 2-3 year process

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Questions?

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