

ISETR Thoughts

Omaha

MRRIC Plenary Aug 27 2015

Flood Risk Proxies

- The data available to estimate flood risk is limited to the number of releases.
- There are 4 to 15 releases depending on the scenario.
- This is not enough data to draw statistical conclusions.
- We need to do the same Monte Carlo exercise that Kate did with the birds, this would provide the full distribution of results, including likely extremes.

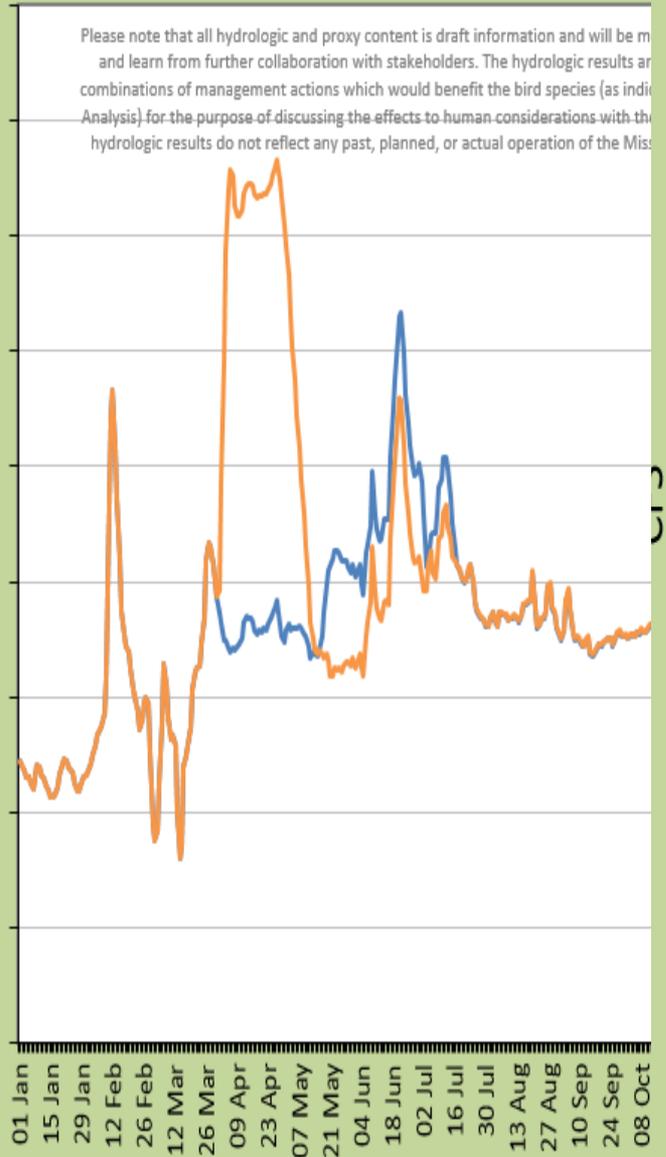
Flood Risk

- The proposed spring release is 60,000 kcfs from Gavins.
- The 2011 flood started with a levy breach due to 93,000 kcfs from Gavins.
- The concern is a heavy April rain below Gavins that causes a rise in the river below Gavins; this would need to occur in the short period it takes the system to respond to cut back on the release.
- Is this possible?

Nebraska City, NE, Flow, 2009

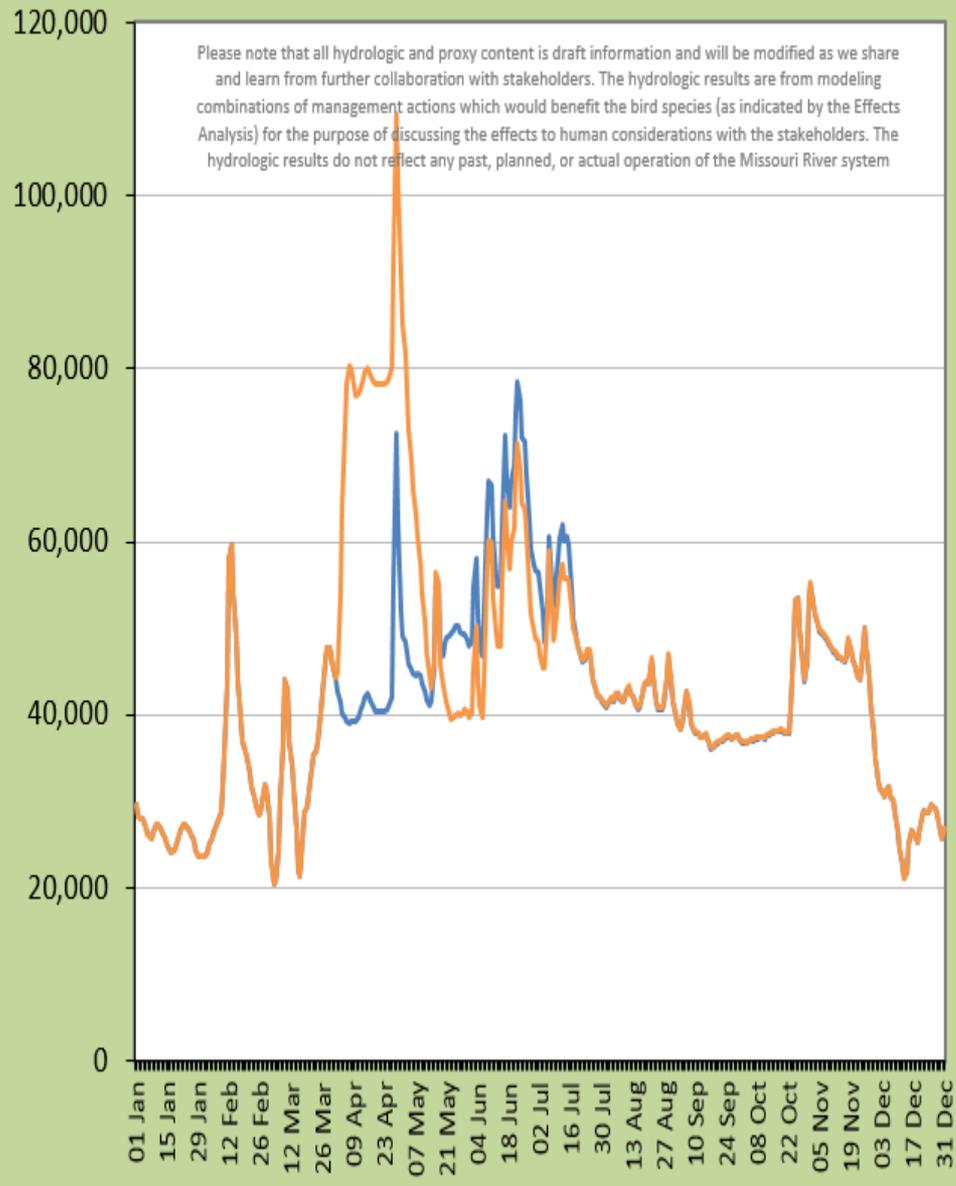
St. Joseph, MO, Flow, 2009 Data Year

Please note that all hydrologic and proxy content is draft information and will be modified as we share and learn from further collaboration with stakeholders. The hydrologic results are from modeling combinations of management actions which would benefit the bird species (as indicated by the Effects Analysis) for the purpose of discussing the effects to human considerations with the stakeholders. The hydrologic results do not reflect any past, planned, or actual operation of the Missouri River system.



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Date

- NO ACTION / MECH ONLY (A1)
- SPR_35SL + M (A32)
- SPR_42MAF + M (A30)
- SPR_31MAF + M (A29)
- FALL_35SL + M (A28)
- FALL_42MAF + M (A22)
- FALL_31MAF + M (A21)
- FALL_42MAF + LSF + M (A26)

Flood risk proxies

- The counterintuitive results occur because days with less flooding are used to cancel days with flooding.
- Does this logic translate to a dollar value?
- Suppose the flood event occurs soon after the new program has been implemented.
- Someone will need to convince those with damaged property that that will be compensated by lower flood damage in the future, this may be a challenge!

Flood Risk Proxies, cont'd

- Now suppose that the opposite occurs and that one needs to convince property owners that they owe money because they were not flooded. Will they pay?
- Property owners will respond by saying that the system was put in place to prevent flooding and also that the results are from a hypothetical model.
- Therefore it is problematic to cancel flood events with events that reduced flooding.

Move to Monetary Final Metrics

- Useful to compare to cost of mechanical only.
- Would allow more informed judgments about alternatives.

Water Supply Weighting Issue?

- Include dependence on Mo River
 - Vulnerability
 - Availability of alternative supplies
 - Storage

Equity and Distribution of Costs

- How the costs and benefits are distributed matters.
- E.g., statement that mechanical only spreads costs.
- NED/RED type analysis needed.

Need to Link Bird and Fish Actions

- Move ahead quickly on linking actions for birds and for sturgeon.
- May be flow actions to benefit both.
- Look for opportunities for overlap or efficiencies – economies of joint action, with potential current and future flow and construction actions.

Quantify Impacts of Full Range of AM Toolbox

- Within alternatives being considered now.
- Include other suggested alternatives such as off-channel habitat (refurbish existing, build).

AM HC Metrics Monitoring

- What HC metrics are needed for AM decision making?
- Who monitors what?
- How is the monitoring information gathered, analyzed, synthesized, communicated, kept up to date, etc.

MRRIC & AM Governance

- Time for MRRIC input into AM governance is now.
- Unbundle what collaboration means:
 - What will MRRIC engagement in decision making look like?
 - What happens when there is discord? What mechanisms need to be in place to address disagreement?
 - What happens when nimble activity is required?



Least Tern Nesting Area

Tern Foraging Area

Nebraska

Missouri