Peer Review Plan

Scientific Information in Support of the Upper Red River Basin Study (URRBS), Oklahoma

Date: March 23, 2022

Originating office: Bureau of Reclamation, Arkansas-Rio Grande-Texas Gulf Coast Region, Oklahoma-Texas Area Office

Reclamation roles:

Director or delegated manager: Brent Esplin, Regional Director, Missouri Basin Region, Bureau of Reclamation

Peer Review Lead: Subhrendu Gangopadhyay, Civil Engineer, Technical Service Center, Bureau of Reclamation

Study Manager: Collins Balcombe, Supervisory Program Coordinator, Arkansas-Rio Grande-Texas Gulf Coast Region, Oklahoma-Texas Area Office, Bureau of Reclamation

Subject and Purpose:
The URRBS is being conducted through a partnership with the Oklahoma Water Resources Board (OWRB), Lugert-Altus Irrigation District, and Mountain Park Master Conservancy District. The overall purpose of the URRBS is to identify strategies that improve the reliability of irrigation, municipal, and industrial supplies from the Bureau of Reclamation's (Reclamation) Lugert-Altus and Tom Steed Reservoirs, while also maximizing overall beneficial use of water in the basin. Under state water law, when "interference" occurs (during a critical drought), senior water right permit holders have priority over junior permit holders. One of the key goals of the URRBS is to identify a range of parameters and thresholds that could initiate curtailment to minimize interference on reservoir permits. OWRB can further consider, after completion of the URRBS, incorporating this science-driven approach into OWRB's permitting and enforcement procedures within the basin.

Scientific information in support of this goal entails the development and integration of ground and surface water models that quantify reservoir yield, as well as the magnitude and frequency of surface water permit shortages within the basin under a range of current and future water rights management scenarios, both ground and surface water. Reservoir yield and surface water permit shortages are first quantified under a range of "status quo" management scenarios

(i.e. consistent with existing water law, policy, and/or practice). These impacts are then compared to impacts that would be expected under future adaptive management that incorporates pre-determined thresholds intended to minimize interference during periods of drought. When reached, the threshold(s) could trigger the curtailment of surface water diversions that are junior to the more senior rights, including those to water stored in Reclamation reservoirs. If implemented, these thresholds may minimize "interference", reduce uncertainty, and protect reservoir yield while maximizing beneficial use during drought periods.

Impact of Dissemination:
Reclamation's Policy CMP P14, "Peer Review of Scientific Information and Assessments", requires an evaluation of whether scientific information to be disseminated by Reclamation must be peer reviewed. The models, analyses, and findings produced by Reclamation have the potential to change water policy and inform regulatory decision-making by the OWRB, and thus, is considered to be **"influential" scientific information** pursuant to Section 4.A. of CMP P14.

Peer Review Scope:
The entirety of the scientific information supporting the URRBS is expected to be comprised of seven technical memorandums (TMs)[1]. Four of the seven TMs are the subject of a peer review plan that was published in February 2021, and two TMs are the subject of a peer review plan that was published in July 2021[2]. The peer review scope of this plan is comprised of the last and final TM to be reviewed, and it relates to the development of hydrologic thresholds that could be used to inform water management strategies in the Tom Steed Reservoir hydrologic basin as described below.

The following TM is the subject of this review:

"Formulation of Streamwater Rights Management Alternatives in the Tom Steed Reservoir Hydrologic Basin": This TM describes the approach, assumptions, and methods for selecting a range of hydrologic indicators and thresholds that could be used to manage stream water rights in the basin and to protect the yield of Tom Steed Reservoir during drought periods.

The reviewer is to provide comments solely on the scientific information being reviewed, and not on any agency decision or policy, and not on editorial mistakes, if applicable. The reviewer will answer the following questions for the TM. If the reviewer has a concern or suggested improvement, recommendations shall be provided on actions that could be taken to alleviate those concerns for each of the following:

[1] Initially, the peer review scope for the entire Upper Red River Basin Study included nine TMs, but this has been modified and only seven TMs are the subject of the peer review.
[2] http://www.usbr.gov/main/qoi/peeragenda.html.

1. Are the goals, definitions, methods, and results understandable?

2. Are the methods technically sound?

3. Are methods appropriately applied and results technically sound?

4. Are assumptions and uncertainties appropriately characterized?

5. Are there any issues, concerns, or suggestions that are not covered by the questions above?

Timing of Review:
The Peer Review Plan is expected to be published by March 23, 2022 on Reclamation's peer review website: http://www.usbr.gov/main/qoi/peeragenda.html. A meeting and/or webinar will be held between Reclamation and the peer reviewer to discuss the details of this Peer Review Plan. The reviewer must provide his/her comments within 45 calendar days of this meeting. The tentative due date for comments is expected to be May 27, 2022.

Methodology of Review:
The review will be conducted by one individual. At completion of the review, comments will be compiled by the reviewer in a comment excel file template provided by Reclamation, and Reclamation will coordinate with the reviewer and authors/developers of the scientific information to address comments. When the review is completed, a Peer Review Report will be compiled that identifies the reviewer by name and credentials, his/her individual comments, as well as Reclamation's responses and actions taken to satisfy concerns, if applicable. The Peer Review Report will be posted on Reclamation's peer review website. The peer review process will not provide opportunities for public participation.

Reviewer Selection Process:
The peer reviewer was selected considering expertise, balance, independence, conflict of interest, and subject matter expertise. The peer reviewer has an advanced education and expertise in hydrology and hydroclimate data analysis, water resources planning and management, and water resources decision-support analysis.

Delivery of findings:
The peer reviewer will submit his/her comments to the Peer Review Lead by the end of the review period. The comments will include a response to each of the questions cited under "Peer Review Scope", as well as description of findings in a comment matrix (template provided by Reclamation). The comments will be provided digitally to the Peer Review Lead.

Response to Peer Review:
After receiving peer review comments, Reclamation will provide a response to each of the comments, ensuring that comments are adequately and fairly addressed, as applicable.

Federal Register Notice:
Federal Register notices will not be provided announcing the formation of a peer review team and completion of the final report.

Applicability of the Federal Advisory Committee Act (FACA):
This peer review is not subject to the FACA because the review does not involve open meetings or committee chartering and reviewers are being asked to provide individual reviews on the subject matter. Reclamation is not seeking consensus advice from the reviewers as a group.

Agency contacts:
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