

Peer Review of Research Priorities Roadmap to Enhance Canal Infrastructure Sustainability

Date: December 7, 2015

Originating Office: Research and Development Office, Bureau of Reclamation, Mail Code 08-10000, PO Box 25007, Denver CO 80225

Reclamation Roles:

Director or Delegated Manager: Levi Brekke, Chief, Research and Development Office, Bureau of Reclamation

Peer Review Lead: Erin Foraker, Renewable Energy Research Coordinator, Bureau of Reclamation

Subject and Purpose: Reclamation's Research and Development Office recently engaged in infrastructure research roadmapping to determine where future research efforts should focus to provide the greatest benefit. The purpose of the prioritized roadmap is to fill gaps in Reclamation's current toolbox to extend the useful life of critical infrastructure. Reclamation field and Denver Office personnel generated the data used in this roadmapping process. A team of subject matter experts completed the roadmap and prioritized the identified research needs. The canal infrastructure research roadmap describes the research need by identifying adverse outcomes, causes, current mitigation practices, and outstanding needs for tools, technology, etc.

The purpose of this Peer Review Plan is to facilitate stakeholder and expert review of the roadmap for use in future decision processes amongst Reclamation leadership. The report (roadmap) will also be distributed to the roadmap data respondents as an internal vetting exercise.

Impact of Dissemination: The Canal Infrastructure Research Roadmap report is not determined to be influential or highly influential as defined by Office of Management and Budget Final Information Quality Bulletin for Peer Review (70 FR 2664-2677) and the Reclamation Manual Peer Review of Scientific Information and Assessments Policy Temporary Release (CMP TRMR-30).

Peer Review Scope: This peer review is focused solely on the research needs identified in the Canal Infrastructure Research Roadmap and their ranked priority. Peer reviewers are asked to provide responses relative to the questions below:

Question 1. Based on your experience, is the final list of highest priority research needs representative of the greatest canal infrastructure needs?

Question 2. What (if any) are your experiences with the research needs identified within this report?

Question 3. Are there other important research needs associated with canal infrastructure that were not identified in this report?

Manner of Review, Selection of Reviewers: The review will take place on Reclamation's Peer Review Agenda website. Public, expert, and stakeholder review will occur concurrently through targeted invitations from Reclamation. Professional and scientific societies dedicated to the engineering or operations of canals and associated structures will be asked to nominate potential peer reviewers. The expert peer reviewers will have least 10 years of experience with canals, including such fields as canal design, canal construction, and canal operation. Public comments will not be provided to the expert peer reviewers. Reviewers will be given attribution for their comments and not remain anonymous.

Number of Peer Reviewers: It is anticipated that more than 10 peer reviewers will be utilized.

Timing of review: December 10, 2015 to January 10, 2015

Delivery of findings: Following the review period, the Peer Review Lead will consolidate and synthesize the input from individual peer reviewers and deliver the findings as an appendix to the Canal Infrastructure Research Roadmap main document. At a minimum, this will include a description of the peer review process, subject being reviewed, and reviewer comments. Reclamation will publish this completed peer review summary document on the peer review website (<http://www.usbr.gov/main/qoi/peeragenda.html>). The final roadmapping report will be provided digitally and as a hardcopy to Reclamation.

Agency contact: Levi Brekke, Reclamation's Chief of Research and Development (lbrekke@usbr.gov).

Comment Disposition Table

#	Reviewer, Org	Comment	Resolution
1	Ken Sayer, Reclamation, Technical Service Center	Under Executive Summary, there are three bullets that start with "Tools" and end with (nonhazardous). In each, delete (nonhazardous) and replace "Tools" with "Nonhazardous methods".	Revised Executive Summary bullets to say "nonhazardous tools or methods" as requested.
2	Nathaniel Gee, Reclamation, Lower Colorado Region	I have read over the document and all I can say is it is vundabar. No comments, great document that will really help in this area.	No changes requested.
3	John Whitler, Reclamation, Research Office	<p>I did a quick review and I think this is a great document, and I hope we can build other roadmaps that follow a similar format to this.</p> <p>I do have one comment in regards to Table B1. I think some readers may have problems interpreting the numerical information and the research need statement is not very prominent since it is on the far right column of the table.. Bobbi helped walk me through this a while back when I was trying to help Rod with the Ecohydraulics Roadmap and wanted to know more about how this was developed. I think if I hadn't received that walk through from Bobbi I would have had some issues understanding everything in the table. I understand this table is needed to communicate some of the statistical information, but perhaps another table could compliment this.</p> <p>For the complimentary table, I would take away some of the statistics and numerical information and simply present the research needs in rank order with some of the other qualitative columns for context.</p> <p>I think this is a relatively minor comment, and I think overall this is a great document for us to be able to reference in the future.</p>	Table 3 in the report is the "complementary table." The highest priority research needs (Table 3) are also summarized as bullets in the Executive Summary.
4	Lee Berget, Reclamation, Mid Pacific Region	<ol style="list-style-type: none"> 1. Synthetic sheet pile for use in isolating or controlling seeps (Internal erosion) along the canal alignment. This is being suggested as an maintenance alternative to consider, but there are many negative opinions within Reclamation and external stakeholders without much research either way to back up the opinion. 2. Use of precast concrete panels as a lining cover as opposed to the more common cast-in-place concrete panels. Additionally, research into using these precast panels to repair existing cast-in-place concrete would be of interest. I think you may have some research along this line of thought, but this might be an alternative to add to the list. 3. Under vegetation control, researching best methods to recover control of vegetation once it is overrun the project. Is there a way to determine the best bang for the buck in removing some vegetation before other types if resources are too scarce to recover fully in one large effort? Can vegetation removal be categorized for removal by impact or benefit? 	<p>A summarized comment is added to the "Gaps in existing tools" column for these respective outcomes:</p> <ol style="list-style-type: none"> 1. Unmitigated seepage 2. Cracked, buckled, bulged panels... 3. Vegetation removal requires service interruption