

Department of Interior
Bureau of Reclamation

MISSOURI RIVER HEADWATERS BASIN STUDY
MEMORANDUM OF AGREEMENT

The United States Department of Interior, Bureau of Reclamation (Reclamation) and State of Montana Department of Natural Resources and Conservation (DNRC) agree to work collaboratively to perform the Missouri River Headwaters Basin Study (Basin Study) as part of the WaterSMART Basin Study Program. This Memorandum of Agreement establishes the terms that will guide the performance of the Study.

I. SCOPE OF WORK

This Basin Study encompasses the Missouri River basin (Basin) headwaters in Montana from the Continental Divide to the U.S. Highway 191 Fred Robinson Bridge over the Missouri River (at the USGS Missouri River at Landusky gaging station) and to the Montana State Highway 200 Bridge over the Musselshell River (at the USGS Musselshell River at Mosby gaging station). Both stations are upstream of Ft. Peck Reservoir which is administered by the U.S. Army Corps of Engineers. The Basin encompasses about 50,000 square miles and the river, tributaries, and storage reservoirs supply water to about 880,000 acres of irrigation. The combined hydropower capacity in the Basin is about 375 megawatts. Municipal, industrial, fish and wildlife, threatened and endangered (T&E) species and recreation are other important water uses in the Basin. Reclamation owns and operates major water infrastructure projects in the Basin, with Canyon Ferry Dam and Reservoir being the largest with a capacity of about 2,000,000 acre-feet and having about 280,000 acre-feet of stored water potentially available for marketing.

This Basin Study will be complimentary to and build upon the Reclamation Upper Missouri River Basin Climate Impact Assessment (Impact Assessment). As part of the Impact Assessment, Reclamation will be evaluating projected future climate and runoff conditions, and developing a river system model of the Basin with RiverWare software. The river system model and future climate input data will be used to evaluate potential impacts to Reclamation's and others' operations and activities, based on rules that simulate current operating requirements, policies, and regulations. The Basin Study will allow DNRC to work with Reclamation during the development of the future climate data, Variable Infiltration Capacity model calibration, flow input data, and initial river system model development. DNRC also will contribute to the Impact Assessment by developing the Musselshell River watershed components of the river system model.

The proposed Basin Study also will be complimentary to and build upon DNRC's state water planning activities. Outreach and stakeholder participation in the Basin Study will be achieved through the Upper

Missouri River Basin Advisory Council, which was established to advise DNRC on state water planning, through local watershed groups and conservation districts, and through coordination with Tribes on three reservations in the study area.

The objectives of the Basin Study and Impact Assessment are to:

- 1) Project future water supply and demand within the Basin and water supply risks relating to climate.
- 2) Develop a river system model of the Upper Missouri River Basin that can be used to simulate operations of the system under present and future conditions;
- 3) Possibly integrating groundwater modeling into the river system model for alluvial aquifers in high-demand areas, such as the Gallatin and Beaverhead valleys.
- 4) Through the river system model, analyze the water and power infrastructure performance and operations under climate change and future growth scenarios
- 5) Model adaptive management strategies for the Basin, and running and compiling the results for these adaptive management strategies;
- 6) Conducting a trade-off analysis of the identified strategies and developing findings;
- 7) Conducting outreach to involve stakeholders in the development of the alternative adaptation measures and trade-off analysis.

Although DNRC will be the only cost-share partner for this project, the model developed and results will be of interest and use to other cooperators including PPL Montana, Montana Department of Fish, Wildlife and Parks, irrigation districts, municipalities, U.S. Fish and Wildlife Service, conservation districts, local watershed groups, and the Upper Missouri Basin Advisory Council. The study results and river-system model that are produced through the study will be used by DNRC in developing water management strategies as mandated by the Montana State Water Plan and by Reclamation to help develop strategies for potentially utilizing and marketing presently uncontracted water from Canyon Ferry and Tiber reservoirs as well as determining how future climate conditions and operations could affect T&E species.

The scope of work will be completed to meet requirements set forth in Reclamation's Basin Study Framework: WaterSMART Program. The tasks, schedule, and budget are described in detail within the Plan of Study (POS; Enclosure I). The following is a synopsis of tasks to be completed:

- Task 1: Study Kick-Off
- Task 2: Climate Change and Future Water Supply Analysis
- Task 3: River System Model Development and Calibration
- Task 4: System Reliability and Impact Analysis
- Task 5: Identification of Adaptation Strategies; Public Outreach
- Task 6: Modeling of Adaptations Strategies
- Task 7: Trade-Off Analysis and Recommendations
- Task 8: Draft Report Compilation and Review
- Task 9: Finalize Report

II. EXPECTED DELIVERABLES AND OUTCOMES

A report will be developed documenting the study's methods, findings, conclusions and possible next steps.

An important outcome of the Basin Study will be a common understanding among the area's stakeholders on the likely range of water demand and supply scenarios, the combination of management strategies that might address those scenarios, and a strategic water management approach for the Basin.

III. STUDY MANAGEMENT AND COMMUNICATIONS

Reclamation and DNRC will form a project team to plan, coordinate, and complete activities under this project. The primary contacts are identified in Article V.14--Notices and Key Personnel of this Agreement. Most communication will be by email, telephone and fax; however meetings will be scheduled as needed. Reclamation shall be responsible for coordinating this Basin Study as necessary with the Tribes of the Blackfeet, Rocky Boy's, and Fort Belknap Reservations.

IV. PLAN OF STUDY

The Plan of Study for this agreement is attached.

ARTICLES

I. Definitions

- A. Reclamation means the United States Department of the Interior, Bureau of Reclamation.

- B. Non-Federal Partner(s) means the State of Montana Department of Natural Resources and Conservation (DNRC)
 - C. Parties means Reclamation and Non-Federal Partner(s).
 - D. Agreement means this Memorandum of Agreement.
 - E. Contributed Funds Agreement means a legal agreement used to receive “all moneys ... from any State, municipality, corporation, association, firm, district, or individual for investigations, surveys, construction work, or any other development work incident thereto involving operations similar to those provided for by the reclamation law, are covered into the reclamation fund and shall be available for expenditure for the purposes for which contributed in like manner as if said sums had been specifically appropriated for said purposes,” 43 USC 395.
 - F. Cost-Share means a specific percentage (%) of identified charges that are allocated to specific entities or Non-Federal Partner(s).
 - G. In-kind Services means services provided by a non-Federal entity that substantially contribute to the completion of the work task or task identified.
 - H. Confidential Information means trade secrets or commercial or financial information that is privileged or confidential under the meaning of 5 USC 552(b)(4).
 - I. Intellectual Property means any invention that is legally protected through patents, copyrights, trademarks, and trade secrets or otherwise protectable under Title 35 of the United States Code, under 7 USC 2321, et seq., or under the patent laws of a foreign country.
 - J. Key personnel means those management personnel identified in Article V.14--Notices and Key Personnel of this Agreement.
 - K. Subject Invention means any invention or other intellectual property conceived or first reduced to practice under this Agreement which is patentable or otherwise protectable under Title 35 of the United States Code, under 7 USC 2321, et seq., or under the patent laws of a foreign country.
 - L. Scope of Agreement means those activities set forth in Appendix 1.
 - M. Term of Agreement means the period set forth under Article IV.9--Term of this Agreement.
- II. Authorities and Financial Obligations

1. Authorities: Nothing in this Agreement alters the statutory authorities or any other authorities of the Non-Federal Partner(s) or Reclamation. This Agreement is intended to facilitate cooperative efforts for mutual provision of services and support, and technical assistance by both Parties in the conduct of meeting the objectives and scope of this Agreement. This Agreement does not supersede or void existing agreements between the Non-Federal Partner(s) and Reclamation.

Reclamation's authority to enter into this Agreement:

1. Reclamation Act of June 17, 1902 (Ch. 1093, 32 Stat. 388; 43 U.S.C. 372, et seq.) and acts amendatory thereof and supplementary thereto.
2. Title IX of the Omnibus Public Land Management Act of 2009 (P.L. 111-11, 123 Stat. 991).

2. Cost Sharing: The costs of the Basin Study will be shared between Reclamation and the Non-Federal Partner(s), with Reclamation providing \$415,000 and the Non-Federal Partner(s) providing \$455,000. Reclamation's financial contribution to the Basin Study shall not exceed 50% of the total cost. All or part of the Non-Federal Partner's share may be provided as in-kind services. Valuation of in-kind services shall be in accordance with 2 CFR Part 225, Cost Principles for State, Local, and Indian Tribal Governments (OMB Circular A-87). Pre-award cost directly related to the Basin Study, as identified under 2 CFR Part 225, will be considered in the in-kind cost share determination.

3. Financial Obligations: This Agreement is not a funding document and does not authorize the obligation or transfer of funds. If a subsequently identified activity or project is identified that may require Reclamation to receive or expend funds received from the Non-Federal Partner(s) for investigations, surveys, construction work, or any other development work incident thereto involving operations similar to those provided for by the Reclamation law, a supplemental Contributed Funds Agreement, pursuant to the Sundry Civil Expenses Appropriations Act for 1922 (43 USC 395), will be executed. Funds contributed by Non-Federal Partner(s) will only be used to pay for costs incurred by Reclamation associated with completing the tasks described in this Agreement or modifications to this Agreement.

4. Anti-Deficiency Act: All activities, responsibilities, and commitments made under or pursuant to this Agreement (including any Contributed Funds Agreement under this Agreement) are subject to the availability of appropriated funds and each Agency's budget priorities, as determined by each Agency, and neither the Non-Federal Partner(s) nor Reclamation are obligated in any way under this Agreement to expend appropriations or to enter into any contract, assistance agreement, Contributed Funds agreement, or other financial obligation. No

provision herein shall be interpreted to require obligation or payment of funds in violation of the Anti-Deficiency Act, 31 U.S.C. 1341.

III. Publications, Reports, and Confidentiality

5. Publications: The parties understand and agree that this Agreement may be disclosed to the public in accordance with the Freedom of Information Act. Subject to the requirements of confidentiality and preservation of rights in Subject Inventions, either party may publish the results of this Agreement, PROVIDED:

- a. The other party is allowed to review the manuscript at least thirty (30) days prior to submission for publication. Provide review copies to each of the key primary contacts identified in Article V.14--Notices and Key Personnel of this Agreement so it can be distributed to the appropriate review agents.
- b. The publication shall acknowledge this Agreement and the contributions of each party's personnel.
- c. The final decision as to the publication content rests with the party that writes the publication.

6. Reports: The results of this Agreement and science, engineering, and technology data that are collected, compiled, and evaluated under this Agreement shall be shared and mutually interchanged by Non-Federal Partner(s) and Reclamation. A final report summarizing all data shall be submitted to Reclamation and the Non-Federal Partner(s) through the key contacts identified in Article V.14 and within the performance period of this Agreement, as defined in Article IV.9. The final report will be in the public domain, and will be published on Reclamation's website.

7. Confidentiality: Any confidential information used in this Agreement shall be clearly marked confidential or proprietary by the submitter and shall not be disclosed by the Recipient without permission of the owner. To the extent either party orally submits its Confidential Information to the other party, the submitting party will prepare a document marked "CONFIDENTIAL" embodying or identifying in reasonable detail such orally submitted Confidential Information and provide the document to the other party within thirty (30) days of disclosure.

Neither party shall be bound by confidentiality if the Confidential Information received from the other party:

- a. Already is available to the public or known to the recipient;

- b. Becomes available to the public through no fault of the recipient; or
- c. Is nonconfidentially received from another party legally entitled to it.

It shall not be a breach of this Agreement if the Non-Federal Partner(a) are required to disclose the Confidential Information by a valid order of a court or other government body, or as otherwise required by law, or as necessary to establish the rights of either party under this Agreement; PROVIDED THAT the Non-Federal Partner(s) shall provide prompt prior notice thereof to Reclamation to enable Reclamation to seek a protective order or otherwise prevent such disclosure, and PROVIDED FURTHER THAT the Confidential Information otherwise shall continue to be confidential.

8. Intellectual Property: Unless otherwise agreed by the Agencies, custody and administration of inventions made as a consequence of, or in direct relation to, the performance of activities under this Agreement shall remain with the respective inventing Party. In the event that an invention is made jointly by employees of the Parties or an employee of an Agency's contractor, the Parties shall consult and agree as to future actions toward establishment of patent protection for the invention.

IV. Term and Termination

9. Term: This Agreement shall take effect upon the approval of the Parties and, unless terminated per Article IV.11—Termination of this Agreement, will expire three years from the date of the last signature to this Agreement. All Contributed Funds Agreement under this Agreement will be limited to an initial period of performance not to exceed the term of this Agreement, although they may be renewed for additional periods of performance not to exceed the term of this Agreement for any renewal period.

10. Amendment: If either party desires a modification in this Agreement, the parties shall confer in good faith to determine the desirability of such modification. Such modification shall not be effective until a written amendment is signed, and dated by the undersigned representative(s) of both parties.

11. Termination: Either Party may terminate this Agreement prior to its expiration at any time, with or without cause, and without incurring any liability or obligation to the other parties, by giving the other parties at least ninety (90) calendar days prior written notice of termination.

V. General

12. Liability: It is understood and agreed that neither party to this Agreement shall be responsible for any damages or injuries arising out of the conduct of activities governed by this Agreement, except to the extent that such damages and/or injuries were caused by the negligent or wrongful acts or omissions of its employees, agents or officers. Reclamation's liability shall be limited by the Federal Tort Claims Act, 28 USC 2671, *et seq.*

13. Limitations: This Agreement sets out the Parties' intentions and objectives and does not direct or apply to any person outside the Non-Federal Partner(s) and Reclamation. This Agreement is not intended to, and does not create, any right, benefit, or trust responsibility, substantive or procedural, enforceable at law or equity, by anyone against the United States, its agencies, its officers, or any person.

14. Notices and Key Personnel: Notices between the parties and copies of correspondence among the scientific and/or technical representatives of each party that interpret or may have a bearing on the legal effect of this Agreement's terms and conditions shall be sent to the key personnel below. Reclamation's key personnel is authorized to perform scientific and/or technical activities falling within the Scope of this Agreement. The key personnel is not authorized to change or interpret with authority the terms and conditions of this Agreement.

For Reclamation:

Gerald Benock
Montana Area Office
2900 Fourth Avenue North
Billings, MT 59101
406-247-7331
gbenock@usbr.gov

For DNRC:

Paul Azevedo
Water Resources Division
1424 9th Avenue
Helena, MT 59601
406-444-6635
pazevedo@mt.gov

15. Subcontracting Approval: A party hereto desiring to obtain and use the services of a third party via contract or otherwise shall give prior notice to the other party, including details of the

contract or other arrangement. This requirement is to assure that confidentiality is not breached and rights in Subject Inventions are not compromised.

16. Assignment: Neither party has the right to assign this Agreement or any of its responsibilities hereunder.

17. Endorsement: The Non-Federal Partner(s) shall not in any way state or imply that this Agreement or the results of this Agreement is an endorsement by the Department of the Interior, Federal Government, or Reclamation of its organizational units, employees, products, or services except to the extent permission is granted by an authorized representative of Reclamation.

18. Regulatory Compliance: Both parties acknowledge and agree to comply with all applicable laws and regulations of the state, Federal, and local environmental and cultural and paleontological resource protection laws and regulations as applicable to the activities or projects for this Agreement. These regulatory compliance requirements may include but not limited to, the National Environmental Policy Act (NEPA) including the Council on Environmental Quality and Department of the Interior regulations implementing NEPA, the Clean Water Act, the Endangered Species Act, consultation with potentially affected Tribes, and consultation with the State Historic Preservation Office.

19. Disputes: Any dispute arising under this Agreement, which cannot be readily resolved, shall be submitted jointly to the key personnel officials, identified in Article V.14--Notices and Key Personnel of this Agreement. Each party agrees to seek in good faith to resolve the issue through negotiation or other forms of nonbinding dispute resolution processes mutually acceptable to the parties. Pending the resolution of any dispute or claim pursuant to this paragraph, the parties agree that performance of all obligations shall be pursued diligently.

20. Force Majeure: Neither party shall be liable for any unforeseeable event beyond its reasonable control not caused by the fault or negligence of such party:

- a. Which causes the party to be unable to perform its obligations under this Agreement; and
- b. Which it has been unable to overcome by the exercise of due diligence.
- c. This includes, but is not limited to, flood, drought, earthquake, storm, fire, pestilence, lightning and other natural catastrophes, epidemic, war, riot, civil disturbance or disobedience, strikes, labor dispute, failure or sabotage of either party's facilities or any order or injunction made by a court or public agency.

21. Relationship between the Parties: The parties are and shall remain independent contractors and nothing herein shall be construed to create a partnership, agency, joint venture, or teaming agreement between the parties.

22. Severability: The illegality or invalidity of any provision of this Agreement shall not impair, affect, or invalidate the other provisions of this Agreement.

23. Governing Law: The construction, validity, performance, and effect of this entire Agreement shall be governed by the laws applicable to the Government of the United States of America in accordance with applicable Federal Law as interpreted by Federal Courts.

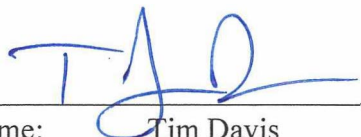
24. Waiver: The failure of either party to enforce any term hereof shall not be deemed a waiver of any rights contained herein.

25. Invalid Provision: In the event any provision of this Agreement is determined to be invalid or unenforceable under any controlling law, the invalidity or unenforceability of that provision shall not in any way affect the validity or enforceability of the remaining provisions of this Agreement.


26. Entire Agreement: The terms and conditions contained in this MOA and its appendices or attachments constitute the entire agreement and understanding by and between the parties and shall supersede all other communications, negotiations, arrangements and agreements either oral or written, with respect to the subject matter herein.

27. Counterparts: This Agreement may be executed in duplicate and each original shall be equally effective.

For the Non-Federal Partner(s)


Name: Tim Davis Date: 10/6/16
Title: Administrator, Water Resources Division
Organization: The Montana Department of Natural Resources and Conservation

For Federal Partner


Name: Steve Davies Date: 10/14/2016
Title: Area Manager
Organization: Bureau of Reclamation, Montana Area Office