

DRAFT RECLAMATION MANUAL RELEASE

Comments on this draft release must be submitted to aerath@usbr.gov by August 15, 2016.

Background and Purpose of the Following Draft Directive and Standard (D&S)

The goal of preparing this D&S document and providing stakeholders with the opportunity to comment on it in draft form is to enhance common understanding of how Bureau of Reclamation basin studies are administered and to enhance working relationships with prospective and existing study partners. This will make the program more responsive to study partners, and more consistent Reclamation-wide and thus more effective.

This draft addition to the Reclamation Manual is intended to (1) state the minimum requirements for basin studies carried out under section 9503 of Pub. L. 111-11; and (2) set forth the procedure used by Reclamation to select basin studies for funding.

The Reclamation Manual is used to clarify program responsibility and authority and to document Reclamation-wide methods of doing business. All requirements in the Reclamation Manual are mandatory.

See the following pages for the draft D&S.

Reclamation Manual

Directives and Standards

Subject:	Basin Studies
Purpose:	To establish the Bureau of Reclamation's requirements for reviewing, conducting, and approving basin studies under the WaterSMART (Sustain and Manage America's Resources for Tomorrow) basin study Program. The benefit of this Directive and Standard (D&S) is the establishment of uniform basin study requirements to promote consistency and efficiency in the Basin Study Program.
Authority:	Reclamation Act of June 17, 1902 (chapter 1093, 32 Stat. 388; 43 U.S.C. 372, et seq.) and acts amendatory thereof and supplementary thereto; Section 9503 of the Secure Water Act, Subtitle F of Title IX of Pub. L. 111-11, Omnibus Public Lands Management Act of 2009, (Act) (42 U.S.C. 10363 et seq.).
Approving Official:	Director, POLICY and Administration (POLICY Director)
Contact:	Water Resources and Planning Division, 84-51000

1. Introduction.

- A. The Act authorizes Reclamation to partner with appropriate non-Federal participants to conduct basin studies to analyze the impacts of climate change and develop adaptation strategies to meet future water supply and demand imbalances in river basins in the 17 Western United States. Basin studies are intended to benefit the Nation or public as a whole, particularly the members of the public located in the major Reclamation river basins.
- B. This D&S sets forth the requirements, responsibilities, and review processes for basin studies funded under the Basin Study Program.

2. **Applicability.** This D&S applies to all employees and activities that are conducted by Reclamation as part of a basin study.

3. Definitions.

- A. **Application Review Committee (ARC).** Committee established to review and rank all basin study proposals submitted for funding consideration. The ARC is generally comprised of staff members from Reclamation's regional offices, POLICY and Administration (POLICY), and Technical Service Center.
- B. **Basin.** The contributing watershed of a major river or tributary within the 17 Western United States, defined as a topographically distinct body of land, streams, aquifers, and rivers that channel water to a single or primary waterway.

Reclamation Manual

Directives and Standards

- C. **Basin Study.** A comprehensive study, or update of an existing study, that identifies imbalances between water supply and demand and includes the development of mitigation and adaptation strategies in direct response to current or future water supply and demand imbalances resulting from climate change and other stressors. Basin studies are technical assessments and do not provide recommendations or represent a statement of POLICY or position of Reclamation, the Department of the Interior, or the funding partners. Basin studies do not propose or address the feasibility of any specific project, program, or plan and do not represent a commitment for provision of Federal funds.
- D. **Basin Study Framework.** A document providing guidance, the programmatic criteria, and the suggested content of a basin study to participants conducting a basin study.
- E. **Basin Study Stakeholders.** All Federal, State, tribal, regional, and local government entities, customers, nongovernmental organizations, and the public who are present and actively involved or interested in a basin study. Basin study stakeholders include, but are not limited to, cost-share partners.
- F. **Contributed Funds Agreement (CFA).** The legal mechanism needed for Reclamation to receive non-Federal funding from a cost-share partner, pursuant to the authority identified in the Sundry Civil Expenses Appropriations Act for 1922 (43 U.S.C. 395).
- G. **Cost-Share Partner.** A non-Federal entity or entities, approved by the eligible applicant and Reclamation, that will cost-share, either through in-kind services or cash contributions, with Reclamation, the eligible applicant, and other basin study stakeholders to develop and conduct a basin study.
- H. **Eligible Applicant.** A non-Federal entity or entities including any State, Indian tribe, irrigation district, water district, or other organization that is located within the 17 Western United States with water delivery or management authority that may apply to cost-share with Reclamation, other cost-share partners, and stakeholders to develop and conduct a basin study.
- I. **Major Reclamation River Basins.** A “major river system, including tributaries, that is located in a service area of the Bureau of Reclamation and at which is located a federally authorized project of the Bureau of Reclamation,” as the term is used in Section 9502(12)(A)-(B) of the Act.
- J. **Memorandum of Agreement (MOA).** A document establishing the terms and conditions, roles and responsibilities, and procedures that both Reclamation and the cost-share partners agree to abide by during the conduct and completion of the basin study. MOAs are not financial instruments for the provision or receipt of funds.

Reclamation Manual

Directives and Standards

- K. **Non-Federal Study Lead.** An eligible applicant that has been selected through the basin study selection process to cost-share with Reclamation, other cost-share partners, and stakeholders to conduct a basin study.
 - L. **Plan of Study (POS).** A fully developed scope of work describing the specific study tasks and how each task will be carried out, including the responsible party, cost, schedule, and the approach. The POS is more detailed than the basin study proposal and serves as a work plan for the study.
 - M. **17 Western States.** Includes Arizona, California, Colorado, Idaho, Kansas, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oklahoma, Oregon, South Dakota, Texas, Utah, Washington, and Wyoming.
4. **Responsibilities.**
- A. **Commissioner.** The Commissioner is responsible for determining the appropriate emphasis of basin studies and the Basin Study Program as a mission goal within Reclamation's overall strategic plan and taking such measures as may be necessary for overall implementation of basin studies.
 - B. **POLICY Director.** The POLICY Director is responsible for:
 - (1) overseeing the execution of basin studies on a programmatic level;
 - (2) overseeing program funding and preparing annual budget documents;
 - (3) assigning a Program Coordinator;
 - (4) establishing and revising Basin Study Proposal Selection Criteria (see Appendix A) to meet Basin Study Program goals; and
 - (5) taking such measures as may be necessary for overall implementation of basin studies, including, providing written approval of study selections and written approval of all Final Basin Study Reports.
 - C. **Regional Directors.** The regional directors are responsible for:
 - (1) overseeing execution of basin studies within their respective regions and ensuring compliance with this D&S and other Reclamation Manual releases;
 - (2) appointing a regional coordinator to assist in the overall implementation of the basin studies;
 - (3) appointing study managers or teams to work with all basin study stakeholders;
 - (4) transmitting Final Basin Study Reports to the POLICY Director for review and approval; and

Reclamation Manual

Directives and Standards

(5) taking measures necessary to implement studies within their regions.

D. **Regional Coordinators.** The regional coordinators are responsible for:

- (1) providing overall coordination for all basin studies within their respective regions;
- (2) working with the Program Coordinator to resolve questions as they arise;
- (3) ensuring that studies are implemented in accordance with this D&S and other program requirements; and
- (4) taking such measures as may be necessary to implement basin studies within their regions.

E. **Program Coordinator.** The Program Coordinator is responsible for:

- (1) providing leadership and coordination for basin studies on a Reclamation-wide basis;
- (2) working with the regional coordinators to resolve questions as they arise;
- (3) ensuring that basin studies are implemented in an effective and efficient manner; and
- (4) taking such measures as may be necessary for overall implementation of the basin studies.

F. **ARC.** The ARC is responsible for reviewing all accepted basin study proposals submitted by the application deadline and evaluating and ranking them in accordance with the Basin Study Proposal Selection Criteria (see Appendix A).

G. **Study Managers.** Study managers are responsible for:

- (1) acting as the primary point of contact within the region for individual studies;
- (2) overseeing the coordination, conduct, and review of the basin studies assigned to them; and
- (3) ensuring the studies are conducted efficiently and consistently in accordance with program requirements.

5. Program Budgeting.

A. **General Approach.** The POLICY Director will formulate the budget request for the Basin Study Program. Funding will be held in POLICY accounts and will be made available to regional staff as necessary.

Reclamation Manual

Directives and Standards

- B. **Budget Request.** The budget request formulated will include funding associated with the costs for selecting, implementing, and overseeing basin studies.
6. **Basin Study Requirements.**
- A. **Determination of Eligibility.** The POLICY Director and the appropriate regional director(s) will determine if a proposed basin study is eligible for funding under the Basin Study Program, according to the criteria defined below in Paragraphs 6.B. and 6.C.
- B. **Study Area..** The specific boundaries of the study area will be identified by Reclamation and the eligible applicant through the proposal development and selection process. Basin studies may include the study of related impacts outside of a basin's geographic boundaries.
- C. **Performance Period.** All basin studies must be completed within 3 years from the date the MOA is signed by the cost-share partners, unless a time extension is approved. A basin study will be considered complete once the Final Basin Study Report is transmitted by the regional director to the POLICY Director, as described in Paragraph 12 of this D&S. A time extension request must be approved by the POLICY Director before any changes are made to the period of performance, as described in Paragraph 10.D.
- D. **Cost Share.** The costs to conduct a basin study will be shared between Reclamation, the non-Federal study lead, and cost-share partner(s), with a minimum 50 percent cost-share required by the non-Federal study lead and cost-share partners. If all or a portion of the non-Federal cost-share will be provided as in-kind services., valuation of these services must be conducted in accordance with 2 CFR Part 225, *Cost Principles for State, Local, and Indian Tribal Governments* (Office of Management and Budget (OMB) Circular A-87).
- (1) All of the costs that are identified in the MOA to conduct and oversee the basin study will be considered when determining the Federal and non-Federal cost-share amounts. A non-Federal cost-share of at least 50 percent must be maintained throughout the study, unless a deviation or reduction of cost-share is approved by the POLICY Director.
 - (2) Costs incurred up to 1 year prior to the proposal submittal deadline that contribute directly to the basin study may be included in the non-Federal cost-share.
 - (3) Reclamation, eligible applicants, and cost-share partners will each pay for their own costs incurred during the preparation of the proposal, (described in Paragraph 7.C.), MOA (described in Paragraph 8.A), and POS (described in Paragraph 8.B.).

Reclamation Manual

Directives and Standards

- (4) If non-Federal cash contributions are used to support work by Reclamation staff or contractors, Reclamation must enter into a CFA with the non-Federal study lead and/or cost-share partners to transfer funding to Reclamation.

E. **Cost-Share Deviation.** In exceptional circumstances, the POLICY Director may waive or reduce the non-Federal cost-share requirement if an overwhelming Federal interest and a significant financial need are identified.

- (1) **Cost-Share Deviation Requirements.** Cost-share deviations will adhere to the requirements of the Reclamation Manual D&S, *Request for Deviation from a Reclamation Manual Requirement and Approval or Disapproval of the Request* ([RCD 03-03](#)) to the extent that those requirements are not in conflict with the requirements of this D&S. The POLICY Director shall use the following factors when considering whether to reduce or waive the cost-share requirement:

- (a) **Overwhelming Federal Interest.** The POLICY Director will make a determination of whether an overwhelming Federal interest exists based on factors such as the programs and policies of the President and the Secretary of the Department.
- (b) **Financial Hardship.** In determining whether a significant financial need exists the following factors will be considered:
 - (i) the population-weighted median household income within the study area and the state based on the latest available data from the U.S. Census Bureau's American Community Survey;
 - (ii) family poverty level for the state as estimated by guidelines published annually by the Department of Health and Human Services;
 - (iii) the population-weighted average unemployment rate within the study area based on the latest available data from the U.S. Census Bureau's American Community Survey; and
 - (iv) a current financial statement of the applicant and a statement that the applicant does not possess sufficient funds or assets to pay for all or part of the required cost-share.

- (2) **Cost-Share Deviation Approval Process.**

- (a) The study manager will coordinate with the non-Federal study lead to submit a written justification to the regional director for a reduction or waiver of the non-Federal cost-share requirement to conduct basin study activities.

Reclamation Manual

Directives and Standards

- (b) The regional director will provide a recommendation to the POLICY Director based on the review of a written justification submitted by the non-Federal study lead.
- (c) The POLICY Director will review and approve or disapprove a cost-share deviation based on the requirements described in Paragraph 6.E.
- (d) The POLICY Director will provide written notification to the non-Federal study lead communicating the cost-share deviation determination.

7. Basin Study Selection Process.

A. **Solicitation of Potential Basin Study Applicants.** The POLICY Director will provide regional directors with guidance and templates to be used by the regional directors to notify eligible applicants and potential partners within their respective regions of the opportunity to submit a Letter of Interest up to three pages in length.

B. Review of Letters of Interest.

- (1) The regional coordinator will review the Letters of Interest and work with regional and area office staff to determine which letters to recommend for development into full basin study proposals. This determination will be made based on the following screening criteria, including:
 - (a) the extent to which the proposed basin study meets the programmatic requirements described in Paragraph 6;
 - (b) whether the proposed study complements or adversely complicates any ongoing efforts in the study area; and
 - (c) the degree to which the basin study meets the priorities of the regional office.
- (2) Based on the results of the review, the regional director will recommend Letters of Interest to the POLICY Director for development into full basin study proposals.
- (3) The POLICY Director will have an opportunity to review and concur with the regional director's recommendation.
- (4) Upon concurrence by the POLICY Director, the regional director will provide written notification of the outcome of this review to each entity that submitted a Letter of Interest within their region.

C. **Preparation of a Basin Study Proposal.** The regional director, or their representative, will identify regional staff to work on basin study proposals. For each Letter of Interest identified through the steps described in Paragraph 7.B., regional staff and the eligible

Reclamation Manual

Directives and Standards

applicant will work together to jointly prepare the basin study proposal for consideration by the ARC. The proposal must be no longer than 20 pages. Reclamation and the eligible applicant will each pay for their own costs incurred during the proposal preparation.

- D. **Establishment of the ARC.** The POLICY Director, in consultation with the regional directors and Director, Technical Service Center, will select the members of the ARC prior to the submittal of proposals.
- E. **ARC Review.**
- (1) The ARC will review and evaluate submitted proposals based upon the established selection criteria (see Appendix A). The Program Coordinator will oversee the review of proposals by the ARC.
 - (2) The ARC will:
 - (a) review and evaluate assigned proposals individually;
 - (b) convene to discuss their evaluated applications with other members of the review committee in order to identify any issues or discrepancies;
 - (c) develop a consensus ranking and recommend specific basin studies to be considered further for funding in the current fiscal year;
 - (d) consider whether proposals receive full or partial funding in the current fiscal year; and
 - (e) make any additional recommendations as appropriate within the scope of the ARC review.
 - (3) The ARC's recommendation must be based on the merits of the proposals as evaluated against the selection criteria and the amount of funding available.
- F. **Approval Process for Selection of Basin Studies.**
- (1) **Basin Study Recommendation.** The POLICY Director will transmit a prioritized list of proposals recommended for funding to the Commissioner based on the ARC's review and recommendation, and available funding.
 - (2) **Commissioner Consultation.** The POLICY Director will consult with the Commissioner regarding the ARC's recommendations and the amount of funding available to determine which projects will be funded, consistent with Basin Study Program goals.

Reclamation Manual

Directives and Standards

- (3) **Final Selection Lists.** Following consultation with the Commissioner, the POLICY Director will record the final basin study selection list in writing, including justification of any deviation from final recommendations from the ARC.
- (4) **Notify Applicants of Status.** The POLICY Director will notify each applicant in writing of the status of its application for funding.
- (5) **Debriefings.** The POLICY Director will include a statement in each unsuccessful notification letter offering the applicant a debriefing, conducted by the Program Coordinator, to discuss the strengths and weaknesses of the applicant's study and proposal.
- (6) **Posting Successful Basin Study Proposals.** Reclamation will post all successful applications on the Basin Study Program Web site following redactions as determined to be necessary.

8. Initiating a Basin Study.

A. **Entering Into a MOA.** A MOA shall be used to establish the terms of the relationship between Reclamation, the non-Federal study lead, and cost-share partners to conduct a basin study. Reclamation will enter into a MOA with the non-Federal study lead and cost-share partners within 6 months of the announcement of the selection of the study, unless an extension is approved by the POLICY Director.

- (1) **Preparing a MOA.** Study managers will prepare the MOA with the non-Federal study lead and cost-share partners and serve as the point of contact for study implementation in accordance with the agreements. The MOA and all attachments (i.e., POS, Technical Sufficiency Review Plan, and Communication and Outreach Plan) must be submitted to the Program Coordinator for review prior to signing the MOA.
- (2) **MOA Content.** The terms and conditions included in the MOA will be consistent with this D&S and include:
 - (a) definitions of the salient terms in the agreement;
 - (b) authorities for Reclamation and non-Federal partners to enter into the agreement;
 - (c) financial obligations, including the source, amount and type of non-Federal cost-share contributions (e.g., cash, in-kind services);
 - (d) parameters for publication of the agreement and the reports that result from the basin study;

Reclamation Manual

Directives and Standards

- (e) the term of the agreement;
 - (f) a description of anticipated scope of the study, which includes a description of geographic area, the problems or needs that the study will address, and the objectives of the study;
 - (g) the anticipated schedule and performance period, for each phase of the study;
 - (h) the general responsibilities of Reclamation, the non-Federal study lead, the cost-share partners, and other basin study stakeholders;
 - (i) a POS attached to the MOA, as described in Paragraph 8.B.;
 - (j) a Technical Sufficiency Review Plan attached to the MOA, as described in Paragraph 8.C.; and
 - (k) a Communication and Outreach Plan attached to the MOA, as described in Paragraph 8.D.
- (3) **Additional Information.** For additional information, see the basin study MOA template, which is accessible on Reclamation's WaterSMART Web site at <http://www.usbr.gov/WaterSMART>.
- (4) **Approval of the MOA.** The appropriate regional director will review and sign the MOA, along with representatives of the non-Federal cost and cost-share partners, consistent with the Reclamation Manual [Delegations of Authority](#), Paragraph 6.U.(1)(b).
- B. **POS.** The POS will describe the specific tasks, methods, and responsibilities for conducting a basin study. The POS must be attached to the MOA.
- (1) **Developing the POS.** Reclamation, the non-Federal study lead, and the cost-share partners will jointly develop the POS after the selection of the study. The POS must be agreed to by signatories to the MOA prior to Reclamation beginning substantive work on the study, and it must be updated as conditions warrant.
 - (2) **POS Content.** The POS is more detailed than the MOA and will serve as a project management plan for Reclamation and the cost-share partners. The POS must include the following:
 - (a) study management structure;
 - (b) decision making process;
 - (c) roles and responsibilities;
 - (d) study team coordination;

Reclamation Manual

Directives and Standards

- (e) administrative records;
 - (f) schedule and cost control;
 - (g) deliverables and project documentation requirements; and
 - (h) description of how the study will be reviewed, including reporting requirements.
- (3) **Additional Information.** For additional discretionary guidelines on what information can be included in the POS, see the Basin Study Framework, accessible on Reclamation's WaterSMART Web site at <http://www.usbr.gov/WaterSMART/bsp/docs/BasinStudyFramework.pdf>.
- C. **Technical Sufficiency Review Plan.** The Technical Sufficiency Review Plan will outline the approach and method for reviewing the technical information, data, models, analyses, and conclusions of a basin study. The process for conducting a Technical Sufficiency Review is described in Paragraph 11, below. The plan must be attached as part of the POS and must include:
- (1) the timing of the review;
 - (2) what aspects of the basin study will be reviewed (the scope of the review);
 - (3) how the review will be conducted;
 - (4) the anticipated number of reviewers; and
 - (5) a plan for selecting the reviewers.
- D. **Communication and Outreach Plan.** Reclamation and cost-share partners will develop a Communication and Outreach Plan to effectively maintain communication with all interested basin study stakeholders and the public and to provide, seek, and receive information regarding the ongoing basin study. The Communication and Outreach Plan must be attached to the POS, and, at a minimum, identify the steps that will be taken to:
- (1) develop a Web site for the basin study that is managed by either Reclamation or the cost-share partners, or use an existing Web site to share information about the basin study;
 - (2) distribute contact information for Reclamation staff and cost-share partners conducting the basin study to interested stakeholders;
 - (3) develop and distribute news/press releases as appropriate;

Reclamation Manual

Directives and Standards

- (4) establish a mailing list to ensure all interested stakeholders and the public receive updates on the basin study; and
 - (5) hold public meetings at strategic points throughout the study.
9. **Conducting a Basin Study.** Basin studies shall be conducted in a manner consistent with this D&S and the MOA. Each basin study shall include the four elements listed in Paragraphs 8.A.-D. When available, existing information must be used to satisfy the required elements.
- A. Projections of future water supply and demand, considering specific impacts resulting from climate change, including any risk related to the following factors identified in Section 9503(b)(2) of the Act:
- (1) changes in snowpack;
 - (2) changes in the timing and quantity of runoff;
 - (3) changes in groundwater recharge and discharge; and
 - (4) any increase in:
 - (a) the demand for water as a result of increasing temperatures; or
 - (b) the rate of reservoir evaporation.
- B. Analysis of how existing water and power infrastructure and operations will perform given any current imbalances between water supply and demand and in the face of changing water realities due to climate change (including extreme events such as floods and droughts) and population growth, including an analysis of the extent to which changes in the water supply will impact Reclamation operations and facilities as indicated in Section 9503(b)(3) of the Act, including:
- (1) ability to deliver water, including the impacts of drought;
 - (2) hydroelectric power generation;
 - (3) recreation;
 - (4) fish and wildlife habitat;
 - (5) applicable species listed as an endangered, threatened, or candidate species and/or designated critical habitat under the Endangered Species Act of 1973 (Pub.L.93-205; 16 U.S.C. 1531 et seq.);
 - (6) water quality issues (including salinity levels);

Reclamation Manual

Directives and Standards

- (7) flow and water dependent ecological resiliency; and
 - (8) flood control and/or management, including the impacts of extreme events.
- C. Development of appropriate adaptation and mitigation strategies to meet current and future water demands. Adaptation and mitigation strategies include, but are not limited to, the following:
- (1) modification of any reservoir or operating guideline in existence;
 - (2) development of new water management, operating, or habitat restoration plans;
 - (3) development of water conservation and demand reduction strategies or projects;
 - (4) development of new water infrastructure;
 - (5) development or improvement of hydrologic models and other decision support systems; and
 - (6) development of a monitoring plan to acquire and maintain water resource data to strengthen the understanding of water supply and assist in future assessments and analysis.
- D. A quantitative or qualitative trade-off analysis of the adaptation and mitigation strategies identified. Such analysis will examine all proposed strategies in terms of their ability to meet the study objectives, the extent to which they minimize imbalances between water supply and demand and address the possible impacts of climate change, the level of stakeholder support, the relative cost (when available), the potential environmental impacts, or other attributes common to the strategies.
10. **Basin Study Oversight.**
- A. **Basin Study Performance Reports.**
- (1) **Content.** Basin Study Performance Reports must provide information on the accomplishments to date and the progress toward the completion of the study, including information regarding the status of work on the four required elements (see Paragraph 9); progress on tasks identified in the POS; and any issues, concerns, or problems regarding the study.
 - (2) **Submittal Period.** Basin Study Performance Reports shall be submitted to the Program Coordinator by the regional coordinator every 6 months.
- B. **Review of Basin Study Performance Reports.** The regional coordinators are responsible for reviewing and ensuring that the Basin Study Performance Reports include the status and accomplishments for the conducted basin study. The regional coordinators and study managers will also ensure that the Program Coordinator is

Reclamation Manual

Directives and Standards

informed of any significant issues that arise during the study, including non-compliance with the provisions of the MOA; substantive changes to the scope of work, budget, or schedule; questionable or disallowed costs; difficulties in coordinating stakeholder input; or other issues that may impact the success of the activities funded under the MOA.

C. Basin Study Financial Status Report.

- (1) **Content.** Financial Status Reports must document all components of the non-Federal cost-share, including non-Federal cash disbursements or outlays (less any rebates or refunds) specifically identifiable to the basin study, payments to sub-recipients and contractors, and the value of allowable in-kind service contributions that are used to finance the non-Federal share of the basin study.
- (2) **Submittal Period.** Financial Status Reports shall be submitted to the Program Coordinator by the regional coordinator every 6 months and upon completion of the basin study.

D. Changes in Scope, Costs, or Time Extension.

Studies are required to be completed by the completion date stated in the MOA. Projects shall not exceed 3 years from the date that the MOA is signed and the Federal costs shall not exceed the Federal cost-share amount that is documented in the MOA, unless a modification is approved by the POLICY Director. In the event that the cost-share partners are unable to complete the entire project within the timeframe described in the MOA or without exceeding the study costs, the following shall apply:

- (1) **Request to Modify a Basin Study.** If a change in scope, cost, or time extension is requested by the non-Federal study lead, the study manager and the regional coordinator will consult with the Program Coordinator, based on information provided by the non-Federal study lead and cost-share partners, to develop a written request signed by the appropriate regional director for the POLICY Director's consideration at least 90 days prior to the completion date listed in the MOA. The request will include the following information:
 - (a) an explanation of the reason(s) for the change of scope, costs, or timeline;
 - (b) a detailed description of the change of scope, if applicable;
 - (c) whether previous time extensions or changes in scope have been executed for the project;
 - (d) the likelihood that another request will be required in the future;
 - (e) whether the request will impact the ability to meet the four required study elements identified in Paragraphs 9.A.-D.;

Reclamation Manual

Directives and Standards

- (f) whether the cost-share partners have otherwise complied with the terms of the MOA; and
 - (g) whether the regional director recommends approval of the request.
- (2) **Determination.** The POLICY Director will make the final determination on whether the request will be approved. If approved, the study manager will work with the non-Federal study lead and cost-share partners to modify the MOA based upon the information provided in the written request and any additional information that is developed in coordination with the regional coordinator. The POLICY Director will provide a written response informing the regional director of the determination. All determinations whether to proceed with the requested change in scope, cost, or timeline for basin studies will be made on a case-by-case basis.
- (3) **Formal Modification.** The regional director will execute the formal modification to the MOA based on the POLICY Director's recommendation on how to proceed.
11. **Technical Sufficiency Review.** The technical sufficiency review must be completed to ensure that technical information, data, models, analyses, and conclusions resulting from a basin study are technically supported and defensible.
- A. **Technical Sufficiency Review Plan.** The review process will be conducted in accordance with the Technical Sufficiency Review Plan described in Paragraph 8.C. The study manager will coordinate the technical sufficiency review and the regional coordinator will oversee the technical sufficiency review process.
 - B. **Reviewers.** The study manager will coordinate with the cost-share partners to select the reviewers. The technical sufficiency review must be conducted by reviewers who were not directly involved with conducting the portion of the basin study they are reviewing. There must be multiple reviewers and the reviewers' scientific and technical background and expertise must be relevant to the content of the basin study under review.
 - C. **Level of Review.** Basin studies are presumed to not be influential or highly influential as defined by the OMB Final Information Quality Bulletin for Peer Review (70 Federal Register 2664-2677) or the Reclamation Manual POLICY, *Peer Review of Scientific Information and Assessments* (CMP TRMR-30), unless otherwise determined to be influential or highly influential by the appropriate regional director, in which case the OMB Final Information Quality Bulletin for Peer Review and CMP TRMR-30 will apply.
 - D. **Documentation of the Results of the Technical Sufficiency Review.** Study managers will document the results of the Technical Sufficiency Review and will make the results available to all of the cost-share partners. Reviewer comments and/or

Reclamation Manual

Directives and Standards

suggestions must be documented in writing. All reviewer comments must be considered and incorporated where relevant and appropriate. Study managers will prepare a response to all comments and suggestions submitted by reviewers. Technical uncertainties identified by reviewers must be identified and characterized in the Final Basin Study Report.

12. Review and Finalization of a Basin Study.

- A. **Content of the Final Basin Study Report.** The study manager and the non-Federal study lead will coordinate to determine the level of detail that is necessary to sufficiently address the four required elements of a basin study listed in Paragraph 9, including the assumptions, models, processes, and data used in the study, and to describe basin study partner involvement, the results, findings, and conclusions of the study. Studies may emphasize certain elements above others, depending on the priorities and needs of Reclamation and the non-Federal study lead, the issues present in the basin, and the availability of existing data, models, and other applicable analyses pertaining to the study area; however, all final reports must include the following:
- (1) **Hydrologic Projections of Water Supply and Demand.** An analysis of existing and future water supply and demand conditions that includes consideration of key hydrologic factors that influence water supply and demand within the basin, including:
 - (a) an analysis of existing water supplies;
 - (b) projections of future water supplies;
 - (c) an analysis of existing water demands; and
 - (d) projections of future water demands.
 - (2) **An Analysis of How Existing Water and Power Infrastructure and Operations Will Perform in the Face of Changing Water Realities.** An analysis of the capability of existing and proposed infrastructure and operations to meet future demands and water supply challenges, including:
 - (a) characterization of how well existing demands are being satisfied with existing infrastructure and operations; and
 - (b) an analysis of the performance of the water and power infrastructure under future water supply and demand scenarios and comparing those results with the performance of the system under the baseline scenario.

Reclamation Manual

Directives and Standards

- (3) **Development of Adaptation and Mitigation Strategies.** A discussion of the process used to develop adaptation and mitigation strategies to address current and future imbalances between water supply and demands, and descriptions of these strategies, including:
 - (a) a description of the process used to identify the adaptation and mitigation strategies that would be analyzed in the study;
 - (b) identification of each of the adaptation and mitigation strategies considered and a description of each; and
 - (c) the process used to eliminate any strategies from consideration.
 - (4) **Analysis of Adaptation and Mitigation Strategies.** An analysis of the adaptation and mitigation strategies considered, including:
 - (a) an analysis of each strategy's ability to meet the study objectives, minimize imbalances between water supply and demand, address the possible impacts of climate change; as well as each strategy's level of stakeholder support, relative cost (when available), and potential environmental impacts;
 - (b) identification of potential institutional, legal and regulatory constraints affecting the strategies considered; and
 - (c) identification of possible next steps or analysis that could build on the results of the basin study.
 - (5) **Disclaimer.** A statement describing the limitations of the study.
 - (6) **Additional Information.** For more detailed suggestions on what to include in a Final Basin Study Report, see the Basin Study Framework, which is accessible on Reclamation's WaterSMART Web site at the following location: <http://www.usbr.gov/WaterSMART/bsp/docs/BasinStudyFramework.pdf>.
- B. **POLICY Review.** The Final Basin Study Report must be submitted to the Program Coordinator for a POLICY Review at least 45 days prior to transmission of the Final Basin Study Report to the POLICY Director.
- C. **Submittal Period.** A Final Basin Study Report must be submitted to the POLICY Director by the completion date identified in the MOA, unless an extension has been granted by the POLICY Director and the appropriate regional director.
- D. **Approval of the Final Basin Study Report.**

Reclamation Manual

Directives and Standards

- (1) The regional director(s) is responsible for reviewing the Final Basin Study Report and ensuring the technical sufficiency of the study. The regional director(s) will transmit the Final Basin Study Report to the POLICY Director with a recommendation to approve or disapprove the report.
 - (2) The POLICY Director is responsible for reviewing and ensuring that the content of the Final Basin Study Report meets the requirements of this D&S and that there is consistency across Reclamation in the form, content, and quality of the reports.
 - (3) The POLICY Director will then consult with the Commissioner on whether to approve or disapprove the Final Basin Study Report.
 - (4) The POLICY Director will record in writing the final decision to approve or disapprove the Final Basin Study Report.
- E. **Posting Final Basin Study Reports.** Reclamation will post all Final Basin Study Reports on the Basin Study Program Web site at the following location: <http://www.usbr.gov/WaterSMART/bsp/index.html>.

Reclamation Manual

Directives and Standards

1. **Basin Study Proposal Selection Criteria.** The following selection criteria, listed in descending order of importance, will be used to rank the study proposals submitted to the Application Review Committee.
2. **The extent and consequences of existing or anticipated imbalances in water supply and demand (30 Points).**
 - A. Magnitude and frequency of known or anticipated water shortages (this must be a quantitative evaluation based on percentages, and/or acre-feet, of needs not met).
 - B. All sources of water supply, including quantifications in acre-feet and percentage of total supply.
 - C. Known and anticipated demands for all types of water uses (e.g., agricultural, municipal and industrial, tribal, environmental, recreation, and power generation).
 - D. Nature of imbalances—water quantity, water quality, or both.
 - E. Severity of potential consequences for not addressing imbalances in supply and demand, including impacts to water delivery; hydropower production; recreation; fish and wildlife habitat; endangered, threatened, or candidate species; water quality; flow and water dependent ecological resiliency; and flood control management as defined within section 9503(b)(3) of the SECURE Water Act (Subtitle F of Title IX of Public Law 111-11, the Omnibus Public Land Management Act of 2009).
3. **The extent to which the proposal describes and provides support for the study proponent's ability to address the following elements of a basin study within the timeframe required (25 Points).**
 - A. Projections of water supply and demand within the basin, including an assessment of risks to the water supply relating to climate change as defined in section 9503(b)(2) of the SECURE Water Act.
 - B. Analysis of how existing water and power infrastructure and operations will perform in the face of changing water realities, such as population increases, climate change, extreme events (e.g., droughts and floods), as well as other impacts identified within section 9503(b)(3) of the SECURE Water Act as appropriate.
 - C. Development of appropriate adaptation and mitigation strategies to meet future water demands.
 - D. A trade-off analysis of the strategies identified and findings, including an analysis of all proposed alternatives in terms of their relative cost, environmental impact, risk (probability of not accomplishing the desired/expected outcome), stakeholder response, or other attributes common to the alternatives.

Reclamation Manual

Directives and Standards

4. **The strength of any nexus between the basin study and a Bureau of Reclamation project or activity and the extent to which Federal involvement is needed due to the nature and complexity of the issues involved (15 Points).** Is there a Reclamation project or activity in the study area, or is a Reclamation project or activity affected by the study area? Do the cost share partners receive water from a Reclamation project? Are there needed technical capabilities that Reclamation can provide (e.g., Reclamation expertise in hydrology, engineering, or climate models)? Is Federal involvement beneficial due to multijurisdictional issues or issues of national significance (i.e., food supply, energy, etc.)? Are there other reasons that Federal involvement is needed?
5. **The availability and quality of existing data and models applicable to the proposed study, and the ability of the basin study cost-share partners to assess future imbalances in water supply and demand (15 Points).**
 - A. Will data or models need to be developed as part of the study? Can data and models be developed and applied effectively within the 3-year study period? Identify what currently existing models and data are available to be used in the study. Are data and models from well-established, documented sources? How will data and models be applied (describe the methods and assumptions to be employed)? How will data and models be coordinated?
 - B. Data and models include but are not limited to:
 - (1) hydrologic models,
 - (2) operational models,
 - (3) climate data,
 - (4) water demand data or projections,
 - (5) water quality data,
 - (6) recreational water needs,
 - (7) environmental water needs
 - (8) demographics, and
 - (9) economic data and models
6. **The level of support for the basin study and diversity of stakeholders that will be involved (10 Points).** Identify the cost-share partners and stakeholders that will be involved in the study and explain how they will be involved. Will all basin stakeholders with a significant interest in water supply issues be involved? If not, why not? Will the cost-share partners and stakeholders involved represent a diverse set of interests (e.g., agricultural,

Reclamation Manual

Directives and Standards

municipal, environmental, tribal), and will the study require cooperation among competing stakeholder interests? To the extent that study stakeholders and supporters have been identified, letters of support from those entities must be provided. Where stakeholders have not yet been identified, please describe how they will be identified and contacted. Is there opposition to the proposed study? If so, please explain why. Opposition will not necessarily result in fewer points.

- 7. The extent to which the proposed study will employ an integrated watershed planning and management approach (5 Points).** An integrated watershed planning and management approach considers the relationships between resources, resource managers, stakeholders, and resource decisions so as to pull elements together for comprehensive planning. The approach is one that addresses the interconnected nature of ground water and surface water, water quality and quantity, river and watersheds, and competing demands for water. Please explain how the proposed study will employ an integrated watershed planning and management approach. Including whether all of the issues impacting water supply (including upstream and downstream conditions) and demand (including competing demands) in the watershed will be considered and addressed, how problems will be evaluated on a watershed level to identify root causes and connections to other issues, will a collaborative process be employed to secure input from all stakeholders about their interests and needs, what process will be used to balance multiple objectives and lead to a diverse range of adaptation and mitigation strategies with multiple benefits, and how will the analysis of surface and groundwater be integrated (where applicable).

Reclamation Manual

Directives and Standards

Suggested Basin Study Checklist

The Suggested Basin Study Checklist provided below is intended to be used as a management tool by study managers/regional coordinators.

Basin Study Name: _____

Memorandum of Agreement with study partner(s) signed and dated;

Plan of Study approved by the Policy and Administration

Office (Policy Office); Study fact sheet sent to Policy

Office, date sent _____;

Prepare basin study Web site _____ (alert Policy Office

of the Web address); Semi-Annual report preparations:

First Study Year -

_____ 1st report, date sent _____

_____ 2nd report, date sent _____

Second Study Year -

_____ 1st report, date sent _____

_____ 2nd report, date sent _____

Third Study Year -

_____ 1st report, date sent _____

_____ 2nd report, date sent _____

Cross-Check Point: Do you need to request a study extension? If so, coordinate with the Policy Office and get your regional director's office engaged:

_____ Letter from regional director sent to the Policy Office

End of Study Check:

[60 days out]

_____ Data compilation complete

_____ Stats and facts complete

_____ Pictures and graphs finalized

(Note: Use only pictures you have permission to use.)

_____ Technical writer review complete

Reclamation Manual

Directives and Standards

[45-days out]

_____ Informal Policy Office review, 30 day review period

_____ Draft press release with Policy Office and Denver Public
Affairs

[] Upon completion of Policy Office review, brief regional director and prepare transmittal
memo _____

[] Regional director memorandum sent to Director, Policy and Administration _____

[] Coordinate with Policy Office for Commissioner's Office briefing _____

[] Coordinate with Denver Public Affairs Office for final press release _____

[] Apprise your regional public affairs office and Denver Public Affairs Office if you
get any media inquiry.

Notes:

DRAFT