

SUBMIT OPTION SUBMITTAL FORM BY:

1. EMAIL TO: COLORADORIVERBASINSTUDY@USBR.GOV

2. U.S. MAIL TO: BUREAU OF RECLAMATION, ATTENTION MS. PAM ADAMS, LC-2721, P.O. BOX 61470, BOULDER CITY, NV 89006-1470

3. FACSIMILE TO: 702-293-8418

Option Submittal Form

Contact Information (optional):

Keep my contact information private.

Contact Name: _____	Title: _____
Affiliation: _____	
Address: _____	
Telephone: _____	E-mail Address: _____

Date Option Submitted: February 1, 2012

Option Name:

Individual State-based Water Banks in the Upper Basin

Description of Option:

Institutional arrangements allow for municipal and other users of Colorado River water with junior rights in an Upper Basin State to pay to exchange pre-1922 water rights from that same Upper Basin State for critical municipal needs in the event of a "call" on the Colorado River Compact. Banking could entail proactive or year-of-"call" fallowing or deficit irrigation, via storage or by direct exchange.

Location: Describe location(s) where option could be implemented and other areas that the option would affect, if applicable. Attach a map, if applicable.

The areas in CO, NM, UT, and/or WY that use Colorado River water.

Quantity and Timing: Roughly quantify the range of the potential amount of water that the option could provide over the next 50 years and in what timeframe that amount could be available. If option could be implemented in phases, include quantity estimates associated with each phase. If known, specify any important seasonal (e.g., more water could be available in winter) and/or frequency (e.g., more water could likely be available during above-average hydrologic years) considerations. If known, describe any key assumptions made in order to quantify the potential amount.

Amount would vary depending on available pre-1922 water rights that can be fallowed or deficit irrigated temporarily or permanently. Amount also varies with need, which is defined both by obligations under the Colorado River Compact and yet-to-be-defined 'critical junior uses' in the state in which the bank is to operate. These are matters for each state to consider based on its specific circumstances and priorities.

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Additional Information

Technical Feasibility: Describe the maturity and feasibility of the concept/technology being proposed, and what research and/or technological development might first be needed.

Feasible; requires no new infrastructure.

Costs: Provide cost and funding information, if available, including capital, operations, maintenance, repair, replacement, and any other costs and sources of funds (e.g., public, private, or both public and private). Identify what is and is not included in the provided cost numbers and provide references used for cost justification. Methodologies for calculating unit costs (e.g., \$/acre-foot or \$/million gallons) vary widely; therefore, do not provide unit costs without also providing the assumed capital and annual costs for the option, and the methodology used to calculate unit costs.

Costs will be negotiated relative to regional economics and market analyses. Cost of banked water may include direct compensation to farmers or other water users; payment to water distribution organizations to cover costs of infrastructure maintenance and administration; payment to counties in lieu of taxes; weed control, and payment into a fund reserved for compensation to directly affected third parties (such as crop sprayers and farm suppliers when banked water comes from agriculture). Following and deficit irrigation require no infrastructure or operating costs beyond typical infrastructure operating costs and administration.

Permitting: List the permits and/or approvals required and status of any permits and/or approvals received.

Use of federal facilities/reservoirs will trigger NEPA and will require either an EA or EIS.

Legal / Public Policy Considerations: Describe legal/public policy considerations associated with the option. Describe any agreements necessary for implementation and any potential water rights issues, if known.

There are two levels of legal considerations. First, if federal reservoirs are used to store banked water, then such use will need to be authorized per federal laws or regulations. Second, there will be state water law issues to resolve, especially administrative issues related to exchanges of water to municipal uses on a temporary basis. There is high likelihood that all legal and policy issues can be resolved. There are also policy issues that will need to be addressed within each state about critical uses and impact to agricultural communities.

Implementation Risk / Uncertainty: Describe any aspects of the option that involves risk or uncertainty related to implementing the option.

LOW. Water banking is a no-regrets activity with virtually no risk of stranded capital or negative environmental impact.

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Reliability: Describe the anticipated reliability of the option and any known risks to supply or demand, such as: drought risk, water contamination risk, risk of infrastructure failure, etc.

No known risks.

Water Quality: Identify key water quality implications (salinity and other constituents) associated with the option in all of the locations the option may affect.

Potential for water quality improvements.

Energy Needs: Describe, and quantify if known, the energy needs associated with the option. Include any energy required to obtain, treat, and deliver the water to the defined location at the defined quality.

Energy Required	Source(s) of Energy
None known.	

Hydroelectric Energy Generation: Describe, and quantify if known, any anticipated increases or decreases in hydroelectric energy generation as a result of the option.

Location of Generation	Impact to Generation
	None known.

Recreation: Describe any anticipated positive or negative effects on recreation.

Location(s)	Anticipate Benefits or Impacts
	Potential for recreation benefits resulting from increased flows downstream and if reservoir operations can be timed to benefit downstream recreation. Both positive and negative impacts will be very site specific though and we would need to consider them as details and operations are developed.

Environment: Describe any anticipated positive or negative effects on ecosystems within or outside of the Colorado River Basin.

Location(s)	Anticipated Benefits or Impacts
	There is potential for increasing river health resulting from increased flows downstream if reservoir operations can be timed to benefit

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	environmental values. Both positive and negative impacts will be very site specific though and we would need to consider them as details and operations are developed.

Socioeconomics: Describe anticipated positive or negative socioeconomic (social and economic factors) effects.

Economic impacts to rural/source communities should be mitigated through direct payments to irrigators as well as payments to local institutions (e.g. county governments or community impact funds) and dependent businesses (e.g. crop sprayers) to compensate for revenue losses. Mitigation is expected to be defined in terms of negotiated banking agreements.

Other Information: Provide other information as appropriate, including potential secondary benefits or considerations. Attach supporting documentation or references, if applicable.

This concept is currently being explored in Colorado and could be a model for other Upper Basin states. In addition, the Upper Colorado River Commission is also discussing this as an option and is the obvious facilitator for such conversations.