Patterson, Katie

To: Patterson, Katie
Subject: FW: additional concepts for consideration - City of Phoenix
Attachments: Top Storage RSA Concept 5-1-24.pdf; Movable Top Storage Option 5-1-24.pdf; Expanded Transactional Flexibility Concepts 5-1-24.pdf; Navigating the Second Ramp - Three Pools Concept 5-1-24.pdf; Pre-approved RSA exhibit concept 5-1-24.pdf

From: Peter Culp <pculp@culpkelly.law>
Sent: Wednesday, May 8, 2024 5:34 PM
To: Jerla, Carly <CJerla@usbr.gov>
Cc: BOR DRO CRB Post 2026 Mailbox <bor-sha-crbpost2026@usbr.gov>; Cynthia S Campbell <cynthia.campbell@phoenix.gov>
Subject: [EXTERNAL] additional concepts for consideration - City of Phoenix

Carly:

In evaluating the initial proposals that have been submitted for the post-2026 operating guidelines, the City of Phoenix found it difficult to adequately assess the risk of shortage to its 1.7 million customers that would be associated with proposed alternatives, since the initial proposed alternatives have only partially detailed how shortages would be shared among Colorado River users. In addition, these initial proposals generally did not include strategies that could help to mitigate the risk of shortage, or empower water users to work together to resolve challenges in the future.

Based on these considerations, Phoenix has been working to develop a series of mitigation measures that could be considered and modeled in conjunction or separately from the alternative proposals. These measures are not intended to conflict with the existing proposals.

In brief, the attached materials describe the following:

1. A description of a proposed "top storage" system of reservoir storage accounts, which would replace and expand on the existing ICS program by establishing a more broadly-accessible and operationally-neutral system of reservoir storage accounts.
    a. This system could also allow for the deliberate movement of top storage water between Lakes Mead and Powell in order to boost operational flexibility, manage infrastructure risks, and generate other system-level benefits. We note that many of these concepts are reflected in the NGO alternative.

2. A proposed approach to more broadly considering and enabling transactional behaviors among users as part of the NEPA process. This would include three key elements:
    a. Consideration of an expanded list of water conservation activities that would be anticipated to occur and that would be eligible means of generating water conservation outcomes, emphasizing potential alternatives to land fallowing or non-use, such as switching to lower-water use crops, source switching, and efficiency improvements where appropriate.
    b. Establishing pre-approved criteria for generating reservoir storage in such accounts, moving away from the project-by-project approach used to approve ICS transactions under the current Forbearance Agreement.

c. Deliberate analysis under NEPA of a range of potential transactional behaviors among water users and theirsystem-level impacts, in order to help streamline future party-to-party cooperation and voluntary transactions efforts that can help to mitigate individual shortage risks.

3. A possible transactional and storage-driven "three pools" approach to coordinated shortage mitigation, which would help to plan and navigate water use reductions above the 1.5 maf "static reduction" level within the Basinwide Reduction Zone (or equivalent larger water use reductions under other alternatives).
   a. Under this approach, storage would be deliberately created and maintained in advance of shortage conditions within a "federal pool," a "state/agency pool," and an individual user pool.
   b. Water created and stored in the federal pool would help to maintain storage needed to protect critical infrastructure and guarantee minimum deliveries of water on federal projects and/or to tribal entitlements; while state/agency pool water could be created to protect other key infrastructure, water users, or economic interests on an individual or cross-agency basis.
   c. Water created and stored in the individual pool would allow users to store water individually or in cooperation with other users to mitigate their own individual water risks or make more flexible use of their entitlements.

We appreciate Reclamation's ongoing efforts in the post-2026 process, and look forward to further discussions.

Best regards,
Peter

Peter W. Culp, Managing Partner
Culp & Kelly, LLP | O: 602-888-7011 | M: 602-402-6788

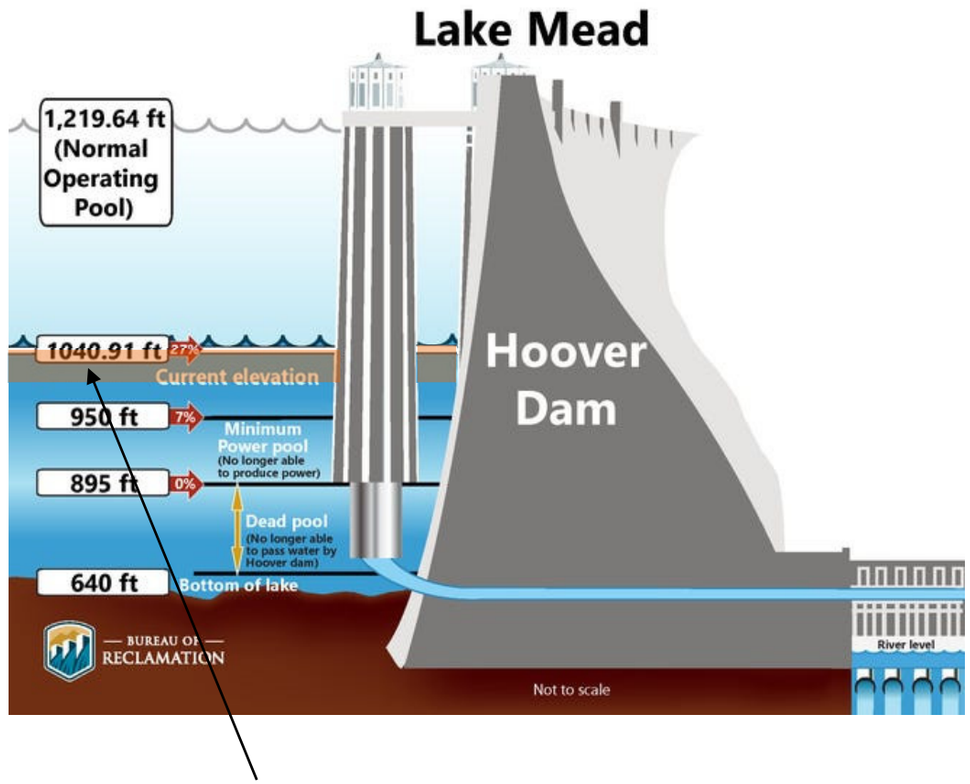
Rethinking ICS and Voluntary Reservoir Storage Rules

The ICS program has been successful in encouraging water users to conserve water in Lake Mead. However, there are concerns about the potential for the use of ICS as a means of "gaming" reservoir elevations, and the potential for significant ICS withdrawals to accelerate reservoir declines in shortage years.

Under current rules, because ICS "counts" as part of the Lake Mead elevations that are used to set Lower Basin shortages, the storage of ICS has sometimes helped to maintain water deliveries at levels *higher* than would otherwise have occurred. At the same time, since stored ICS can be used to offset shortages, it potentially increases the amount of water withdrawn in a shortage, reducing the effectiveness of shortages in arresting reservoir declines.

A key evolutionary step for the ICS program after 2026 would be to evolve away from the current ICS program to use reservoir storage accounts (RSAs) that are based on "top storage," in which the presence of created storage in the reservoir would not "count" towards the calculation of water available for delivery to water users.

This approach would maintain most of the benefits of the ICS program – incentivizing conservation and creating greater flexibility in year-to-year water use. Water users could also use their stored RSA water to offset shortages in particular years without increasing shortage risks to others – because rules governing water availability would be applied as if RSA water was not present in the system.



ICS Pool (shaded) – Although the presence of ICS helped to boost Mead storage significantly, under the existing rules, the rapid withdrawal of ICS at lower elevations by some users could also have quickly dropped Lake Mead elevations further, triggering deeper shortages for other users.

Characteristics of Top Storage RSA

Not counted towards available storage. When determining amounts of water available for delivery, top storage RSA water would be discounted in assessing the current elevation or active storage of the reservoir(s). Instead, water available for delivery (i.e. shortages) would be based on the volume of *non-RSA water* in the normal operating pool.

Created via reduced use/increased supply. Similar to current rules for ICS, RSA water would be created by either reducing consumptive use of water or increasing Colorado River water supply in a particular year. Once created, water would be retained in the RSA pool (less evaporation charges) until it was delivered.

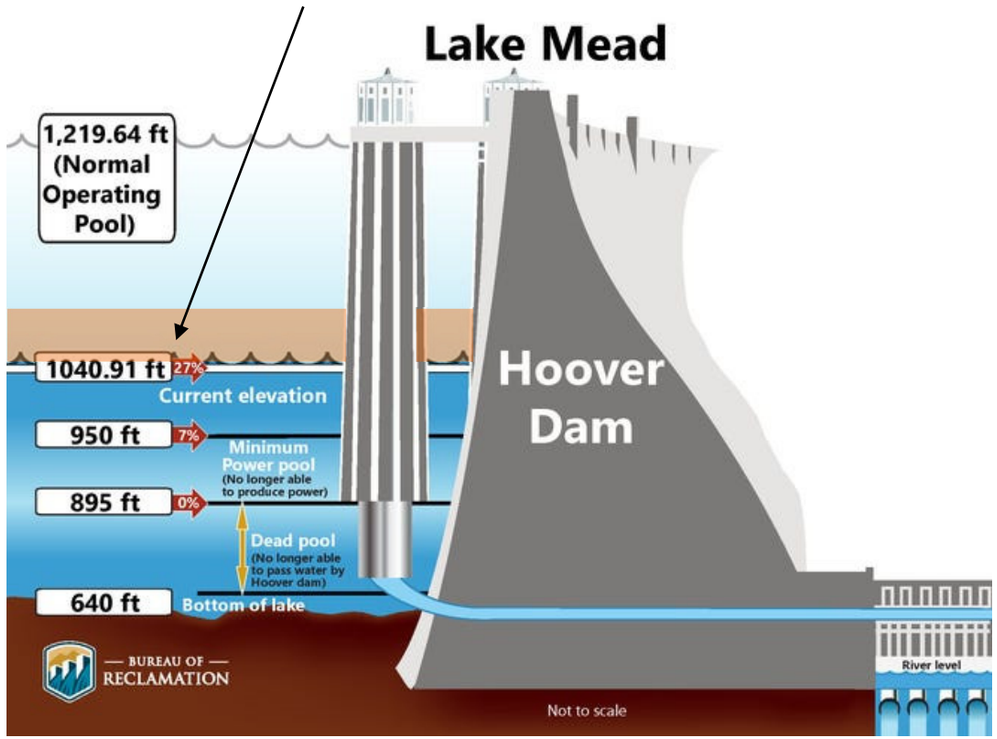
Subject to spill. In the event that the reservoir fills, this top storage water would be the first to spill (once there was no longer enough remaining empty active storage space to retain it).

Delivered on top of normal deliveries. Users holding RSA water could similarly choose to deliver this water "on top" of their normal deliveries, including to supplement deliveries in shortage years, helping them to mitigate the impacts of shortage conditions.

Operationally neutral, but still beneficial. Because top storage RSA water would not be counted in setting water delivery amounts, supplemental deliveries would not impact the amount of storage available to other users in comparison to a scenario where that RSA water was never stored or withdrawn – it would be "operationally neutral." However, stored RSA water would still keep reservoir levels higher than they would otherwise have been – aiding reservoir protection volumes and increasing hydropower heads.

Under a "top storage" model, RSA water would essentially *float on top* of the normal operating pool, occupying the empty portion of the reservoir's active storage space.

Top Storage RSA Pool (shaded) – Top storage RSA water would "float on top" of the reservoir, and would not "count" in determining elevation or storage for purposes of assessing water available for normal delivery.



Expanding the Availability of Voluntary Top Storage

By making additions and withdrawals of RSA water "operationally neutral," a top storage approach could allow the amount of potential RSA storage to be increased substantially without increasing water user risks. Similarly, greater flexibility could potentially be allowed in the volume of "puts" and "takes" permitted from the RSA pool in any particular year.

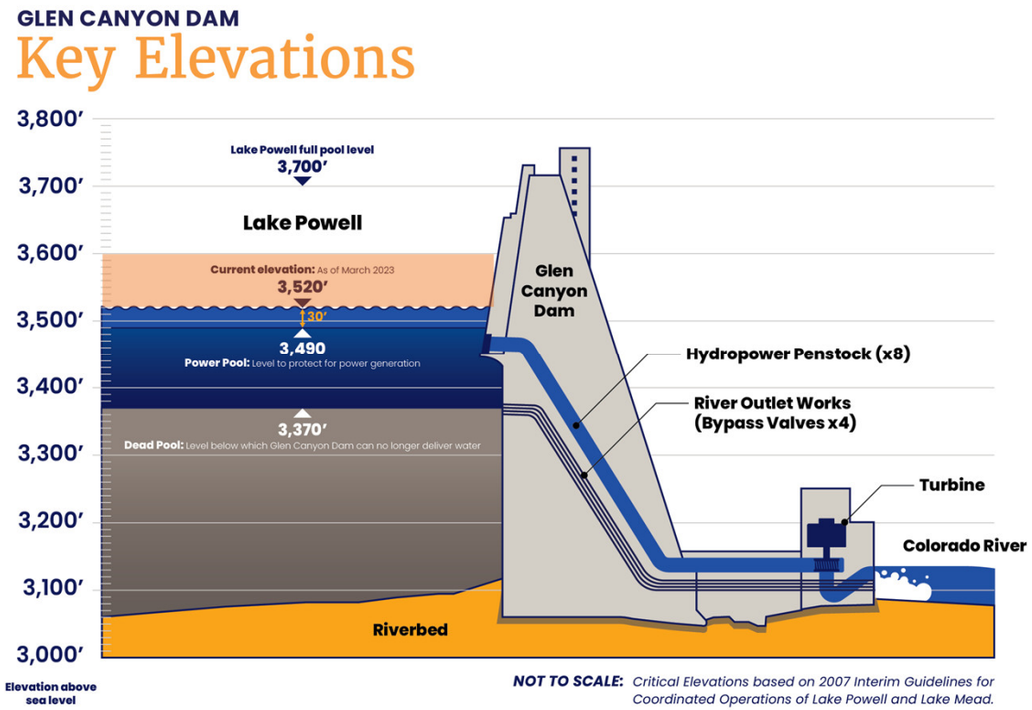
This mechanism could also potentially be expanded to allow the creation of similar top storage in Lake Powell.

Top storage created or held in Lake Powell could similarly be treated as operationally neutral, without affecting the releases of water from the Upper to the Lower Basin. Allowing Upper Basin users to participate in top storage could provide new conservation incentives and allow greater flexibility.

Top storage RSA water could, for example, be used by the Upper Basin to ensure compliance with the 1922 Compact via releases during low-flow sequences, or it could be used to increase the flexibility of year-to-year water use within Upper Basin projects.

Similar top storage rules could also be applied to water stored in the Mexican Water Reserve, which could allow for expanded international use of voluntary storage on the same terms.

Top Storage Pool (shaded) – Top storage could also be permitted in other reservoirs. In Lake Powell, for example, top storage could similarly "float on top" of the reservoir, and would not "count" in determining the water available for downstream release to Lake Mead or Lower Basin users.



Option: Allowing for Movable Top Storage?

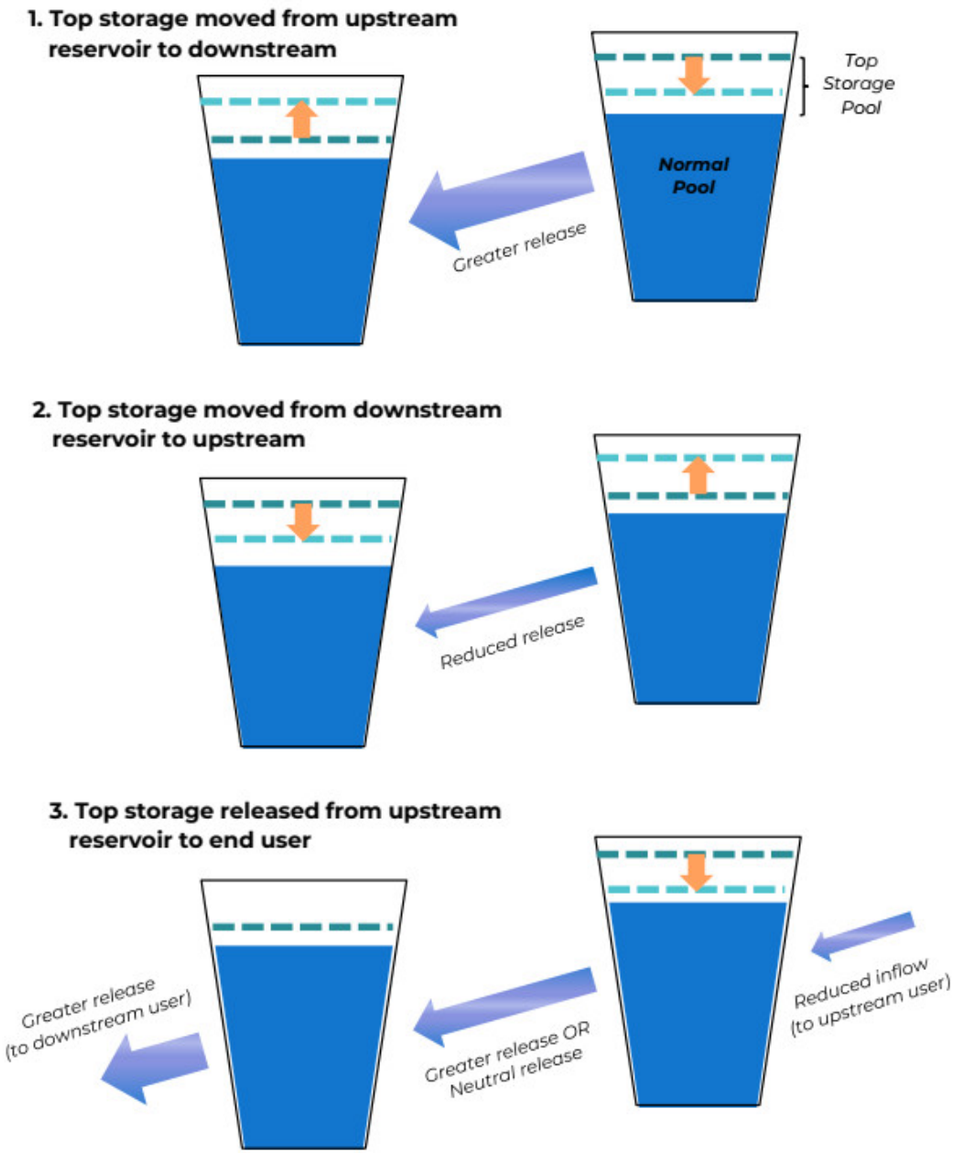
One other key evolutionary step could be to allow top storage water to be moved among Mead and Powell storage until actively called for delivery.

While rules would need to be adopted to protect water user interests and prevent undesirable impacts,[1] Reclamation could potentially gain useful management flexibility from a block of water that could be held back upstream or moved downstream without affecting water users.

For example, Reclamation could potentially move top storage RSA water between reservoirs to:

- Hold additional water in Powell and maintain protection volumes;
- Move additional water to Mead to protect SNWA intake levels;
- Boost hydropower production during particular periods; or
- Create environmental benefits, such as providing for intermittent, larger releases of water through the Grand Canyon.

Water temporarily released downstream could be recaptured at the next reservoir (e.g. Mead), and could be moved upstream by reducing flows during higher-flow portions of the water year or in a subsequent water year. When top storage RSA water was finally ordered for delivery by an upstream or downstream user, Reclamation would simply adjust the relative deliveries accordingly (within the limits of permitted operations).



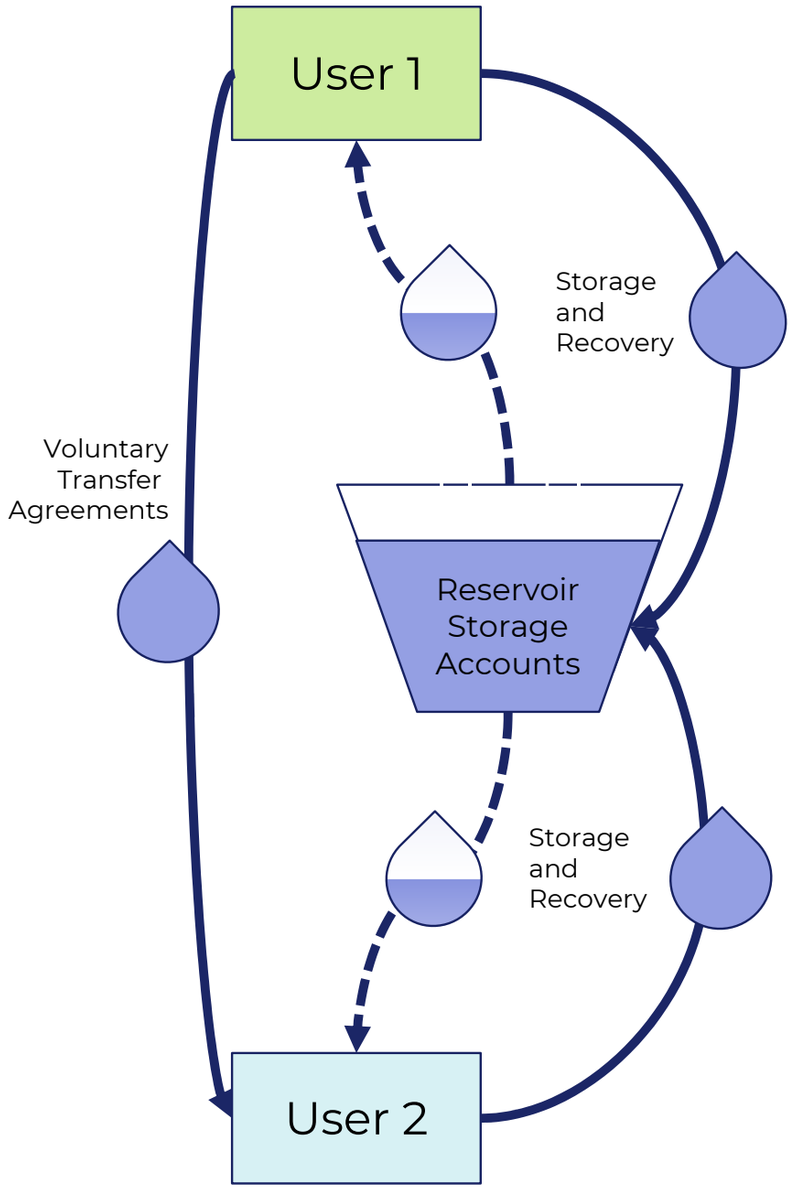
1. For example, movements of water between reservoirs for beneficial management purposes would need to be accounted for independent of Lee Ferry obligations.

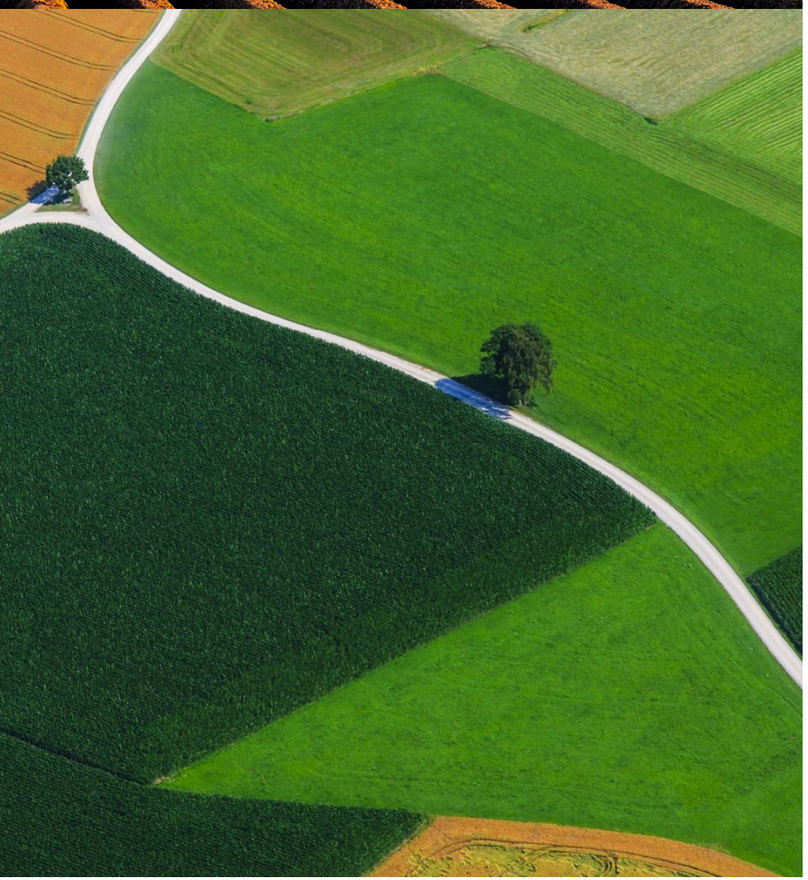
Enabling Increased Transactional Flexibility

Reclamation should specifically prioritize and broaden support within new operational guidelines for transactional and transitional activities among water users that will help water allocation problems to be solved at the ground level – allowing water users to work together to meet their individual needs.

The NEPA process for the 2026 Guidelines provides an opportunity to encourage and streamline at least some of those activities **by analyzing related operational rules** that would facilitate them, and **evaluating some of the impacts associated with** conservation, storage, and transfer activities that would work to mitigate adverse system impacts. Many system-level and end-user impacts could be evaluated for several types of transactions, subject to appropriate safeguards and limitations. These **could be incorporated as a mitigation measure** under the new operational guidelines:

- **Expansion of eligible activities** that would be deemed capable of generating conserved Colorado River water that could be stored or transferred.
- **Pre-approved reservoir storage exhibits** under an interstate Forbearance Agreement (or other mechanism) that would allow Reclamation to approve a range of voluntary reservoir storage creation/delivery projects that meet specific, objective criteria.
- **Pre-approval of voluntary transfers** between at least higher-priority and lower-priority users up to certain limits, including wheeling of water through federal facilities (such as the CAP), whenever shortage conditions reduce water deliveries below their baseline levels.





Expansion of Eligible Conservation Activities

As part of the NEPA process, Reclamation could explicitly evaluate and identify as mitigation measures several types of activities that can be used to conserve or directly reduce the use of Colorado River water. The NEPA analysis could consider the system-level impacts and other impacts common to these activities on a programmatic level, limiting the scope of future NEPA review to those impacts specific to a particular project.

These eligible activities should include at least five categories that have been demonstrated to work in the past as a means of reducing the consumptive use of Colorado River water, or that could be readily demonstrated to do so. This could also include analysis of potentially appropriate guardrails on those activities (or verification measures) as suggested below.

1. Temporary or seasonal fallowing of irrigated lands *(potential limitations: occurs on lands with 5 continuous years of prior use, established baseline of past water use, demonstration of reduced net CU/ET)*
2. Reduction in evaporative loss from surface water bodies
3. Canal lining or similar efforts to reduce seepage or other transmission losses *(potential limitation: areas outside of the Colorado River accounting surface)*
4. A change in the type of crops grown from a higher water use to lower water use crop *(potential limitations: higher water use crop has been grown for at least continuous 5 years prior to change, lower water use crop will be grown for a minimum of 5 continuous years)*
5. Source substitution that replaces a current use of Colorado River water with water derived from a different water source, not including other Colorado River water or groundwater; provided that this substitution may include reuse of effluent generated from the use of Colorado River water or groundwater. *(potential limitation: if the project is making a permanent change through development of a new supply, the project will claim reservoir storage credit for no more than [5] years after the substitution on a one-time basis. Year to year changes in the use of surface water would not be limited.)*

Pre-Approved Reservoir Storage Criteria

Top-storage RSA (or other ICS successor program) pre-approvals could be accomplished through the development of standard form exhibits to a future Forbearance Agreement (or similar mechanism) that describe a set of pre-defined criteria that a project would need to meet to qualify as creating storage credit. Assuming those criteria were met, the Forbearance Agreement would provide that Reclamation could approve the project as a basis for creating storage.

Eligible Project. Project is one of several specific types of transactions that have been analyzed and deemed capable (under appropriate conditions) of generating conserved Colorado River water that could be stored as RSA water or that would otherwise be eligible for transfer. (See list of eligible transactions on previous slide.)

Project Description. Project description that identifies the locations, timeframes, and specific measures that will be taken to conserve water and achieve a verifiable reduction in consumptive use of mainstem Colorado River water.

Water Source. Project will conserve mainstem Colorado River water or will result in a direct reduction in the diversion and use of mainstem Colorado River water.

Baseline & Estimated Change in Consumptive Use and Diversion. Basis for and quantification of current consumptive use that will be altered by the project, basis for and quantification of estimated change in consumptive use that will result from the project, and how that will translate to reduced Colorado River diversions and/or increased return flows to the mainstem of the Colorado River.

Verification Methodology. Specific methodology that will be used to verify change in consumptive use/diversion and parties responsible for the same, including a minimum of annual reporting to Reclamation with right of inspection.

Regulatory Compliance. Documentation of regulatory approvals obtained or that will be obtained necessary to the project, and approvals from any relevant Section 5 contractors. (Final approval is conditioned on these.)

Analysis of Voluntary Mitigation Transfers

Any potential transfer is likely to have certain impacts that are unique, particularly where changes in water use may have localized environmental or other impacts. However, by defining some general sideboards for transfer activities that will be affirmatively analyzed in the NEPA process, Reclamation could address a wide range of potential system impacts (such as flow levels in specific reaches, hydropower production, potential changes in water quality, etc.) that might result from future changes in the location(s) and amounts of water use, as well as some types of end-user impacts. This would help to streamline voluntary transfers (and deliveries of RSA water from storage) that fall within those guidelines by limiting the number of issues that would need to be analyzed (but without prohibiting other kinds of transactions). Examples of potential analytical sideboards could be:

Annual limits by reach. Water that could be transferred out of a particular reach in a particular year would be limited to amount(s) for which the resulting impacts are studied.

Annual limits for end use. Water transferred in a particular year to a specific end user could be limited to the amount(s) that the user is actually being shorted. (This would obviously limit the potential for any real end-user impacts, since nothing would really change.)

Type and location of water use. Transferred water would be limited to use on lands or service areas already authorized under Colorado River delivery agreements. Transferred water would be allowed for any applicable use the lower priority user would have used the water for had it not been shorted, but not for supporting new uses (e.g. new growth or industry).

Use of infrastructure. Water would be delivered through existing state or federal facilities delivering Colorado River water that were included in the analysis. No new infrastructure, modifications of existing facilities, or ground disturbing activities would occur.

Restrictions on transferred-from area impacts. Transferred water would have to be a current use of Colorado River water or stored water, not another source, and would not be replaced by the sending entity with greater use of another Colorado River source or offset with use of groundwater.

Regulatory Compliance. NEPA compliance for source-specific issues and needed approvals would be obtained, including wheeling agreements and approvals from governing bodies.

Draft for Discussion

Post-2026 Guidelines Concept: "Pre-Approved Reservoir Storage" Exhibits

May 2024

The post-2026 Guidelines will almost inevitably contemplate reductions in use of Colorado River water in excess of those previously considered under the 2007 Shortage Guidelines and the Drought Contingency Plan. For this reason, Reclamation should consider various potential "mitigation" measures within its Post-2026 NEPA process that could help reduce the impacts to water users that would be associated with those reductions, which impacts could lead to significant disruption to the nation's economy. There seems to be broad consensus that the continuation of a voluntary storage program, potentially in the form of a modified Intentionally-Created Surplus (ICS) program (referred to below as Reservoir Storage Accounts, RSAs), could be one potentially desirable mitigation strategy – particularly if it could be opened to broader participation and undertaken in a manner that ensured relative operational neutrality.

A primary challenge associated with the current ICS program is that for practical purposes it has favored ICS projects undertaken by the largest Colorado River contractors – in no small part because each and every ICS project must be included as an exhibit to the Forbearance Agreement (and thus approved by the parties to the Forbearance Agreement). This requirement creates a significant barrier to entry that introduces both substantial delays and significant transaction costs – effectively barring consideration of smaller ICS projects. In addition, there is a continuing risk that the parties to the Forbearance Agreement may be biased towards reserving available ICS capacity for their own projects and needs. At present, nearly all of the ICS stored in Lake Mead is allocated among the direct parties to the Forbearance Agreement.

This obstacle could be effectively overcome through the creation of one or more additional exhibits to a renewed 2026 Forbearance Agreement that would establish standardized requirements for the creation and approval of future RSA projects. For example, it should be possible to develop standardized criteria to govern the approval of at least smaller-scale, Extraordinary Conservation-type RSA projects.

A standardized RSA exhibit would lay out essential requirements for Extraordinary Conservation RSA creation that ensure that RSA projects create "real" conservation and document the operational impacts of such projects, while permitting Reclamation to efficiently review and directly approve future RSA projects that meet the standardized guidelines.

A review of currently approved Extraordinary Conservation ICS project exhibits to the Forbearance Agreement reveals a number of commonalities and indicates that a standardized exhibit could require that RSA creation and delivery proposals meet the following criteria:

1. RSA Creation Provisions:

1. The project proposes the creation of Extraordinary Conservation RSA water, using a method that has demonstrated actual reductions in the consumptive use of water in previous applications within the Lower Colorado River Basin, including:
    a. Temporary or seasonal fallowing of irrigated lands.
    b. Reduction in evaporative loss from surface water bodies.
    c. Canal lining or similar efforts to reduce seepage or other transmission losses in areas outside of the Colorado River accounting surface.
    d. A change in the type of crops grown from a higher water use to lower water use crop, provided that the higher water use crop has been grown for at least continuous 5 years prior to application and the lower water use crop will be grown for a minimum of 5 continuous years.
    e. Source substitution that meets all of the following criteria:
        i. The substitution replaces a current use of Colorado River water with water derived from a different water source, not including Colorado River water or groundwater; provided that this substitution may include use of effluent generated from previous use of groundwater or Colorado River water.
        ii. RSA credit for source substitution would be limited to no more than [5] years after a permanent substitution.

2. The project involves the conservation of a water source that is either mainstem Colorado River water or a source whose conservation will directly result in a reduction in the diversion and use of mainstem Colorado River water.

3. The Colorado River water diversion and use that will be reduced as a result of the project: (i) has been in continuous use for its current purpose (e.g. irrigation of a specific area of lands) for a minimum of [5] years prior to the initiation of the conservation project, and (ii) would be otherwise available for that use in the absence of the conservation activity (i.e. no credit for shorted water).

4. The applicant provides a project description that identifies the current amount of use of water, purpose of use, and location of use, and the specific measures that will be taken to conserve the water.

5. The application provides a credible basis for and quantification of current consumptive use that will be altered by the project, a credible basis for and

quantification of the estimated change in consumptive use that will result from the project, and how that will translate to either:

a. A reduction in Colorado River diversions and/or
b. Increased return flows to the mainstem of the Colorado River.

6. The application identifies:
    a. A specific methodology that will be used during the life of the project to verify the change in consumptive use/diversion against the baseline to ensure that requirements are met on an ongoing basis;
    b. The parties responsible for that verification;
    c. How the changes in use will be addressed within the accounting system for the relevant federal water delivery contract; and
    d. A reporting framework to Reclamation.

7. The requested RSA credits will not exceed the amount of any verified reductions in deliveries and/or any measurable increase in return flows;

8. The project will meet the following additional requirements:

    a. The project will otherwise comply with applicable provisions of the Post-2026 ROD and Forbearance Agreement;

    b. The creation of RSA credits will not interfere with other planned efforts to generate Extraordinary Conservation RSA in the same state due to limitations on the total amount of Extraordinary Conservation RSA that may be created in a single year, provided that Reclamation may limit the size of any approved project in order to accommodate multiple applications within a single year.

    c. The applicant provides documentation of all regulatory approvals obtained or that will be obtained that are necessary to the project and approvals from any Section 5 contractors whose delivery contracts will be affected by the project. (Projects may be approved by Reclamation that are contingent on obtaining later approvals.)

2. RSA Storage and Delivery Provisions:

- The amount of RSA held in storage at any one time by a Section 5 contractor does not exceed [a multiple TBD] of their annual Colorado River entitlement; provided

that this restriction will not apply to stored RSA that has been assigned to another entity under an RSA delivery contract.

- Stored RSA credits may be assigned to another entity located in the same state where the RSA was created in connection with an approved RSA delivery contract.

- An RSA delivery contract may be held by any entity demonstrating the capability to take delivery of RSA via direct delivery in the same state where the RSA was created, or via an approved exchange with another entity capable of receiving direct delivery of the RSA in the same state where the RSA was created. An RSA delivery contract may provide for the future delivery of stored RSA under such conditions as Reclamation may approve.

- An RSA delivery contract may be assigned to another entity meeting the requirements for an RSA delivery contract with the approval of Reclamation.

- Extraordinary RSA credits generated in one state will not be delivered for use in another state. No type of RSA credit created in the United States will be delivered to Mexico.

    - This shall not prevent delivery of any RSA for use along the border of a state, provided that water is not subsequently delivered to another state or to Mexico in a manner inconsistent with the terms of a Colorado River delivery contract or the Treaty of 1944.

- The delivery of RSA credits cannot exceed the total state RSA delivery limits in any year, provided that Reclamation may reduce the ordered delivery of RSA in order to keep annual deliveries within the state limit.

3. Notice and Objections

All parties to the Forbearance Agreement must receive notice of all RSA plan approvals, RSA creation and RSA deliveries together with Certification Reports and other relevant documentation. Any party to the Forbearance Agreement may file an objection with the Regional Director, and then the Secretary within 30 days of any notice for any violation of the terms of the Exhibit.

Benefits of a Standardized RSA Exhibit

By subjecting future Extraordinary Conservation RSA projects to uniform, objective standards, this mechanism would ensure that RSA projects create real conservation outcomes, while increasing Reclamation's ability to encourage more flexible use of

Colorado River water in keeping with its role as the “watermaster” of Lower Colorado River operations.

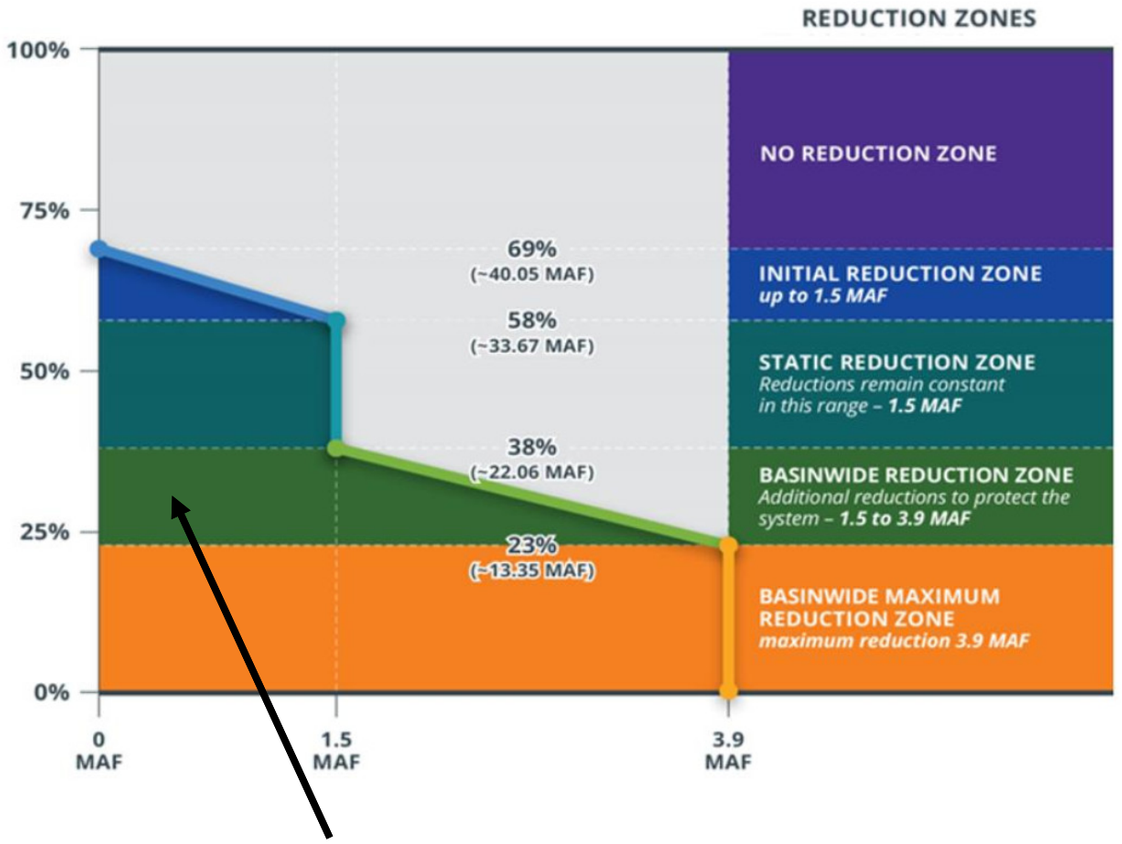
Notably, a similar proposal was floated during the final stages of the negotiation of the Interim Guidelines in 2007 but was tabled due to the short timeline available for the completion of the Interim Guidelines. This same mechanism could also provide a standardized process for RSA creation that would be usable for the operation of a federal RSA account under an expanded post-2026, ICS-type RSA program.

A Mitigation-Based Strategy for the “Second Ramp”

Both of the Basin States alternatives exhibit a similar proposed “rule curve” tied to Colorado River system storage, consisting of an initial ramped reduction shared by Lower Basin users, a “static reduction” of 1.5 maf that occurs over a significant range of storage conditions, and then a “second ramp” that further increase reductions to 3.9 maf.

Although the Lower Basin and Upper Basin alternatives propose substantially different allocations of the reductions imposed by the “second ramp,” neither alternative currently proposes any specific allocation of those reductions among individual users in the Lower and/or Upper Basins.

Rather than forcing a fraught and potentially arbitrary, detailed allocation of those additional reductions, Reclamation should instead consider a “mitigation-based” strategy. Under this approach, those “second ramp” reductions would still occur and would apply to water users (under some formula) by default. However, the volumes of water required for the second ramp would be primarily produced via incentive-based and compensation-based conservation and storage activities that would proactively achieve those reductions (and offset shortages that would otherwise occur). For NEPA compliance purposes, Reclamation would model various scenarios for the distribution of proactive conservation and storage actions in order to achieve a broad potential range of outcomes – but without definitively assigning the actual reductions in water use to particular users.



The “Second Ramp” (dark green) – Under both the Lower Basin and Upper Basin alternatives (Lower Basin shown above), the strategy for reductions follows a similar “Z Curve.” Once system storage reaches a critical lower threshold, additional reductions are applied up to a total reduction of 3.9 maf. The two alternatives differ in terms of both the timing and allocation of those additional reductions. The Lower Basin has reached an understanding of how the initial 1.5 maf of reductions would be allocated.

Underlying Assumption: Top Storage RSA Water

The mitigation-based approach suggested here presumes the adoption of a "top storage" ICS successor program, in which substantial volumes of water could be accumulated in reservoir storage accounts (RSAs) and held on top of regular storage by particular users or to meet specific management objectives. This "top storage" water would have several key characteristics:

Operationally neutral; not counted towards available storage. When determining amounts of water available for delivery, top storage RSA would not be counted when assessing the current elevation and total system storage of the reservoir(s), and would otherwise be treated as operationally neutral. To this end, water available for delivery (i.e. shortage levels) would be based on the volume of *non-RSA water* in the normal operating pool.

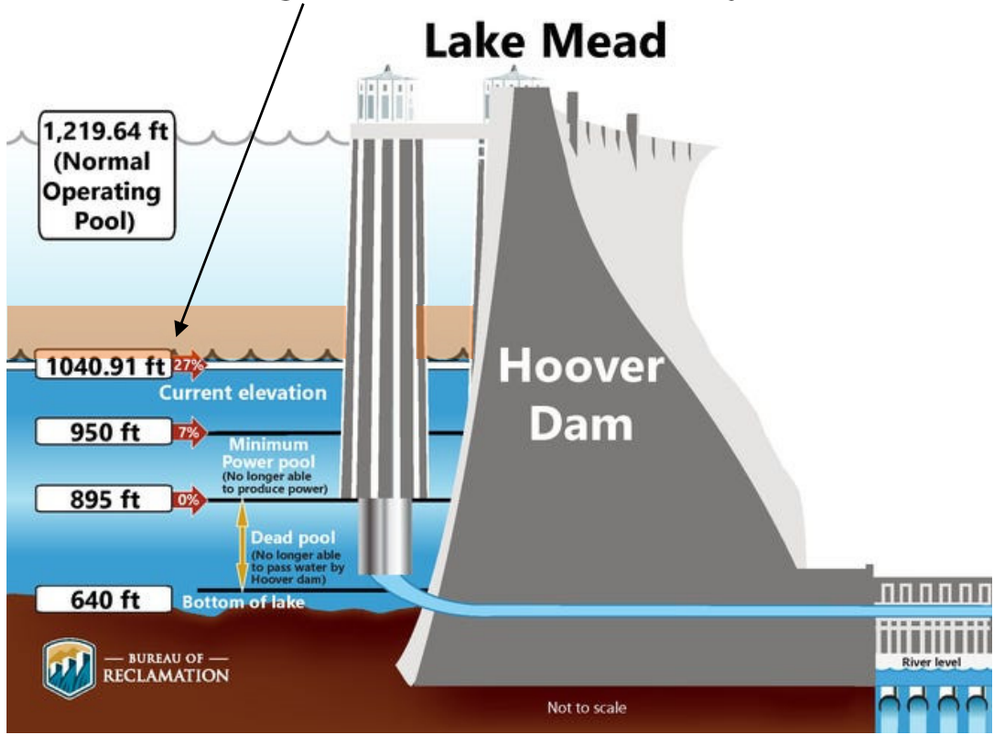
Created via reduced use/increased supply, and movable in system. Similar to current rules, RSA would be created by either reducing consumptive use of water or increasing Colorado River water supply, but the rules would allow for standardized, pre-approved models and be open to much broader participation. Once created, water would be retained in the RSA pool (less evaporation charges) until it was delivered. Stored water could also be moved between Mead and Powell to meet management objectives.

Subject to spill. In the event that the reservoir system spills, top storage water would be the first to spill (once there was no longer enough remaining empty active storage space to retain it).

Delivered on top of normal deliveries. Individual users could retain RSA water in storage and/or deliver it "on top" of their normal deliveries. State or federal users could retain it in storage, move storage within the system, or choose to deliver water to meet specific operational objectives, backstop water deliveries in shortage conditions, or for other beneficial purposes.

Under a "top storage" model, RSA would essentially *float on top* of the normal operating pool, occupying the empty portion of the reservoir's active storage space.

Top Storage RSA Pool (shaded) – Top storage RSA water would "float on top" of the reservoir, and would not "count" in determining elevation or storage for purposes of assessing water available for normal delivery.



Other Underlying Assumptions

The mitigation-based approach suggested here also presumes the consideration by Reclamation of measures that would specifically prioritize and broaden supported within the operational guidelines for transactional activities between and among Basin water users. Lowering barriers to those activities would provide mechanisms for individual users, agencies, and or state/federal actors to invest in the kinds of conservation and transfers of water that will be needed to accomplish and mitigate reductions in water use.

Expansion of eligible conservation activities. Reclamation could explicitly evaluate, analyze the impacts of, and identify as mitigation measures several types of activities that can be used to conserve or directly reduce the use of Colorado River water in both agriculture and other sectors (including activities other than the land fallowing which has predominated among previous strategies).

Pre-approved RSA exhibits. Top-storage RSA activities could be pre-approved via the development of standard form reservoir storage exhibits to a future Forbearance Agreement (or other similar mechanism) that describe a set of pre-defined, objective criteria that a project would need to meet. Assuming those criteria were met, Reclamation could directly approve a range of RSA creation/delivery projects.

Pre-approval of voluntary mitigation transfers. Reclamation could also pre-analyze impacts from “mitigation transfers,” such as transfers from one user to another that would replace water deliveries reduced during shortages. The NEPA analysis would consider various system-level and source- and end-user impacts common to these activities on a programmatic level (such as impacts to flows in specific reaches, hydropower impacts, potential changes in water quality, wheeling through federal facilities, etc.), limiting the scope of future review to impacts specific to a particular project.

Three Proposed Storage "Pools"

Top storage RSA water would be created, accumulated, and stored within several different mitigation "pools," which would help to serve different purposes and allow the system to reach required reduction targets.

Individual User Pool. Users within individual states could work with their own water supplies and/or in partnership with other users to create top storage RSA water. Those users could retain this water in storage, transfer water to other users in the same state, and/or choose to deliver this water "on top" of their normal deliveries, including to supplement deliveries in shortage years. This would allow users to work together to more flexibly manage resources and mitigate the individual impacts of shortage conditions.

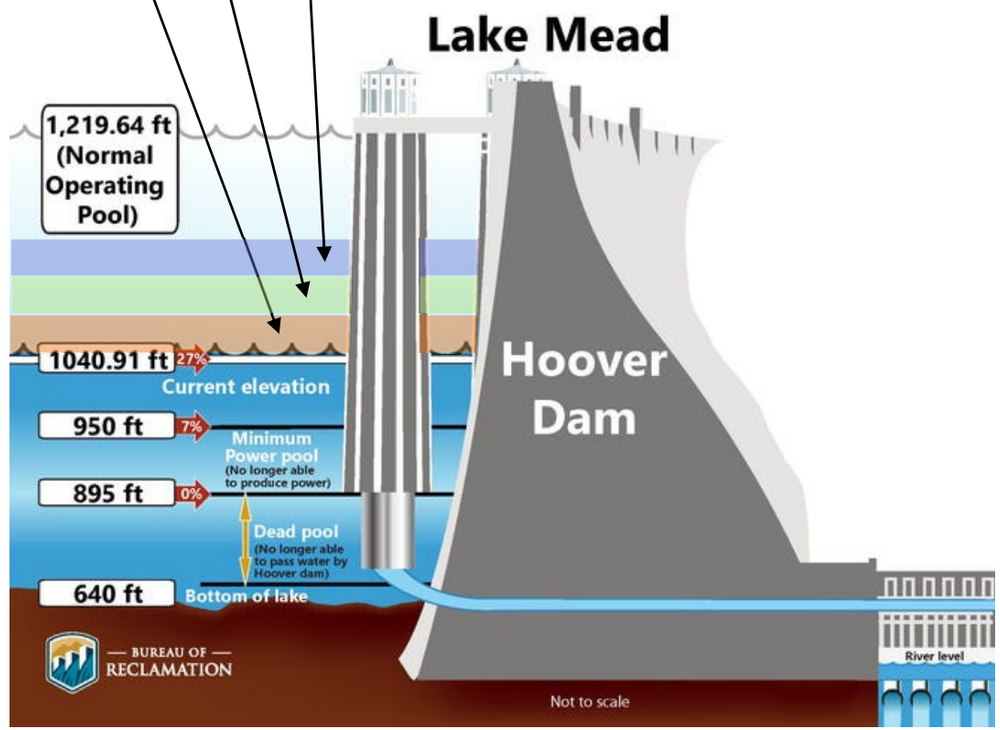
State Pools. Basin states and agencies could work independently or in partnership with other states/agencies, individual users, or the federal government to create state-managed top storage RSA pools that could help to protect important core infrastructure or manage state-level risks, mitigate against future economic impacts of shortage conditions, meet interstate obligations, support economic development, or match federal contributions to system-level efforts.

Federal Pool(s). Similar to the federal ICS pool approved in 2007, a federal RSA pool could be funded and developed to meet key federal and system-level objectives such as Treaty compliance, environmental protection, protection of Tribal interests, protection of critical facilities or infrastructure, and to backstop deliveries for human health and safety. Reclamation would also be able to move this and other stored RSA pools within the reservoir system (within certain guidelines) to meet key management objectives, such as protection of critical elevations or HFE releases. Following the approach used in 2007 and Minute 319/323, Mexico could maintain a similar pool for its own use and to meet binational management objectives.

Individual User Pool – Put and takes from and among individual users in the same state; can be used to mitigate individual shortages.

State Pool – Developed by states and agencies independently or together, and could be used to protect core infrastructure, meet state or agency management objectives, or protect a broader group of users.

Federal Pool – The federal RSA pool could be funded and developed to help meet key federal and system-level objectives like protection of critical infrastructure, tribal needs, and ensuring human health and safety minimums.

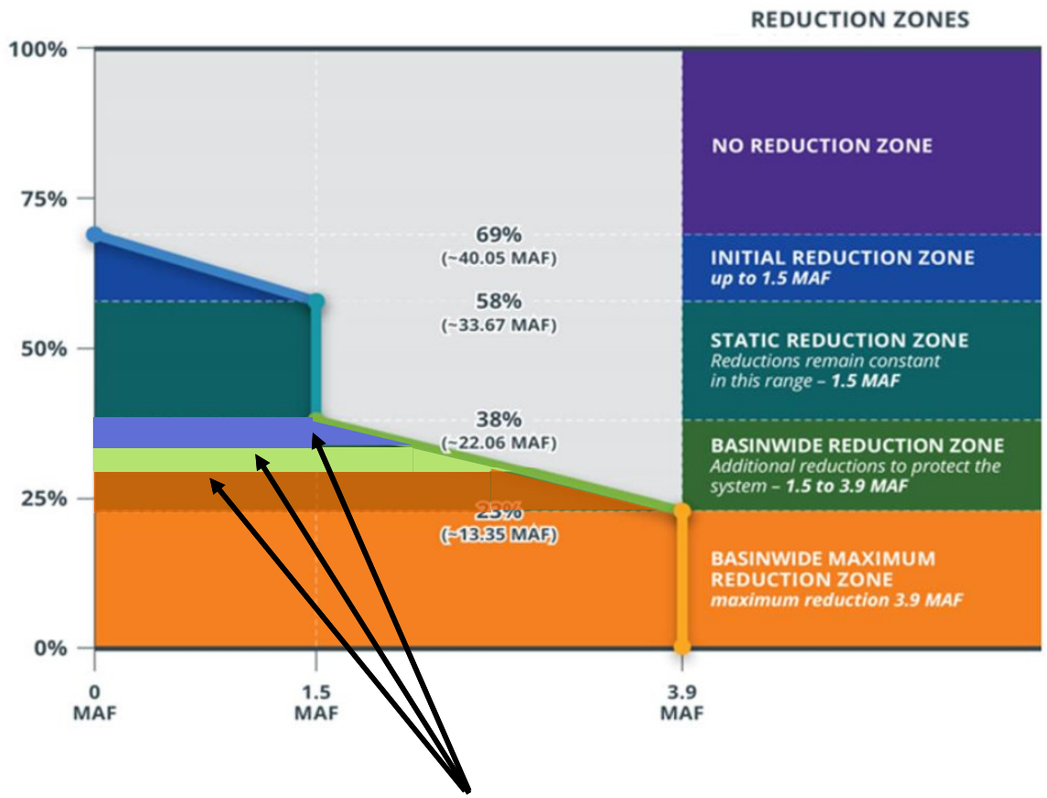


Using RSA Pools to Navigate the “Second Ramp”

Because individual RSA water would incentivize junior users to protect themselves by creating “insurance policies” against deeper shortage conditions, this approach would potentially limit the scale of user impacts that need to be evaluated in the NEPA process. Similarly, state and federal pools could provide solutions and mitigation for Compact and Treaty compliance, facilities protection, protecting human health and safety, avoiding shortage-driven economic disruptions, and other key management objectives.

Taken together, the three pools would provide a framework for a combination of incentive-based and compensation-based conservation actions – supported by both public and individual funding – that could at least mitigate or potentially fully achieve the reductions required under the controversial second ramp (potentially via actions taken well in advance of those conditions).

For NEPA compliance purposes, Reclamation would model multiple scenarios for the distribution of those mitigation actions among users, states, and the two Basins, recognizing that it will be difficult to predict in advance which users will make individual investments (or where) in conservation and storage, and how state and federal priorities may need to adapt to changing conditions. These scenarios would define a range of outcomes for how those potential voluntary actions may be distributed over time.



Pool-based mitigation of the “Second Ramp” – The scenarios created for NEPA analysis would assume different levels of funding, interest, and adoption of storage-based mitigation via the individual, state, and federal pools, and different distributions of the activities and investments that would generate the water necessary to achieve reductions in use among water users, states, and among the Upper and Lower Basins. However, these scenarios would operate within reasonable parameters informed by the Basin States discussions (e.g. no more than X% from any one state, no more than Y% from any one Basin, etc.)