# AN ENHANCED WATER BANK FOR COLORADO

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Spinney Mountain Reservoir

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## Introduction and Rationale

The Colorado Water Plan (CWP or Water Plan) makes clear the challenges we face in ensuring that our water resources meet the State's evolving needs and interests. Virtually our entire supply of water, particularly that considered firm and reliable yield, is already committed to specific uses under vested water rights or to delivery to other states under interstate compacts. And yet we anticipate increased demand in the future, quite possibly to be met with decreased water supplies. Because development of new water supplies is likely to be limited, our capacity to provide for additional needs is closely tied to our ability to optimize the use and operation of our existing water rights and allow movement of water to the locations of greatest need.

Most new demands identified in the CWP are urban and commercial needs associated with population growth, particularly along Colorado's Front Range. Without changes to the economic and legal framework governing the transfers of water, much of this demand is likely to be met by permanently acquiring irrigation water rights and shifting the associated water to urban uses. Concern about adverse effects to the agricultural sector and rural economies from large scale dry-up of irrigated lands has prompted intense interest in encouraging "alternative transfer methods" (ATMs) that have the potential to strengthen the agricultural economy while also making possible the voluntary sharing of a portion of the water now dedicated to irrigation use. The Water Plan establishes an objective of sharing at least 50,000 acre-feet of agricultural water using voluntary ATMs by 2030.[1]

We will not achieve that objective, and ATMs will never prevail over buy-and-dry transactions, unless and until these types of transfers are easier than traditional, permanent ones. Colorado law now contains several alternative mechanisms to provide for shorter, less costly review of proposed transfers, but while these procedures have proven to be somewhat successful in reducing time and cost, they continue to have high transaction costs, require significant time, and do not currently provide an attractive option for would-be water purchasers or borrowers. The State does not yet have a compelling model that allows short-term changes of water rights, evaluated and approved based on well-known and easily applied calculations, and protective of the rights of others. As suggested in the Water Plan, we have conducted research into existing alternative transfer mechanisms and models from other states to identify legal barriers and other constraints and, from that information, craft solutions that will improve our ability to facilitate temporary transfers of water.[2]

[1] Colorado's Water Plan, Nov. 2015 (Water Plan) available at http://coloradowaterplan.com/, at 10-6.
[2] CWP, at 6-117.

We conclude that the very strong policy interest expressed in the Colorado Water Plan to avoid agricultural "buy-and-dry" transactions can best be achieved by expanding Colorado's existing water bank legislation to allow a sanctioned, easy to use, profitable yet protective mechanism to enable transfers of both direct flow and stored agricultural water rights. A strengthened water bank can institutionalize a process that better achieves the important public policy objectives described above than existing change of use mechanisms. Just like financial institutions, water banks can serve as a repository for water rights not needed at present. Water users in search of additional water can take out a loan of the necessary rights in return for payments to the owner. The bank will quantify the amount of water available under the deposited right (based on its historical use) and ensure that this water can be made physically and legally available to the borrower without injury to other water rights. For the bank to be successful and attractive to lenders and borrowers, it must be able to manage these transactions in a timely and cost-effective manner.

Colorado's existing water bank program is intended to accomplish exactly this objective. The legislative statement of purpose recognizes that private property rights are enhanced by providing practical and affordable options to water rights owners to realize the value of their rights should they so choose in a manner that preserves the farming operation and its contributions to the economy and poses no risk of loss of the water rights.[3]

Despite best intentions, however, this existing water bank authority has not been utilized. Drawing on the experience gained since this initial effort, the Colorado water bank program can be enhanced and strengthened to achieve the interests articulated in the Water Plan, facilitate more effective use of our water rights, and provide a viable alternative to buy-and-dry.

Shielding other water users from detrimental impact is a fundamental consideration, particularly when streamlined mechanisms for a material injury review are being considered. While the Water Court process is designed to do this, Colorado law already recognizes that there are other means to provide this protection. With more than a decade of experience with use of streamlined reviews, we have learned how such reviews can be managed to meet our interests in timely transfers that protect other water rights. Conservative presumptions for calculating consumptive use and return flows and approved models and methodologies have been adopted in transparent, open processes that have reduced expensive disputes and facilitated arrangements that benefit both farmer and city.

Building on this experience will be critical to the success of an enhanced water bank. Also critical is the role of the water bank operator in helping to match new water demands with available supplies and managing the transaction costs so the total costs to the new user are less than a permanent acquisition of the water right and formal process of changing its use. Ordinarily a party seeking additional water must identify an appropriate water right, negotiate with the owner for a purchase or lease, and go through the steps necessary to

[3] Colo. Rev. Stat. § 37-80.5-102.

make the desired use. The operator of a strengthened water bank can act as an active facilitator and a clearinghouse, allowing would-be depositors to list their water rights as available and would-be borrowers to examine the available options.

A bank can aggregate available water supplies, providing more reliability and choice to prospective borrowers. An enhanced, publicly operated bank with the ability to supervise transactions and ensure protection of other water rights can greatly facilitate the change of use process in a more expeditious and less costly manner. The operator of this enhanced bank can also manage transactions to ensure compliance with terms and conditions.

Public water suppliers have an understandable preference for acquiring permanent ownership interests in the water rights for their portfolios. The security provided by permanent acquisitions is superior to that of rights leased for a fixed term. And yet, this is exactly the phenomenon that the Water Plan wishes to overcome. We believe that an active water bank operator can put together viable packages of aggregated banked rights that can responsibly supplement a municipal base supply. Successful operation of a water bank will allow a greater degree of confidence in the future that water rights will continue to be banked, thus providing reliable long-term supplies as well.

Water demands are variable. Many needs can be met by having ready access to short-term uses of existing water rights. Especially during periods of drought, short-term needs arise in a variety of contexts: meeting peak summertime demands in urban areas; making water available to agricultural producers with greater need; maintaining stream flows in reaches critical for fish and other aquatic species. A well-functioning water bank that facilitates short-term transfers of water can help meet these important needs.

The primary benefit to the water right owner is the ability to convert a portion of the asset value of the water right to immediate monetary benefit. Use of a water bank can provide a stable source of income to the farming or ranching operation while agricultural production continues. The income generated can help to finance farm improvements or the up-front costs associated with switching to a more lucrative crop, generate a welcome supplemental revenue stream, or provide a hedge against weather-related losses or volatile commodity prices, while retaining the value and continuity of the farm. The State as a whole is benefited by increased agricultural viability and retention of Colorado's agricultural heritage and values.

Also essential to the water right owner is certainty that the existence and value of the water right are not unintentionally jeopardized because of the transaction. Protection from claims of abandonment and reduction of historical consumptive use must be provided, as already provided under existing legislation.

Perhaps the best incentive for both the owner and the prospective borrower is the decreased transaction cost associated with water bank activity because of the quicker review and facilitated transactions. Unnecessary or inordinate transaction costs reduce the

value of the deal to both sides and inhibit desirable transfers. Through a water bank, more of the price that borrowers are willing to pay goes to the water right owner.

In addition to facilitating transfers for new consumptive uses, a water bank also could be used to enable temporary transfers of water to environmental purposes. The bank could use existing statutes authorizing temporary transfers of water rights for instream flow purposes with the same benefits of speedier and lower-cost transfers.

The essential elements of an enhanced Colorado Water Bank are:

1. Actively facilitates voluntary transactions for temporary alternative uses of existing water rights

2. Use of the bank is risk-free to water right owner

3. Streamlined review process to determine available water and protect other water rights

4. Actively operated by CWCB or delegated public entity within each water division

The existing statute on water banking, Colo. Rev. Stat. § 37-80.5-101 *et seq.*, should be expanded and revised to authorize a statewide bank that accommodates voluntary, temporary transactions, not only for stored water but for direct flow water rights as well. As the Colorado Water Plan concludes, alternative transfer methods are essential to minimize the permanent loss of irrigated acreage in Colorado. Without this type of advancement in providing review and approval procedures scaled to the size and length of the transaction, it is unlikely that the measurable objective of 50,000 acre feet of ATMs will be met.

This paper provides background on relevant portions of Colorado water law, the history of water banking in the state to date, and a review of water banks utilized in other western states. It discusses in detail the recommended components of an enhanced water bank for Colorado and the necessary changes to existing law. It also addresses the municipal provider's preference for a permanent supply, owned by the provider, and ways in which that preference might be overcome.

## Background on Colorado Water Law

Colorado water law rests on the principle of prior appropriation, which has proved over the years to provide reliability to the property interests in water and to have sufficient flexibility to adjust to changing needs, conditions, and values. The property interest inherent in a water right includes the right to change it, including the type and place of use and the point

of diversion, so long as the rights of other users are not injuriously affected.[4] Water rights can be sold, leased, conveyed, or donated to another, in whole or in part, but any change in the use or location must be taken through a formal review process primarily intended to ensure that other water rights are not materially injured.[5]

Traditionally the review process for a change of water right considers the historical use under the water right. This includes the timing and amounts of water legally diverted over the period of use and the manner of delivery of diverted water to its authorized place of use as well as losses resulting from seepage, evaporation, or transpiration. The historical consumptive use and the amount and timing of return flows will be examined. The analysis is complex, typically based on decades-old equations and broad measures of weather and climate in the vicinity, and has significant margins of error.[6] In addition, the several methods used to calculate consumptive use have significant variation among them.[7] This analysis also requires the use of historical records with less than perfect accuracy and completeness. The objective of the analysis is assuring that the flow regime of the water source will be unaltered by the change of use. In short, the objective is to maintain the status quo despite the change of water right.

The review process has historically taken place in Water Court, with the proponent of the change of water right filing an application requesting its approval. Other interested parties are permitted to file statements of opposition. Most commonly, such statements are filed by holders of water rights who are concerned that the proposed change might adversely affect their uses, but any person may file a statement of opposition to ensure that the proposed change meets all legal requirements.

The Colorado Water Court system, while praised for its due process, fairness of outcomes, and the expertise of the water judges and referees, has been roundly criticized for its burdensome time and expense.[8] While significant efforts have been made in recent years to improve the efficiency of the Water Court process,[9] and improvement has occurred,[10] the

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[4] *Green **v.** Chaffee Ditch Company*, 371 P.2d 775 (Colo. 1962)

[5] Colo. Rev. Stat. §§ 37-92-302 and -305.

[6] S. Multsch, et al., *Reduction of predictive uncertainty in estimating irrigation water requirement through multi-model ensembles and ensemble averaging*, Geoscientific Model Development, April 29, 2015.

[7] *Id.*

[8] Greg Hobbs, *Timely, Fair and Effective Water Courts: Report of the Water Court Committee to Chief Justice Mary J. Mullarkey*, (2008) at 7; Yichuan Wang, *Courting Colorado's Water Courts in California to Improve Water Rights Adjudication? Letting Go and Improving Existing Institutions*, Vermont Journal of Environmental Law, 2014; Leon Szeptycki, et al., *Environmental Transfers of Water Rights: A Review of State Laws*, Water in the West, Stanford Woods Institute, Oct. 2015, at 3.

[9] *See* changes to Colo. R. Civ. Proc. 90 and changes to Uniform Local Rules for All State Water Court Divisions, effective July 1, 2009.

[10] Report to Water Resources Review Committee on impact of 2009 Water Court rule changes, supra note 9, Aug. 7, 2014, available at http://www.leg.state.co.us/CLICS/CLICS2014A/commsumm.nsf/b4a3962433b52fa787256e5f00670a71/166ba98334d2b1cb87257d2d004d6c8b

criticisms continue and the cost remains high. A recent review of changes of water rights in western states to environmental purposes calculated the average time required in Colorado for the review as more than twice the next nearest state and about five times the average of all the others.[11]

In the past decade and a half the Colorado General Assembly has authorized certain types of temporary changes of use to be reviewed in other ways.[12] In general, the reviews are conducted administratively, through the State Engineer's Office. The applicant is required to provide documentation that the temporary change will not materially injure other water rights. Notice is given to other parties, as well as an opportunity to file comments. The State Engineer then determines whether the requested change can be approved.

The impetus for authorizing use of administrative review processes has been to enable certain types of changes to be approved in a timelier manner and at less expense than in a traditional Water Court process. This more streamlined review process is particularly appropriate for short-term changes because the transaction costs would otherwise overwhelm the benefit from the transaction. But the adoption of these alternative processes also reveals an interest from a policy perspective in facilitating at least some kinds of changes of water rights, representing a recognition of the need for more flexibility in the operation and management of water in the State and an acknowledgement that our historical change of water right process is unusually lengthy and expensive.

## The Initial Colorado Water Bank

In 2001 the Colorado General Assembly authorized the formation of a pilot water bank in the Arkansas River basin, and extended that authorization to other water divisions in 2003.[13] The legislatively declared purposes of these banks are:

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[11] *Environmental Transfers*, *supra* note 8, at 3. Note that while this comparison involves solely changes of water rights for environmental purposes, its conclusions are consistent with other, more general, findings. The estimate of time for Colorado changes of water rights includes the administrative proceeding with the Colorado Water Conservation Board, as well as the time in Water Court. *Id.* at 28.

[12] In 2001, the Colorado General Assembly authorized the administrative review and approval of temporary transfers of stored water in the Arkansas basin under a pilot water banking program. Colo. Rev. Stat. § 37-80.5-101 et seq. In 2002, it clarified the use of substitute water supply plans as a temporary means of addressing out-of-priority diversions. Colo. Rev. Stat. § 37-92-308. In 2003, it extended the operation of water banks to all water divisions. Colo. Rev. Stat. § 37-80.5-102. Also in 2003 it authorized administrative approval of interruptible supply agreements. Colo. Rev. Stat. § 37-92-309. In 2004, the General Assembly extended authority under an 1899 statute providing for the temporary loan of an agricultural water right to include loans to the Colorado Water Conservation Board for instream flows. Colo. Rev. Stat. § 37-83-105 (2). In 2013 the General Assembly directed the CWCB to support the creation of fallowing and leasing pilot programs to "[e]valuate the feasibility of delivering leased water to the temporary municipal, agricultural, environmental, industrial, or recreational users …." Colo. Rev. Stat. § 37-60-115 (8)(B)(II). These authorizations all apply to temporary changes of use and can be implemented without going through a water court process.

[13] Colo. Rev. Stat. §§ 37-80.5-101 *et seq*.; Colo. Rev. Stat. § 37-80.5-104.5.

> to simplify and improve the approval of water leases, loans, and exchanges, including interruptible supply agreements, of stored water within each river basin, reduce the costs associated with such transactions, and increase the availability of water-related information. It is also the purpose of the water banks to assist farmers and ranchers by developing a mechanism to realize the value of their water rights assets without forcing the permanent severance of those water rights from the land.[14]

Upon request by a water conservation or conservancy district within one of the water divisions, the State Engineer was to establish rules for bank operation that would enable the lease, exchange, or loan of **stored** water within the division without the necessity for the transaction to be adjudicated in water court.[15] The rules were to establish criteria governing the deposit of water into the bank and for its withdrawal. The State Engineer was charged with delivering withdrawn water, subject to ensuring no harm to other water uses. Only the CWCB could use water for instream flow purposes.

The State Engineer promulgated rules for the Arkansas Basin bank in 2002.[16] The rules included procedures for placing stored water in the bank and detailed procedures for determination of the amount of water that could be banked. The availability of banked water (and its minimum acceptable price) would be posted on a special bank website. The rules envisioned a bidding system. The bank operator would negotiate a lease or option between the buyer and seller and the agreement would be posted on the bank web site. Interested parties would have 30 days to file written comments, including matters of possible harm to their water uses. Following close of the comment period, the State Engineer would develop any terms and conditions determined to be necessary. Upon acceptance of these terms and conditions by both buyer and seller, the transaction would be complete, and the Division Engineer would administer delivery of the water. The water bank was authorized to charge fees necessary to recover its administrative costs.[17]

Despite its intention to encourage temporary changes of water uses, the water bank authority has only been used in the Arkansas, and even there, no transactions have ever occurred.[18] While a few storage rights were deposited in the Arkansas River bank operated originally by the Southeastern Colorado Water Conservancy District, before being taken over by the Upper Arkansas Water Conservancy District, none was leased.[19] This outcome has been explained by high asking prices ($800-$1,000/acre-foot/year) and the absence of a

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[14] Colo. Rev. Stat. § 37-80.5-102.
[15] Colo. Rev. Stat. § 37-80.5-104.5(1).
[16] Rules Governing the Arkansas River Water Bank Pilot Program, Colo. Div. of Water Resources, 2 CCR 402-12 (ARWB Rules).
[17] *Id.*
[18] Ralph "Terry" Scanga, *Update of Water Banking in the Arkansas presented to the Interim Water Resources Review Committee*, Aug. 21, 2013, available at http://www.leg.state.co.us/CLICS/CLICS2013A/commsumm.nsf/b4a3962433b52fa787256e5f00670a71/3e8f1a8bb6445df287257bd200666d83/$FILE/0821AttachmentB.pdf.
[19] *Id.*

storage facility to hold the water.[20] Another explanation was uncertainty about the review and approval process.[21] More generally, the limitation of these banks to transactions involving stored water, not direct flow rights, seems to be an important inhibiting factor.[22] Also very critical, in our view, was the failure to create or authorize a credible institution to proactively facilitate these transactions, to actively promote interest in use of the bank, and to develop viable procedures facilitating its use and the protection of other water rights.

## Water Banks in Other Western States

A variety of different forms of water banks exist in several western states. The Washington Department of Ecology prepared a comprehensive report on water banks in 2004.[23] We will not repeat this background information here but brief updates from the states with the most active and successful water banks are useful to inform this recommendation.

Activity in the **Washington State water bank** has increased substantially since the 2004 report.[24] Washington statutes authorize voluntary water transfers as an "acceptable method of addressing water uses" to provide for "presently unmet needs, and assist in meeting future water needs.[25] In enacting the water banking statute, the legislature found that water banking can:

> Provide critical tools to make water supplies available when and where needed during times of drought; improve streamflows and preserve instream values during fish critical periods; reduce water transaction costs, time, and risk to purchasers; facilitate fair and efficient reallocation of water from one beneficial use to another; provide water supplies to offset impacts related to future development and the issuance of new water rights; and facilitate water agreements that protect upstream community values while retaining flexibility to meet critical downstream water needs in times of scarcity. [26]

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[20] *Id.*

[21] CWCB, *Brief History of Arkansas Basin Water Bank* (Feb. 2012), available at http://cwcb.state.co.us/LoansGrants/alternative-agricultural-water-transfer-methods-grants/Documents/BriefHistoryArkBasinWaterBankFeb21.pdf

[22] John D. Wiener, *Water Banking in Colorado: An Experiment in Trouble?,* 122 Proceedings of the USCID 2004 Conference 515, available at https://webcache.googleusercontent.com/search?q=cache:lvnEPHAGkGoJ:https://dspace.library.colostate.edu/bitstream/handle/10217/46435/122_Proceedings%25202004%2520USCID%2520SLC%2520Wiener.pdf%3Fsequence%3D21%26isAllowed%3Dy+&cd=1&hl=es-419&ct=clnk&gl=us.

[23] Washington Department of Ecology, *Analysis of Water Banks in the Western United States* (2004), available at https://fortress.wa.gov/ecy/publications/documents/0411011.pdf

[24] Jaclyn Brass, *Washington Water Banks*, Getches-Wilkinson Center, 2016.

[25] Rev. Code of Wash. § 90.42.005.

[26] Rev. Code of Wash. § 90.42.100 and associated legislative findings.

The Washington Bank accommodates water rights to be used to "mitigate" ground water depletions and address drought, as well as transactions designed to increase instream flows and protect the environment.[27] Banked water rights are protected from relinquishment and reduction of the annual consumptive quantity.[28] The Yakima Basin in Washington has the most active and successful water bank, with 285 transactions in the past four years.[29]

The **Idaho Water Supply Bank** has two components: a statewide water exchange market operated by the Idaho Division of Water Resources that accommodates surface and ground water rights and makes them available for multiple uses; and several regional rental pools that primarily broker exchanges of stored water allocations.[30] The purposes of the Water Supply Bank are to encourage the highest beneficial use of water; provide a source of adequate water supplies to benefit new and supplemental water uses; and provide a source of funding for improving water user facilities and efficiencies.[31] Water rights credited or leased to the Board's bank are not subject to forfeiture for nonuse.[32] The 2014 annual report states that 835 water rights were leased into the bank, representing approximately 250,000 acre feet of water on approximately 75,000 irrigable acres.[33]

**Arizona's water bank** is described in Appendix B of the CWP. The initial objective of the Arizona Water Banking Authority (AWBA) was to store excess water from the Central Arizona Project (CAP) to mitigate the effects of future Colorado River shortages, provide groundwater management benefits, and assist the State in the settlement of Indian water rights claims.[34] In recent years as a result of hydrologic conditions on the Colorado River and the decreased availability of excess CAP water, the AWBA has begun to plan to make purchases of other water for the bank and anticipates the need, for the first time, to make water available from the bank to make up for shortfalls in the state's Colorado River supplies.[35] Since inception, the AWBA has accrued nearly 4 million acre-feet (MAF) of long-term storage credits, approximately 3.4 MAF of credits for Arizona uses and 0.6 MAF accrued for the State of Nevada.[36]

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[27] Brass, *supra* note 24.
[28] Rev. Code of Wash. §§ 90.42.040 (4)(c), 90.42.080(9)
[29] Brass, *supra* note 24.
[30] Idaho Dept. of Water Resources, Water Supply Bank, https://www.idwr.idaho.gov/water-supply-bank/overview.html
[31] *Id.*
[32] Idaho Code § 42-222(2).
[33] Idaho Water Resource Board, Water Supply Bank, 2014 Report, available at https://www.idwr.idaho.gov/files/water-supply-bank/2014-annual-report.pdf
[34] Arizona Water Banking Authority, *Annual Report 2014*, available at http://www.azwaterbank.gov/Plans_and_Reports_Documents/documents/2014AnnualReportwltr.pdf
[35] *Id.*
[36] *Id.*

Two **Nebraska Natural Resource Districts** have partnered with Mammoth Trading to create a "smart market" for trading of ground water in their western Nebraska locations.[37] Mammoth, a private company, provides a platform that matches agricultural lessors and lessees of water while ensuring compliance with applicable regulations. The offers and bids are confidential, addressing the reluctance of farmers to have price information publicly available.[38] Mammoth's platform grew out of work funded by the National Science Foundation at the University of Nebraska's Daugherty Water for Food Institute.[39] Mammoth takes a percentage of the lease price as a fee, split between the lessor and lessee. Selling points for this privately run platform are the ability to keep information confidential and the benefit of keeping the regulatory and financial components of the trade separate.[40]

The continued and expanded use of the three state water banks demonstrates that water banking is a viable concept, consistent with the prior appropriation doctrine, and serves multiple beneficial purposes. These states, like Colorado, are facing population growth, regional shortages, and anticipated future supply/demand gaps, and are using water banking as a component of multi-faceted approaches to water sustainability. The use of a private trading platform in Nebraska demonstrates a new and different approach that could also be considered in appropriate locations.

## An Enhanced Water Bank Framework for Colorado

The essential components of the Colorado Water Bank proposed here are:

- Actively facilitates voluntary transactions enabling temporary alternative uses of existing water rights.
- Use of the bank is risk-free to water right owner
- Streamlined review process to determine available water and protect other water rights.
- Actively operated by CWCB or delegated public entity with authority within each water division

Additional detail on these components and specific recommendations for implementation are provided below.

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[37] Richael K. Young, *(Ground)water Trading: What's in it for you,* Nov. 12, 2015, available at http://waterbank.nmsu.edu/wp-content/uploads/SpeakerSlides/Young.pdf; Natural Resources News, Twin Platte Natural Resources District, March 2014, available at http://www.tpnrd.org/March2014.pdf.

[38] New Mexico Water Resources Research Institute, Workshop on Water Banking in the Lower Rio Grande, Executive Summary, Nov. 12, 2015, at pp. 10-11 (NMWRRI Workshop), available at http://waterbank.nmsu.edu/wp-content/uploads/Executive_Summary_Final.pdf

[39] National Science Foundation, Selling and Buying Water Rights, Oct. 29, 2014, http://www.nsf.gov/discoveries/disc_summ.jsp?cntn_id=133173

[40] NMWRRI Workshop, supra note 38; Young, supra note 37.

We use the term "water bank" to refer to an expanded version of the existing bank, specially designed for facilitating temporary changes to agricultural water rights. Its purpose is to allow Colorado's limited water resources to better meet changing needs and interests.[41]

## Actively facilitates voluntary transactions for temporary alternative uses of existing water rights

In order to serve as a viable alternative to buy-and-dry, a water bank must provide a practical and easy mechanism for farmers and ranchers to utilize if they choose to temporarily forego the use of all or a portion of their water rights. Water rights owners should have options that allow them to benefit from their water right assets other than permanent sale and dry-up - options that are relatively easy, straightforward, and user-friendly, not requiring a team of engineers and lawyers with the resulting cost. Just like a financial banking institution, a water bank is a virtual depository that allows deposits and withdrawals of water and permits the market mechanism to direct available water to the greatest need. The water bank can facilitate this monetary benefit by serving as a clearinghouse for interested depositors and borrowers.

The water bank operator must be a pro-active facilitator in order for the bank to succeed. Putting together complex packages of water rights for temporary transactions is a formidable task. Irrigators, private brokers, and even sophisticated municipal providers are not well positioned to bring together the necessary parties, apply the technical expertise required, and provide unbiased assistance. This type of facilitation has been performed in the Lower Arkansas Basin by the Lower Arkansas River Water Conservancy District, but similarly active entities do not exist in all of Colorado's river basins. As explained further below, we suggest that the Colorado Water Conservation Board (CWCB) is the right entity in Colorado to serve this function on a statewide basis.

In addition to active facilitation, the water bank will serve as an information source for interested depositors and borrowers, and will facilitate voluntary transactions in a timely and reliable manner. Currently, with limited exceptions in particular districts and ditch companies, public information about water rights available for other uses and the need for such water is sparse and unorganized. Easily implemented, basin-wide online information platforms maintained by the water bank operator can overcome this gap.
Advances in information technology have made it relatively simple to establish an online database documenting the water rights available from water rights owners and expressions of interest or need from potential borrowers. After the historical consumptive use is determined and protective terms and conditions imposed as discussed below, this

[41] The water bank proposed in this paper combines some of the attributes of water banking, interruptible supply agreements and loans of water authorized by existing Colorado statutes (Colo. Rev. Stat. §§ 37-80.5-101, *et seq.,* 37-83-105, 37-92-309) and incorporates certain aspects of what are described as "flex markets," "municipal-agricultural water use sharing," and "regional water sharing cooperatives" described in the Colorado Water Plan (CWP at 6-116, 6-125, Table 6.4-1).

information will also be made available online. The water bank operator will maintain this data platform as part of its clearinghouse function.

Deposits into the water bank will be limited in time, with the possibility for renewal. The temporary nature of a water bank transaction and its use for relatively routine agricultural water rights deposits provide some flexibility not appropriate for permanent changes of use. While other water rights must always be protected from injury, standardized and conservative means of determining consumptive use, return flows, and necessary terms and conditions can be developed that are consistent with the goal of facilitating these short term transactions. The decreed use of a banked water right need not be changed through the formal Water Court process, so long as the protective procedures described below are followed to avoid injury to other water rights and users. Storage and direct flow water rights, and consumptive and non-consumptive uses can all be accommodated within this framework. Because the water bank as envisioned here is designed to provide a mechanism for transactions of less complexity and controversy, it would not be available for uses outside of the water division of the leased water right.

## Use of the bank is risk-free to water right owner

In order to make the water bank an attractive option to potential depositors, it is imperative that use of the bank will not subject the water right to additional risk. Existing Colorado statutes already provide that use of a water bank will not decrease the value of the leased water right by reducing the historical consumptive use calculation[42] and that the period of enrollment in a water bank will be excluded from any abandonment determination.[43] These protections should be explicitly available to water rights deposited in the enhanced Colorado water bank. The water right owner retains ownership of the right during the entire period it is deposited and leased through the water bank.[44]

## Streamlined review process to determine availability and protect other water rights

A streamlined review is essential to reduce the transactions costs associated with conventional water transfers and make the banking of water attractive to both depositors and borrowers. The water bank concept will never catch on unless it is easier and cheaper than the existing processes. It is essential that water bank transactions not injure other water rights, but the Water Court litigation process is not the only mechanism to achieve that goal, and it is not well suited to the types of desirable, short-term, and repetitive

[42] *See* Colo. Rev. Stat. § 37-92-305(3)(c) (for Water Divisions 4, 5, and 6 only).
[43] *See* Colo. Rev. Stat. § 37-92-103(2).
[44] Provision can be made to restrict extended non-use of banked water to prevent utilization of the water bank for unintended purposes, such as "parking" water rights. Consideration can also be given to caps on the amount of banked water by one individual or percentage of fallowing on any one farm. See Attachment, paragraphs 1, 16.

transactions envisioned here. In addition, a streamlined water bank transaction can be used by both depositor and borrower to test out a potential, longer-term agreement that would be taken through the Water Court process.

The CWCB and the State Engineer have already developed rules setting forth streamlined processes for the Arkansas River water bank[45] and for the leasing-fallowing pilot program.[46] Special procedures for interruptible supply agreements and substitute supply plans are also directed at solving this problem.[47] Evidence to date suggests that the time and expense required to follow these procedures is still not conducive to easy and profitable transactions. These rules have, however, given the state agencies substantial experience with reviewing certain types of proposed changes of water rights through more simplified procedures that demonstrate the ability to ensure, outside of the Water Court process, that no material injury results to other water users.[48] Advances in the science and modeling of consumptive use and return flows have also made standardized calculation methods more precise and acceptable.

Building on those models to establish an attractive institutional water bank, the CWCB and the State Engineer can develop and sanction standard, conservative methodologies for determining historical consumptive use, return flows and associated timing, and presumptive terms and conditions to avoid material injury. As recognized in the current water bank statute, the purpose of these rules and methodologies is to simplify and improve the approval of water leases, loans, and exchanges of water within each river basin, reduce the costs associated with such transactions, and increase the availability of water-related information.[49]

Incorporating existing tools such as the Arkansas River Irrigation System Analysis Model[50] and the Lease-Fallowing Tool[51] should simplify the process. Any models and presumptions developed for the water bank should be adopted in a public rule-making process to provide

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[45] Colo. Rev. Stat. §§ 37-80.5-102 and -104.5; Rules Governing the Arkansas River Water Bank Pilot Program, Colo. Div. of Water Resources, 2 CCR 402-12 (ARWB Rules) available at http://www.sos.state.co.us/CCR/GenerateRulePdf.do?ruleVersionId=1287&fileName=2%20CCR%20402-12.

[46] Colo. Rev. Stat. § 37-60-115(8); Criteria and Guidelines for Fallowing-Leasing Pilot Projects, CWCB and Colo. Div. of Water Resources, Nov. 19, 2013 (FLPP Guidelines), available at http://cwcb.state.co.us/water-management/water-projects-programs/Documents/FallowLease/FallowingLeasingCriteria%2020131119.pdf.

[47] Colo. Rev. Stat. §§ 37-92-309 and 37-92-308(5) and (7); Office of the State Engineer, Policy 2003-2, Implementation of Section 37-92-308, C.R.S. (2003) Regarding Substitute Water Supply Plans; Office of the State Engineer, Rules and Regulations for Submittal and Evaluation of Interruptible Water Supply Agreements Submitted Pursuant to 37-92-309 C.R.S. (IWSA RULES), 2 CCR 402-15.

[48] *See* Colo. Rev. Stat. § 37-92-308(5) & (7) (substitute supply plans), Colo. Rev. Stat. § 37-92-309 (interruptible supply agreements), Colo. Rev. Stat. § 37-60-115(8) (fallowing and leasing pilot projects).

[49] Colo. Rev. Stat. § 37-80.5-102.

[50] Arkansas River Irrigation Improvement Rules, with links to Irrigation System Analysis Model components, available at http://water.state.co.us/SurfaceWater/RulemakingAndAdvising/ArkRiverAC/Pages/ArkSWIrrigImpRules.aspx

[51] *See* CWCB, http://cwcb.state.co.us/water-management/water-projects-programs/Pages/LeaseFallowTool.aspx

due process to all interested parties. All newly developed methodologies should be publicly available and easily usable so that a water right owner can do a preliminary calculation of the historical consumptive use and make an informed decision about depositing water into the bank.

After the standardized procedures are developed, a prospective water bank depositor will apply to deposit a water right, or portion thereof, into the bank. The depositor will provide evidence of historical use, including diversion records, number of acres irrigated, crops irrigated, and other relevant information.[52] The water bank operator, with the assistance of the Division of Water Resources, will perform a preliminary evaluation, including verification of historical consumptive use. The water right will then be accepted for deposit into the bank.

After acceptance for deposit into the water bank, the water right is available for lease. The initial asking price will be established by the water right owner, with the ability to alter the price before a deal is made. The final price will be part of the negotiation between depositor and borrower. The asking price will be part of the information made available by the water bank operator in the online platform described above.

After the water right is accepted for deposit, the water bank operator will work with the depositor and prospective borrowers to craft a viable proposal. When a deal is put together, public notice of the proposed transaction will be provided. We recommend the use of a process similar to that contemplated in the guidelines for lease-fallowing projects to review comments from concerned parties and to incorporate any necessary terms and conditions to ensure no material injury.[53]

After the comment period is complete, the State Engineer will review the proposed transaction and confirm the amount of historical consumptive use available, the amount and timing of return flows, and the necessary terms and conditions. Upon confirmation by the State Engineer and the depositor's and borrower's acceptance of the required determinations and conditions, the transaction will be complete.

As stated above, proposed deposits must be reviewed and approved or disapproved in a timely and objective manner. Over time, the initial evaluation of the lease proposal by the water bank operator will become a trusted process, allowing for more streamlined review by the State Engineer.

### Actively operated by CWCB or delegated public entity within each water division

The enhanced Colorado Water Bank would be established and operated by the CWCB, with assistance from the Colorado State Engineer and Division of Water Resources. A trusted

[52] Such requirements have already been established under the ARWB Rules and the FLPP Guidelines.
[53] *See* FLPP Guidelines, *supra* note 46.

operator is needed to facilitate water bank transactions and ensure both depositor interest and confidence that other rights will be protected in any short-term transfer. As demonstrated by its active leadership in the fallowing-leasing pilot program, the CWCB as the State's water policy agency with membership representing each of the State's water basins, working together with the State Engineer, can fulfill this role. The CWCB will manage the bank, work actively with prospective depositors and borrowers, provide an online forum with information about deposited water and identified needs,[54] ensure that leased water is made available to the borrower, and that any applicable terms and conditions are fulfilled, such as ensuring that the banked water is not used by the owner, that associated lands are fallowed, etc.[55]

Each water division is unique, and it is essential that the water bank be operated at the river basin level in order to ensure the best matches between supply and demand. An interested and active local public entity, such as a water conservation or water conservancy district, may be well positioned to encourage and optimize use of the water bank by building on existing relationships with local irrigation districts, ditch companies, and water providers. The CWCB should actively include these local districts in bank operations, such as putting together packages of leasable water rights, providing facilities to meet return flow requirements, or implementing conservation programs.

Ultimately, as in the States of Washington, Idaho, and Nebraska, regional banks can provide better accountability, more localized suitability determinations, and increased flexibility. The San Luis Valley will have different issues and considerations than the Upper South Platte or Yampa River Basins.[56] Accordingly, it is important that the CWCB have the authority to delegate its function as the operator of the water bank to a trusted regional public entity and to involve local and regional entities in bank operations and facilitation of transactions. To be considered for delegation of water bank responsibilities, an organization should be subject to public accountability, such as a water conservation or conservancy district, and the ability to operate in the entire water basin. The operator of the water bank, whether the

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[54] *See*, for example, Idaho Water Supply Bank, https://www.idwr.idaho.gov/water-supply-bank/, with its Water Supply Bank Lease Search with information on all active leases in each water basin, https://www.idwr.idaho.gov/apps/ExtSearch/WSBSearch/WSBSearch.aspx (both sites last visited Jan.___, 2016).

[55] The privately operated water banks in the Nebraska Natural Resource Districts described above represent a different model for active matching of buyers and sellers. While this model could be considered in the future, the history of Colorado's water bank legislation and other enactments allowing streamlined transactions under the supervision of the CWCB and/or the State Engineer suggests that a publicly operated bank is the best near term option.

[56] There are particular and complex issues that must considered in connection with a Colorado River Water Bank that would serve the purpose of providing "system water" to improve sustainability in the seven-state Colorado River system or insurance against curtailment pursuant to the 1922 Colorado River Compact. These include considerations under the Colorado anti-export statute (Colo. Rev. Stat. § 37-81-101), forbearance from diversion of released water by other states, water shepherding, and findings supporting the ability of the Upper Basin states to retain unused water in Upper Basin reservoirs. These complex considerations are beyond the scope of this paper, but also demonstrate the desirability of regionally operated water banks.

CWCB or regional organization to which authority has been delegated, will be referred to as the "Operator."

Operating criteria and guidelines for the water bank will be developed by the CWCB in a public process, in consultation with the State Engineer. An advisory committee of knowledgeable and broadly representative technical specialists and attorneys could be very helpful in this process. This process could draw from the guidelines developed by the CWCB and State Engineer for fallowing-leasing pilot projects.[57] As regional banks mature, they may also develop more specific guidelines, tailored to those localized conditions and concerns.

It is not the purpose of this paper to recommend detailed rules and mechanisms for an enhanced Colorado Water Bank. To aid in the process of constructing guidelines, however, we have listed in Attachment A the types of provisions used in Colorado and others states for water banks or other ATMs. This listing is not intended as a recommendation, but rather as an aid in making policy choices.

In order to make the water bank successful, particularly in its initial stages, the operator must actively work to bring together interested depositors and borrowers. In this role, the Operator would identify and encourage transactions that are regarded as important to meet the water needs in the particular basin, and support water rights owners who are interested in participating in these transactions. The Operator will be positioned to bring interested parties together and assemble marketable pools of water.

The Operator will ensure that the deposited water rights are managed pursuant to the prescribed terms and conditions, and as agreed to under the banking arrangement, such as confirming that fallowed lands are not irrigated. The Operator may also voluntarily take responsibility for projects that will enable banking operations, such as installing measuring devices, establishing and operating recharge ponds to maintain required return flow patterns, or acquiring storage rights for this purpose.[58]

We envision water banks playing an active role in helping meet changing water needs and interests within each basin. Accordingly, we would encourage strong state leadership in working with water supply organizations, holders of water rights, and other interested parties to explain the opportunities provided by the water bank and the protections afforded to water rights holders. The CWCB or regional bank operator should work with prospective

[57] *See* FLPP Guidelines, *supra* note 46; *see also*, Proposed Amendments, Jan. 2016, http://cwcb.state.co.us/water-management/water-projects-programs/Documents/FallowLease/DRAFTFallowing-LeasingCriteriaGuidelinesProposedRevJanuary2016.pdf

[58] At present, each party making a change of a water right is required to establish means for maintaining the historic levels and timing of return flows. Typically there is little coordination. The bank operator could aggregate return flow responsibilities for multiple water rights and take advantage of economies of scale, resulting in better planned and managed operations on a stream-reach basis. The associated costs would be included in the charges assessed to the borrower.

depositors to put together marketable proposals. We would encourage the active participation in these efforts by entities interested in leasing water made available through the banks.

## Special Considerations for Water Changed to Instream Use

Some proposed water bank transactions may have as their ultimate purpose the improvement of stream flows and water quality in specific locations identified as needing such improvements (such as to enable fish passage or ensure that a particular stream reach does not dry up completely). Some water rights owners may desire to change their water right, in whole or in part, from consumptive purposes to non-consumptive purposes for instream flow benefit.

Colorado law vests the CWCB with exclusive authority to appropriate water to preserve the environment to a reasonable degree.[59] The CWCB is also authorized to acquire vested water rights from others to preserve or improve the natural environment.[60] The General Assembly has taken important steps to facilitate voluntary, temporary transfers of water historically diverted for consumptive use to instream flow in stream reaches in which an instream flow water right has already been decreed.[61] These provisions have established a solid foundation to support short-term changes to respond to drought-caused streamflow problems or to help restore flows in actively used or impaired stream segments. A Colorado Water Bank can ensure that these changes of use are accomplished without injuring other water rights while facilitating their review and approval. Withdrawal from the bank for instream flow purposes should be limited to the CWCB in accordance with existing law.

Enhancement of stream flows provides general public benefits. Changing a direct flow diversion to an instream use does not generally produce income that would warrant the expense of making the change, creating a limited market for such transactions. Colorado previously provided an income tax credit for a portion of the value of a water right transferred to the CWCB for instream flow purposes.[62] That tax credit has now expired, and an attempt to extend it failed.[63] The fact that public benefits are provided but compensation

[59] Colo. Rev. Stat. § 37-92-102 (3).
[60] *Id.*
[61] Colo. Rev. Stat. § 37-83-105 (2) allows an irrigator to loan a water right to the CWCB for instream flows for three years out of ten with approval by the State Engineer. Colo. Rev. Stat. § 37-92-102 (3) authorizes acquisition of water rights by the CWCB for instream flows with a change of water right in Water Court. Colo. Rev. Stat. § 37-92-305 (3)(c) provides that analyses of historic consumptive use in Water Divisions 4, 5, and 6 will not consider reductions in use for up to five years in a ten-year period for rights enrolled in an authorized water bank. The legislative declaration for this provision recognizes that water appropriators may wish to reduce their water consumption in part to alleviate the effects of drought on low stream flows. The ability to deliver consumptive use water downstream as part of a transaction intended to also enhance stream flows is recognized in Colo. Rev. Stat. § 37-92-305 (3)(b).
[62] Colo. Rev. Stat. § 39-22-533.
[63] *See* House Bill 2015-1159, postponed indefinitely, April 14, 2015.

is low or non-existent provides another reason for keeping the cost of such changes as low as possible. The proposed Colorado Water Bank can help keep costs down by supervising the process to ensure that all legal concerns are addressed.

### Special Considerations for Water Produced by Agricultural Improvement Projects

Much work is being done in Colorado to improve the productivity of irrigation water use.[64] The primary driver for these efforts is the benefits that accrue to the irrigation users themselves. In addition, some agricultural conservation efforts are driven by their ability to reduce consumptive irrigation use, freeing up that water for other purposes. Other efforts may reduce only the amount of water required for diversion with no effect on consumptive use, but the reduced diversion makes the additional water available in the stream through the point of historical return flow. We believe water banks can play an important role in supervising the process of enabling additional water uses while protecting other water rights. The critical consideration is the determination of the amount and timing of newly available water and the effect of the conservation project on the water rights of others.

If the agricultural conservation project includes actions that reduce the historically consumed portion of the diverted water, such as by rotational fallowing or deficit irrigation practices, there will be transferable consumptive use water available for other uses. The water bank Operator's initial evaluation will estimate the reduced amount of consumptive use and the conditions required to make saved consumptive use water available without adverse impact.

Many agricultural conservation projects reduce the amount of water diverted by getting water to the plants more efficiently. Diversion structures in the stream may be modified to function more efficiently or a ditch may be lined to reduce seepage loss. If the reduced diversion amount is made available for instream use between the point of diversion and the place of historical return flow, the procedures described in the previous section should be followed and the banked right withdrawn only by the CWCB.

## Overcoming Municipal Preference for Permanent Acquisition

Public water suppliers would prefer to own the water rights they use to supply their customers in order to provide certainty and exclusive control. Municipalities turn to agricultural water rights as an affordable, reliable source of water, and purchase them from willing sellers.[65] It is exactly this phenomenon, however, that has led to the agricultural buy-and-dry that the Water Plan seeks to avoid.

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[64] *See Improving Irrigation Water Uses for Agricultural and Environmental Benefits*, Getches-Wilkinson Center Working Paper, Jan. 2016. This paper proposes the establishment of a multi-agency state program with funding to support improvements in irrigation water use.

[65] CWP, at 5-11.

In order to overcome this understandable preference, it is imperative that the water bank Operator actively assembles viable packages of banked rights that will be attractive to municipal suppliers. The aggregation of multiple rights that a bank can facilitate provides the kind of volume and reliability that will be more likely to interest a municipal borrower. Banked irrigation rights may provide a responsible means of supplementing a municipal base supply, allowing the municipal supplier to assemble a permanent portfolio for base supplies and use the bank for meeting peak, summer time demands, or to address unusual drought situations or facilitate drought recovery efforts. New developments not served by existing large suppliers may consider using banked water for all outdoor uses, and restricting their base portfolios to amounts required for year-round indoor use. As the water bank gains experience and usage becomes more routine, confidence will grow that banked irrigation water will continue to be available and that long term needs can be met with banked water.

## Existing Authority and New Authority Needed

Colorado law currently authorizes the formation of water banks within each water division.[66] Among other limitations, however, such banks are restricted to leases of stored water.[67] No provision is made for a water bank to facilitate leases or exchanges of direct flow water rights. This authorization is needed, however, in order to allow the types of transactions envisioned in the Colorado Water Plan to reduce the pressure to buy-and-dry and help meet other public needs. Colorado law has allowed short-term loans of water between two agricultural users for over one hundred years,[68] and has more recently provided for interruptible water supply agreements and temporary lease/fallowing arrangements without Water Court approval and upon a finding by the State Engineer that no injury to other water rights will occur.[69]

The existing Colorado water bank statute can be expanded and improved to accommodate the needs articulated in the Water Plan. The basic framework exists, but revisions are needed to allow for banking of direct flow water rights, to expand the role of the CWCB to include active facilitation, and to ensure streamlined procedures that protect other water rights. Legislation should be proposed that expands the framework of the water bank statute to include the essential elements as described here and provide for the development of operating criteria and guidelines in a public process.

[66] Colo. Rev. Stat. § 37-80.5-104.5.
[67] *Id.*
[68] Colo. Rev. Stat. § 37-83-105(1).
[69] Colo. Rev. Stat. §§ 37-92-309 and 37-60-115(8).

## Conclusion and Recommendation

Colorado is ready for an expanded water bank that will provide a viable alternative to buy-and-dry transactions and also make water available to other agricultural producers and for instream needs, as envisioned in the Colorado Water Plan. The recommendations in this paper are informed by extensive review of the water banks in other states and relevant experience in Colorado from the existing procedures addressing temporary loans, interruptible supply agreements, lease/fallow arrangements, banks for stored water, and acquisition of rights for instream flow purposes. We recommend support for legislation that will improve the Colorado Water Bank to facilitate temporary, voluntary water transfer transactions, making water available to the most pressing needs, with appropriate compensation and no risk to the water rights owner, and no adverse impact on the water rights of others.

Initial startup of these banks is likely to require substantial effort. Procedures for determining historical consumptive use must be agreed to, irrigators willing to participate must be found, analysis of the historical consumptive use of these irrigators must be completed, parties needing additional water must be matched with irrigators, an online clearinghouse must be designed and implemented, protective terms and conditions must be designed, and the parties must agree on compensation and costs. State funding and personnel support will be necessary to work through these matters.

The current and short-term future status of CWCB funding through state severance tax and mineral lease revenue makes the devotion of resources and personnel to this effort an especially challenging prospect. Considerable efficiencies can be obtained through the incorporation of existing tools and processes and sharing tasks with the Division of Water Resources, but it is clear that additional effort and resources will be required. While the water bank should impose fees on transactions to at least partially cover staff costs, completion of implementation of the recommended concepts may not occur until the recovery of external funding sources. It must be recognized, however, that achievement of the ATM goal of 50,000 acre feet will not be achieved without proactive efforts by the state agencies and implementation of such efforts should commence immediately.

# ATTACHMENT

**Provisions for Consideration in Water Bank Operating Guidelines**

The concepts presented here are examples of provisions that could be considered for inclusion in Water Bank Operating Guidelines. They are not recommendations, but are rather intended to provide information for further consideration and discussion. These detailed requirements are taken from water bank procedures in other states and from existing Colorado law on agricultural transfer methods.

1. Maximum term for water bank deposits and for renewal (Colorado: 10 years for interruptible supply agreements, fallowing/leasing pilot projects, and loans to CWCB (all subject to 3 years in 10 limit); Idaho: 1-5 years, with some grandfathered permanent deposits - if greater than 5 years, more procedure is required; Washington: short-term, long-term, or permanent, determined by water owner – if greater than 5 years, more procedure is required).

2. Annual deadline for depositing water right in water bank – tied to time required to evaluate and allowing prospective borrower to plan (Colorado: March 1 for leasing-fallowing pilot projects; Idaho: no specific deadline for statewide bank, but little staffing to evaluate proposed leases after April).

3. Allow for withdrawal of right by depositor if not leased by a designated date – tie to ability of owner to use water right for that irrigation season if not leased.

4. Lease of shares in ditch company requires consent of company (Idaho: Water Supply Bank Rules).

5. Fees for deposit and withdrawal, including water bank operator initial evaluation process (Colorado: $500 for lease-fallowing pilot projects, $100 for administering temporary instream flows, $2,937 for interruptible supply agreements, $300-1,734 for rotational crop management agreements $300 for substitute supply plans; Idaho: $250 per deposited water right with a maximum of $500 for “stacked” rights).

6. Additional compensation to bank to offset expenses, e.g., percentage of rental price goes to bank operator (Idaho: 10% - this is in addition to deposit fee).

7. Presumed consumptive use values or methodologies for various ditches, crops, watersheds; could incorporate a 5-10% buffer to ensure that more water is left in the stream than has been historically present (Colorado: Arkansas River Water Bank (ARWB) Rule 12.10; Criteria and Guidelines for Fallowing-Leasing Pilot Projects (FLPP Guidelines), Section II.G).

8. Requirements for installation of measuring devices.

9. Calculation of transit losses and transit time between original point of diversion and new place of use. (Colorado: ARWB Rule 12.10)

10. Availability of option agreements (Colorado: ARWB Rule 12.3).

11. To the extent practicable, water bank transactions should be consistent with any applicable local watershed plan (Washington: Wash. Rev. Code § 92.42.040).

12. Requirements for vegetation or management of fallowed lands.

13. Minimum acreage for fallowed lands (Colorado: 10 acre minimum, FLPP Guidelines App. B).

14. Any special considerations for tribal water rights or tribal bank.

15. Depositor has the right to specify the uses to which the water can be put (e.g., for instream flows only).

16. Maximum amount that may be banked by one water right owner (Colorado: see, for example, "significant development activity" provisions.

17. Provisions dealing with handling of encumbrances on water rights proposed for banking to ensure reliability for borrowers in case of bankruptcy or foreclosure on the owner's assets.

18. Priorities for leasing from water bank - may want to provide for priority among types of competing prospective renters, or priority for leasing early or commitment to multi-year leases (Idaho: regional stored water pools have established such priorities).

19. For procedures on local district evaluation and approval, see Yakima (Washington) Bank Water Transfer Working Group, a volunteer organization that performs the initial evaluation of proposed water bank transactions.

20. Development of form agreements for depositing water in bank and requests to lease out. See Yakima (Washington) water bank agreements, e.g., http://www.ecy.wa.gov/programs/wr/cro/images/pdfs/11182013-burchak-twa.pdf