Case Study: Eastern Snake Plain Aquifer Recharge Program

Incentivizing Groundwater Recharge

Case Study #3

Working Draft

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This case study is part of a series focusing on incentives for Managed Aquifer Recharge, and the institutional context in which MAR projects are conducted. The series is being produced as part of a larger project examining this topic. A symposium on September 10, 2019 will highlight these and other projects. More information is available at law.berkeley.edu/recharge2019.

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Eastern Snake Plain Aquifer Recharge Project

Incentivizing Groundwater Recharge – Case Study #3

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Overview

Location: Eastern Snake Plains, ID
Motivation for MAR: Conflict between groundwater and surface water users due to interconnected water sources and conjunctive administration
Groundwater Challenges: Depletion of interconnected surface and groundwater
MAR Challenges: Expanding infrastructure capacity for recharge, maintaining state funding, improving groundwater modeling and data collection
Program Goals: Recharge 250,000 AFY on average
Key Actor(s): Idaho Water Resources Board (IWRB); Idaho Department of Water Resources (IDWR); canal companies, irrigation districts, groundwater users, cities, and aquaculture producers
Water Source: Snake River, Big Wood River, Little Wood River
Start Date: 2009 (pilot); 2014 (full implementation)
Current Status: Fully operational; currently in expansion phase
Program Results: Since 2014, the program has recharged an average of 249,028 AFY
Cost: $20-25/AF

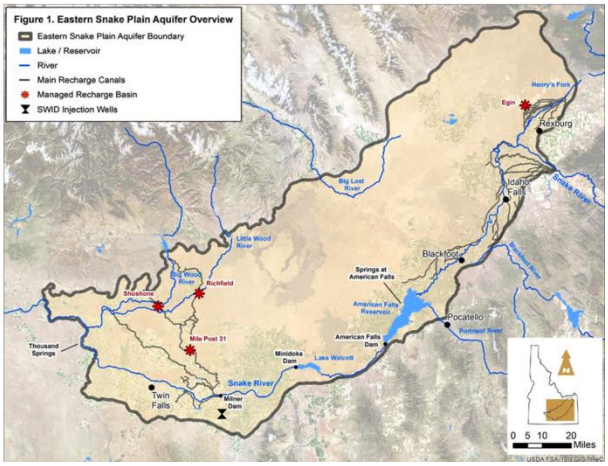

Figure 1: Eastern Snake Plains Aquifer and recharge sites. Source: Idaho Ground Water Association (IGWA).

1. Motivation and Goals

The Eastern Snake Plain Aquifer (ESPA) Recharge Program is a state-run program in the Eastern Snake Plain region of Idaho. The program aims to recharge and average of 250,000 AFY to mitigate the effects of groundwater pumping on surface water resources and, in doing so, to reduce conflicts between surface and groundwater users. To do so, the Idaho Water Resources Board (IWRB) partners with canal and irrigation companies to use IWRB's surface water rights to conduct aquifer recharge through in and off-canal seepage and direct injection wells.

2. Geographic and Historical Context

ESPA covers 10,800 square miles in southeastern Idaho, comprising the eastern portion of the Snake River Plain basin. The Snake River runs east to west along the southern border of the aquifer and is highly hydrologically connected to the aquifer. Outflows from aquifer enter the

river system as baseflow in gaining streams. Water also returns to the Snake River from springs around American Falls Reservoir located near the southern edge of the basin and below Twin Falls, ID, located near the far southwest corner of the basin.[1]

ESPA is a critical resource for the residents of the Eastern Snake Plain, as the region only receives 8.4 inches of rain in an average year.[2] The Eastern Snake Plain region contributes more than 33% of the state's economic production of goods and services, primarily through agriculture. Sixty percent of all irrigated acres in Idaho, amounting to a total of 2.1 million acres, overlie ESPA.[3] Roughly 43% of these irrigated acres are irrigated by groundwater, 41% by surface water, and 16% by a combination of groundwater and surface water.[4] Almost all (95%) of total groundwater use in the region is pumped for irrigation, while the remaining 5% goes to household or commercial uses.[5] Groundwater from ESPA is the only source of drinking water for 200,000 residents in the mostly rural region.

The ESPA Recharge Program is the product of decades of water management challenges. The inefficient conveyance and irrigation methods used from as early as the 1900s led to substantial incidental recharge as water applied to cropland infiltrated into the underlying aquifer. As a result, groundwater elevations increased, as did spring flow and baseflows in the Snake River.[6] Beginning in the 1950s, more efficient irrigation methods reduced the amount of incidental recharge that occurred, while at the same time pumping for agricultural increased. Storage in the aquifer began to decline at a rate of 200,000 AFY, leading also to depletion of surface water flows.[7] These changes set the stage for conflicts between surface water users and groundwater users.

To address these concerns, starting in 1970, the state conducted several small pilot MAR programs in ESPA.[8] However it was not until 2009, when the Idaho Water Resource Board (IWRB) and the Idaho Legislature adopted the ESPA Comprehensive Management Plan (CAMP), that a concrete plan was laid out for managing the aquifer. CAMP aims to add 600,000 AFY to the ESPA water budget by 2030.[9] CAMP states it will achieve this goal in several phases through:

A. Ground water to surface water conversions;
B. Managed aquifer recharge;
C. Demand reduction, including;
    1. Surface water conservation
    2. Crop mix modification in the Aberdeen/Bingham groundwater district
    3. Buyouts, buy-downs, and/or subordination agreements
    4. Rotating fallowing, dry-year lease agreements, and Conservation Reserve Enhancement Program (CREP) enhancements
D. Pilot weather modification program; and
E. Minimizing loss of incidental recharge.

Between 2009 and 2014, IWRB collaborated with irrigations districts to conduct aquifer recharge, usually just before or after the irrigation season.[10] Despite this effort, water table levels continued to decline. In response, the state legislature allocated additional funding

(described below) to support the ESPA Recharge Program, allowing for expansion and more concerted effort to conduct MAR. Currently, the ESPA Recharge Program's average annual goal for managed recharge in ESPA at 250,000 AFY.[11]

3. Regulatory Setting

3.1 Idaho Water Rights, Conjunctive Management, and the 2015 Settlement Agreement

The doctrine of prior appropriation governs water rights in Idaho. Entities that wish to use surface or groundwater in Idaho must apply for a water right permit and demonstrate the water will be put to beneficial use. Idaho law explicitly recognizes groundwater recharge as a beneficial use of surface water.[12] This practice is in contrast to many other states, which require a beneficial use designation for how the water will be used once it is recharged or recovered from the aquifer.[13]

Prior to issuing a new water right, IDWR must determine that the new water right will not conflict with the "local public interest," including potential impacts on water quality, fish, and wildlife populations. Interested parties can file a protest against water rights applications, which encourages applicants to reach settlement agreements with protesting parties and incorporate terms of use acceptable to both groups into the water right permit.[14]

IDWR administers surface water and groundwater rights conjunctively; as such, the Snake River and ESPA are effectively administered by the state as a single resource. Surface water rights are typically senior to those of groundwater pumpers in ESPA. In times of shortage, senior surface water users can request a delivery call from IDWR. After a delivery call is requested, the Director of IDWR determines what actions, if any, must be taken to reduce or mitigate material injury – defined as a reduced ability to exercise a water right – to the senior water user.[15]

After decades of groundwater overdraft, surface water users began to make delivery calls along the eastern portion of the Snake River in the 1990s.[16] In 2008, the Director of IDWR issued an order curtailing junior groundwater pumpers as a result of streamflow depletions affecting senior surface water appropriators. The Director's curtailment order spurred several rounds of litigation, which ultimately culminated in a settlement agreement between the Surface Water Coalition, representing surface water users in ESPA, and the Idaho Ground Water Appropriators, representing groundwater users in 2015. The settlement agreement emphasized the importance of the ESPA Recharge Program in balancing the aquifer and led to additional long-term funding and support for the program from both parties.[17] In addition to the state's goal of recharging an average of 250,000 AFY, groundwater users agreed to reduce their annual consumption of groundwater by 240,000 AFY.

3.2 Oversight by the Water District Watermaster and Determination of Water Availability

The water rights for diversion from the Snake River are under the jurisdiction of Water District 01, which covers the upper portion of the Snake River and its tributaries until it reaches Milner Dam.[18] Water districts are created by the IDWR after adjudication has been completed in the basin. Water districts are run by an elected watermaster, whose job is to distribute water from public sources according to the water rights held by those in the district.[19] The watermaster in

Water District 01 is responsible for determining when recharge rights are in priority and distributing water appropriately.

4. Managed Aquifer Recharge Through the ESPA Recharge Project

The ESPA Recharge Program focuses on a singular goal: achieve an average of 250,000 AF of recharge each year. IWRB achieves this goal by partnering with irrigation districts and canal companies to use existing infrastructure to deliver water to recharge sites. In return, IWRB pays its partners a conveyance fee for delivering the water to the recharge sites and helps make necessary infrastructure improvements.

4.1. Water for Recharge

Managed recharge for the ESPA Recharge Project uses surface water diverted from the Snake River and, in wet years, from the Big and Little Wood Rivers, tributaries to the Malad River. All three rivers are fed primarily by snowmelt, which is the main source of water in the region.

IWRB currently holds three surface water rights for the diversion of water from the Snake River and a water right on the Big and Little Wood Rivers for 250 cfs. Typically, the right for diversion from the Big and Little Woods Rivers is only available and in priority in four out of every ten years. [20] Of IWRB's three Snake River water rights, one, for 1,200 cfs on the upper Snake River, has a priority date of August 1980. The point of diversion for this right is listed as the Milner-Gooding Canal; however, if that point of diversion cannot be used to conduct recharge (due to the need to transport water to available recharge sites), the IWRB uses Idaho's Water Supply Bank in order to divert water under this right at other diversion points in order to conduct recharge.[21]

IWRB's two other water rights to the Snake River were obtained through a long application process with IDWR. In March of 1998, IWRB filed 19 applications with IDWR requesting two more water rights for recharge with points of diversion throughout ESPA. Eleven parties filed protests on the applications, including the Idaho Department of Fish and Game, US Fish and Wildlife Service, the US Department of Interior, and Trout Unlimited. The protests, which delayed the applications, were filed due to concerns about the potential impacts of recharge activities that used water from the proposed points of diversion on existing water rights and the environment.[22] In 2013, the IWRB's 19 recharge water right applications were consolidated into eight and resubmitted. Two of the resubmitted applications, totaling 6,569 cfs, were subsequently approved after an agreement was reached between the protesting agencies and the IWRB. The six other applications, which total 7,503 cfs, are still pending due to continued protests.

Availability of water for the ESPA Recharge Program depends on seasonal needs of other water users. For example, the US Bureau of Reclamation's water right for generating hydroelectric power at Minidoka Dam limits when managed recharge can occur above Minidoka in winter months to about half of all years. Downstream of Minidoka, water is available almost every day during the winter months. During the irrigation season, less water is available for recharge as irrigation rights are in priority. In about two-thirds of years, managed recharge can occur during

a 30-day window in early summer.[23] Per IWRB policy, recharge operations also may not impact storage in the reservoir system on the Snake River.

4.1. Recharge Process

Water recharged in ESPA is diverted from the Snake River or Big Wood and Little Wood Rivers using existing irrigation canal infrastructure. Diverted water is recharged either during its transport in unlined canals, in off-canal spreading basins, or via injection wells. Canal recharge occurs only during the non-irrigation season. Off-canal recharge can occur whenever the recharge right is in priority and the canal leading to it has sufficient capacity. In practice, off-canal recharge is often limited to the winter months, as there is limited infrastructure capacity to convey water to recharge sites during irrigation season.

To facilitate its recharge activities, IWRB partners with irrigation districts and canal companies, who conduct recharge on behalf of IWRB or who use their infrastructure to deliver water for recharge to one of IWRB's twelve currently operating off-canal recharge basins, in exchange for payments from the state.[24] In addition, the Southwest Irrigation District partners with IWRB to conduct recharge via injection wells.

While the state does not have a permitting process for the construction of the off-canal spreading basins, four of the spreading basins constructed on federal BLM land are required to go through the National Environmental Policy Act (NEPA) process and obtain easements for use of the land.

4.2. Accounting and Monitoring

IDWR, IWRB, and IWRB's recharge partners all play a role in tracking water used in recharge. IDWR and IWRB's recharge partners primarily tracks surface water diversions and groundwater pumping data, while IWRB models and monitors water as it infiltrates the aquifer and moves throughout the system. Only recharge that occurs through managed recharge operations and specifically for the purpose of meeting the CAMP recharge goal is counted towards the annual 250,000 AFY program goal. Recharge that occurs through seepage from unlined canals during the irrigation season (April through October) is not counted.[25] Each entity that conducts recharge for the ESPA Recharge Program has a monitoring plan that measures the water diverted for recharge. Diverted water includes water that either leaves the aquifer system by returning to the river, water diverted to another canal system, and water diverted to off-canal sites. Actual infiltration is not measured, and there is no exact accounting for water once it is recharged to the aquifer.

In addition to monitoring diversions for recharge, IDWR operates a monitoring program of 460 wells across the Eastern Snake Plain aquifer. This monitoring program tracks progress towards CAMPs aquifer stabilization benchmarks.[26] Under the terms of the 2015 Settlement Agreement, groundwater users agreed to metering of groundwater wells in ESPA, an agreement later formalized by an IDWR order requiring metering of all groundwater wells overlying ESPA.[27] Water district watermasters collect and annually report this measurement data to IDWR.[28]

IWRB recognizes that using data from monitoring diversions for recharge and water levels only provides a limited understanding of how recharge activities affect water levels in the aquifer and the Snake River. To address this shortcoming, IWRB is currently working on development of a groundwater model that can assist identifying and tracking flows that occur as a result of recharge. IWRB is also in the process of establishing a detailed monitoring plan for the region. This monitoring plan covers key recharge areas and will include localized groundwater transducer networks, dye-testing, and water chemistry analysis. [29]

Water quality is not uniformly monitored. Canal recharge does not require groundwater quality monitoring. Off-canal recharge requires monitoring consistent with the Idaho Ground-Water Quality Plan.[30] Water quality standards for off-canal spreading basins are set by the Idaho Department of Environmental Quality (IDEQ).[31] Off-canal recharge requires a Ground-Water Quality Monitoring Plan approved by IDEQ that is consistent with state guidelines. [32] Typical groundwater quality monitoring at spreading basins include sampling the source water and groundwater at least a month before recharge, during recharge, and a month after recharge. [33, 34]

Water quality standards for injection wells are specified by IDWR, as part of their Underground Injection Control (UIC) permitting process.

4.3. Recovery

Recharged water either flows through the aquifer to its outflows along the Snake River or is intercepted and withdrawn by groundwater pumpers.

5. Management

5.1. Institutional Structure

Idaho Department of Water Resources (IDWR) and the Idaho Water Resource Board (IWRB) have primary responsibility for the implementation of ESPA Recharge Program. IDWR is the regulatory agency that administers water rights and issues delivery calls. The governor appoints its director.[35] The Idaho Water Resource Board (IWRB) is responsible for creating, implementing, and financing a state water plan to sustainably manage Idaho's water. IWRB manages Idaho's implementation of CAMP, including the ESPA Recharge Program. The eight-member IWRB develops, authorizes, and allocates funding to recharge projects, while the IDWR provides staff to help carry out these projects.[36] The governor appoints IWRB's eight members for four-year terms. [37] The Surface Water Coalition[38] and Idaho Ground Water Appropriators[39] are also instrumental in the expansion of the ESPA Recharge Program via their participation in the 2015 settlement agreement.[40]

Voluntary partnership of canal companies and irrigation districts is essential to accomplishing recharge goals. Water districts (e.g., irrigation districts, groundwater districts) and canal companies propose projects that benefit the aquifer to the IWRB for funding consideration. Canal companies are private, non-profit irrigation organizations that hold rights to surface water. They own and maintain canals to deliver water to fee-paying shareholders. Irrigation districts also hold water rights and deliver water to fee-paying landowners.[41] Each partner's role in the recharge program is unique based on their agreement with IWRB. Some partners

convey water to the recharge sites, while others may actively operate recharge sites in combination with conveyance services.

IWRB generally will not approve proposed projects if the calculated five-year retention rate of the aquifer is less than 15%.[42] The five-year retention rate is determined by using IDWR's ESPA groundwater flow model to determine what percentage of the water recharged in a certain area would still be in the aquifer five years from the time of recharge. If the IWRB funds a project, the partner signs a Memorandum of Intent (MOI) agreeing to recharge the IWRB's water for twenty years. Payment for conducting IWRB recharge is determined by individual conveyance contracts. Currently there are separate payment schedules, depending on whether the recharge site is above or below Minidoka Dam. IWRB recharge conveyance cost from 2014 through 2019 averaged $7.29/AF across ESPA. The irrigation organizations measure the amount recharged, with verification by the IWRB. All volumes are further verified by Water District 01 before the IWRB issues payments. [43]

While the IWRB makes all final decisions regarding the program's operations, stakeholders - including groundwater and surface water users in ESPA, along with environmental interests - are highly engaged in the program. Formally, stakeholders share input through various IWRB committee meetings, including IWRB's Aquifer Stabilization and Upper Snake River Advisory Committees and an Environmental Resources and Technical Working Group. The IWRB Committees provide an opportunity for representatives of municipalities, land developers, surface water users, groundwater users, spring water users, hydropower, and environmental interests to provide input on the implementation of CAMP, including the ESPA Recharge Program.[44] The Implementation Committee provides recommendations to the IWRB about the management actions that should be taken, how they should be taken, and what their impacts might be.[45] The Environmental Resources and Technical Working Group arose as part of the settlement agreement between IWRB and the parties protesting its water right applications. The working group consists of representatives from each of the protesting agencies to provide recommendations to the IWRB concerning the potential impact of recharge operations on water quality, wildlife, and recreation.[46]

5.2. Costs and Financing

The major expenditures for the ESPA Recharge Program are infrastructure improvements and conveyance fees paid to irrigation organizations that conduct recharge. From 2014 to 2019, the IWRB expended over $20 million on the program.[47] Over $10 million was spent on conveyance fees from 2014 to 2019.[48]

Funding comes from a variety of sources. Under CAMP, water users agreed to provide 60% of the funds needed for the ESPA recharge program.[49] However, IWRB and water users have been unable to come to an agreement on how water users would fund their share of the ESPA Recharge Program costs. From 2009 to 2013, only about 13% of the $1,258,000 spent on managed recharge was contributed by water users, with the rest being contributed by the IWRB.[50]

Draft legislation in 2010 outlined a fee to be assessed on water right holders within ESPA boundaries based on CAMP funding participation targets.[51] This legislation was met by strong protest, leading to its abandonment.[52] Instead, to cover recharge program activities, the state legislature allocated a series of short-term and annual funds. In 2014, state legislation transferred $4 million from the state's general fund to the IWRB to increase recharge capacity in ESPA.[53] Additional legislation the same year directed $5 million annually from the state cigarette tax to fund aquifer stabilization projects across the state.[54] In 2016, another $5 million was allocated annually from the state's general fund for the same purpose.[55] This money goes into the IWRB's Secondary Aquifer Planning, Management and Implementation Fund.[56]

Although the 40:60 cost-share goal outlined in CAMP has not been achieved, water users have occasionally contributed to the recharge program through infrastructure improvement and water contributions. For example, in 2012, the Aberdeen-Springfield Canal Company installed the floodgates needed to perform recharge with support from Idaho Ground Water Appropriators.[57] Since 2017, the Surface Water Coalition has donated 178,000 AF of water to the recharge program.[58] Additionally, groundwater users support CAMP's overall sustainability goals by agreeing to reduce their consumptive use by 240,000 AF.

6. Analysis and Summary

6.1. Key Elements

The ESPA Recharge Program is an ambitious regional effort to address negative impacts of groundwater pumping on surface water resources, which has achieved significant success in meeting ambitious goals. From 2009 to 2012, the ESPA program recharged a yearly average of 117,111 AF.[59] Between 2012 and 2016, significant improvements were made to infrastructure. Subsequently, during the 2016/2017 recharge season, 317,000 AF were recharged, and during the 2017/2018 season over 545,000 AF were recharged.[60] Heavy state involvement, use of a substantial existing infrastructure system for recharge, and buy-in from all stakeholders were important to the success of this program.

Idaho's legislature and state agencies were substantially involved in the program. ESPA covers nearly 11,000 square miles, a huge area to manage and utilize for a recharge program. Having legislative support through early stage funding initiatives was key to the program's success.

Institutionally, the ESPA Recharge Program illustrates a highly centralized, large scale model for recharge. Although the program includes many individual recharge projects, programmatically there are relatively few moving parts. Most programmatic responsibility falls to one state agency, the IWRB. By clearly placing authority for the ESPA Recharge Program with one agency, Idaho has avoided administrative fragmentation, reducing transaction costs and decision-making complexity. IWRB's singular goal for the program – to achieve 250,000 AFY of recharge – similarly keeps the program on track by allowing it to focus on one metric of success. Further, IWRB's relatively consistent technical approach, and use of few, centralized entitlements to water help to streamline management of the ESPA Recharge Program.

Although IWRB administers the ESPA Recharge Program, it would not be possible without the cooperation of partnering entities. Water users, in the organized form of irrigation districts or canal companies, carry out many of the recharge actions. These groups have constructed recharge facilities, transported water for recharge, and performed recharge themselves. Without the ability of the IWRB to use this existing infrastructure, the ESPA Recharge Program would not be able to recharge as much water as it has. Participation of many small groups across ESPA has also made the program more efficient and allowed it to expand faster than it would have if the state alone was responsible for managing individual recharge projects.

6.2 Incentives and Benefits

Surface and groundwater are highly connected. The existing appropriative surface water rights system sets the stage for the ESPA Project. As tensions between water appropriators has led to lawsuits and uncertainty regarding future water availability. Aquifer recharge presents both a mechanism for improving reliability of supplies and a potential solution to conflicts between water users. Further, because the State legislature is footing the bill, costs to water users are minimal.

The ESPA Recharge Program provides benefits for both surface water users and groundwater users. For surface water users, MAR makes it more likely that surface water will be reliably available for surface water users during the time period they wish to use it.[61] For groundwater users, improving aquifer conditions makes it less likely that they will face delivery calls and possible curtailment. Further, financial benefits incentivize irrigation districts and canal companies to support the program by lending their infrastructure. Entities that contract directly with IWRB to convey water for recharge benefit from conveyance fees from IWRB and additional improvements to their infrastructure.

6.3 ***Challenges and Future Considerations***

The longevity and success of ESPA Recharge Program faces two key challenges – infrastructure capacity and long-term funding. The ability to access infrastructure to convey water to recharge sites is critical. Since the program's goal is 250,000 AFY on *average,* the program will need additional capacity to recharge more water in wet years to make up for potential recharge shortfalls in future dry years.

Under the 2015 settlement agreement between groundwater users and surface water users, groundwater users agreed to decrease their water consumption by 240,000 AFY. Groundwater users can achieve this goal by offsetting their pumping with their own groundwater recharge projects. However, the capacity of the existing infrastructure for conveyance of water from points of diversion and for recharge is limited. During average or dry years, there is less competition for conveyance infrastructure, because availability of water for recharge is limited.,IWRB has higher priority water rights, and thus is able to divert water for recharge every year. However, during wet years, more water is available for all to recharge, and private entities compete with IWRB for the use of infrastructure to both transport its water to its recharge sites and for the use of those recharge sites. IWRB has managed this conflict thus far through its agreements with canal companies and irrigation districts that it has developed

projects with – when water is available for IWRB to recharge, both agree to recharge IWRB's water. However, IWRB still faces competition for use of conveyance infrastructure from private recharge projects. Expansion of infrastructure capacity for conveyance and for recharge is ongoing: canal improvements and construction of new off-canal recharge sites are in progress across ESPA. As these projects are completed, competition for the use of infrastructure will diminish.

With respect to funding, the ESPA Recharge Program remains solely dependent on funding from the state legislature. Under CAMP, the state agreed to cover 40% of ESPA Recharge Program cost, with water users paying the remaining 60% of the project costs through an annual fee assessed on water rights holders. This fee would cost $2/acre per year on groundwater users and $1/acre per year on surface water users, with different amounts assessed on spring users, municipalities, and industrial users.[62] However, when reviewing CAMP in 2010, state legislators rejected imposing a proposed ESPA-wide fee. Thus far, the state legislature has been willing to support the program through a combination of one-time and annual funding bills. However, as political priorities shift, it is not guaranteed that the legislature will continue to regularly allocate funds for the ESPA Recharge Program. It remains to be seen whether water users would be willing to contribute to the recharge program, and at what level and in what form they would be willing to contribute.

Acknowledgements
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[9] CAMP p.7.
[10] 2016 Recharge Report p.7.
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[12] Id. Stat. § 42-234(2)
[13] For instance, some states require that a water permittee describe how the water will be used once it is withdrawn from the aquifer after recharge (e.g., municipal, irrigation), and do not recognize that activity of recharge as a *per se* beneficial use. Others may recognize specific in-situ or non-extractive beneficial uses (e.g., combat subsidence, improve water quality, fight seawater intrusion).
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[15] IDWR Rules for Conjunctive Management p.3
[16] Water Deeply Patton interview

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[18] https://idwr.idaho.gov/ExternalReports/WaterDistrictDescriptionReport.pdf
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[21] Idaho's Water Supply Bank, operated by the IWRB, allows unused water rights to be rented by other water users who lack sufficient water. Idaho law permits changes in the point of diversion and place of use of a water right when it is rented from the Bank; 2016 Recharge report p.12; https://idwr.idaho.gov/files/water-supply-bank/Bank-Overview-FAQ.pdf
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[60] Maddox p.7
[61] Included in the group of surface water users who benefit from higher flows into the Snake River is Idaho Power and its ratepayers. Increased groundwater recharge allows higher surface flows through Idaho Power hydro facilitates, which means Idaho Power does not have to purchase more expensive power from other sources. Additionally, the program provides environmental benefits by improving the health of the aquifer overall. Increasing aquifer levels results in increased spring discharges to the Snake River, which maintain habitat for wildlife and improve water quality.[61] Fish populations are especially vulnerable to reduced streamflow during the winter and spring, and increased spring water discharges from the aquifer help support their habitat.
[62] Spring users would have paid an annual fee of $200,000. Municipalities would have paid $700,000 a year, with industrial users paying $150,000 a year. https://idwr.idaho.gov/files/iwrb/2010/20101014-ESPA-CAMP-Implementation-Funding-Memo.pdf