

December 14th Meeting Summary For the Treasure Valley Comprehensive Aquifer Management Plan Advisory Committee (Meeting #8)

Meeting goals

1. Review the decisions made at the November 10 meeting.
2. Discuss what emerges from the matrices; then make decisions about which options should become recommendations.
3. Work in small groups to fill in or improve the Goal 2 matrix.
4. Complete a self-evaluation of the Committee's progress.
5. Determine what needs to happen to meet the target date of completion.

List of Participants

Participation is usually recorded at meetings, but the attendance sheets from the last meeting are not available.

Facilitators: Joseph McMahon, Daisy Patterson

IDWR: Helen Harrington, Neeley Miller, Sandra Thiel, Cynthia Nixon

Welcome, Introductions, and Review of Agenda

The Facilitation Team, the Advisory Committee and the public observers all introduced themselves. Joe McMahon and Daisy Patterson reviewed the meeting goals and agenda for the day.

Committee dialogue: Refining ideas from the Goal 1 Matrix

The Committee discussed each of the options under the following categories:

- Development of Decision-making Tools and Data
- Water Conservation
- Enhancing market systems for storage, natural flow, and groundwater
- Improving water distribution and distribution systems
- Geothermal resources
- Cloud Seeding

The purpose of the discussion was to further refine the various options under each category. Many Committee members had different interpretations of what was said in the options, so as a group, the Committee explained their intentions.

Following the discussion of options, the Committee directed the facilitation team to develop introductory sections for each category that define each category's intent and relevance to CAMP goals. Attachment A captures the Committee's discussion on the options and the facilitation team's attempt to draft introductory language for the recommendations and each category of recommendations.

The Committee will discuss the following categories at the January meeting:



- Integrated land use and water planning
- Administrative and Legal
- Storage
- Agricultural infrastructure

Next Steps, Future Meeting Dates, Final Questions

Next steps.

The small groups will submit Goal 2 – Options to Prevent Conflict matrices to Daisy Patterson. The facilitation team will compile the matrices and return to the small groups prior to the next meeting. The small groups will evaluate the compiled matrix and determine what adjustments should be made.

Public Comment

Liz Paul has posted a document from the Pacific Institute in the Ancillary Document section on the IDWR website. The document is *Sustaining California Agriculture in an Uncertain Future*.

Future Advisory Committee Meeting Dates and Locations

- January 7 – Idaho Association of Realtors
- February 3 – USGS Conference Room



Attachment A

Recommendations

Goal 1. Provide reliable sources of water, projecting 50 years into the future.

The Committee represented a variety of water users and interests in the Treasure Valley: agricultural, DCMI, and environmental (plants and wildlife). The Committee determined that reliable sources of water for these users consist of both an ample quantity of water as well as adequate quality of water appropriate for each use.

#	Category of activity	Committee's rational for inclusion
1	Development of Decision-making Tools and Data	Accurate water supply and usage data and effective data assessment is critically important to effective water planning and management, particularly in times or locations of shortage.
2	Water conservation	Under any scenario of water demand or hydrologic condition, water conservation reduces overall demand and, in some contexts, increases water supply by permitting water to be carried over in storage for use by others or in following seasons.
3	Enhancing market systems for storage, natural flow, and groundwater	Water demand studies suggest that the conversion of water from purely agricultural usage to domestic and lawn irrigation will continue. An effective market system for water may simplify this conversion.
4	Ensuring effective water distribution	While ensuring that shallow aquifer recharge continues as needed, improvements in water distribution may reduce volumes needed for delivery, making water available for other uses or for carry over storage.
5	Cloud Seeding	
6	Geothermal	
7	Integrated land use and water planning	Better alignment between land use and water planning can ensure efficient water delivery and avoid localized water shortages.
8	Administrative and legal	Not yet discussed in committee
9	Strategies for storage	{not yet discussed in committee}
10	Protect existing irrigated agricultural infrastructure	Existing ag infrastructure can both be used for shallow aquifer recharge (not yet discussed in committee)



1. Development of Decision-making Tools and Data

Despite knowledge of the hydrology of the Treasure Valley aquifer and its connectivity with the Boise River, water managers, providers, and policy makers need more data to understand the complexities of this system. These data can help water managers and users to: better understand the effects of actual or planned water use on other users; make data collection methods consistent; permit more informed assessment of hydrologic events; keep track of water use and aquifer trends; and assist in planning to meet potential water shortages.

Groundwater hydrology and the relationship among the aquifers and surface water interaction are complex – and the collection and analysis of data will help both managers and users better understand these aquifers.

Water data needs should be consistently collected and assessed throughout the planning horizon of this document. More specifically, the Board should undertake the following actions.

- 1.1. Develop a technical committee to meet annually to assess the adequacy and results of monitoring, measuring, and modeling of Treasure Valley hydrology and present results to IDWR/IWRB and Treasure Valley CAMP annually.
- 1.2. Explore opportunities for a cooperative Treasure Valley hydrologic modeling effort leveraging funds from local, state and federal agencies.
 - 1.2.1. Measure groundwater levels to establish a baseline and conduct ongoing monitoring to evaluate the status of the aquifer and the need for future changes. Set a schedule for routinely reviewing the collected data.
 - 1.2.2. Improve groundwater models and technical tools to meet administrative purposes and to facilitate decision making. .
 - 1.2.3. Describe connectivity (among deep aquifers, shallow aquifers, and surface water)
 - 1.2.4. Quantify what water is leaving the state.
- 1.3. Improve and update assessment to study future demands
- 1.4. Improve cooperative data measurement (i.e., consistent data-collection methods) to increase efficiencies
- 1.5. Develop data to understand potential impacts to other water users (for example downstream or senior water right holders) from implementation of water conservation strategies.
- 1.6. All studies and monitoring will be:
 - 1.6.1. Developed in partnership with the water managers and water user community;
 - 1.6.2. Capable of testing multiple scenarios for water supply and demand;
 - 1.6.3. Measure effect of water use on surface and ground water; and
 - 1.6.4. Describe data gaps and uncertainty of the results.



1.7. Monitor actual use and compare with predicted use??

2. Water Conservation

Future demand for water will increase (as suggested by the usage studies), and it may be and may be increasingly costly and time consuming to meet the new water demand. Conservation (i) makes good sense to avoid waste; (ii) creates an opportunity to meet the water needs of a growing number of users without requiring an increase in amount of water available; and (iii) may allow water to be held for later use in storage or sale to a new or growing customer.

The Committee recognized that, although conservation and efficiency in water are important, there are circumstances in which canal leakage provides necessary localized recharge. As such, water deliver efficiency must be considered in the context of local circumstances.

In light of the foregoing, the Committee advances the following recommendations.

1. The Board should encourage and develop guidelines for conservation programs.
2. Improve efficiency of water delivery system without negatively impacting incidental recharge
 - 2.1. Encourage conservation and efficient use of groundwater in all cases.
 - 2.2. Encourage conservation and efficient use of surface water, where a viable/sensible opportunity exists taking into consideration the benefits of incidental recharge.
3. Promote wastewater/gray water reuse, including municipal and ag.
4. Explore ways to provide (financial?) conservation incentives for:
 - 4.1. non-agricultural, non-metered uses of water and
 - 4.2. agriculture.
5. [Create a tiered consumption tariff for ??] – *revisit at a later date*
 - 5.1. There may be problems trying to extend this to irrigation districts.
6. Use education to encourage conservation
7. Coordinate with water suppliers, municipalities, and IDWR to identify ways to encourage water conservation, i.e. ordinances establishing fines for water waste.
8. Facilitate collaboration that leads to conservation.
9. Encouraging communities to retrofit neighborhoods with pressurized irrigation systems (where water rights exist).

3. Enhancing Market Systems for Storage, Natural Flow and Groundwater

Although studies show a wide range of potential water needs depending on many factors, there is a likelihood that water use will transition from agricultural to DCMI usage. Water marketing strategies provide a valuable mechanism to allow for increased flexibility in addressing changing water needs. As this transition



continues, some water providers will change the manner in which they provide water, and water providers will want to meet new demands through rental or purchase of water, or both. To allow both the transition of water from one delivery and usage to another, and to meet new demand, steps should be taken to ensure that a healthy market for willing buyers and sellers exists – for storage water, natural flow and ground water.

1. Investigate other Idaho rental pool options for storage (e.g., multiple year leases with willing parties, negotiated price point, dry-year exemptions). Expanding rental pool options may create incentives for conservation, adding value to conserved water. However, must safeguard against having a permanent new use that is dependent on variable year-to-year supply. [*this does not necessarily involve drying up crop land.*]
2. Explore market mechanisms for natural flow and groundwater across a variety of means (e.g., incentivize reductions in consumptive use and allow that consumptive use water to be available for other uses). Market mechanisms could smooth out short-term variability in supply. [*this involves drying up land.*]
3. Further explore and enhance future market opportunities through willing seller, willing buyer opportunities while recognizing and not diminishing existing water rights. [*facilitating, educating, marketing, outreach*]
4. Allow for interbasin transfers and long-term contracts in a manner that is not so cumbersome. Interbasin transfers may not necessarily refer to moving actual water from one basin to another. Interbasin transfers can be a paper transfer or shuttling, of water. [*definitions in this section need work.*]

4. Ensuring Effective Water Distribution

Note to reader: the team believes this section needs considerably more discussion. We attempted to interpret what was said in the last meeting below. Consider whether these ideas can be place under another category such as conservation.

Where water delivery systems are not effective in delivering water to intended users, steps should be taken to make the delivery system more effective.

1. Includes encouraging communities to retrofit neighborhoods with pressurized irrigation systems (where water rights exist) through incentive programs. Utilizing pressurized irrigation systems will create a benefit by encouraging use of surface water over expensive groundwater.
2. Where TV residents are paying an assessment to irrigation districts but not receiving the water due to lack of infrastructure, we recommend that the water be delivered to DCMI provider who treats it and uses it in their system. In this recommendation, the irrigation districts would still maintain the right. The residents are still paying their assessment (and there would need to be a mechanism to shut off the water to members of a subdivision who are not paying



their assessment). This would be a new source for DCMI providers, or a reallocation.

5. Cloud Seeding

Cloud seeding attempts to increase the amount of precipitation that falls from clouds by dispersing a substance, usually silver iodide, into the atmosphere to create ice nuclei, which is the basis for precipitation. Cloud seeding programs can use ground or airplane mechanisms to distribute the silver iodide into the atmosphere. Boise Project Board of control currently sponsors a cloud seeding program. Studies indicate that the expanding that program could provide additional water supplies for the Treasure Valley. here are opportunities for public or private partnerships with those entities currently engaged in cloud seeding to expand the existing program.

Because cloud seeding may enhance precipitation, its efficacy as a new source of water to add to the current sources of water in the Valley may be a tool to increase the reliability of available water. Any cloud seeding programs should incorporate consideration of the need for additional storage space in order to provide space to capture the additional supply. it is not recommended that these programs be given any increased priority for state funding. Nonetheless, the Board should continue to monitor and reconsider if this strategy should be implemented with state support every 5 years or as new information becomes available.

If the state implements cloud seeding projects in the future, it is recommended that projects should be:

- 1.8. Coordinated with storage and improved understanding of potential long-term environmental impacts.
- 1.9. Focused on areas where it is difficult to fill reservoirs (i.e. The Anderson Ranch reservoir often slow to fill. This reservoir relies on a small watershed and may benefit from the added precipitation that cloud seeding provides).
- 1.10. Clearly defined criteria for cloud seeding programs should be developed to protect from unforeseen events such as flooding.

6. Geothermal

Geothermal resources are an important source of inexpensive heat for the Boise area. The geothermal system is a sensitive resource which can be damaged. Good management is an essential component of overall aquifer management.

The task of providing a reliable source of water depends on the specific uses that require water. To the extent that geothermal resources remain an important source of water (in this case, it is diversion for heat instead of diversion for DCMI or



agriculture uses), the Board should avoid actions that interfere with or diminish the success of geothermal systems.

Future studies may suggest that potential storage opportunities exist where historic withdrawals have created space. The Board should investigate the feasibility of injecting colder water without affecting geothermal resources. [*This needs further discussion by the Committee.*]

[NOTE TO READER AND COMMITTEE MEMBERS: THE FACILITATION TEAM IS NOT ATTEMPTING TO PROVIDE CONTEXT FOR THE FOLLOWING SECTIONS UNTIL AFTER THE COMMITTEE HAS REFINED THE SUGGESTION ACTIONS AND CLARIFIED WHAT WAS INTENDED. AS WITH THE PREVIOUS SECTIONS, SOME OPTIONS NEED TO BE REVISED TO ADDRESS CAMP GOALS OR TO DEMONSTRATE A GREATER AND SPECIFIC LEVEL OF ACTION.]

7. Integrated land use and water planning Integrate land use planning with water planning/management (storage, distribution, recharge, etc.).

- (1) Reduce future demand per household through updated land use regulations, specifically landscape regulations, to include low-water use.
 - a. update State Plumbing Standards to include water efficiency standards
 - b. Incorporate incentives into land use regulations for implementation of low-water use.
- (2) Manage growth **and type of developments** through land use planning
Direct development to appropriate locations through land use to ensure recharge/other benefits
- (3) Floodplain/flood control management through land use planning
- (4) Ensure water companies/municipalities have a detailed water plan for management, storage, distribution, recharge, etc.
- (5) **Recommend that the Water Resources Board plan a regularly scheduled meeting to promote discussion of land use and water planning amongst local planners. Ensure Planning & Zoning Boards are aware of water conditions in area of interest. Manage how growth occurs in water demand i.e., can use land planning to reduce water demand. Local Planning agency approaches IDWR for info & IDWR provides it at meeting. (Also suited to Goal #2 Avoid Conflict)**
- (6) **Require water conservation plans for all water users. 8) Have the IWRB develop minimum water conservation guidelines or develop a template. 8) Map current water supply and infrastructure delivery areas and compare/evaluate in terms of projected land development to identify future infrastructure and water supply needs.**



- (7) This option will be monitored by a review at the municipal level as well as a biannual summit of planning orgs, water suppliers, & IDWR to review status of supply, demand, and plans.
- (8) Indicators of success on this option will be:
 - a. Availability of water in areas with proposed growth.
 - b. **Annual water usage per service unit and number of reporting entities.**
- (9) Enhance flood control.

8. Administrative and Legal

- (1) Use modeling and monitoring in anticipation of a call being placed on conjunctive management
- (2) Protect against claims from entities outside Idaho
- (3) **Improve definition of reasonable anticipated future needs.**
- (4) **Identify administrative or legal framework required for aquifer storage and recovery.**

9. Explore strategies for storage

- (1) Increase/manage surface water storage through new facilities or increase capacity of existing reservoirs via raising dam height
- (2) Optimize reservoir operations through increased/improved modeling/data/sensing/forecasting for more accurate releases– perhaps technical optimization
- (3) Buy water rights for reservoir water and use differently from ag to municipal
- (4) Recognize and adhere to contractual obligations of storage
- (5) Explore the feasibility of aquifer recharge and aquifer storage reservoirs
- (6) **Support completion of the USACE's Interim Feasibility Study. The issues of additional storage and flood control should adequately addressed as part of this study.**
- (7) **Encourage DCMI municipal providers to use ARR when and where appropriate (e.g., in SE/SW Boise for drought protection) and encourage Water Board to facilitate the process.**
- (8) Increase/manage surface water storage through new facilities or increase capacity of existing reservoirs via raising dam height ???????????
- (9) **Determine feasibility of using localized or regionalized (system) re-regulating reservoirs/ponds.** 7) Explore feasibility of smaller storage facilities located on tributaries below Lucky Peak Dam or small off-stream facilities.
8) Conduct comprehensive analysis of surface and groundwater storage options that examines all costs and benefits (negative and positive) to assist with decision making.
- (10) Enhanced flood control could be a byproduct of additional storage.



10. Protect and maintain (or improve) existing irrigated agriculture infrastructure

- (1) Use and improve/modify existing irrigation delivery system
 - a. To increase efficiency by utilizing automated headgates. This may have potential to free up water for the water market.
 - b. For recharge
- (2) Detailed evaluation of existing canal and drain infrastructure to accommodate increased usage for:
 - a. Recharge
 - b. New irrigated agriculture
 - c. Recreational opportunities – greenbelts, pathways, walking/biking along the canals.
- (3) Explore installation of fish screens.
- (4) This option has many legal constraints.
- (5) Ensure legal protection for access for maintenance and against encroachment.