



January 7th Meeting Summary For the Treasure Valley Comprehensive Aquifer Management Plan Advisory Committee (Meeting #9)

Meeting goals

1. Review the decisions made at the December 14 meeting.
2. Finish discussion to convert Options to Recommendations – Goal 1 Water Supply.
3. Hear presentations on Surface Water Quality, TMDLs and Reasonably Anticipated Future Needs
4. Assess the results the Goal 2 matrix – conflict prevention

List of Participants

Ron Abramovich	Kevin Decker	Brian Patton
Brent Adamson	Dave Dixon	Kathy Peter
Doug Amick	Gary Duspiva	Clinton Pline
Jamie Anderson	Allen Funkhouser	Jayson Ronk
Michelle Atkinson	Michael Fuss	Scott Rhead
Rex Barrie	Stephen Goodson	Lon Stewart
Gayle Batt	Matt Howard	Rick Ward
Ellen Berggren	Peter Anderson (for Chris Jones)	Paul Woods
Russ Dane	Bill Larson	

Attendance constitutes approximately 65% of the Advisory Committee.

Facilitators: Joseph McMahon, Daisy Patterson

IDWR: Helen Harrington and Neeley Miller

Welcome, Introductions, and Review of Agenda

The Facilitation Team, the Advisory Committee and the public observers all introduced themselves. Gail Batt has been appointed to the Legislature and has petitioned the Idaho Water Resources Board to appoint a replacement for on the CAMP Advisory Committee. She introduced her proposed replacement, Vern Case. Mr. Case will be considered by the IWRB as a temporary replacement at their upcoming meeting on January 21.

Joe McMahon and Daisy Patterson reviewed the meeting goals and agenda for the day. Due to a scheduling conflict, Interim Director Gary Spackman's presentation on Reasonably Anticipated Future Needs will be presented at the February Advisory Committee meeting. Also, because of agenda adjustments during this January meeting, ideas and dialogue from the Goal 2 Matrix, Preventing Conflict, will also be covered during the February meeting.



Committee dialogue: Developing a vision for CAMP recommendations

Building on the four CAMP goals developed by the Idaho Water Resource Board, the Advisory Committee discussed a vision¹ for CAMP in small groups. Each group delivered their ideas for a CAMP vision, and the full Committee drafted the following vision.

This is meant to be a draft and will be reviewed at future meetings.

“The vision of the Treasure Valley CAMP is to promote and protect Treasure Valley water resources through:

- Respect for Idaho water law and water rights
- A sustainable framework of collaboration, cooperation, and stewardship, and
- A commitment to ongoing research, data collection, and analysis.”

Committee dialogue: Developing a strategy for CAMP recommendations

During the October meeting, Helen Harrington presented three scenarios extracted from future demand projections in the IDWR (2006) BoR (2006) WRIME (2010) studies. The three scenarios corresponded with low, medium, and high designations.

The Committee built on this idea of scenarios and discussed other options for organizing or characterizing actions in a way that describes a strategy for CAMP recommendations. Along with using scenarios from projected demand, the Committee developed the following list of strategies for organizing the recommendations:

1. By water demand using:
 - a. Range of projected demand from studies?
 - b. New scenarios that the Committee develops?
 - c. Trends?
2. By phase of implementation/timing (like a Gantt chart)?
3. By cost of implementation?
4. By ease of/challenges to implementation?
5. By the Committee’s priority?
6. Through an implementation/technical committee? Or reconvening the Advisory Committee periodically?

¹ We used the following working definition: “Vision is a short, succinct, and inspiring statement of what the CAMP intends to achieve at some point in the future. Vision refers to the category of intentions that are broad, all-inclusive and forward-thinking.”



Presentation: TMDL and Water Quality

Michael McIntyre from Idaho Department of Environmental Quality delivered a presentation on total maximum daily load's and water quality impacts. The presentation will be posted on the IDWR Treasure Valley CAMP website in the documents section. Following the presentation, the following points were discussed.

McIntyre has seen an increase in effluent trading projects in the last 3-5 years. These projects can be a less expensive alternative to building infrastructure to process or manage effluent. IDEQ has guidelines for these projects. DEQ recently printed their Pollutant Trading Guidance: http://www.deq.idaho.gov/water/prog_issues/surface_water/pollutant_trading/overview.cfm#guidance

This guidance lays out how an entity would go about developing a pollutant trade if they were interested in pursuing one. It covers the basic elements and requirements that DEQ and EPA would need to approve a pollutant trade.

One Committee member asked how IDEQ determines priority for TMDL areas. DEQ is under a court agreed settlement to complete TMDL for a number of water bodies in Idaho. These settlement waters and others are in Category 5 of the draft 2010 Integrated Report (IR). You can also find these settlement waters in Appendix D. The draft IR is online: http://www.deq.idaho.gov/water/data_reports/surface_water/monitoring/2010_draft.cfm.

DEQ assigned high priority (a requirement of Clean Water Act) to the various Hydrologic Unit Code (HUC) these settlement waters fall into. You can find this prioritization (by HUC) in Appendix E. Other waters and their associated HUCs were assigned medium and low priority. These can also be found in Appendix E.

McIntyre explained that the proposed anti-degradation rule does not hold the standard to no degradation. The rule provides a test of social or economic justification. NPDS permits and TMDL's may look at these is if the proposed rule is approved.

IDEQ does quantify point-source discharge in terms of volume. Loads are determined through a calculation of concentration and flow.

Committee members discussed how they will know if what they're recommending is implementable given budget constraints, specifically, how often streams will be sampled. McIntyre described an aggressive reporting requirement for dischargers that is part of a larger monitoring requirement. IDEQ is partnering with other state and federal agencies to share sampling and other monitoring costs and increase efficiencies.



IDEQ does not currently have a strong volunteer sampling program in the Treasure Valley – though there is a large one in northern Idaho. IDEQ would support and encourage the development of a volunteer program, assuming the methods and the integrity of the methods are agreed on prior to data collection.

McIntyre made a distinction between pollution and pollutants. Flow alteration and habitat are considered “pollution” which is different than, for instance, bacteria and metals which constitutes “pollutants.”

Committee dialogue: Refining ideas from the Goal 1 Matrix

The Committee continued discussion on the ideas from the Goal 1 Matrix, specifically the options under the following categories:

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

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.

Because of time limitations, the Committee only started but did not have time to finish a conversation about storage. The Committee will discuss the following categories at the February meeting:

- Storage
- Agricultural infrastructure

Please see **Attachment 1** for the updated version of Goal 1 recommendations. This document is a working document and will be updated per Committee discussions at each meeting.

The discussion of storage was important in defining differing opinions and perspectives. When discussed among the four small groups and then reported, two (or perhaps more) principal perspectives were voiced:

1. Some believe that more storage space is needed, and should be the subject of a recommendation.
2. At least one group stated that their group believed that it was premature to make a recommendation on storage and that the best approach is to encourage the completion of the CoE storage study. Comments were that this study may not be complete for 5-6 years.

Storage is a complex issue, and the Committee agreed that the various aspects and implications of storage – both space and utilization of storage space – need further discussion.



Next Steps, Future Meeting Dates, Final Questions

Next steps.

The Committee will develop ideas regarding strategies for recommendations. The Committee will also think about how the CAMP can address the current list of conflicts on the Option 2 matrix, or how the list can be converted to a set of recommendations. The Committee will review the vision developed at this meeting and provide further input at the meeting in February.

Public Comment

There was no public comment at this meeting.

Future Advisory Committee Meeting Dates and Locations

- February 3 & 4 – USGS Conference Room for February 3, and 4th
- March 15 & 16 – Location TBD.

Please notice that the February meeting date has changed from a one-day meeting to a two-day meeting. Committee members requested to reserve two days in March; at the end of the February meeting, the Committee will determine if both days in March are necessary.



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}



#	Category of activity	Committee's rational for inclusion
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. The models should support CAMP recommendations on conjunctive administration and aquifer storage.
 - 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 or templates 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.*]

7. Promote responsible/sustainable growth and development through integrating land use and water planning.

Planning for a reliable water supply over the next 50 years necessitates an ample water supply in the Treasure Valley for those who depend on water resources. The integration of land use and water planning is essential for the future of the Treasure Valley aquifer, so water availability is not compromised as the population grows or as needs change. This plan recognizes the various jurisdictions that guide planning efforts, and encourages coordination so elements of land use planning and water management are not in conflict.

- (1) Reduce future demand per household through updated land use regulations and incentives, to encourage low-water use.
 - a. Support continued updating of state water efficiency standards and conservation guidelines (e.g., State Plumbing Standards)
 - b. Encourage landscape regulations that reduce water use.
- (2) 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)

- (3) 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. Infrastructure refers to groundwater supply, canals, wells, pressurized systems, municipal systems.
- (4) Promote floodplain/flood control management through land use planning.
- (5) Support current rules that require public water systems to have financial, technical, and managerial plans, as defined by Idaho law.
- (6) Encourage all water purveyors, beyond just the public water systems, to have a detailed water plan for management, storage, distribution, recharge, conservation, etc. *when planning for new development or new users on previously unirrigated land.*
 - a. For example, these plans could include direction to utilize systems that have re-regulation ponds to reduce water shortages during peak use.
- (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:
 - a. to review status of supply, demand, and plans,
 - b. encourage collaboration,
 - c. share information, and
 - d. identify trends.
- (8) Indicators of success on this option will be:
 - a. Availability of water in areas with proposed growth.
 - b. Comparative annual water usage per service unit and number of reporting entities.

8. Administrative and Legal

Idaho laws govern storage, allocation, and distribution of water. As this plan aims to ensure a reliable water supply for the next 50 years, the following tasks should be undertaken to plan for or develop new administrative and legal means to support water management.

- (1) The Department should develop the surface and groundwater model to show the interconnectivity of surface and groundwater usage. If conjunctive administration is necessary, the model should be developed in a way that is legally sufficient:
 - a. To allow the department to administer conjunctively during times of shortage.
 - b. To help avoid a call. As tensions rise between senior and junior users, the model could support early conflict resolution.
 - c. *Could be moved to or cross-referenced in the conflict section.*



- (2) Take steps to ensure that Idaho maintains its entitlement to... The Board should continue to monitor and take actions as needed in the future and promote wise use of water. *Needs to be discussed in the conflict section.*
- (3) Improve definition of reasonable anticipated future needs. *Needs to be discussed at the next meeting.*
- (4) Explore implications of using aquifer storage for regional benefit at specific, suitable locations.
- (5) Identify/investigate administrative or legal framework required for aquifer storage and recovery (ASR).

[The following topics need discussion at the February meeting.]

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 (*needs more discussion – may be deleted or moved.*)
- (4) Recognize and adhere to contractual obligations of storage
- (5) Explore the feasibility of aquifer recharge and aquifer storage reservoirs (*reference the recommendation in legal and administrative issues.*)
- (6) Support completion of the USACE's Feasibility Study. The issues of additional storage and flood control should be 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. (*reference the recommendation in legal and administrative issues.*)
- (8) 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.
- (9) Enhanced flood control could be a byproduct of additional storage.

The USACE feasibility study will not include raise of Anderson Ranch dam and taking water from Snake to put in Lake Lowell.



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.