



Meeting Summary For the Rathdrum Prairie Comprehensive Aquifer Management Plan Advisory Committee

DRAFT of 12 March 2010

On March 5, 2010, the Rathdrum Prairie CAMP Advisory Committee (AC) met for the third time. The AC met in the Community Room in the Coeur d'Alene Public Library and the Old City Council Chambers. The objectives of this meeting were to

1. Review and adopt the Advisory Committee ground rules.
2. Provide information and education about the technical aspects of the aquifer (Future Demand Study and expert panel Q&A).
3. Develop and refine goals/action items/potential recommendations regarding water supply.
4. Review, refine and seek preliminary agreement (subject to adjustment as this process continues) on action items regarding water supply.
5. Create a mid-term work plan (i.e., what will we accomplish in the next two – three meetings).

List of Participants

Advisory Committee

Chris Beck
Philip Cernera
Bruce Cyr
Andy Dunau
Bruce Howard
Allen Isaacson
Hal Keever
Kermit Kiebert
Paul Klatt
Kevin Lewis
Jim Markley
Alan Miller

Jon Mueller
Mike Neher
Todd Tondee
Ron Wilson
Ken Windram

IDWR/IWRB

Helen Harrington
Sandra Thiel
Bob Graham
Chuck Cuddy

Panel of Speakers

Jim Bartolino
Christian Petrich
Gary Stevens
Bob Haynes
Guy Gregory

Public

7 in attendance

Review and Adopt Ground Rules

The AC reviewed and adopted the ground rules governing the process of developing the CAMP. The Facilitation Team (FT) pointed out that there was one substantive change to prior versions of the ground rule – the provision dealing with alternates.

The FT explained that the new provision – which called for “designated observers” – was an attempt to address the interests of the AC to have alternates and the interests of the Idaho

Water Resources Board (IWRB) and to ensure consistent participation by the individuals formally appointed by the IWRB.

As written, the new provision was not acceptable to the AC. After a good discussion among the AC, IWRB, and IDWR, all participants agreed that each member of the AC should identify an alternate, with the expectation that AC members will minimize the use of alternates. As agreed, the alternates will sit at the table and participate in decision-making only when the formal member of the AC cannot attend a meeting. All the participants agreed to this provision contingent on its approval by the IWRB.

Bob Graham, a member of the IWRB, explained that the IWRB will need to consider whether alternates must be formally appointed by the IWRB – or whether the IWRB can simply endorse the new ground rule as agreed to by the participants.

The only other change to the ground rules is that the Kootenai County Aquifer Protection District will be added to the list of Ad Hoc Resource Network.

Public Comment

Burt Rohback, Chairman of the Aquifer Protection District, distributed copies of the recently released *Spokane Valley Rathdrum Prairie Aquifer Atlas*. He explained that the Atlas can be used to assist in policy making. It is also designed to appeal to younger individuals as well. The Atlas integrated data from the 2007 USGS study, and is being distributed through a variety of partners and informal venues, including via DEQ (Gary Stevens) and Panhandle Health (Dale Peck).

Discussion on Future Demand, Etc.

At the last AC meeting, the participants requested some time to discuss several scientific and technical issues with a panel of experts¹. To kick-start this dialogue, the FT distributed a document that captures questions or requests for information and education from the AC members. This list is a compilation of questions and requests beginning with the interviews in July 2009. The FT will continue to add to this list as questions and requests emerge; and will try to document which questions or requests have been addressed and where to find additional information.

After this short discussion, Christian Petrich provided an overview of the ongoing water demand study. Dr. Petrich works with SPF Water Engineering, which was hired by the Idaho Department of Water Resources to complete a study on the future demand for water in the Rathdrum Prairie aquifer -- which will provide valuable information to the AC as it develops recommendations for the CAMP. Dr. Petrich's PowerPoint® presentation is available at

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¹ In addition to Christian Petrich, other members of the expert panel included Jim Bartolino (USGS), Guy Gregory (Washington Department of Ecology), Gary Stevens (Idaho

www.idwr.idaho.gov/WaterBoard/WaterPlanning/CAMP/RP_CAMP/2010docs.htm. The full report is expected in April 2010.

Dr. Petrich explained that the future demand study is based on existing current water demand and projections of future demand. As documented in his slides (and no doubt his report), existing demand has been interpreted from existing water systems and water purveyors who shared data with the study team. The demand has been categorized into water use on a per capita basis, and divided into the following sectors: indoor residential, residential irrigation, commercial use, and agricultural irrigation.

As part of the future demand study, Dr. Petrich and his team is framing three different scenarios to explore future water demand (low, base and high)– each with three subscenarios (no conservation, moderate and aggressive conservation). These scenarios are based on the population growth, employment growth, and climate variability of areas over the aquifer – which includes parts of Bonner and Kootenai County. The model for these scenarios is driven in part by national economic trends because a portion of local economies is influenced by the national trends. The scenarios do not factor-in population growth in the tributary basins above the aquifer; rather, the scenarios current and future trends over the aquifer exclusively.

The following narrative is an attempt to capture the dominant themes or questions that emerged in response to Dr. Petrich’s presentation, and to which some of the other panel members responded.

➤ **Questions About the Model**

- Regarding the 6400 acres of land application of wastewater (from the JUB land application study), if there are alternate ways to use that water in residential areas in currently non-irrigation lands, that alternative application would reduce the overall consumptive use. That could replace other pumpage but may not make a large difference to the aquifer. Another issue was whether these grounds are double counted – and Christian said not.
- Several AC members questioned the percent of new construction that may be high-density construction in the future. This is significant because irrigation demand is a large driver of consumptive use, and higher density construction consumes less water than irrigation. Dr. Petrich will the variables the appropriate variables in his model so that the final product reflects the Advisory Committee discussion on this topic.
- Is the AC looking only at growth and development over the aquifer, or is it looking at the recharge areas as well? The question is how much of the growth will go up into the tributary areas in Bonner County. It is likely to be quite small according to Dr. Petrich.

Department of Environmental Quality) and Bob Haynes (Idaho Department of Water Resources).

➤ **Most Like Scenario and Its Impacts**

- According to Dr. Petrich, the mostly likely scenario for future growth is a medium level of population and employment growth, and the resulting amount of water demand will depend on degrees of conservation. When discussing conservation, both the method and the implementation rate influence the amount of water conserved.
- The largest demand and consumptive use is agricultural irrigation.
- Some of the land currently used for irrigated agriculture is likely to be needed for land application of treated wastewater.
- There is some uncertainty in identifying existing commercial and industrial use, but this is likely a relatively small portion of current and future use.

➤ **Carrying Capacity of the Region**

- Dr. Petrich explained that the future demand study does not project the carrying capacity of the region as a function of water.
- The carrying capacity of land, he said, is dependent on how you use water.
- In response, one AC members suggested the a more limiting factor to the carrying capacity of the land is the ability to treat and dispose of wastewater.

➤ **Concerns About Mining the Aquifer**

- What is the total consumptive use of water over the aquifer, and what does it mean to “mine” the aquifer? Given current weather conditions, there are one million acre-feet of water passing through the aquifer. Even with a build-out of the highest density, the future demand study only suggests that 10% of that water would be consumed.
- So, if we are not mining the aquifer as defined by water law in Idaho and Washington (which is pumping in excess of the reasonably anticipated average annual recharge), and it appears that we are a long way from that, what is the core water supply issue that should be addressed in the CAMP? How much more water would we need to use to start mining the aquifer?

➤ **Exporting Water**

- To what degree should the AC be concerned about exporting water out of the basin? Is there a risk of someone doing something that would consume lots of water coming from the aquifer? Do we have the right set of law and policies in place to prevent exporting?
- What are the limitations for applications for water rights to export water?
- Two factors affect this issue in the water right review process: (1) the question of “local public interest” and the public interest impact of the proposed water use; and (2) out-of-basin transfers trigger a specific review.
- What constitutes an out-of-basin transfer is a good question. Transferring water from Rathdrum Prairie to White Ranch is probably not out of basin because the drainage is back into the Rathdrum Prairie.
- The statute is designed to look at pumping water to areas where the discharge is not available back into the basin where the water is originally pumped.
- The risk of such transfers in the future is potentially high.

- The AC may want to consider a recommendation regarding water exportation.
- **Building in the Uplands**
- We can assume that for every 100,000 people that move to the area, some percentage of them will be developing in upland areas.
 - Whether it is 3% or 5% building in the upland, tributary areas, it's a very small number – according to Dr. Petrich.
 - Those bedrock areas don't have much space to irrigate, he explains. By the time the developer builds a pumping facility and conveys the water to where it is needed, the cost will start to be prohibitive.
 - A bigger problem might be the larger tributary valleys because there may be more room for development.
 - At the same time, most of those areas are located further north and will likely not see the density of development.
- **Water Storage**
- Would storage in the higher areas allow options to provide water in summer? The aquifer "bucket" fills every spring, according to the panel of experts. Rain in the summer goes to plants and does not impact the water table. One answer to the question regarding storage is that's difficult to build storage large enough to make a difference.
- **Concerns About Water Quality**
- What is the potential to contaminate the aquifer? What's the impact of growth and development to water quality in the aquifer and/or surface waters?
 - One AC member mentioned some concern about water quality in Hayden Lake.
- **Instream Flows Needs in the State of Washington**
- What is the like impact on water supply in the aquifer if Washington imposes instream flow requirements?
 - According to the panel of experts, the aquifer is so transmissive that when you pump from the aquifer, you're taking water from the river in a short amount of time.
 - So what are the likely minimum streamflows that will be set by the Washington DOE, and what is the likely impact on the aquifer?
 - Right now, according to the DOE expert, the River needs to hold 850 cfs at the Spokane Gauge, which is located in downtown Spokane. The 850 came from the Avista relicensing.
 - The 850 cfs is comprised of 600 cfs required to be released at the Post Falls Dam plus the 250 cfs is being added to the River downstream of Sullivan Road (from the aquifer).
 - This situation led one member of the expert panel to explain that if we make the assumption that Idaho continues on managing water without considering what happens in Washington, one person suggested that the federal court will ultimately determine who will get what water.

Small Group Work on Water Supply

After the panel discussion, the AC members split into two small groups to continue working on articulating goals for future water demand, generating options, and moving toward recommendations.

The following narrative provides a rough summary of the results of each small group. Between now and the next AC meeting, the FT will transform these ideas into a draft chapter on water supply.

GROUP 1

In the beginning of this session, this group reviewed the four CAMP goals as articulated by the IWRB:

1. Provide reliable sources of water, projecting 50 years into the future
2. Avoid conflict related to conjunctive management of surface and groundwater
3. Prioritize future state investments in water
4. Bridge the gaps between future water needs and supply

The participants made the following observations relative to these four goals:

- Is Goal 2 really about interstate conflict rather than conjunctive management?
- There is no gap in Idaho, the issue is the effect of pumping on instream flow. On that point, the group wondered what was the historic flow of the Spokane River. Did it dry up? Even if it did dry up, must we nonetheless respond now that losses are appearing.

Future water demand goals

1. Change “Maintain a sustainable aquifer (including the lake and river)” to “Manage a sustainable aquifer include lake and river.”
 - a. Relates to CAMP goals 1-4
 - b. Avoid mining the aquifer or prevent mining of the aquifer
 - c. A related goal is to protect existing water “rights” changed to water “uses.” This means that if we reduce to existing uses and someone needs new water, they can apply for new right.
2. Change “Allow reasonable growth” to “Allow reasonable growth consistent with local and State plans.” Note: local government should bear the responsibility to limit land usage.
 - a. Relates to CAMP goal 1
 - b. Balance this with goal 1 above
 - c. Explore the idea of creating a buffer between mining and periodic shortfalls
 - d. Action item: Promote conservation of water and education thereto.
 - e. Action item: Create conservation performance standards.
 - f. Action item: Support existing State plans for conservation.
 - g. Conservation is not “whether,” it’s a part of the future everywhere.

3. "Maintain stream flows in the Spokane River" should be changed to "Manage aquifer and streams flows at the State line and downstream"
 - a. Relates to CAMP goals 1, 2, and 4
 - b. A critical component of this goal is to clarify what role Idaho and/or other forces (e.g., geological) plays in influencing this.
 - c. For fairness, each State should be responsible for the effects of growth in its own boundaries.
 - d. Question: if water is released or pumping reduced in Idaho, would that in fact increase flow in Washington; or would the effect be very minimal?
 - e. Action items for inquiry: Where in the stream system is there a direct connect between the aquifer and stream?
 - f. Consideration: the States could set baselines, but what if climate change reduces flow – and that would adversely affect Idaho.
 - g. Concept for engagement: Idaho does not solve Washington's problems but should understand them.
 - h. Action item 3(c): Idaho could avoid future conflict with Washington by engaging in processes in which solutions are explored, first with joint educational efforts where Idaho invites or continues engagement on these issues and the technical components thereof.
4. Better understand the relationship between the aquifer and stream/river system
 - a. Relates to CAMP goals 1 and 2
 - b. Build on existing knowledge
 - c. Its critical to do this to meet the other goals articulated here.
 - d. Question: Where are the questions and problems about aquifer and stream interconnection (Idaho or Washington)? Don't we already sufficiently understand the aquifer? The Group thinks there are some shortfalls in knowledge.
 - e. Action or research item: Confirm the extent of the relationship between the aquifer and river regarding:
 - i. What if pumping were reduced or constrained in Idaho, would that in fact produce water in Washington?
 - ii. Run the SPF demand scenarios through the model
 - iii. Relocate pumping away from the river and see what the effects are.
5. Foster greater public awareness and understanding (of this whole set of issues and potential solutions)
 - a. Relates to CAMP goal 1
 - b. Action item: education about water conservation (links to Goal 2)
 - c. Action item: Interstate dialogue and education on disputes.
 - d. Action item: Local area education programs about reducing water usage, and preserving water quality. The water atlas is an example of this.
 - e. Develop and nurture collaboration between local governments; and between local governments and the State.
6. Change Goal 6 and merge it with Goal 2. Better link land and water decision-making systems (i.e., water purveyors, regulators, and land developers)

- a. Relates to CAMP goals 3 and 4
 - b. Action item: consider whether the linkage between water and land is the “public interest” component of water application reviews.
 - c. Action item: consider whether private wells should be permitted. The usage of these wells is not monitored yet these small wells are used for land development. Houses can be built without water and then a well is sought. This issue is very political.
 - d. Action item: consider developing a performance standard about how much land can be irrigated via a private well.
 - e. Action item: look at the collective/cumulative impact of private wells.
 - f. Action item: Consider whether at 5 acres or above, there should be a sewer system rather than septic systems.
7. Make detailed assessments of any large new draws on the aquifer (such as substantial developments of land, or large annexations).
- a. Action item: Use the model to assess impact of large new developments.
 - b. Action item: if new developments have impact, may require pumping locations to be where pumping effects are minimized.

The participants suggest that the following options or action items as presented in the Assessment for Rathdrum Prairie should be considered as recommendations: 1.2, 1.2, 2.1, 2.2, 2.4, 2.8, 2.10, 2.11, 3.2, and 3.5.

The participants also seemed to agree the primary issue that should be addressed by the CAMP is not water supply per se, but more specifically the dynamics and impact of discharge and pumping on stream flow downstream.

GROUP 2

This group also started with a discussion on “What are the goals related to the future water demand issue?” The participants agreed that the goals for this issue are:

- 1) Maintain a sustainable aquifer
- 2) Provide (reasonable) growth
- 3) Meet/sustain surface water (rivers & lakes) needs

The participants then turned to a discussion of how to meet these goals. The following narrative presents this information goal-by-goal.

- 1) Maintain a sustainable aquifer (specifically Rathdrum Prairie Aquifer)
 - a. Why? To provide reliable source of water for human and environment
 - b. Aquifer boundaries need to be defined in the plan
 - c. Sustainable means avoid mining or draw-down; mining means pumping greater than the reasonable expected annual future recharge
 - d. Actions or Options
 - i. Implement adopted GW plan
 - ii. Monitor/ assess condition of aquifer

- iii. Improve public understanding on aquifer conditions, water use, the water cycle, conservation, etc.

2) Provide for “Reasonable” Growth

- a. Why? To make the linkage clear, that land use and growth impact water supply and quality
- b. Question -- to what degree, if at all, should the CAMP provide guidance on land use and growth, or direct growth based on water availability
- c. Actions or Options
 - i. Better link land and water
 - 1. Foster interagency communication and cooperation
 - 2. Require stormwater permits, wastewater, conservation plans, transportation, - related to land development
 - 3. Improve how all those plans relate to land development
 - 4. Distinguish how municipal and sewer districts are different; water and sewer districts don’t have land use decision authority

3) Meet Surface Water Needs in Both Rivers and Lakes

- a. Withdrawing surface water above Post Falls has no significant impact on the aquifer (but it is calculable). Likewise, pumping water from aquifer has no measurable impact above Post Falls, but has an impact downstream
- b. Why?
 - i. Avoid jurisdictional conflicts by maintaining Spokane River instream flows
 - ii. Maintain Idaho lake levels
- c. Actions or Options
 - i. Return treated wastewater to system (don’t lose it to consumptive use)
 - ii. Maintain Coeur d’Alene lake to summertime high pool per FERC license
 - iii. Clarify instream flow needs and why
 - 1. For example, the flows at Barker road are wholly and singularly dependent on releases from Post Falls dam.

After the small groups completed their assignments, the full AC reconvened to discuss the findings of each group. The AC participants raised the following questions and issues during the discussion:

- How do you maintain/sustain the aquifer and provide for growth?
- Can reused or water or aquifer water be used for the purpose of plant/facility whose discharge is steam or evaporation resulting in a net loss to the aquifer? Does this group at some point want to make a recommendation about whether this is good, bad, or indifferent?
- The plan needs to maintain balance. For instance, there are times where a quality of life would be enhanced by increasing consumptive use (Like a park versus a parking

lot.) Reductions in consumptive use must take into account the tradeoffs with quality of life.

- Avista is putting 600 cfs over the dam. 950 cfs is sought between the dam and the state line – that references the IWRB minimum instream flow as set in 1992.
- What kinds of mechanisms are out there to manage bi-state resources? (A compact is just one example).

Review, Revise, and Adopt Criteria to Evaluate Options

After the discussion of the small group work, the FT distributed a list of criteria to evaluate options and formulate recommendations. The list of criteria is a compilation of ideas that have emerged over the past couple meetings.

As discussed by the participants, the criteria are meant to be considered during discussion of options or action items; a recommendation put forth by the AC does not need to meet every criteria.

The AC suggested several minor changes to the draft set of criteria and then adopted the criteria. The revised list of criteria is available upon request.

Agenda Topics for the Next Meeting

The AC identified the following topics to address at the April AC meeting:

- Review a draft Table of Contents for the CAMP to give everyone a sense of the final product we are trying to produce.
- Review, refine, and seek agreement on the chapter on water supply, which will be written by the FT based on the AC input and advice so far. This document will then serve as a single negotiating text – meaning that the AC conversation and recommendations will be directly incorporated into this single document, thereby focusing everyone’s attention in the same direction.
- Convene a panel discussion on aquifer protection or water quality, including potential TMDL levels. The AC identified the following people to serve as potential members of the panel – Bob Rohback of the Aquifer Protection District Board; Glen Rothrock and Gary Stevens of DEQ; Dale Chess of the CDA Tribes; and someone from Washington.
- Small group work on framing issues, generating options, and making recommendations on aquifer protection.
- Prior to the next meeting, the AC would like to have a modeler complete the following task:
 - Using the base USGS model, move near-stream pumpers on the Washington side and look at the impacts to stream flows.

- Using the base USGS models, put the Washington near-stream pumpers back in place and move a comparable group of wells in Idaho the same distance away from the river and look at impacts to stream flows.
- Use the two growth scenarios, 2b and 3a, move both sets of wells, and look at the impact to stream flows.
- Dr. Petrich suggested that a modeler come to the next meeting with maps that show pumping centers to provide a basis for upcoming discussions.

Future Meeting Dates and Suggested Topics for Meetings

April 16th - Discuss CAMP Table of Contents; review draft chapter on water supply; start working on water quality and aquifer protection

May 7th – Continue working on aquifer protection; start working on interstate Issues

June 4th – Continue working on interstate issues and complete work on other issues as needed

July 19th – Placeholder; the FT will use the month of July to complete a draft of the CAMP and to then seek input and advice from the AC

August 20th – Placeholder; continue with draft plan

September – Review, revise, and seek agreement on the draft CAMP

October – Convene a public meeting to seek input and advice on the draft CAMP

November – Review, revise, and seek agreement on a final CAMP based on public input and advice

AC Homework Prior Next Meeting

- AC members should identify an alternate and send that individual's contact information to the FT-- daisy@cnrep.org).
- Review the draft chapter on the water supply issue (forthcoming from Facilitation Team)