



## **Eastern Snake Plain Aquifer (ESPA) Comprehensive Aquifer Management Plan**

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### **Advisory Committee**

#### **Meeting Summary Thursday, September 25, 2008**

##### **1. Welcome, Introductions, Agenda Review and Meeting Note Finalization**

Jonathan Bartsch (CDR Associates) welcomed participants and reviewed the objectives of the meeting within the larger framework of the CAMP process. He underscored the importance of the meeting, particularly in light of the fact that the CAMP is to be finalized within a month's time. In October the Advisory Committee will be providing direction on the overall CAMP document and Phase I actions.

Corrections were made to page 6 of the August 28<sup>th</sup> Meeting Summary as follows:

- Clarification was sought on the meaning of the last bullet on the page. The phrase, "there is no one solution," means that there is no one action that is going to magically solve the challenges.
- Another phrase in the bullets was struck from the record.

##### **2. Presentation and Discussion: Report Back from Small Group Discussions**

A current summary of the Phase I implementation actions proposed by a sub-set of the Advisory Committee was presented by Jonathan Bartsch. The idea is to build institutional confidence with the long term plan by starting with a 250kaf to 300kaf change. It was noted that this is the attempt the group made to propose a series of actions, their potential locations and timing so as to give some sense about what is needed to achieve the desired hydrologic change.

Key points highlighted in the document are shared below:

- Every proposed action is a pilot program.
- Managed recharge would account for 80,000 af.
- Buy outs and buy downs would be anywhere in the ESPA. Only the subordination agreements would apply to the aquaculture reach (in Thousand Springs reach as well as across the ESPA).
- The cost is estimated to be \$100M, which is to be repaid over a 20-year period.
- The intent is to improve aquifer levels equally above and below American Falls.
- Includes an enhanced monitoring and evaluation system to build confidence in the institutional mechanisms.
- The scope of Phase II actions would be worked out in the next 1 to 5 years.

The individuals who participated in this small group that put this proposal together were then invited to share their perspectives and additions to the overview. They added the following points:

- We tried to take a look at what we felt like could be accomplished in a 1-5 year timeframe that would provide the most benefit for a practical amount of dollars. Everybody tried to be realistic about what could be done and what the community at large would embrace doing. I think have come up with a package that, if we get behind and work together to implement, will make a significant hydrological change on the Plain. While we can't quantify down to the cfs what is going to happen on a given reach, but we are going to see some change fairly soon. This is a fairly comprehensive package for a beginning point.
- Everything is opportunistic. We looked for 'low hanging fruit' (i.e., no hard or soft conversions). The key is when water available, use it. These are things we can do in a shorter period of time to get some actions on the ground.
- These Phase I actions provide an opportunity to get some things started. This would give us some momentum by getting us moving and we can learn a lot more and we can adapt once we get started.
- There are two routes can take. We can dig trenches deeper and not work together and hope the lawyers solve this. This has something for everybody.
- This is a good place to start. It will build momentum. It will build support. The process has to be adapted and adjusted as you go along. If this shows some benefit to people around the table, it will subsequently create enthusiasm here and at the legislature.
- I would like to see this group (the Advisory Committee) get together make any final changes so we can go to the legislature.
- There is nothing in this Phase I plan that hasn't been done on a small scale. We are not inventing something new, but rather expanding what we've been doing on a small scale.
- Given were we are now with our 17 months worth of discussions and where we need to go to better manage the aquifer, I support this. This is a good basis for moving forward. Many of the spring users are working on reduced water rights. Some spring users now have dry springs. For them to embrace paying to participate is a tough sell. This likely the case for all of us. I know that I have work to do to convince constituents. We have a commitment from the IDWR to do some technical truthing. We need to make sure the plan is consistent with the legislative resolution that started this process. I support the effort. Hopefully will be able to get everyone on board.

- I have been in this business for over 25 years and the process of coming to this point and the opportunity in the past week has been one of the highlights of the things I have been involved in because the people came in honestly, sincerely to try to resolve some difficult issues. This has been going on for a long time. It is important to move on. We need to take a step forward. This is achievable. We need the willingness, resources, and motivation to get it going forward. While there are some details we don't know, I trust we will work out them out as we implement this effort. This gives us some help collectively as a state and as individuals so we can move ahead doing the business that we do and work together in a way that we all can feel comfortable with. In reality, some of the areas where we have failed in the past is in building an overall consensus and support at the level of the people who are going to be engaged in implementation of whatever program that the state adopts. So, this has real hope and real teeth in it. We are not talking about an insignificant amount of water. We will see some meaningful changes. It is distributed enough so there is something for just about everybody. Will find more opportunity as we get started.

Following this round of input from the sub-group, observations and comments were invited from the wider Advisory Committee. Issues and concerns that were raised in reaction to the proposed Phase I Actions are summarized here.

Suggested Points to Include in Phase I:

- Municipal and Industrial Growth.*** A concern was expressed that this seems to achieve a water savings that supports an agricultural status quo. Should include a statement about incorporating smart growth principles in the development of water supplies.
- Streamlining Rules.*** One part is not included in the draft is IDWR rule changes and legislative changes that might be needed to streamline the process for municipal water rights.
- Availability of Water.*** Knowing what the limits are is critical.
- Including other interests in the plan.*** Looking for some suggestions to how to include some of the other interests into the plan.
- List funding sources and describe repayment plan.*** List of sources of funding—and the system of repaying.
- Incidental Recharge.*** Pursue incentives for incidental recharge. Recognize the value of existing incidental recharge

Overall Comments/Questions:

*Comments:*

- We are further ahead than I expected us to be. We should be proud. This is an achievement.
- One way to look at this is as low hanging fruit. It describes what can we do that will have most hydrological effects at the cheapest cost that is acceptable to folks around the table.
- The example of cooperation in the southwest of Idaho is a useful example of how to begin.
- A list of who in the subgroup will be included in these notes.
- In respect to domestic well users in rural areas who don't depend on water from a municipality, it is important for those people to be assured of enough water to pump. The majority of those not involved in agriculture. This would be a valuable income for those domestic users outside of incorporated cities.
- The goal of moving to 600 af change and start with something smaller that is piloted. Once we start to change mindsets from litigation and scarcity to aquifer management, once we make that shift in terms of developing relationships, trust, and a common set of interdependences, there is a hope/aspiration to do something different. We are going to take specific actions to keep that moving forward.
- Incidental recharge is important to the city of Twin Falls. In some places incidental recharge doesn't do any good. In some cases would be beneficial. Any time we can keep natural flows up, that will help storage above Milner. These benefits should be quantified.. Everyone in river reach has to agree and have the benefits shared.
- The intent is to improve aquifer levels, river reaches and spring flows. We are describing a series of realistically aggressive pilot projects. There is going to be a lot of work in outlining details and looking at hydrologic effects.
- We need to balance level of detail with the concept of a place to start going to adaptively manage these pilot programs.

**Questions:**

Q: *Is this a bond? Or go as we pay? Is this to be divided among user groups whom are going to be the beneficiaries of this hydrologic change?*

A: This is a 100M\$ bond to be paid back over 20 years. We need input from the full committee on how that should happen. We think it is a reasonable request to make on the Sate. Issues on the ESPA are not unique to this aquifer. These problems are manifesting themselves in the Treasure Valley. This could be a model for other areas. We talked for several hours on how to divide up the cost. We need to get feedback from people/constituents before putting amounts out there.

Q: *What components of this plan could be tailored to meet the needs of fish and wildlife?*

There is a potential for funding from the environmental interests. An example is the CREP. TNC has some money for streamflow enhancement that might be helpful. Use of funds for agreements that keep water in-stream, especially with EPA announcing more funds into fish and wildlife in the next four years. Putting some flesh into the plan would help that potential funding effort.

Q: *Would Phase II require obtaining an additional bond?*

There is an overall goal of a 600kaf change. We don't know what Phase II will look like or cost, but Phase II will not happen if we can't get started with Phase I. The suggestion is to begin with Phase I and get a CAMP Implementation Committee to define where we head within 5 to 10 years. This has to be incremental. We can still have

Q: *Are we going to start a group to try to tap into farm bill \$\$--anyone from this committee to participate? Do we want to add that money onto CREP or soft conversions? Are the recommendations only going to be for ESPA? Galloway on the Weizer?*

Soft conversions—rose to top of list of priorities for a variety of reasons.

Q: *There is a technical problem in the managed recharge, as the recharge site at Lake Walcott has positive impacts. Lake Walcott is downstream considerably from American Falls and I don't think a recharge site near Walcott would affect springs above American Falls, as it has nothing to do with spring flows at American Falls.*

A: The model does show that an effect. It is a pressure issue.

## Next Steps

- 1) A small group of the land use and municipal interests is to meet and propose language to incorporate regarding municipal and industrial growth.
- 2) Will Whelan will consult with some of the agencies to understand the hydrologic effects and water sources to get a picture of what it might mean for surface water. Will believes that if get into individual buy-downs, there could be some great opportunities for environmental enhancement. At the next meeting, he will share proposed language for inclusion of environmental considerations for the committee's review.
- 3) This document will be revised with input from some of the other interests at the table.

Jonathan Bartsch closed by asking, “*Given the caveats, given what we’ve heard, are we headed in the right direction? Are we headed on the right track?*” All committee members gave a ‘thumbs up’. Bartsch congratulated the Committee on achieving this milestone.

### **3. Discussion: Draft CAMP Recommendations**

Jonathan Bartsch presented some of the potential CAMP recommendations for discussion. He also reviewed the initial recommendations to the legislature in 2008, included the study of Minidoka Dam enlargement, voluntary demand reductions and recharge. The management options examined were outlined, including

- Managed and incidental recharge
- Groundwater to surface water conversions (hard and soft)
- Demand Reduction Strategies
  - *Conservation Reserve Enhancement Program*
  - *Dry-year leasing*
  - *Crop mix (incentives to plant low-water use crops)*
  - *Buy-outs and subordination agreements*
  - *Water conservation measures*
- Additional surface water storage
- Weather modification
- Below Milner Dam salmon flow augmentation

Bartsch reminded participants of the three packages that were developed: 1) Small (300 KAF) least expensive and quickest to implement; 2) Medium (600 KAF) more expensive and takes more time to fully implement and 3) Large (900 KAF) most expensive and will take decades to fully implement. Discussions focused on the initial camp recommendations, as described in the subsequent five points.

**1) A *CAMP* implementation committee.**

It is suggested that the Advisory Committee would refocus its role and would have oversight to implement, monitor and raise funds. The committee would include representatives of water users that represents broader constituencies and would work with the board staff. It would act as an accountability and involvement measure.

The sub-group would like feedback from the larger committee regarding how formal such a committee should be—whether formalized as a district or act as a more informal committee and the degree of decision-making authority such a group would have. At least one committee member believes this falls outside of the Committee’s scope, but does not have major objections to the proposed implementation committee. All other Advisory Committee members do not have any objections to this concept. It was suggested that the group look at the INL oversight committee as a useful model.

**2) Incidental recharge:** Will include suggested language of “recognizing value of existing recharge as a part of Phase I.”

**3) Integrating other considerations.**

This was discussed in light of incorporating environmental interests on the committee, and it was noted that the integration of other interests—including the environmental community—is important.

**4) Outreach & Education**

It was explained that there will be a series of public meetings for the rollout of the *CAMP*. Beyond that, there is an outreach and education component that could include such activities as PSAs, messaging to domestic water users, literature about water-saving measures and information could be released in water bills.

Discussion points about outreach and education are summarized below.

- The Committee decided that it would not pursue the possibility of a film being made about this process.
- The Water Board’s Public Information Officer can play an important role in getting information out to the public.
- The DEQ can share with the Board the education component of its water quality plan.

**5) ESPA Clearinghouse**

In previous meetings, a mitigation bank of some sort was discussed. This would allow parties to get together to coordinate interests on a particular project and then generate funds.

The related discussion points are summarized here:

- It was noted that it doesn't have to be 'willing buyers and sellers'—it more about serving multiple participants—willing participants in water management projects.
- This would work within traditional water bank and water pool system.
- Would create real water for different purposes for each participant.
- Maybe the term 'water bank' is the problem. Proposes term 'clearinghouse.'

#### **4. Clouding Seed Feasibility Report**

Results of a cloud seeding feasibility study were presented by Don A. Griffith, Certified Consulting Meteorologist. North American Weather Consultants was awarded a contract from the Idaho Water Resources Board last fall to assess the viability of cloud seeding in the Eastern Snake Plane Aquifer.

The study looked at wind information available from weather balloon launches in Boise and Salt Lake City in storm periods affecting the areas in the north and the east of the area. Specifically, the study assessed the direction, strength of winds and found that during storm periods, wind comes right out of the west 35% of the time. The east area is almost identical to the north area, with storms occurring in the north area in the east area 40% of the time. There is not a big overlap in storms affecting the north and storms affecting the east, which surprised the researchers.

Storms at 10,000 feet in elevation are important to understand as Silver Iodine released at a mountain top of 10,000 ft, with cold enough weather, there is a, pretty good chance in getting some precipitation. This is the case in this region, particularly from November through March/April. Stabilities in clouds, storms were also studied and it was determined that some seeding material could be trapped in inversion layers in some months.

For the ESPA, North American Weather Consultants suggest using silver iodide as a seeding agent, as it operates at the highest temperatures; is not soluble in water; and doesn't accumulate in water supplies. Additionally, only a minute amount is used, so it does not present environmental concerns. The release of the silver iodide would be managed through ground-based equipment (generators) located in the foothills with the agreement of households who agree to turn on and off as needed. Alternatively, remote equipment could be controlled from a central location.

Overall, it was determined that weather modification through cloud seeding is a viable option for the ESPA. Specific recommendations were:

- 1) The stated goal of the program is to increase winter snowpack in the target areas to provide additional spring and summer streamflow and recharge under-ground aquifers at a favorable benefit/cost ratio, without the creation of any significant negative environmental impacts.
- 2) The target area will be those areas in Bonneville, Clark, Fremont and Madison Counties that lie above 6,500 feet (2.0 km), which are tributaries to the Snake River.
- 3) The primary operational period will be November through March.
- 4) Silver iodide will be the seeding agent
- 5) A “core program” of lower elevation ground based generators is recommended, This core program could be supplemented by a seeding aircraft equipped with acetone/silver iodide generators if the estimated benefits constitute an acceptable multiple of the estimated costs to utilize this additional seeding mode.
- 6) Evaluations of the effectiveness of the cloud seeding program would be based upon historical target and control techniques
- 7) Qualified/experienced meteorologists should direct the seeding operations.

#### Discussion Points

- The study looked at some low elevation winds and found that wind almost always out of the south at the surface. Sometimes get winds out of the northwest and some out of the south but predominantly covering from west to east.
- Might want to consider a data collection at a ski area or a microwave.
- Seeding criteria established is important-valid suspension criteria
- At some point may not have conclusive proof that it is working in the short term but there are techniques you can use like a target and control evaluation to show you that you’re on the right track.
- This does not involve taking water from someone else—increasing precipitation downwind of intended target areas.
- The process for initiating a cloud seeding program requires filing a permit with the State of Idaho. It is actually a simple process. It is a good idea to claim insurance.

- Based on history, two areas with similar topography can predict with a high degree of confidence the likelihood of increase of precipitation/yield can compare to a control area. A 5% increase yields almost an additional inch of water
- It is hard to determine the bottom line impact on streamflow, as it has not been easy to find streamflow measurements that can be used to assess the potential of impact of cloud seeding.
- Used the historical record for Willow Creek and it turned out that if have a 4% increase in snow water, that results in an 8% increase in streamflow. Would like to be able to extrapolate to whole area.
- Did a study in Utah—estimated increase in 250,000 a/f at a cost of about \$1 per acre foot. Now that cost might be 1.5 dollars.
- The control areas were tested from December to March from 1997 to 2007.
- In terms of interstate cooperation, cloud seeding cannot be done in Montana without meeting stringent requirements. On the Wyoming side, should look into potential for collaboration in southwest Wyoming.
- A program like this would likely use 30 to 50 pounds of Iodide per operation, so up to 100 pounds over a million acres for 40 to 50 generators.
- Iodide particles travel along with winds and traverse mountains in about an hour or more.
- Why looking at nothing below 6500 feet? The study could look at the month of August, which is generally a wet month in the region. This is a separate issue and would be worthwhile investing.
- Because of the low concentrations of silver iodide released, there are not impacts on human health.

#### Cloud Seeding Pilot Project: Next Steps

Jim Tucker of Idaho Power explained that the IDWR had approached it to see whether it would participate in supporting a weather modification pilot project in the Upper Snake, as it has in the Payette. He shared with the group that Idaho Power would be willing to initiate a pilot weather modification project in cooperation with the Department the Upper Snake. Idaho Power has technical people on the ground and has generators. In conjunction with the consultant could start the pilot this year. The Committee supports this initiative being pursued between Idaho Power and the Department.

## **5. Education and Outreach Effort for the CAMP**

Public meetings will be held in early December. Potential locations include Pocatello/Blackfoot, Twin Falls and Idaho Falls<sup>1</sup>. These meetings will be hosted and run by the Board. It is expected that representatives from each of the interest groups would participate and talk about the process that was used to develop the CAMP. The meeting format will include a presentation outlining the process and outcomes, discussion, and a recording of public comments.

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<sup>1</sup> Specific venues that might be appropriate include Idaho State University, CSI, and University of Idaho at Idaho Falls.

## **6. Next steps, Schedule and Other Items**

The Phase I Implementation Plan will be refined and the funding piece will be worked through to develop a funding proposal. A revised draft and an initial introduction to the CAMP will be put together. This will outline the recommendations with placeholders for gaps.

There will be an expanded small group meeting on the 10<sup>th</sup> of October, with representatives of municipalities and fish& wildlife present. The next Advisory Committee meeting will be held in Idaho Falls on the 30<sup>th</sup> of October.

## List of Participants

<b>PARTICIPANT</b>	<b>AFFILIATION</b>
Albert Lockwood	Northside CC
Alex LaBeau	IACI
Barry Burnell	IDEQ
Brian Olmstead	Twin Falls cc.
Clarice Villa	Sho-Ban Tribes TWRC
Dave Parrish	Idaho Fish & Game
Dean Stevenson	WD 130-140
Don Parker	WD 110
George Katscones	Domestic Water Users
Hal Anderson	IDWR
Harriet Hansley	AG office
Jared Fuhriman	City of Idaho Falls
Jeff Raybould	FMID-Surface Water
Jennifer Graham	CDR Associates
Jim Tucker	IPC
Joe Kaufman	Water District 1
Jonathan Bartsch	CDR Associates
Kim Goodman Trotter	TU
Lance W. Clow	City of Twin Falls
Linda Lemmon	TSWUA/IAA
Lloyd Hicks	Great Feeder/Burgess Canal
Lynn Tommaga	16W1
Matt Howard	Reclamation
Peter Anderson	Trout Unlimited
Randy Bingham	BID
Randy MacMillan	Clear Springs Foods
Rebecca Casper	Land Development Interests
Rich Rigby	USBR
Roger Chase	City of Pocatello
Roy Mink	
Scott Clawson	WA 110-100
Stan Clark	EIWKC
Steve Howser	ASCC
Will Whelan	TNC