ESPA Comprehensive Aquifer Management Plan

Facilitation of a Framework for Presentation to the 2007 Idaho Legislature

Public Meeting Presentation by CDR Associates

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January 16, 17 and 18, 2007

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Agenda

- ESPA Overview and Framework Process
- Framework Components
  - Goal and Objectives
  - Funding Principles
  - Management Alternatives
  - Interim Measures
  - Comprehensive Management Plan Process
- Public Comment and Discussion

Meeting Goals

- Provide overview of ESPA and Framework Process
- Discuss Framework Components
  - Goal and Objectives
  - Funding Principles
  - Management Alternatives
  - Interim Measures
  - Next Steps – Comprehensive Management Process
- Receive Public Input

Why this Process?

- Senate Concurrent Resolution 136
  - "These (disputing) parties are negotiating a framework for settlement that makes it critical that the State of Idaho Water Resource Board establish public policy with regard to the future management of the aquifer system"
- First phase – develop a Framework and present to 2007 Legislature
- Second phase – Comprehensive Aquifer Management Plan

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Overview of the ESPA

- Located within the Upper Snake River Basin
  - The Upper Snake River Basin encompasses all or part of 20 counties, and approximately 35% of Idaho's land area (29,000 square miles)
- The Eastern Snake River Plain Aquifer (ESPA) underlies approximately 10,000 square miles, or 13% of the State of Idaho

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Aquifer Characteristics

- Layered basalt, thousands of feet thick in some places
- General direction of ground water flow: northeast to southwest
- Hydraulically connected to the river
- Two major aquifer discharge areas:
  - American Falls (about 2 MAF/yr)
  - Thousand Springs (about 4 MAF/yr)

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What Recharges the Aquifer?

- Direct precipitation
- Underflow from tributary basins
- Seepage from streams overlying the aquifer
- Leakage from canals
- Deep percolation of excess irrigation water

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Who Uses the Aquifer?

- Municipal and domestic water wells
- Agriculture – irrigation with groundwater
- Agriculture – irrigation with surface water that is fed by spring discharge into river
- Springs – aquaculture and other uses
- Commercial/Industrial wells
- Tourism – “Thousand Springs” and other attractions
- Wildlife/environmental benefits

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Why Manage the Aquifer?

- Water availability varies, but demand stays relatively constant
- Shortage in available water for some users
  - Example: Decline in spring flows in the Thousand Springs reach

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Overview of the Framework Process

- Project Launch in August 2006
- Initial interviews in September
- Public meetings in October
- Management Alternatives Working Group in November and December
- Facilitation team drafts Framework and solicits with stakeholder input in January 2007
- Public meetings in January to get response and comment
- Presentation to Legislature in February 2007

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Link to Decision Making

- Framework decisions
  - Identify goals and alternatives
  - Outline management alternatives
  - Funding strategies and fee structure
  - Interim implementation measures
- Decision makers – the Board

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Draft Goal and Objectives

Criteria for Goal and Objectives

Goal(s) for management of the ESPA should:

- Be realistic and achievable
- Be measurable by objective standards
- Actually "solve the problem"
  - Less litigation
  - Greater predictability
  - Better outcomes for water users
- Be consistent with state law and statute

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Draft ESPA Goal

Maintain the economic viability and social and environmental health of the Eastern Snake Plain by **achieving and sustaining a balance between water use and supplies**

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Draft Objectives

Supporting this goal are several possible objectives:

- Objective A: Increase recharge to the aquifer
- Objective B: Reduce withdrawals from the aquifer
- Objective C: Decrease overall demand for water within the Eastern Snake Plain
- Objective D: Increase predictability for water users by managing for reliable supply
- Objective E: Create alternatives to administrative curtailment

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Management Alternative Funding

Principles, Needs and Options

Stakeholder Funding Principles

- No one subset of water users should bear the entire burden of paying for management alternatives.
- The distribution of “who pays what” should be equitable.
- Everyone who benefits from ESPA management should be part of the funding solution.

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Stakeholder Funding Principles

- Some funding should come from statewide sources, and some from Eastern Snake area sources.
- Many different mechanisms should be used together to gather the necessary resources.
- Funds raised should be clearly identified for specific activities that “solve the issue” and not merely provide temporary fixes.

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Funding Needs

- Management alternative implementation, including feasibility analysis, engineering, and construction; purchase of water rights, etc.
- Ongoing refinements to the ESPA groundwater model to support analysis for management purposes
- Additional funding for IDWR for ongoing monitoring and administration of management plan on behalf of the Board

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Funding Options

Dedicated funding sources:

- Portion of statewide sales tax for a “water fund” to be used where it is needed across the state
- Per acre or acre-foot levy for groundwater users and surface water irrigation users
- Per well fee for domestic well users in the ESPA
- Surcharge for municipal customers
- Transferable conservation tax credit

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Funding Options

Temporary funding sources:

- State government surplus or severance tax
- Temporary per well fee for domestic well users, per acre/acre-foot levy for irrigation water users, or surcharge for municipal customers

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Funding Options - Possible Board Actions

- Work with the Governor and Legislature to determine what funding principles are most acceptable
- Recommend to the legislature funding principles and wait for legislative feedback
- Recommend and begin to pursue dedicated source(s) of funding
  - Sales tax increase? Per-head water tax? Creation of a conservancy district?
- Request legislative funding for 2007/2008 to support the CAMP process and interim measures
- Combination or other?

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Management Alternatives

Alternatives that Increase Supply, Reduce Withdrawals and Decrease Demand

Alternatives to Increase Supply

Managed Recharge, Incidental Recharge, Site-Specific Augmentation, Increased Storage

Managed Recharge

- Intentional placement of water on designated recharge sites for the purpose of causing that water to infiltrate into the underground aquifer.
- Recharge temporarily stores excess surface water in the aquifer, allowing that water to re-emerge as spring flow at a later date.

Managed Recharge

- Factors that influence the efficiency, effectiveness, and cost of managed recharge:
  - Source of recharge water
    - Recharge rights
    - Water from rental pool
    - Water quality considerations
    - Effects from other agreements/operations
  - Targeting recharge benefits
  - Incentives to participate

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Source of Recharge Water

- Recharge rights held by the Board provide a no-cost source of water
  - Only use when rights are in priority
- Recharge sites use existing canal systems that have capacity limitations
- Purchase of recharge water from rental pool increases water available and raises cost of recharge

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Possible Board Actions

- Pursue a large-scale managed recharge program
- Use Board-approved studies to refine cost estimates and potential benefit from large-scale managed recharge

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Incidental Recharge

- Incidental recharge occurs when the normal operations results in infiltration that contributes to water levels in the aquifer
- Experts estimate that incidental recharge accounts for a significant amount of the water entering the aquifer today

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Incidental Recharge Factors

- Incidental recharge is difficult to document and quantify
- Additionally, it is difficult to know exactly how much water lost to seepage ends up in the aquifer.
- From a water delivery perspective, water that seeps from the bottom of the canals is wasted. However, that “waste” is “gain” for the aquifer.

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Incidental Recharge Possible Board Actions

- Quantify and develop an understanding of the role of incidental recharge in the ESPA during development of the CAMP.
- Investigate and develop a proposal for the use of incentives or other strategies to manage levels of incidental recharge

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Site-Specific Augmentation

- Some conflict in the Eastern Snake River Basin originates with senior water rights that have not had sufficient water.
- If water uses can tolerate a different source of water, an option for meeting demand in the short term may be augmenting supply on a case-by-case basis.

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Site-Specific Supply Augmentation Potential Board Actions

- As a solution to shortages, explore site-specific supply augmentation opportunities during the CAMP development process.
- Recognized that site-specific supply augmentation will provide only temporary relief, and apply to a limited number of cases

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Increase Storage

- Some stakeholders advocated examining additional storage as a means to increase supply – both small scale and large scale facilities
- Significant cost and environmental analysis would be required

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Increase Storage
Possible Board Actions

- Do not explore additional surface water storage as a part of the CAMP
- Don’t look at additional storage as a part of the CAMP, but include in next State Water Plan
- Explore storage opportunities in the CAMP – Seek funding separately from other management alternatives
- Explore storage opportunities in the CAMP, and seek funding additional storage facilities along with funding for other management alternatives.

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Alternatives to Reduce Withdrawals from the Aquifer

CREP, Groundwater to Surface Water Conversions

Conservation Reserve Enhancement Program (CREP)

- The Federal Farm Service Agency (FSA) and Idaho Soil Conservation Commission (SCC) launched Conservation Reserve Enhancement Program (CREP) in 2006.
- The Federal Commodity Credit Corporation funds to conserve water and improve wildlife habitat. The state must contribute 20% of program cost in cash or in-kind services.
- Provides payments to land owners in exchange for a 14 or 15 year contract under which the land owner commits to not irrigate or farm the land, and establish suitable grassland cover.

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Current Limitations to Enrollment

- Only 25% of the farm acreage in each county may enroll in a Federally-funded conservation program.
- Limit on the payout any individual farmer may receive from conservation programs in any one year of $50,000.
- Unless ground is within a “priority area”, it must be designated as “highly erodable” to be eligible for CREP.
- CREP requires that every acre to be enrolled must have been planted at least once in the past 4-6 years.
- Case-specific limitations.

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Reasons for Low Enrollment in CREP

- Value of keeping land in production is greater than the amount the CREP payments and state incentive payments.
- Farmers need to maintain large tracts to make farming economically viable, and cannot afford to put a portion of their land out of production.
- A 15 year commitment limits flexibility – anyone opting out of the CREP program must repay all benefits received in one lump some (including a purchaser of CREP-enrolled acreage)
- Land is within a county where the combined 25% CREP/CRP cap has been reached.

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CREP Possible Board Actions

- Investigate ways to transition temporary acreage retirement under CREP permanent to reduce groundwater pumping past the 15 year CREP period.
- Increase the state incentive payments
- Negotiate changes to the program with FSA that could increase enrollment.
  - Increase the extent of “priority areas”
  - Raise 25% ceiling in certain counties
  - Develop a protocol for dealing with land that uses both surface water and groundwater provide certainty that water consumption from surface water will not increase.

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Groundwater to Surface Water Conversions

- Conversions of groundwater to surface water use, and no longer pump from the aquifer.
- Reduce depletions to groundwater resources and possibly increased incidental recharge
- Require significant infrastructure investment

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GW to SW Conversions Factors

- The capacity of the existing canal systems limits the amount of water that can be delivered to converted acres
- Opportunities to pursue canal system modifications (on-line re-regulatory storage) or part-time surface water delivery, with reliance on groundwater during peak times
- Without re-engineering of canal systems, stakeholders believe mainly small, location-specific conversion opportunities exist in the service areas of canal companies

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GW to SW Conversions Possible Board Actions

- Identify specific opportunities and develop cost estimates for full or part-time conversion from ground to surface water in the CAMP process

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Administrative Curtailment

- Administrative Curtailment is the role of the Idaho Department of Water Resources not the Board
- During Framework process many stakeholders expressed strong and varied interests regarding the role of administrative curtailment in Framework

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Alternatives to Reduce Overall Demand for Water

Buyouts or Buy-downs

Buyouts or Buy-downs

- Buying down select water rights, or buying out some rights and transferring remaining water to others, may help reduce the need for these water rights holders to seek administrative remedies for their decline in supply

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Buyouts or Buy-downs Potential Board Actions

- Pursue reductions in water demands through buyouts or buy-downs
- The CAMP should outline criteria and decision triggers for the state when deciding where to reduce demand

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Interim Measures

Interim Measures - Recharge in 2007

- Pursue recharge as an activity that the Board could undertake, using existing facilities and available water, while the CAMP is being developed.

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Interim Measure – Recharge Guidelines

- Use natural flow (not storage water) – spring snow melt and run-off period is the time most likely to have Board recharge rights in priority
- Perform recharge activities prior to the start of the irrigation season
- Measure water diverted and water delivered to recharge sites
- Use existing canal systems for transmission
- Deliver water to approved recharge sites or use canals for recharge

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Interim Measure – Recharge Required Actions

- Develop contracts with canal companies for transmission of Board water to recharge sites in advance of spring runoff
  - Issue an RFP to solicit bids from potential recharge providers
  - Contracts will provide for fixed costs and per acre-foot recharge
- Allocate Board financial resources for spring recharge costs
- Bank recharge rights to allow diversion when in priority

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Interim Measure - CREP

Pursue actions to increase enrollment including:

- Negotiate with FSA for changes
- Develop a protocol for dealing with land that uses both surface water and groundwater
- Seek resources for an increase in state incentive payments
- Work with IDWR to examine case-specific exceptions to state enrollment criteria
- Work to explore opportunities to correct misconceptions

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Process Recommendations for Development of the Comprehensive Aquifer Management Plan

Strategic Considerations

- People support what they helped create
  - Meaningful public involvement
- Stakeholders want results they can see
- ESPA issues are technically complex

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Recommended Process

CAMP Advisory Committee

- Make recommendations to the Board
- No more than 30 members
  - Representative of all stakeholder groups, governmental entities and geographic perspectives
- Meetings will be public
- Technical sub-committee

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Discussion Questions

What comments and concerns do you have regarding:

- The draft Goal and Objectives?
- The proposed management alternatives?
- Principles and options for funding ESPA aquifer management?
- The proposed interim measures?
- The proposed Comprehensive Management Process?

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