IDAHO WATER RESOURCE BOARD

Work Session in Preparation for
IWRB Meeting No. 4-12

May 17, 2012 at 8:00 am

Idaho Water Center, 6th Floor, Conf Rms 602 C & D
322 E. Front St., Boise, Idaho 83702

WORK SESSION AGENDA

8:00 – 8:20 am	1.	**Western States Water Council Update**
8:20 – 8:40 am	2.	**Underground Injection Control (UIC) Rules Status Update**
8:40 – 9:00 am	3.	**Proposed TV CAMP Plan**
9:00 – 9:40 am	4.	**Proposed State Water Plan**
9:40 – 10:00 am	5.	**Alturas Lake Creek Water Transaction Discussion**
10:00 – 12:00 pm	6.	**Yakima River Basin Integrated Water Resource Management Plan**
12:00 – 1:00 pm		Board Member Working Lunch
1:00 – 3:00 pm	7.	Boise River Feasibility Study **a. Flood Inundation Mapping** **b. Future Study Direction**
3:00 – 4:30 pm	8.	ESPA CAMP and Aquifer Recharge Management Efforts **a. IWRRI Study Presentation** **b. Other Updates**
4:30 – 5:00 pm		EXECUTIVE SESSION – The Board will meet pursuant to Idaho Code Section 67-2345(1) (c) and (f) to communicate with legal counsel regarding pending litigation and acquisition of real property not owned by the State. Executive Session is closed to the public.

Americans with Disabilities

The meeting will be held in facilities that meet the accessibility requirements of the Americans with Disabilities Act. If you require special accommodations to attend, participate in, or understand the meeting, please make advance arrangements by contacting Department staff by email diana.ball@idwr.idaho.gov or by phone at 208) 287-4800.

IDAHO WATER RESOURCE BOARD

AGENDA
MEETING NO. 4-12 OF THE
IDAHO WATER RESOURCE BOARD

May 18, 2012, at 8:00 am

Idaho Water Center, Conf. Rm. 602 C & D
322 E. Front St., Boise, ID 83702

1. Roll Call
2. Agenda and Approval of Minutes 2-12 and 3-12
3. Public Comment – The Board will allocate a period of time (not to exceed 30 minutes) for the public to address the Board on subjects not specifically shown as an agenda item.
4. IWRB Committee and Other Reports
   a. Water Resource Planning
   b. Stream Flow Enhancement and Minimum Stream Flow
   c. Upper Snake River Advisory (Operations Forum)
5. IWRB Financial Program
   a. Status Report
   b. Bear River Bond Update
6. Water Transactions Program
   a. Status Report
   b. Alturas Lake Creek
7. Proposed State Water Plan
8. Proposed TV CAMP Plan
9. RP CAMP Update
10. ESPA CAMP and Aquifer Management Efforts Update
    a. IWWRI Report Results
    b. Managed Recharge Update
11. Water Storage Studies Update
12. Director's Report
13. Other Items Board Members May Wish to Present
14. Next Meeting and Adjourn

Americans with Disabilities

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WESTERN STATES WATER COUNCIL

5296 South Commerce Drive, Suite 202 / Murray, Utah 84107 / (801) 685-2559 / Fax (801) 685-2559

Web Page: www.westgov.org/wswc

June 8, 2012

DRAFT POSITION

Senator Jeff Bingaman, Chairman
Energy and Natural Resources Committee
United States Senate
SD-364 Dirksen Senate Office Building
Washington, DC 20510

Senator Lisa Murkowski, Ranking Member
Energy and Natural Resources Committee
United States Senate
SD-312 Dirksen Senate Office Building
Washington, DC 20510

Dear Senators:

On behalf of the Western States Water Council, which represents eighteen states, I am writing to express our support for legislation to establish a dedicated funding source for the completion of federal rural water projects authorized and under construction by the Bureau of Reclamation. These projects include components that benefit both Indian and non-Indian rural communities. Many of these communities, particularly smaller communities, are struggling to provide adequate water supplies to meet the needs of their citizens of a quality consistent with federal mandates.

It is essential that these projects be completed in a timely manner for the benefit of these communities in fulfillment of long-standing promises and trust responsibilities, some dating back decades. Another important consideration is the impact on the federal budget and economic growth. Accelerated construction scheduling, made possible by a more timely federal investment of modest amounts, will minimize long-term federal expenditures and create more jobs now.

The proposed Reclamation Rural Water Construction Fund financed with transfers from the Reclamation Fund is consistent with our oft reiterated policy that revenues accruing pursuant to the Reclamation Act of 1902 should be put to use and appropriated by the Congress in a timely manner for the purposes for which they were intended, i.e., western water development. We continue to be concerned over the increasing unobligated balance in the Reclamation Fund, while appropriations for the Bureau of Reclamation are constrained.

With respect to programmatic goals and funding priorities established pursuant to directives in the legislation, these should be developed in a transparent manner in consultation with the affected communities and States -- and should consider existing state water plans and priorities.

We appreciate the opportunity to express our interests and look forward to working with you.

Sincerely,

Chairman
Western States Water Council

WESTERN STATES WATER COUNCIL

942 East North Union Avenue, Suite A-201 I Midvale, Utah 84047-1764 I (801) 561-5300 I FAX (801) 255-9642

Web Page: www.westgov.org/wswc

Position #315

July 17, 2009

The Honorable James L. Oberstar, Chairman
Committee on Transportation and Infrastructure
2165 Rayburn House Office Building
Washington, D.C. 20515

The Honorable John L. Mica, Ranking Member
Committee on Transportation and Infrastructure
2163 Rayburn House Office Building
Washington, D.C. 20515

Dear Chairman Oberstar and Ranking Member Mica:

On behalf of the Western States Water Council, representing the governors of eighteen western states, I am writing to express our deep concern regarding draft legislation circulating under the title of the Sustainable Watershed Planning Act. We very much appreciate the opportunity to comment on the draft proposed bill in advance of its introduction.

We understand that the intent of the draft Sustainable Watershed Planning Act may be to require federal agencies to engage in greater collaboration with each other, States, and other governmental and non-governmental entities – thereby reducing inefficiency, redundancy and conflicting mandates. Nevertheless, we feel strongly that the draft bill is based on a top-down policy paradigm that has more often than not proved unworkable in the past. It closely parallels the old Water Resources Council established under the Water Resources Planning Act of 1965. Not coincidentally, the Western States Water Council was organized that same year to ensure States maintained a strong voice in the development and management of their water resources.

As you may know, as recommended in the Western Governors' Association's 2008 report, *Water Needs and Strategies for a Sustainable Future: Next Steps*, nine federal agencies have entered into a formal agreement with the Western States Water Council to create a Western States Federal Agency Support Team (WestFAST). WestFAST is made up of representatives of federal agencies with water resources responsibilities, and four of those agencies have agreed to provide financial support for a federal liaison position located in our office to better facilitate collaboration. WestFAST is a new and innovative attempt to promote the type of collaborative planning envisioned in the draft legislation, but with a focus on State identified problems and priorities. Though new, we believe it can be a model example of appropriate collaboration in other parts of the country.

We strongly suggest as outlined below in excerpts from the WGA 2008 Water Report, which the Governors approved, that State and local water and watershed plans and planning processes are the most appropriate building blocks for any federal or national water plan. Federal agencies should respect and assist state and local governments with their planning. However, federal agencies cannot and should not try to dictate planning criteria and policies. Experience has taught us that "one size doesn't fit all."

The foreword to the *2008 WGA Water Report* emphasizes that: "States have the pivotal role in water planning, as well as allocating and protecting the resource.... To support the state leadership role, the federal government should help by providing a rational federal regulatory framework, together with

technical and appropriate financial assistance." It continues, saying that it is "paramount to move state and local government participation back into the process of federal decisionmaking, before too much momentum has been built toward policy decisions."

Moreover, "Developing optimal solutions to the challenges...will require an integrated approach and greater partnerships among state, local and federal agencies. This approach should consider all needs together, develop effective solutions which are complementary rather than conflicting, and provide direction for selecting the most appropriate governmental entities or organizations for implementing solutions."

One of the highlighted recommendations from the report declares: "The WGA should urge Congress to require federal water resource agencies to include 'Integrated Water Resources Planning and Assistance' as one of their primary missions." The goal should be to encourage more comprehensive plans developed under state leadership with federal assistance, and reduce "inefficiencies caused by project-specific responses to competing demands, contradictory actions by multiple state, local and federal agencies, and hastily conceived reactions to the latest real or perceived crisis."

Another highlighted recommendation is that "Federal agencies should use state water plans: (a) to help determine national water policy and priorities that best align federal agency support to states; and (b) to inform decision making regarding regional water issues."

We hope that you will carefully reconsider acting on the draft legislation and continue to explore alternative approaches. We do not believe the proposed Council on Sustainable Watershed Management and the Regional Planning Boards are the best way to work together with myriad other state and interstate planning commissions, boards and watershed groups. We would suggest you look at the recently enacted Cooperative Watershed Planning Act which our Council supports. We would also hope you would look at the WSWC/WestFAST partnership as a better way to focus federal support on state priorities.

Again, thank you for the opportunity to comment and for your interest in the most efficient means to accomplish effective water resources planning and management.

Sincerely,

Garland Erbele

Garland Erbele, Chairman
Western States Water Council

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Position No. 317
(See also No. 232 , 254, and 281)
adopted October 20, 2000
and reaffirmed August 1, 2003 and July 21, 2006

POSITION STATEMENT
of the
WESTERN STATES WATER COUNCIL
in support of
RECLAMATION'S WATER CONSERVATION FIELD SERVICES PROGRAM
AND "BRIDGING-THE-HEADGATE" PARTNERSHIPS
Park City, Utah
July 17, 2009
(revised and readopted)

WHEREAS, the Reclamation Reform Act of 1982 (RRA) directed the U.S. Bureau of Reclamation (Reclamation) to encourage water conservation on federal water projects throughout the seventeen western states, and required districts receiving water from those federal projects to develop water conservation plans; and

WHEREAS, in March 1996, Reclamation adopted an approach to promoting water conservation that would focus on the development of an incentive-based program of technical and financial assistance to districts in lieu of mandatory regulations and other top-down, command-and-control approaches to conservation; and

WHEREAS, Reclamation's Water Conservation Field Services Program (WCFSP) was established in 1997 to encourage the efficient use of water on federal water projects and, in cooperation with States and other entities, provide a non-regulatory, incentive-based approach to assisting water districts, in accordance with state law, develop and implement effective water conservation plans required by the RRA; and

WHEREAS, since 1997, Reclamation's 21 Area Offices have offered local programs that provide assistance and non-binding guidance to districts in four areas of emphasis: 1) water management planning; 2) conservation education; 3) demonstration of innovative conservation technologies; and, 4) implementation of effective conservation measures; and

WHEREAS, the WCFSP's incentive-based conceptual approach is well-received by water districts and other stakeholders at the local level as an appropriate role for Reclamation in encouraging water conservation on federal water projects and fostering improved water management on a watershed, statewide and regional basis; and

WHEREAS, in July 1998, as part of the program outreach under the WCFSP, Reclamation initiated a "Bridging-the-Headgate" conservation partnership with USDA-Natural Resources Conservation Service (NRCS), the National Association of State Conservation Agencies (NASCA), and the National Association of Conservation Districts (NACD), three organizations that have traditionally worked very closely together to support and encourage conservation and resource stewardship among private landowners, farmers, and water users on the "on-farm" side of the water use's headgate; and

Position No. 317
(See also No. 232 , 254, and 281)
adopted October 20, 2000
and reaffirmed August 1, 2003 and July 21, 2006

WHEREAS, the partners re-affirmed their commitment to the Bridging-the-Headgate-Partnership by signing an updated "Declaration of Cooperation" in August, 2005;

NOW THEREFORE BE IT RESOLVED, that the Western States Water Council supports Reclamation's commitment to an incentive-based program of technical and financial assistance, through voluntary federal-state-local partnerships, as the appropriate long-term role for Reclamation in encouraging water conservation; and

BE IT FURTHER RESOLVED, that the Western States Water Council supports the overall objective of the "Bridging-the-Headgate" partnership to work together as federal-state-local partners for the sustained and efficient use of western agricultural water supplies; and

BE IT FURTHER RESOLVED, that the Bureau of Reclamation, in its promotional materials for the program, may use the Council's name as a supporter of the program's incentive-based approach subject to review and approval of promotional materials by the Executive Director of the Council.

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WESTERN STATES WATER COUNCIL

942 East North Union Avenue, Suite A-201 I Midvale, Utah 84047-1764 I (801) 561-5300 I FAX (801) 255-9642

Web Page: www.westgov.org/wswc

July 17, 2009

Position #318

Council on Environmental Quality
Attn: Terry Brayman
722 Jackson Place, NW
Washington, D.C. 20503

Dear Mr. Brayman:

Given that we have had a limited period of time in which to respond to the request to comment on the existing Principles and Guidelines (P&Gs), we would offer the following general comments based on our previous positions and the 2008 report of the Western Governors' Association, *Water Needs and Strategies for a Sustainable Future: Next Steps.*

Nearly 28 years ago, the Council wrote in response to a request for comments regarding, "Water Project Planning Guidelines – A Summary of Major Proposed Policy Positions." Now, as then, we oppose "complex, inflexible and difficult and expensive to apply" procedures and "rigid" rules, and support "flexible guidelines to govern water resource planning."

Echoing some of those past comments, we concur that National Economic Development (NED) should be a primary national planning objective, but other benefits should be "recognized and taken into account in project formulation and in determination of the justification to proceed with authorization and implementation." Planning for water projects based strictly on a NED objective "...would not be compatible with existing state water plans and planning efforts in many of the states. If the states are asked to cost share in a project, then the plan must reflect the states' objectives." States should take the lead in all aspects of water resources planning.

"We cannot concur that the plan that has the maximum net economic benefits is necessarily the best plan from a national standpoint. One of the alternative plans may provide greater total benefits and still possess a benefit cost ratio considerably in excess of one-to-one. Further, we cannot agree that all costs in excess of those associated with the plan that has the maximum economic net benefits should be borne by non-federal interests. National interests may be the principal beneficiaries of these additional benefits."

In developing new principles and flexible guidelines, CEQ should carefully consider the Governors' 2008 report, which declares in part: "States have the pivotal role in water planning, as well as allocating and protecting the resource.... To support the state leadership role, the federal government should help by providing...technical and appropriate financial assistance." Further, it is "...paramount to move state and local government participation back into the

process of federal decision-making.... Developing optimal solutions...will require an integrated approach and greater partnerships among state, local and federal agencies.... Federal agencies should use state water plans: (a) to help determine national water policy and priorities that best align federal agency support to states; and (b) to inform decision making regarding regional water issues."

Integrated Water Resources Planning (IWRP) should be a primary mission of federal water resources agencies, with a goal of: "(a) changing the way water planning is conducted by encouraging more comprehensive plans developed under state leadership with federal assistance; and (b) reducing inefficiencies caused by the present mode of project-specific responses to competing demands, contradictory actions by multiple state, local and federal agencies, and hastily conceived reactions to the latest real or perceived crisis."

More consideration needs to be given alternative ways to quantify, evaluate and prioritize funding for water, wastewater, watershed protection and restoration, and public-safety related needs – highlighting the benefits of integrated watershed, river basin, regional and interstate planning and management.

While offering these general comments, we look forward to the opportunity to comment in more detail in the future as new Principles and Guidelines are developed.

Sincerely,

Garland Erbele
Chairman
Western States Water Council

A VISION ON WATER

Adopted by the

Western States Water Council

on October 7, 2011

Our Present Condition

Water in the West is an increasingly scarce and precious resource, given population growth and an expanding range of often competing economic and ecological demands, as well as changing social values. Surface and ground water supplies in many areas are stressed, resulting in a growing number of conflicts among users and uses. A secure and sustainable future is increasingly uncertain given our climate, aging and often inadequate water infrastructure, limited knowledge regarding available supplies and existing and future needs and uses, and competing and sometimes un-defined or ill-defined water rights. Effectively addressing these challenges will require a collaborative, cooperative effort among states and stakeholders that transcends political and geographic boundaries.

Our Vision

- State primacy is fundamental to a sustainable water future. Water planning, policy, development, protection, and management must recognize, defer to, and support state laws, plans, and processes. The federal government should streamline regulatory burdens and support implementation of state water plans and state water management.

- Given the importance of the resource to our public health, economy, food security, and environment, water must be given a high public policy priority at all levels.

- An integrated and collaborative approach to water resources management is critical to the environmentally sound and efficient use of our water resources. States, tribes, and local communities should work together to resolve water issues. A grassroots approach should be utilized in identifying problems and developing optimal solutions.

- Any approach to water resource management and development should accommodate sustainable economic growth, which is enhanced by the protection and restoration of significant aquatic ecosystems, and will promote economic and environmental security and quality of life.

- There must be cooperation among stakeholders at all levels and agencies of government that recognizes and respects national, regional, state, local and tribal differences in values related to water resources and that supports decision-making at the lowest practicable level.

Underground Injection Control:

Rule Revision Progress Report

Presented by: Tom Neace, Ground Water Protection Section Manager

Date: May 17, 2012

What Rules?

IDAPA 37.03.03

"Rules and Minimum Standards for the Construction and use of Injection Wells"

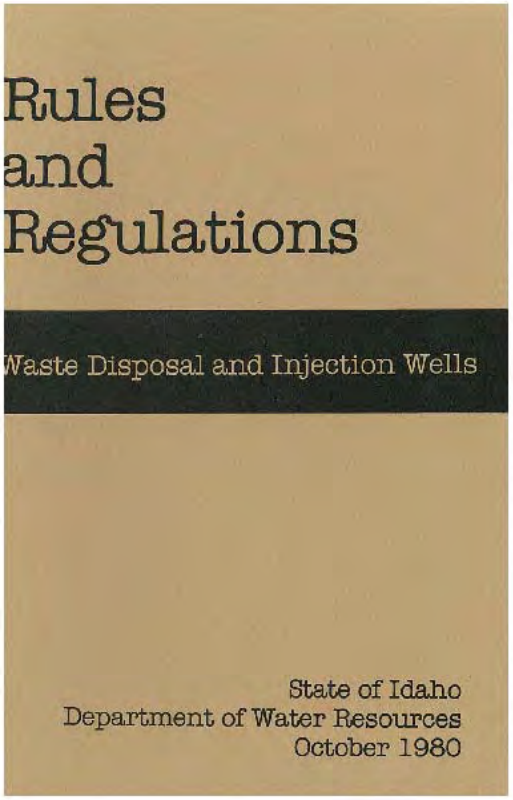
Last Revised: 2003

IWRB Resolution issued:

- November 2, 2011

Why Revise UIC Regulations?

1. Make rules consistent with Federal Code
2. Make rules consistent with Idaho Code
3. Update terms to industry standards
4. Implement regulatory framework for Class II injection wells



Negotiated Rulemaking

Meetings Held to Date (additional meetings required)

- April 18
- April 19
- May 2

Participating Interests

- Dept. of Lands
- Dept. of Environmental Quality
- District Health Departments
- Idaho Conservation League
- Oil/Gas Industry
- Idaho Attorney General's Office
- Surface Water Users
- Ground Water Users

Class V Proposed Rule Revisions

Definition of **injection well**

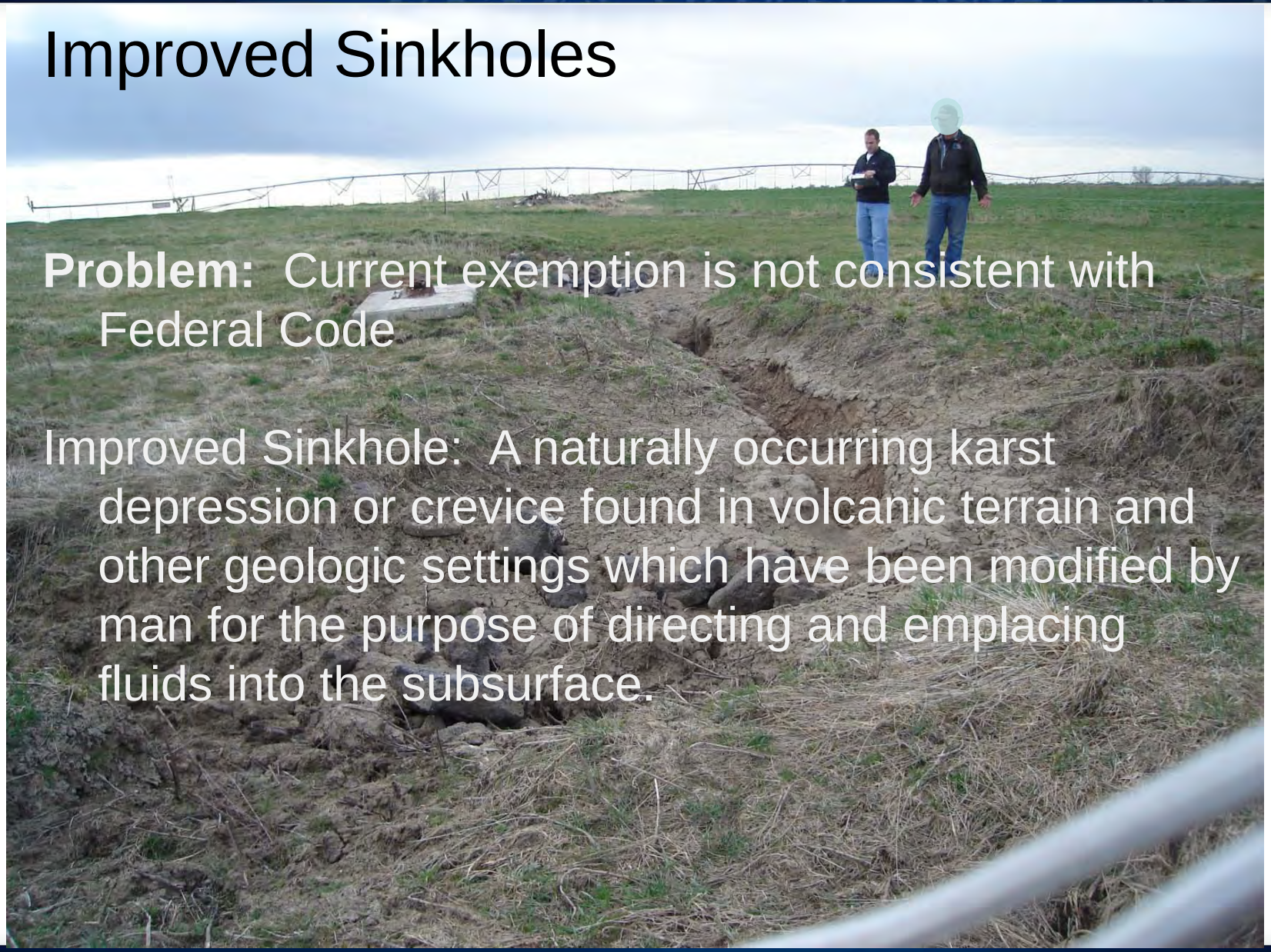
Problem: Not consistent with Federal Code because:

- all criteria must be met
- improved sinkholes are excluded

Proposed Definition:

A bored, drilled, or driven shaft whose depth is greater than the largest surface dimension; **or**,
a dug hole whose depth is greater than the largest surface dimension; **or**,
an improved sinkhole; **or**,
a subsurface fluid distribution system.

Improved Sinkholes



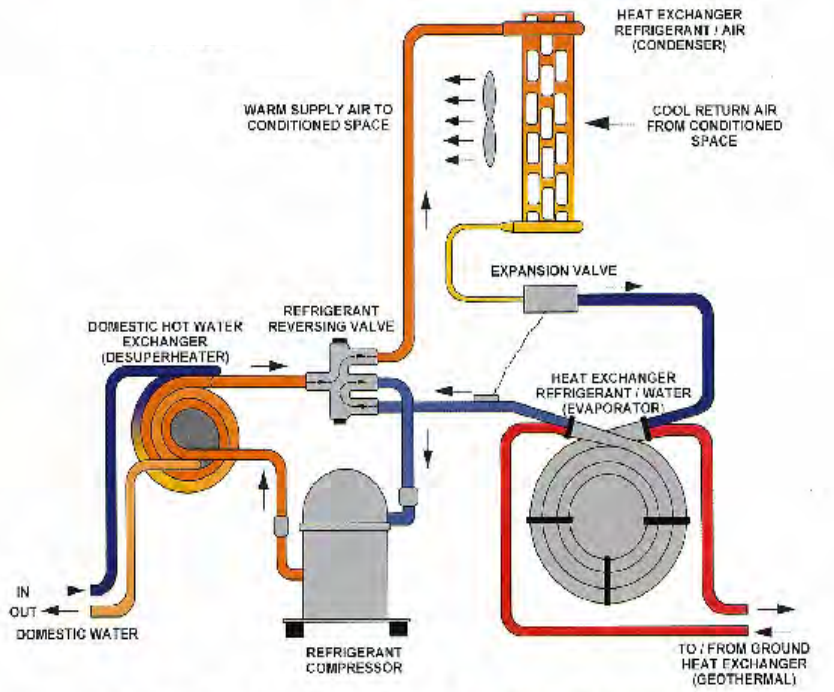
Problem: Current exemption is not consistent with Federal Code

Improved Sinkhole: A naturally occurring karst depression or crevice found in volcanic terrain and other geologic settings which have been modified by man for the purpose of directing and emplacing fluids into the subsurface.

Deep heat pump return injecting <50 GPM

Current:
- public advertisement
- 10-year operating permit

Proposed:
- no advertisement
- lifetime permit



Reasoning:
- low risk of contamination
- encourage use of “green” technology
- drillers / homeowners benefit from reduced processing time

(Image taken from GEO-HEAT CENTER, vol. 22, no. 1, March 2001)

Roof and Foundation Drains

Problem:
Current exemption is not consistent with Federal Code

Proposed:
- Remove exemption
- Process as they are found

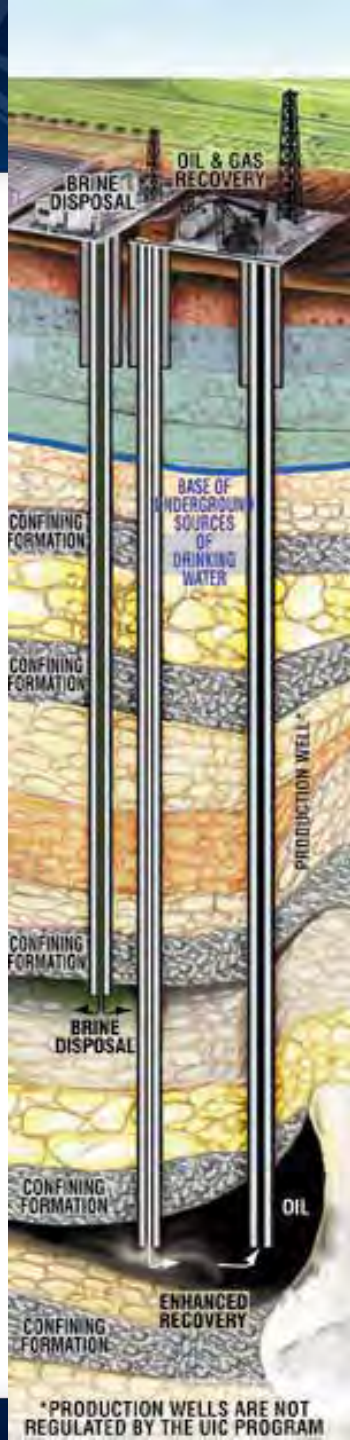
Typical Locations
- Commercial buildings
- Industrial buildings
- Malls

Class II Oil and Gas Injection Wells

II-Recovery
- Inject fluids for reservoir pressure maintenance

II-Disposal
- Inject brines produced with oil/gas

II-Storage
- Inject liquid hydrocarbons



Class II Proposed New Rules

Begin with EPA Injection Well Rules, then:

- remove non-Class II portions
- made Idaho specific

Definitions

- add new terms that appear in Class II rules

Permit Application

- draft permit
- public notice
  - address comments
- approve, modify, or deny permit

Class II Proposed New Rules

Construction Requirements

- casing and cementing
- injection zone below USDW
- deviation checks
- electrical, caliper, cement bond, temperature, density, gamma ray logs

Mechanical Integrity Tests (MIT)

- Checks for leaks in the casing, tubing, or packer
  - pressure or acoustical tests
  - down-hole logging
  - monitoring of injection activities

Issues to be Resolved

- Permit application fees for Class II wells
- Improved Sinkholes
- Aquifer Re-categorization
- Blanket Bonds

Timeline

April / May / June: Negotiated Rulemaking Sessions

June /July: Respond and Incorporate Comments

August: Submit Proposed Rule Packet to OAR

2013: Consideration by the Legislature

Proposed

Treasure Valley

Comprehensive Aquifer Management Plan

IDAHO WATER RESOURCE BOARD

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*
- *A commitment to ongoing research, data collection and analysis*

This document presents a Comprehensive Aquifer Management Plan (Plan) for the Treasure Valley. At the direction of the Idaho Water Resource Board (IWRB), the Plan was developed collaboratively by the Treasure Valley Advisory Committee (Committee). This Plan in no way modifies or diminishes existing state water law, including the prior appropriation doctrine, or the power and duties of the Director of the Idaho Department of Water Resources (IDWR).

Proposed
Treasure Valley Comprehensive Aquifer Management Plan

Figures

Tables

Executive Summary

The Treasure Valley Comprehensive Aquifer Management Plan (Plan) provides a framework for long-range management of the aquifer. The Plan describes the overarching goals and actions that can be implemented to successfully accomplish the stated goals for local residents and the state of Idaho and to promote productive regional cooperation to benefit the area over the next 50 years. The planning area for this Plan covers Ada and Canyon counties and portions of Elmore, Boise, Gem and Payette counties.

The Treasure Valley is in southwestern Idaho. The Treasure Valley Aquifer System (TVAS) is a valuable and significant resource to the region and the state of Idaho. The aquifer is a key part of the regional water resources that make the area attractive for economic growth and an appealing place to live and work.

At the direction of the Idaho Water Resource Board (IWRB) and Idaho Legislature, the Plan is founded on recommendations developed collaboratively by the Treasure Valley Comprehensive Aquifer Management Plan (CAMP) Advisory Committee (Committee). This Plan will be a component of the State Water Plan, which guides the development, use, conservation, and management of water resources in Idaho.

The IWRB recognizes that the long-term management of the water resources of the Treasure Valley must be acceptable to the local community and take into account the social and economic interests of the residents and public interest. The long-range plan must also be consistent with the legal constraints and laws of Idaho.

The Committee developed the following vision for the Plan:

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***

The Treasure Valley CAMP Committee identified several challenges facing the region over the next 50 years (these actions have not been ranked or placed in order of priority):

- Predicted future demand cannot be met solely by readily available ground water supplies in some areas
- Uncertainty for meeting existing and future needs utilizing the existing water supply infrastructure will increase as annual precipitation variability increases
- Natural flow in the summer and fall is predicted to be reduced
- Currently there is no Treasure Valley drought plan
- Ability of water infrastructure to meet existing and future needs
- Management of interconnected sources
- Meeting water needs and uses associated with future development patterns in a manner that minimizes conflict
- Maintaining quality of life
- Meeting environmental needs
- Meeting water supply needs
- Lack of an organizational structure for ground-water users to collectively plan for and respond to future challenges
- Advanced technical capabilities are needed to meet increasingly complex water management challenges
- Existing water management tools that appear to be under-utilized could help provide solutions to meeting water needs in the future

Guided by the CAMP goals and vision, the Committee identified several recommended actions for addressing the challenges discussed in this plan. Understandably, these actions will need to be more fully refined during the implementation phase, but the Plan, by adopting a mix of strategies, represents a balanced approach to addressing the future water challenges in the Treasure Valley (these actions have not been ranked or placed in order of priority):

- Enhance water data collection, analysis, and planning
- Investigate and support additional storage and supply
- Reduce demand through water conservation taking into consideration the benefits of incidental recharge
- Preserve and protect water delivery infrastructure
- Use tools associated with the Municipal Water Rights Act of 1996 (placeholder)
- Encourage the use of water marketing to address the conversion of water use throughout the valley

Management of the Treasure Valley Aquifer affects numerous stakeholders. Effective implementation of the Plan will require the participation and cooperation of stakeholders and governmental entities with jurisdictional authorities and responsibilities. The IWRB may continue to convene the Committee to guide and make recommendations concerning the implementation of management strategies and review of goals and objectives.

1. Introduction

In 2008, the Idaho Legislature passed House Bills 428 and 644, establishing the statewide comprehensive aquifer planning and management effort and creating a fund to support the effort. The Idaho Water Resource Board (IWRB) and the Idaho Department of Water Resources (IDWR) initiated work in the Treasure Valley to establish a framework and path forward that will lead to sustainable water supplies, optimum use of the aquifer, and development of strategies to minimize potential future conflicts.

This effort was conducted under the leadership of the IWRB. The IWRB is the constitutionally established agency responsible for formulating and implementing the State Water Plan for optimum development of the water resources in the public interest. This Plan is a component of the State Water Plan, which guides the development, use, conservation, and management of water resources in Idaho. The specific goals of the statewide Comprehensive Aquifer Management Plan (CAMP) program are to:

- Provide reliable sources of water, projecting 50 years into the future
- Develop strategies to avoid conflicts over water resources
- Prioritize future investments in water

The IWRB recognizes that the long-term management of the water resources of the Treasure Valley must be acceptable to the local community and take into account the social and economic interests of the residents and public interest. The long-range plan must also be consistent with the legal constraints and laws of Idaho. The IWRB appointed an Advisory Committee (Committee) to consider these interests and develop recommendations for this Plan. For a list of Committee members see Appendix 2.

As the Committee progressed in their work, the members built on the CAMP goals and developed a unanimously supported vision for the Treasure Valley CAMP.

This Plan and the recommended actions described are guided by this vision:

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***

2. Background and Current Condition

The Treasure Valley water system is a complex system of dynamic hydrologic interconnection. The connection between these waters is a critical element in the location and availability of water for the needs of the Treasure Valley. Water used in one location will likely be the supply for a different water need elsewhere in the basin. Although comprehensive studies have been undertaken, and continue today, the full extent of when, how, and where the ground and surface waters interact is not fully understood. The contribution of surface water to recharge of the aquifer system and the importance of aquifer discharge to drains and the rivers does, however, require that any discussion of the Treasure Valley Aquifer System (TVAS) will inevitably be a discussion about both ground and surface water.

Hydrology and Water Supply

Most of the surface water used in the Treasure Valley originates as snow in the higher elevations of the upper Boise basin where precipitation can be as high as 60 inches annually. This upper basin supplies an estimated 90 percent of the water for the Treasure Valley. The snowpack is important to the Boise River as the March-July runoff season provides 77 percent of the annual stream flow at the Boise River near the Boise gaging station while only 23 percent of the natural flow occurs during the August-February season. The upper Boise basin is approximately 2,650 square miles and consists of four major tributaries, including the North, Middle, and South Forks of the Boise River, and Mores Creek. From Lucky Peak Dam, the lower Boise River flows about 64 (river) miles northwestward through the Treasure Valley to its confluence with the Snake River.

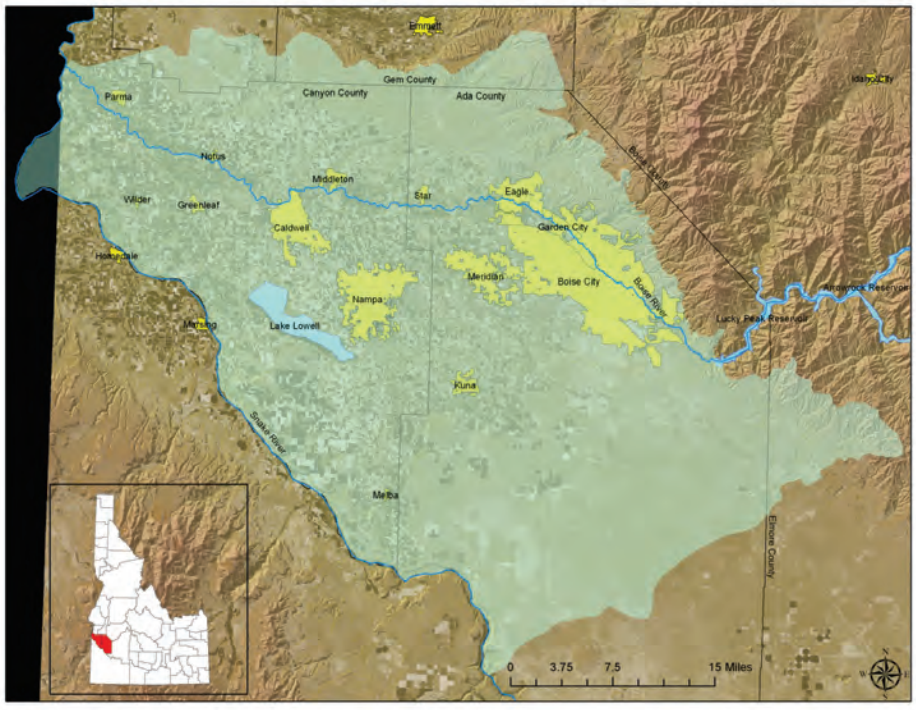


Figure 1. Map of the Treasure Valley Study Area (green-shaded area)

Hydrogeology

The TVAS underlies the lower Boise basin in southwestern Idaho (Figure 1). The TVAS extends downstream from Lucky Peak Dam to the confluence with the Snake River and serves as the primary source of drinking water for the communities and residents within the Treasure Valley. Approximately 95 percent of the valley's drinking water is pumped from the TVAS.

The TVAS can be conceptualized as a complex system of shallow, intermediate, and deep aquifers (Figure 2). The depths and thicknesses of the aquifers vary spatially and are controlled by geologic faulting, topography, and local land use characteristics (e.g., flood irrigation). The hydraulic communication between the various aquifers varies throughout the Treasure Valley adding to the complexity. Hydraulic connections to aquifers underlying areas to the north (Boise foothills to the Payette River) and to the east (Mountain Home Plateau) are currently not fully understood.

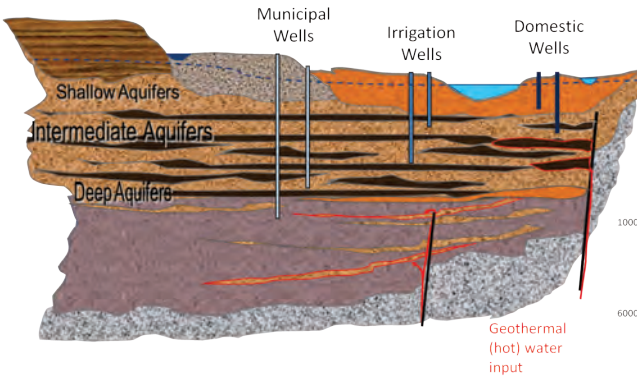


Figure 2. Conceptual Schematic of the Treasure Valley Hydrogeology

The Aquifer system in the Treasure Valley consists of:

- Shallow aquifers – These aquifers supply water to rural domestic and some irrigation wells. Shallow aquifers are generally in direct hydraulic communication with surface water features and form localized flow systems with the nearest surface water body. The shallow aquifers are generally unconfined (the water level represents the top of the saturated zone), and water levels are typically controlled by topography (e.g., the elevations of canals or drains).
- Intermediate aquifers – These aquifers supply water for domestic, irrigation, and municipal uses. The hydraulic communication between the intermediate aquifers and the surface water features of the valley is unknown.
- Deep aquifers – Municipal, industrial, and some irrigation wells typically draw water from deeper aquifers. The hydraulic communication between the deeper aquifers and the surface water features of the valley is limited due to the depths below land surface where the deeper aquifers are found. The deeper aquifers are generally confined (water levels rising above the depth of the water bearing zone), and flowing artesian wells exist within the Treasure Valley. The hydrology of the deeper aquifers is not fully understood.

Ground Water Flow Direction and Water Levels

The ground water flow direction in the TVAS is generally east to west and follows the course of the Boise River. In the southern portion of the TVAS, ground water flows to the south and discharges into the Snake River. Locally, ground water flow

directions are dependent on the location (spatially) within the valley.

Water level trends are a good indication of a stable storage of water in an aquifer system. Rising water levels indicate an increase in water stored, and declining water levels indicate a reduction in water stored. Stable water levels generally indicate an aquifer storage that is in equilibrium.

In the early to mid 1900s, water levels in the shallow aquifer rose significantly because of the development of the valley's irrigation network and continued to rise until the aquifer system eventually reached equilibrium with the drains and river, as indicated by stable water levels. In general, water levels in the shallow aquifer system have remained stable and are controlled by the operation and elevation of the surface water features. Water levels in the intermediate and deep aquifers also appear relatively stable, but some areas of water level decline have been identified in the valley, particularly in the southeast Boise and Lake Lowell vicinities (Petrich and Urban, 2004).

There are existing mathematical models of the Treasure Valley aquifer of various ages and scopes; however they are not adequate to address aquifer management needs.

TVAS Ground Water Budget

The annual ground water budget for the TVAS varies from year to year (Table 1). For illustration purposes, estimates for water year 2000 are used to show the components of the annual water budget for the TVAS because total precipitation and temperature during the 2000 water year were near normal.

The shallow aquifers of the TVAS are generally in direct hydraulic communication with the Boise River and to a lesser extent the Snake River throughout most of the Treasure Valley. The aquifer discharges directly to the rivers and the ground water drainage network constructed in the Treasure Valley to drain shallow ground water from low-lying areas. It is estimated that over 80 percent of the TVAS total discharge enters the rivers and the drain network. Some of the drain water is also re-diverted and used for irrigation by

Table 1. Summary of TVAS Ground Water Budget (modified from Urban, 2004).

Sources of Recharge and Discharge	Estimated Recharge and Discharge for 2000	
	(acre-feet)	(% of total)
Recharge		
Canal seepage	521,500	50
Flood irrigation	404,400	35
Other sources	172,800	15
Total Recharge	**1,098,700**	**100**
Discharge		
Discharge to rivers and drains	881,600	83
Pumping from wells	175,000	17
Total Discharge	**1,056,600**	**100**

downstream users. The amount of water leaving the TVAS through discharge to the drains, tributaries, or the rivers in 2000 was over 881,000 acre-feet (Urban, 2004).

Surface Water Flows

Unregulated natural flow volumes in the Boise River basin have varied from a low of 676,000 acre-feet annually to a high of 3.6 million acre-feet (MAF) annually. The average unregulated natural flow (1929 – 2010) is 1.9 MAF annually. These volumes were calculated at Lucky Peak and are published by the U.S. Bureau of Reclamation (USBOR). On average 1.6 MAF annually are diverted for irrigation and serves as a significant source of recharge to the TVAS (BOR, 2007). Table 2 displays a summary of historical Boise River (Nov 1 – Oct 31) runoff (at Lucky Peak), outflow (near Parma), and reservoir storage on November 1. Figure 3 shows the variation of runoff (at Lucky Peak) and November 1 storage from 1929 to 2010.

The average annual basin outflow (1972 – 2010) is 1.1 MAF, with outflow volumes varying from 334,000 acre-feet annually to 2.8 MAF annually. The basin outflow is measured at the Boise River near Parma gage, which is operated by the U.S. Geological Survey (USGS) in cooperation with IDWR.

Table 2. Summary of Historical Boise River Nov. 1 – Oct. 31 Runoff and Outflow (IDWR, 2011)

	Boise River Runoff (at Lucky Peak)		Boise River Outflow (near Parma)		November 1 Storage	
	Acre-Feet	Years	Acre-Feet	Years	Acre-Feet	Years
Long-term average	1,929,000	1929-2010	1,120,000	1972-2010	390,000	1956-2010
Maximum	3,673,000	1965	2,820,000	1983	665,000	1965
Minimum	676,000	1977	334,000	1992	65,000	1992

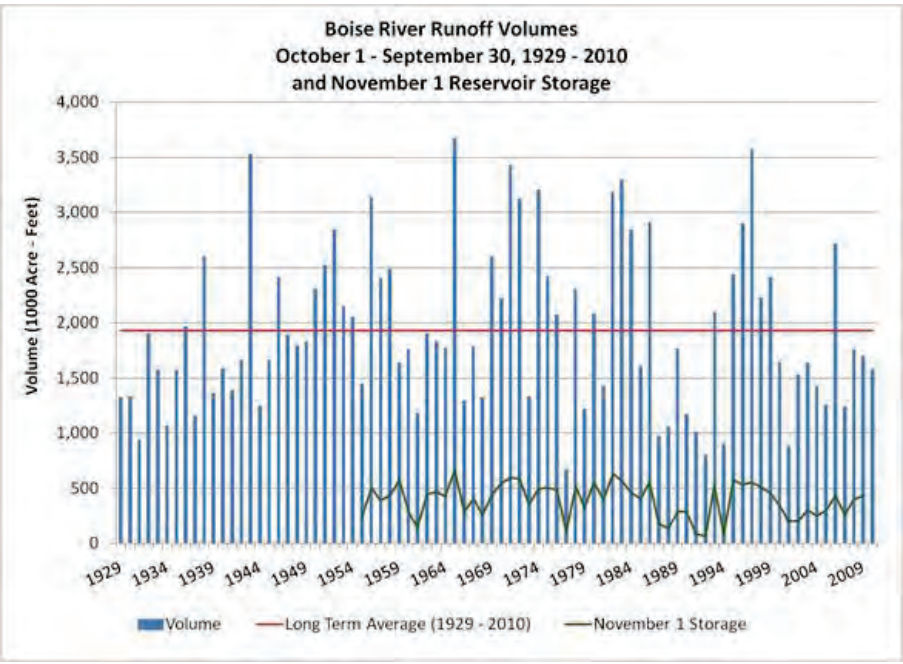


Figure 3. Boise River Annual Unregulated Natural Flow Volumes 1929-2010 and November 1 Reservoir Storage Volumes (U.S. Bureau of Reclamation Hydromet, 2011)

The remaining storage water left in the reservoirs (Arrowrock, Anderson, and Lucky Peak) at the end of an irrigation season is highly dependent on snowfall and irrigation demand for that season. The average reservoir storage on November 1 (1956 – 2010) is 390,000 acre-feet and has varied from a low of 65,000 acre-feet to a high of 665,000 acre-feet. The availability of this "carry over" water reduces the risk of a shortage of irrigation water in the succeeding year. Wise and efficient use of water from year to year helps to ensure better carryover storage for the next year, especially during consecutive dry years.

The hydrograph below (Figure 4) summarizes the historical data from the Boise River at Glenwood Bridge for the period of record (1982 – 2010). The U.S. Army Corps of Engineers (USACE) utilizes the Boise River gage at Glenwood Bridge to monitor and evaluate flood impacts on the river. Currently, flood stage as measured at the Glenwood Bridge gage is 10.01 feet (approximately 7,000 cfs). The maximum discharge since the completion of the reservoir system was 9,840 cfs on June 13, 1983 (USGS, 2011). Typical winter flow out of Lucky Peak (November – March) is approximately 250 cfs. Typical flow at Glenwood after the spring runoff and during the irrigation season (July – September) is approximately 1,000 cfs.

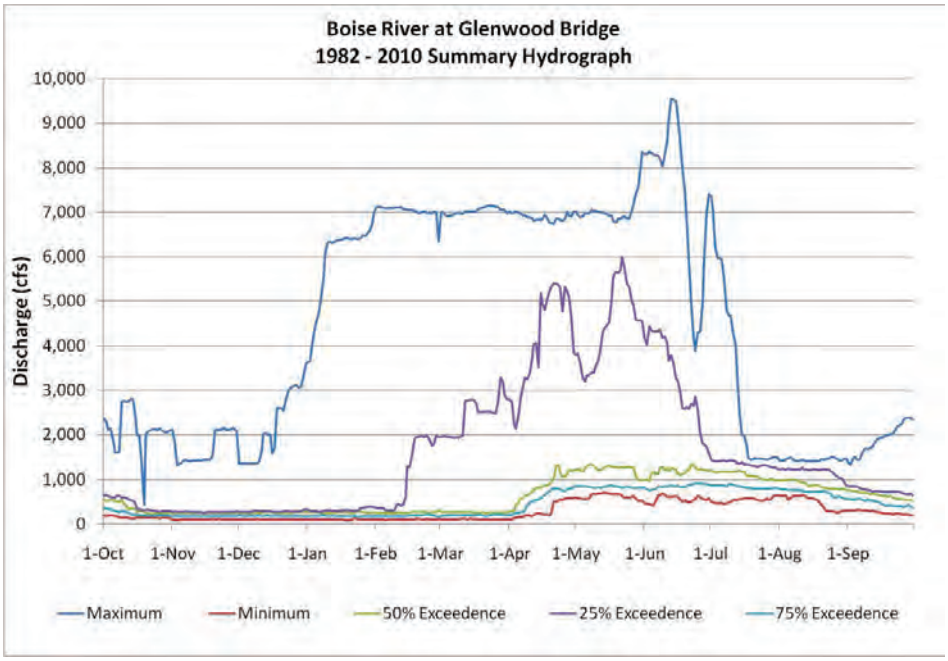


Figure 4. Summary Hydrograph of Boise River Flow from 1982 through 2010 at the Glenwood Bridge

Note: 25% exceedence means that for the specified day of the year the flow was greater than this value 25% of the time for the same day from 1982 through 2010. 50% exceedence is the median and means that for the specified day of the year the flow was greater than this value for 50% of the time for the same day from 1982 through 2010. 75% exceedence means that for the specified day of the year the flow was greater than this value 75% of the time for same day from 1982 through 2010.

During the irrigation season, the Boise River from Lucky Peak Dam to Middleton does not have enough natural flow to meet irrigation demands. Irrigators rely on storage water to supplement the limited natural flow supplies. Below Middleton, there are often enough return flows from drains or ground water seepage into the river to satisfy existing irrigation demands. On average, there are approximately 310,000 acre-feet per year of gain in flow between the Middleton and Parma gages. These gains, 310,000 acre-feet, make up 28 percent of the 1,112,000 acre-feet of outflow from the basin near Parma. The return flows that increase river flows downstream are important and help to provide the necessary water and elevation head to deliver water in the lower Treasure Valley. These base flows are an important part to efficiently deliver irrigation water in the Treasure Valley.

Climate Variability

Climate variability adds another element of uncertainty to planning for future water needs. The IWRB contracted with Boise State University to evaluate potential changes to water supply and demand that might result from climate variability on a watershed scale. There is a large range of uncertainty to climate model predictions; however, general trends are indicated.

Multiple studies of climate change in the Pacific Northwest and northern Rockies estimate increases in mean monthly temperatures of 0.86 to 5.49 Fahrenheit for the 2040 irrigation season compared to the 1971 – 2010 temperature average (BOR, 2008, 2011).

Regional studies for the northwest United States indicate greater climate variability conditions (floods and droughts) will be more severe and change the flow regime on which current hydrologic operating procedures are based. For example, temperature increases would allow more winter precipitation to fall as rain instead of snow, and will result in earlier snow melt. On average, peak flows in the Boise River basin may be higher in the future than current historic high flows. Timing of spring runoff is complex and a function of climatic indexes (e.g., El Niño-southern oscillation, Pacific decadal oscillation), forest fires, and climatic change. Analysis of stream flow measurements shows peaks are occurring a few weeks earlier as also predicted by the climate change models. Peak flow and trends are also influenced by phenomenon such as El Nino and La Nina and other longer term climatic cycles. The earlier melting of snowpack will lead to lower summer stream base flows at a time when evapotranspiration is expected to increase with increases in temperature. Fall precipitation could occur more frequently as rain and less frequently as snow.

Climate change projections indicate the Boise River basin may experience wetter wet years and drier dry years. However because our water storage capacity in the basin is fixed, the increased water supplies during the wet years cannot be captured and held over for use during the dry years. Consequently, wet years do not offset dry years.

Drought

Drought is a significant concern for all Treasure Valley water interests. The most severe droughts occur when there are two or three consecutive dry years when annual runoff is below average and carryover storage is minimal because of water use in previous dry years. The Boise reservoir system is designed to provide carryover storage to get through consecutive dry years. The drought that occurred from 1987-1992 had a major impact on the Treasure Valley. During those six years, the Palmer Drought Severity Index (Figure 5) classified conditions as extreme drought for 28 of the 36 months that comprised the irrigation seasons in the Treasure Valley. The series of dry, hot summers made the reservoir system response more difficult than the drought of 1977. Although 1977 set the record low flow for the upper Boise River, 1976 and 1978 had wet irrigation seasons that reduced the stress on water supply.

The Idaho Drought Plan (IDP) encourages local communities to plan and mitigate for future droughts. The IDP describes the authority counties and cities have to restrict water use and raise funds through ordinances, rules, regulations, proclamations, and short-term levies. It also authorizes the IDWR to take actions to provide for full use of the available water supply in accordance with valid rights for its use during shortages by increasing supervision of water distribution from adjudicated sources, increasing water-right enforcement for non-adjudicated sources, and defining procedures to expedite processing of applications for replacement water supplies.

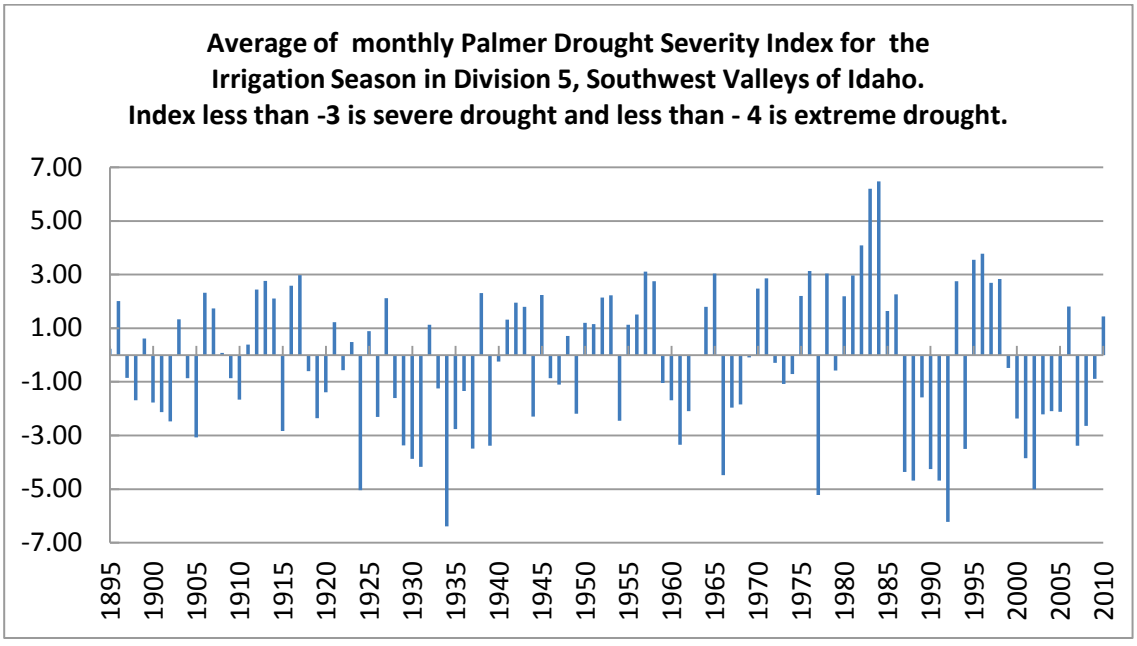


Figure 5. Historic Drought during the Irrigation Season in Southwest Valleys of Idaho. (NOAA and National Climate Data Center http://www.ncdc.noaa.gov/sotc/drought)

In conjunction with the IDWR's Drought Plan and Water Supply Committee, the Natural Resource Conservation Service (NRCS) compiles a monthly Surface Water Supply Index to illustrate the total seasonal water supply. NRCS uses 1.5 MAF as the threshold for when water supply shortages start to appear in the Treasure Valley. This is based on past years when shortages were realized by irrigation districts. For the period 1987 – 1992, 5 of the 6 years had shortages and below normal carryover storage (Figure 6).

Available records indicate that during drought years surface water irrigation is supplemented with ground water by as much as 300,000 acre-feet. This situation places additional stress on ground water supplies.

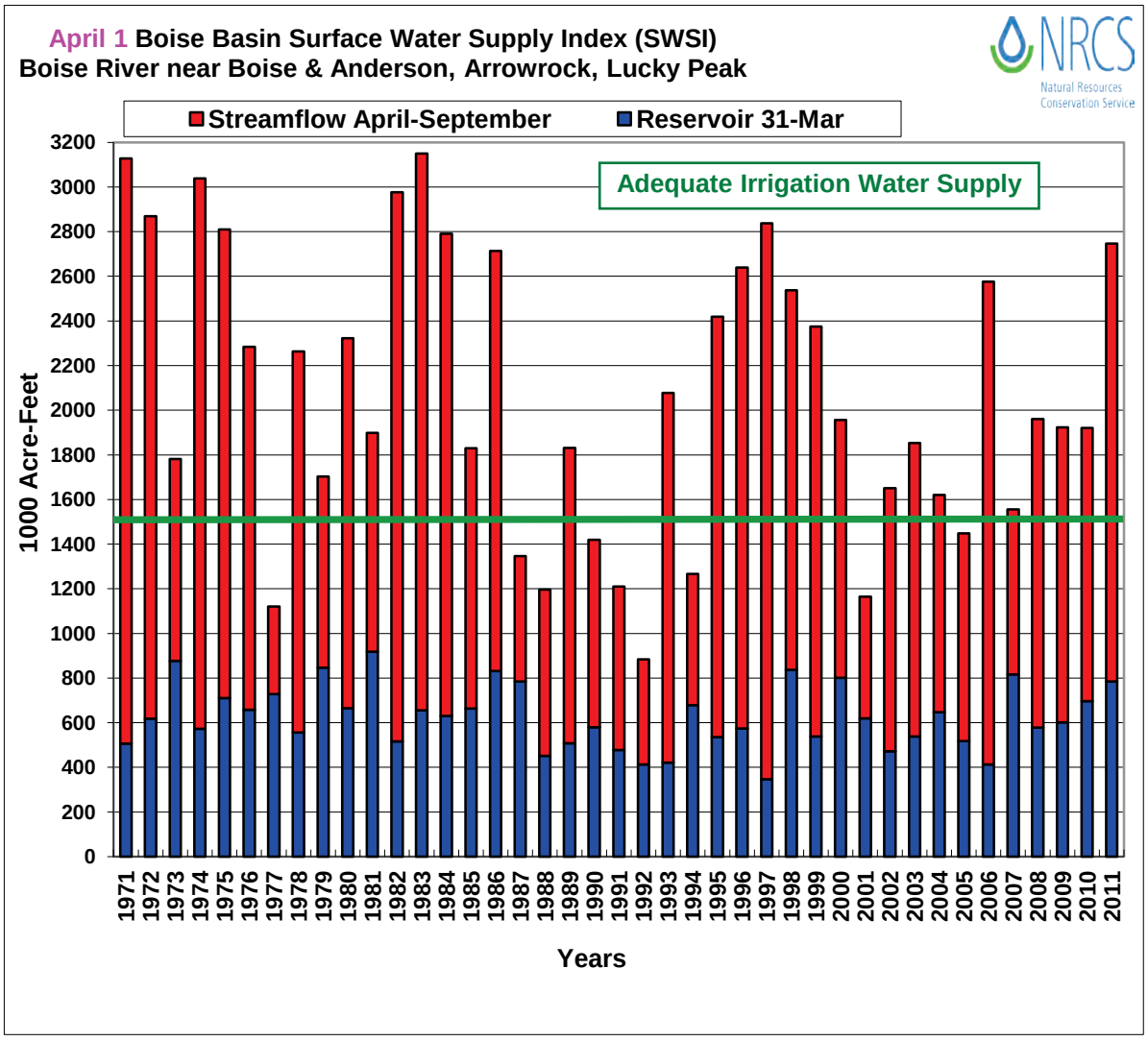


Figure 6. April 1 Boise Basin Surface Water Supply Index

Challenges Associated with Water Supply:

Predicted future demand cannot be met solely by readily available ground water supplies in some areas.

Ground water supplies are not infinite. There is potential for additional ground water development, however the Treasure Valley aquifer is not homogeneous. Characteristics vary locally and regionally (and by depth). This variation results in limited availability of ground water supplies to meet existing and future needs in some areas. Ground water supplies are especially limited in southeast Ada County and the Lake Lowell area. There are also concerns about ground water levels in the north foothills. (IDWR data was used.)

Uncertainty for meeting existing and future needs utilizing the existing water supply infrastructure will increase as annual precipitation variability increases.

Historical hydrological records may not be sufficient for forecasting future conditions because of increased variability. Water supply solutions may include better monitoring to improve flow predictions, which allow better planning in the short-term while planning for future longer-term needs in the valley.

Natural flow in the summer and fall is predicted to be reduced.

Reduced natural flows will result in less water available to fill natural flow water rights. This phenomenon results in increased use of stored water from the reservoirs leading to less reservoir carryover. Warmer temperatures during the growing season would increase water demand for all uses.

Currently there is no Treasure Valley drought plan.

Lack of a comprehensive regional response before the next drought will delay demand reduction actions needed to reduce the negative impacts of drought and increase the likelihood of conflict between water-right holders.

Distribution

Reservoir System

The irrigation water supply of the Treasure Valley relies upon a reservoir system capable of storing approximately 1,000,000 acre-feet of water (as shown in Table 3). This equals about one-half of the average annual inflow of the Boise River. Four reservoirs make up the reservoir system. Three of those reservoirs—Arrowrock, Anderson Ranch, and Lake Lowell—were constructed in the early to mid-1900s by the USBOR as part of the development of the Boise Project Board of Control (BPBC). A fourth reservoir, Lucky Peak, was constructed in 1957 by the USACE for flood control, irrigation, and other congressionally authorized purposes. Combined, these reservoirs provide water supplies for congressionally authorized purposes.

To meet irrigation demand, flows past Lucky Peak Dam average approximately 3,900 cfs during the irrigation season, which spans April through October. During periods of peak irrigation demand, flows past the dam are kept at about 4,500 cfs. Reservoir space is allocated to storage users according to terms set out in spaceholder contracts entered into between the various users and the Secretary of Interior through the USBOR. While the majority of the contracted reservoir space is used for irrigation storage, approximately 5,000 acre-feet in Anderson Ranch Reservoir is used to store water for municipal and industrial purposes.

Arrowrock, Anderson Ranch, and Lucky Peak are operated as a unified system for flood control and refill purposes. Flood control operations are governed by flood control rule curves developed by the USACE. Taking into account various hydrological data, the rule curves attempt to fix the amount of empty reservoir space needed to intercept and capture peak spring runoff flows in order to minimize the effects of flooding downstream. Presently, the flood control objective is to limit flood flows to 6,500 cfs at the Glenwood Bridge.

Table 3. Capacities of Federal Reservoirs in the Boise Basin (Source: USACE).

Reservoir	Elevation at Full Pool	Capacity (Acre-Feet)			
		Active	Inactive	Dead	Total
Lake Lowell	2531.2	159,400	--	--	159,400
Arrowrock	3216.0	272,200	--	--	272,200
Anderson Ranch	4196.0	413,100	37,000	24,900	475,000
Lucky Peak	3055.0	264,370	28,730	--	293,100

Note: Active capacity is space from which water can be released for specifics purposes. Inactive capacity is space from which water can be released but is normally retained for a specific purpose, for example, Anderson Ranch inactive space is reserved for power head. Dead capacity is space from which water cannot be released by gravity because it is below the elevation of the lowest outlet.

Operation of the reservoir system, with the exception of Lake Lowell, is coordinated between the USBOR, which operates Arrowrock and Anderson Ranch, and the USACE, which operates Lucky Peak. By agreement between the two federal agencies, the storage system is operated as a unified system to maximize the capabilities of the reservoirs. Reservoir operations are generally defined by three operating periods, which are based on climatological patterns, runoff, and irrigation demand as shown below in Figure 7.

During the maintenance period, the system is operated primarily for carry over and storage as allowed by flood control requirements; however, storage releases continue for municipal and industrial and stream flow maintenance uses. During the flood control and refill period, operation is adjusted continually based on runoff forecasts to provide space for flood control and to assure storage refill for water users, while releasing water necessary to satisfy irrigation demand. The drawdown period is operated for release of irrigation storage water. To the extent possible, water is typically stored as high in the system as possible, although storage accrues to accounts in order of priority. During the summer, Lucky Peak is held near full pool for recreation purposes and water is released from Arrowrock and Anderson Ranch Reservoirs to meet irrigation demand.

Lake Lowell is operated by the BPBC to store water and regulate water supplies for the lower end of the project. Lake Lowell is drawn down during the summer when irrigation demands exceed the capacity of the New York Canal.

Canals

An extensive distribution system carries water to 75 points of diversion and provides irrigation to 350,000 acres of land below Diversion Dam. Most large canals branch into sub-canals and laterals to distribute water throughout the valley. Irrigation districts and canal companies maintain their individual systems of delivery for their patrons. There are approximately 1,170 miles of major irrigation canals (see Figure 8).

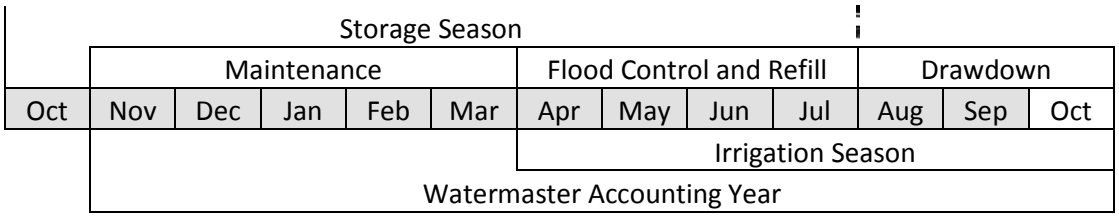


Figure 7. Operating Periods and Seasons (water year shown by shaded blocks) (Source: USBOR)

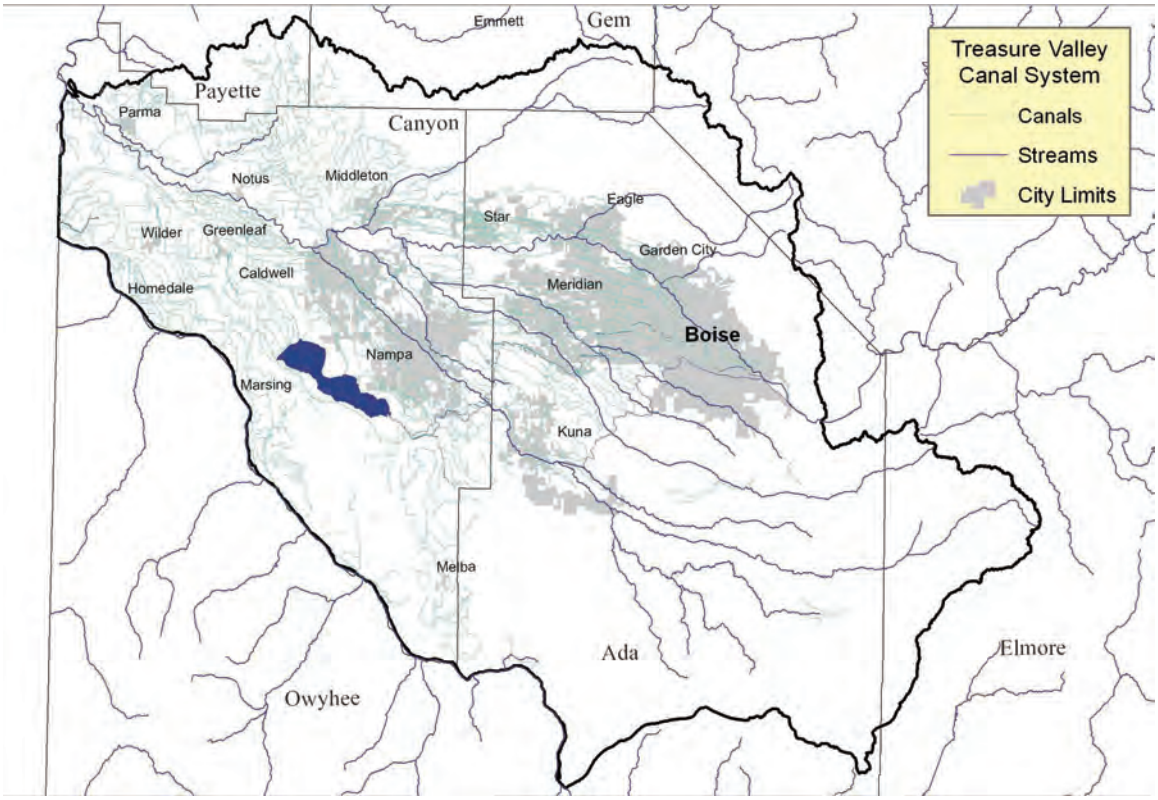


Figure 8. Treasure Valley Canal System

Drains

Approximately 195 miles of drains channel water out of low lying areas and 11 principle drain systems discharge into the Boise River. Most drains were constructed to drain ground water from shallow aquifers and reduce the incidence of water logged soils. Some of these drains were modified or expanded existing natural drainage systems. Some drains also serve as canals, providing additional irrigation water through re-diversion. Some drains flow year round because of ground water discharge. Ground water discharge to the drains will fluctuate due to water table changes. These fluctuations can be caused by seasonal changes, ground water withdrawals, irrigation practices, recharge, drought, and other changes in the water budget. Studies are currently underway to better understand the drainage system and quantify seasonal and annual flows.

Challenges Associated with Distribution:

Ability of water infrastructure to meet existing and future needs

Mechanisms to protect the existing infrastructure of wells, canals, ditches and collection systems have existed for decades. It is important to retain this protection for the current and future benefit of the region. An additional challenge is the need to modernize existing infrastructure to optimize the beneficial use of water.

Management of interconnected sources

Surface water and ground water are hydraulically connected. This interconnection presents a challenge for future management of surface and ground water rights, which historically have been managed separately. Further complicating this challenge is the recognition that while we understand that a connection exists, our understanding of the timing, extent, and location of the interconnected sources is limited and needs further study in order to provide effective management.

Water Use and Needs

Ninety-five percent of the Treasure Valley water use falls into one of two major categories: domestic, commercial, municipal, and industrial use (DCMI), and irrigation. While not always included in water-use estimations (Figure 9), water is used to recharge the aquifer, support the river and tributary biological systems, and provide delivery head to convey irrigation water (including conveyance losses). Some municipal and industrial systems implement aquifer storage and recovery techniques to store treated water off peak and re-pump during summer demand. Water leaving the Valley passes through downstream hydropower plants that generate low-cost electricity used in the valley.

In the Treasure Valley, the principal source of water for DCMI is ground water. For DCMI, 94 percent of the water comes from ground water sources and six percent comes from surface water sources. For irrigation water, three percent of water comes from ground water sources and 97 percent comes from surface water sources. Large and small community systems, as well as individual wells, all provide water for domestic use in the Treasure Valley. Per Capita daily use is approximately 160 gallons (WRIME 2010, USGS 2005).

Individual homes that are not on a water supply system use ground water for drinking water, culinary uses, and irrigation. There are over 23,500 domestic wells in the Treasure Valley. This is a minimum number because there are domestic wells that have not been documented in IDWR records.

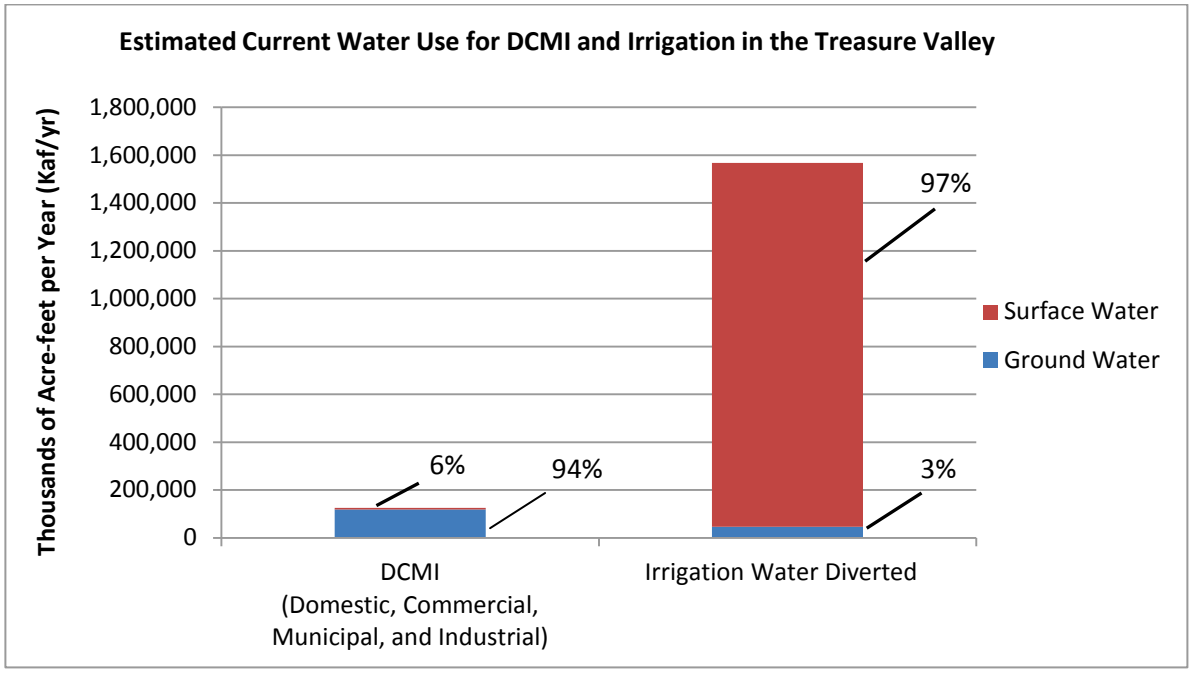


Figure 9. Estimated Current Water Use for DCMI and Irrigation in the Treasure Valley (Urban, 2004)

The single largest supplier of ground water is United Water Idaho, whose service area includes the City of Boise and part of Ada County. United Water is currently the only municipal supplier that also delivers treated surface water for DCMI uses. They serve a population of approximately 240,000. United Water produces about 45,000 acre-feet/year (32,000 acre-feet from ground water and 13,000 acre-feet from surface water) and regularly updates its water demand projections based on records of customer usage and modeling future growth. The other large suppliers are the Meridian Water Department (78,000 people served), City of Nampa (81,000 people served), and the City of Caldwell (46,000 people served). These three systems use ground water exclusively for supply.

While surface water is the primary source of water for irrigation, ground water is also a source for irrigation. The annual demand varies because some irrigators rely on ground water every year and some use it to supplement surface water. Weather conditions strongly influence irrigation demand and therefore the necessity of using ground water in a particular year.

The IDWR records show there are almost 30,000 total wells in the Treasure Valley. Ground water quality in the Treasure Valley Shallow and Treasure Valley Deep hydrogeologic subareas is regularly determined from data collected through the Statewide Ambient Ground Water Quality Monitoring Program. The statewide program is administered by the IDWR in cooperation with the USGS. The Treasure Valley Shallow and Treasure Valley Deep subareas are located primarily in Ada and Canyon Counties and generally correspond to the Treasure Valley CAMP study area. USGS in cooperation with the IDEQ has performed a comprehensive survey of existing wells in the Treasure Valley CAMP study area from 1992 to 2000.

Water Quality

Water quality is an important characteristic in meeting future water needs in the Treasure Valley. Ground water in the TVAS is generally of good quality for drinking and other uses. Surface water quality is variable and has been impacted by both natural and anthropogenic sources. Public drinking water systems are required to monitor their water supply for compliance with drinking water regulations and report the results to their users. Individual private wells generally do not have this requirement. Overall, the water quality throughout the system could constrain the availability of water supplies to meet current and future water needs if the water quality is degraded.

The IDWR has statutory authority for statewide administration of the rules regarding well construction, licensing of drillers, and proper abandonment of wells in Idaho. Well construction standards are designed to protect the quality of water in the aquifer. Additionally, the IDEQ administers the Idaho Wellhead Protection Program. The purpose of this program is to prevent the contamination of ground water that is used for drinking water. The Idaho Wellhead Protection Program is voluntary for local government and water purveyors to implement.

Degraded water quality can impact both supply as well as significantly increase costs for ground water providers and surface water users.

Fisheries and Biological Flows

Native coldwater species, including trout and whitefish, inhabit the middle and upper reaches of the Boise River from Lucky Peak Dam to Star. Winter stream flows below Lucky Peak Dam are the largest constraint on fish populations. Prior to the 1990s, winter flows were often 150 cfs or lower, providing only marginal overwinter habitat for wild trout and other sportfish.

The USBOR holds 152,300 acre-feet of un-contracted storage space that it has used in consultation with the IDFG to provide flows in the Boise River below Lucky Peak Dam during the non-irrigation season. Storage releases have increased typical winter flows to 240 cfs, which requires approximately 86,000 acre-feet of storage for about 180 days. During drought periods, these flows have been reduced to avoid exhausting the winter storage supply. Since winter flows increased in the mid-1990s, wild trout populations have increased 17-fold, with an estimated 2,000 fish per mile in some reaches.

The Boise River is generally a gaining reach from Star to its confluence with the Snake River and therefore has good stream flows, but water quality conditions can only seasonally support a cold-water fishery. This section of river supports a fair fishery for introduced sport fish, including largemouth bass, smallmouth bass, and channel catfish. The Lake Lowell fishery consists primarily of largemouth bass, smallmouth bass, yellow perch, black crappie, bullhead, bluegill, and channel catfish.

Some tributaries to the lower Boise were channelized and capacities have changed, which may have altered aquatic and riparian habitat. Functional riparian zones and wetlands adjacent to the Boise River and tributaries provide ecological services, such as water quality protection, storm water control, aquifer recharge, and ground water protection and provide important habitat for fish and wildlife. Riparian and wetlands support a disproportionately large number of species and diversity relative to other areas.

Recreation and Aesthetic Values

The Boise River contributes greatly to the quality of life in the Treasure Valley and is partly responsible for the growth in the area. Cultural attractions include a string of city parks and greenbelt trails, undeveloped areas within an urban setting, and sportsman's access areas. Natural attractions along the river range from basalt cliffs to a gallery of cottonwood forests and an extensive riparian zone.

There are water recreation opportunities available from the upper reaches of the Boise basin, on each of the reservoirs, and on the Boise River below Lucky Peak.

Boaters, fisherman, and waterfowl hunters access the lower Boise River from Lucky Peak Dam to the confluence with the Snake River. Floating the five-mile reach from Barber Dam to the center of Boise is especially popular in the hot summer

months. Likewise, water skiing is popular on Lucky Peak Reservoir.

Hydropower

Hydropower is generated below the reservoirs at both federal and non-federal hydroelectric power plants. Federal reclamation power plants were constructed at Anderson Ranch Dam (40,000 kW) and Boise Diversion Dam (1,500 kW) as part of the development of the Boise Project. These power plants provide power to operate project facilities and to help reduce power costs to Project farmers who depend on pumping water for irrigation. In 1988, four of the five irrigation districts who make up the BPBC completed construction of a power plant at Lucky Peak Dam (101,250 kW). Power generated at the facility is under contract with the Seattle Light Company. More recently in 2010, the BPBC completed construction of a hydropower facility on the Boise River at Arrowrock Dam (18,000 kW). Ada County owns a 3,700 kW power plant located at Barber Dam that is located just upstream of Boise. Upstream of the reservoir system the, Atlanta Power Company owns a 187 kW hydro power plant at Kirby Dam that supplies electricity to the town of Atlanta. A number of hydro plants have been constructed on canal drops in the Treasure Valley. Water leaving the Boise River basin enters the Snake River and continues to generate low-cost electricity at Idaho Power's Hells Canyon Complex for Idaho Power customers in the Treasure Valley.

Anticipated Changes in Water Use

Water demand in the Treasure Valley is expected to increase, although there is no consensus on the amount as demonstrated by three recent studies. The USBOR projected in a 2006 assessment level study that annual consumptive water demand in the Boise basin could increase by as much as 124, 085 acre-feet by 2050. WRIME's detailed 2010 demand study determined that annual demands for water in the Treasure Valley would increase by 82,880 acre-feet by 2060. The IDWR staff estimates that new water demands and shortfalls in water supply for existing demands could result in a need for new annual water supplies of approximately 170,000 acre-feet.

New water needs are difficult to quantify because there are areas of uncertainty, along with many variables that will determine actual water use and need. Changing land uses and social attitudes, as well as economic conditions, are all factors that will affect water use in the Treasure Valley.

Future water demand, driven mostly by increased population and economic growth, may be partially met by water conservation and land use and water use changes. Particularly difficult to anticipate is what proportion of growth will be on undeveloped land, rather than farm land, and what industrial or commercial uses might develop. Those changes are most likely to increase demand for water above current usage.

Challenges Associated with Water Use and Needs:

Meeting water needs and uses associated with future development patterns in a manner that minimizes conflict

The Treasure Valley population and economy has grown over the past decade and is expected to do so in the future. A recent study projects up to 650 KAF (WRIME 2010) could transition in use from agricultural to DCMI although a wide range of possible scenarios could occur.

The Treasure Valley must begin to evaluate how best to fulfill the anticipated new demand for water, actively planning for expansion, while encouraging conservation and protecting existing uses and benefits.

Maintaining quality of life

A challenge for the Treasure Valley will be to preserve the quality of life while being sensitive to the changing needs of the Treasure Valley into the future. Quality of life can include aesthetics, recreational needs, property values, socio-economic values, and influences economic development. Issues of quality of life are often subjective and water management decisions can affect quality of life in the Treasure Valley. How these issues influence water management will remain a challenge.

Meeting environmental needs

A challenge over the next 50 years will be to conserve and protect the water resources in the Treasure Valley's streams and aquifers and the riparian habitat it supports, while providing the water supplies for the current and future use. An incomplete understanding of the effect of water diversions for both consumptive and non-consumptive uses on the surface water and ground water leads to a difficulty in assessing their impact on the natural environment. Water managers and water users will be challenged to voluntarily and collaboratively provide functional habitats and mitigate the impacts of water diversions and discharges on the natural environment.

Meeting water supply needs

A challenge for the Treasure Valley will be to meet new and on-going water demands over the next 50 years. The size and location of future water demands, as well as projections for shortfalls in meeting current demands, is uncertain. Water supply solutions involve resolving difficult social and economic issues depending on form, size, and location. Some solutions, such as ground water and surface water storage proposals, require a long lead time to plan and construct so must be commenced long before there is consensus regarding the size and scope of future water demands. The challenge will be to conduct wise, proactive planning and marrying that with careful monitoring of demand increases and supply shortfalls to develop appropriate, timely, and economical water supply solutions.

Management and Administration

A long history of water development and legal decisions has led to a complex system of interaction among water managers in the Treasure Valley. Water administration is under the authority of the Director of the IDWR. However, numerous organizations and agencies are involved in the practical management of water. The IWRB is a constitutionally created body responsible for formulating, adopting, and implementing a comprehensive State Water Plan for conservation, development, management, and optimum use of all unappropriated water resources and waterways of this state in the public interest. The State Water Plan is a guiding document for all state actions and activities. The IWRB undertakes water projects for a variety of purposes throughout the state. The IWRB also provides financing for local water entities, such as canal companies, irrigation districts, cities, and others to undertake water projects, including improvement, expansion, and reconstruction of facilities.

Water District #63 was created by the Director of the IDWR to administer surface water rights from the Boise River currently subject to administration. The administration is carried out under state water law and court decrees. Water rights to more than 330,000 irrigated acres are administered in the Treasure Valley from the Boise River. In addition to irrigation, water rights for other uses are also administered.

Throughout the water year, the watermaster works closely with the NRCS Snow Survey, IDWR, the USBOR, and the USACE. The information provided by these agencies help the water users understand predictions for the total amount of water available each year. Water District #63 currently records 75 points of diversion weekly during the irrigation season. This information is used with the IDWR accounting program to track natural flow and storage use at each diversion. Data from the water district, the USGS, the USBOR, and Idaho Power Company are compiled to run the water rights accounting model. The IDWR operates the daily water rights accounting model, and the water master uses the model output to administer the water rights and storage water in the basin.

Ground Water Rights not Currently Administered (as of 2012)

The administration of water rights generally refers to the curtailment of junior water rights to satisfy senior water rights. Water rights are administered by a watermaster appointed by the IDWR. In order to administer water rights, they must be legally quantified through adjudication or other administrative action, such as a license.

In the Treasure Valley, only surface water rights are currently administered by the watermaster because ground water rights have not been fully adjudicated. Following the completion of the Snake River Basin Adjudication (SRBA), it is expected that ground water rights may be included in a water district and conjunctively administered in priority. Conjunctive administration is the term used to describe

administration of both ground water and surface water under a common system. Administration of ground water rights, or the implementation of conjunctive administration in the Treasure Valley, is not currently underway.

The legislature adopted the Ground Water District Act in 1995 to create a mechanism to allow ground water users to organize and to formulate mitigation plans to provide protection for senior surface water rights that otherwise would be materially injured by ground water pumping. To date the ground water users in the Treasure Valley have not elected to form such a district.

Irrigation Districts/Canal Companies/Lateral Associations

There are 47 Irrigation entities that operate within the Treasure Valley. These entities were created locally for the purpose of new irrigation development. Irrigation entities usually hold water rights and own diversion facilities and infrastructure. The majority of storage space in the reservoir system is used for irrigation by these entities that hold spaceholder contracts with the USBOR.

State Law Associated with Requiring the Continued Use of Irrigation Water for Landscaping

In 2005, the Idaho Legislature adopted Idaho Code 67-6537, which encourages the use of surface water for irrigation, a requirement directed at applications for land use changes, such as from agricultural land to residential subdivisions. The law amended the Local Land Use Planning Act and requires that if land has irrigation water appurtenant and is reasonably available, access and use of the surface water for irrigation will be used.

Flows Regulated to Star

Average summer flows at Star vary with irrigation demand but 250 cfs is the target flow for the administration of water deliveries below Star. Surface water in the Boise River and its tributaries upstream from Star is considered fully appropriated during the irrigation season and during much of the rest of the year. In 1995, the Director of the IDWR issued a moratorium order stating that new applications for water would be denied unless it included an acceptable plan to mitigate or avoid injury to existing water rights. The order also describes an area in which applications for ground water shallower than 200 feet below the surface would only be processed if they included mitigation measures or could show no adverse impacts to existing water rights.

Downstream from Star, surface water (as well as ground water) is available for new appropriation, but the actual amount will vary from year to year and season to season.

Salmon Flow Augmentation

The USBOR holds 40,932 acre-feet of storage space in Lucky Peak Reservoir to be used for downstream salmon flow augmentation. This is a component of the (up to) 427,000 acre-feet of storage water that USBOR delivers from the Snake River above Brownlee Reservoir every year for salmon flow augmentation, consistent with the Nez Perce term sheet and Idaho Code 42-1763B. If replacement water supplies

could be found in another basin (consistent with the Nez Perce term sheet) and delivered for salmon flow augmentation, this 40,932 acre-feet in Lucky Peak could potentially be made available to help meet future water needs in the Treasure Valley.

Water Markets

The Idaho Water Supply Bank (Bank) was legislatively recognized in 1979 (Section 42-1761, Idaho Code) and is operated under the authority of the IWRB. The state program includes two distinct programs, **Rental Pools** and the **Water Supply Bank**, which are both essentially water exchange markets intended to assist in the marketing of natural flow and water stored in Idaho reservoirs. They also provide a mechanism by which water rights and stored water that is not being used can be made available for use by others through a lease and rental process.

The Bank includes water rights from surface water and ground water sources throughout Idaho. Water rights may be leased (deposited) to the Bank if not currently in use and then rented (withdrawn) from the Bank by another water user for beneficial uses such as commercial, industrial, irrigation, or mining. In addition, water rights leased to the Bank are protected from forfeiture. Applications to lease and rent water from the Bank are currently received and processed by the IDWR. The Boise River drainage had the most activity in the state in 2010 for leasing water rights into the Bank but only 9% of these rights were rented back out for actual use (2010 Water Supply Bank Annual Report, IDWR).

Water District #63 Rental Pool (Rental Pool) is a mechanism for reservoir spaceholders to make stored water available to other entities in short supply in a given year. The Rental Pool also provides a source of revenue for Water District #63 to make improvements in water distribution while encouraging the maximum beneficial use of stored water. The Rental Pool is under the jurisdiction of and operated by the local committee appointed by the IWRB. The local committee develops the rules of procedure, lease pricing, and operation requirements for their Rental Pool, which then must be approved by the IWRB. The USBOR must also approve the rules and rates for Federal storage as a facility owner. The watermaster administers the Rental Pool under the guidance of the local committee.

The Rental Pool has rented an average of 6,236 acre-feet over the past 8 years, excluding the USBOR-held uncontracted space. Use of the Rental Pool appears to be low compared with other rental pools in the state despite the rapid growth of DCMI uses in the basin.

Challenges Associated with Management and Administration:

Lack of an organizational structure for ground water users to collectively plan for and respond to future challenges

Solutions to meeting long-term water needs and avoiding conflict may require action beyond single individuals. Long term successful solutions may require cooperative/collaborative efforts within and among ground water users who share a common interest.

Advanced technical capabilities are needed to meet increasingly complex water management challenges

Although we understand a great deal about the regional hydrology, our information does not provide a full understanding of the localized interaction between ground and surface water, and between the shallow aquifer and deep aquifer. Knowledge is not sufficient to fully characterize the hydrologic system which results in difficulty predicting system responses to management actions. Historical hydrological records may not be sufficient for forecasting future conditions. Existing ground water models do not incorporate newer information or forecasts.

Existing water Management tools that appear to be under-utilized could help provide solutions to meeting water needs in the future

Several water management tools exist that could be utilized to help meet future water needs, but currently appear to be under-utilized. The Boise River (Water District 63) Rental Pool, which facilitates marketing of reservoir storage water, has a lower level of activity when compared with the Payette and Upper Snake Rental Pools, despite the Treasure Valley having rapidly growing water needs. The Water Supply Bank facilitates marketing of natural flow and ground water rights. Bank records show that in the Treasure Valley there is considerable activity to lease water rights into the Bank, but little demand to rent water rights out of the Bank even with the Treasure Valley having rapidly growing DCMI water needs. Another tool is the Municipal Water Rights Act of 1996 which provides for growing municipalities to acquire water rights based on future growth projections.

3. Actions Needed

Guided by the CAMP goals and vision, the Committee identified several recommended actions for addressing the challenges discussed in previous sections of this Plan. Understandably, these actions will need to be more fully refined during the implementation phase, but the Plan by adopting a mix of strategies represents a balanced approach to addressing the future water challenges in the Treasure Valley. These actions have not been ranked or placed in order of priority.

Enhance Water Data Collection, Analysis, and Planning

Several types of data are needed to effectively manage the water resource. Water planning and management tools should be developed and updated using accurate data. These tools are needed to reduce uncertainty and improve effectiveness and efficiency. Taking the following actions will contribute to successful water management that protects the public health and safety, minimizes conflicts, and promotes the economic and environmental health of Idaho:

- Improve ground water models and technical tools to meet administrative purpose and to facilitate decision making;
- Support water supply modeling and stream flow monitoring;
- Measure water-use changes and report demand trends to the IWRB;
- Support drought planning to increase the resiliency of the water supply specific to the Boise drainage;
- Support efforts at assessing potential effects of water management on the natural environment;
- Create a mechanism for coordination within the ground water community;
- Continue to increase transparency of planning process;
- Organize a periodic Water Forum ("Water Summit") to assess the state of the aquifer and discuss emerging issues and opportunities.

Additional Storage and Supply

Additional storage or other sources of water supply may be needed in the future to offset the increased variability of water supply and additional water demand. Because of the extended lead time required for initiating storage and water supply projects, study of these projects should be continual. This will ensure the information is available when decisions need to be made. The following actions should be part of the evaluation of future supply options:

- Continue the study of the feasibility of potential surface water storage projects in a manner that comprehensively addresses supply options and avoids conflict;
- Investigate the feasibility of utilizing managed recharge for meeting future water demands;
- Support the exchange of the USBOR's salmon flow augmentation space in Lucky Peak (excluding stream flow maintenance) with replacement water supply consistent with the Nez Perce term sheet;
- Evaluate augmentation of existing cloud-seeding programs as an option for increasing water supply.

Reducing Demand through Water Conservation

Reducing demand through water conservation should be adopted as one of the strategies for meeting future water needs in the Treasure Valley. Capital costs associated with new supply may be avoided through the reduction of per capita demand. Addressing these issues is a multi-jurisdictional responsibility; therefore the IDWR should work in cooperation with water users and water providers to collaboratively develop incentives to reduce demand. The following actions should be taken to conserve water and reduced demand:

- Use education to encourage conservation;
- Encourage conservation and efficient use of ground water;
- Encourage conservation and efficient use of surface water, where a viable opportunity exists, taking into consideration the benefits of incidental recharge;
- Support efforts for retrofitting neighborhoods with pressurized irrigation;
- Encourage and support wastewater/gray water reuse;
- Encourage or support incentives for conservation;
- Develop guidelines for conservation programs;
- Consider conservation requirements for new water appropriations.

Potential Conversion of Water Use from Agriculture to Other Uses

Urbanization has changed some water demand from agricultural irrigation to residential irrigation and other uses. This trend is expected to continue into the future as additional growth occurs. The intent of these actions is to ensure irrigation water is available for residential use and irrigation entities continue to have financial viability and protection of infrastructure. Domestic irrigation provided through the canal systems is also beneficial because it reduces the amount of water that municipal water systems need to provide. The following actions should be undertaken to ensure orderly transition of water use from agriculture to DCMI and other uses:

- Continue to support the use of surface water on those lands that convert from agriculture to DCMI and other uses utilizing the existing irrigation entities;
- Support voluntary cooperative arrangements between irrigation entities and municipal providers to deliver surface water recognizing the long-term challenges associated with maintaining Homeowners Association-owned systems;
- Encourage the use of water marketing to meet current and future needs including the use of the Rental Pool and the Bank.

Municipal Water Rights Act of 1996

The Municipal Water Rights Act of 1996 is a tool available to municipal providers to secure water rights for growing municipal water demands based upon anticipated future needs.

Preserve and Protect Water Delivery Infrastructure

The integrity of the delivery system is vital to the optimal use of water in the Treasure Valley. The following actions recognize specific components of the water delivery system that will ensure continued integrity into the future:

- Support voluntary arrangements between irrigation entities and municipalities to ensure long-term maintenance of new residential irrigation systems;
- Seek funding from a diversity of sources;
- Ensure easements/access to canals for maintenance in face of growth;
- Continue to support considerations of security, both in terms of infrastructure and on water quality;
- Support the rehabilitation and modernization of water delivery infrastructure;
- Explore opportunities to minimize fish entrainment in the canal systems;
- Inform land-use entitlement and transportation authorities at both the local and state level to help the irrigation community protect its easements and right- of-way to maintain the canals and ditches that provide irrigation water.
-

4. Treasure Valley CAMP Implementation

Management of the Treasure Valley Aquifer affects numerous stakeholders. Effective implementation of the Plan will require the participation and cooperation of stakeholders and governmental entities with jurisdictional authorities and responsibilities.

The IWRB staff will provide leadership and coordinate activities for the implementation of this plan.

The IWRB may continue to convene the Committee to guide and make recommendations concerning the implementation of management strategies and to review goals and objectives. The Committee could provide a forum for discussing implementation, establishing benchmarks for evaluating the effectiveness of actions, coordinating with water users and managers, evaluating and addressing environmental issues, and identifying and pursuing funding opportunities.

The Committee will continue to include interest groups currently represented and may expand or contract as appropriate to include other interested people, per the IWRB direction. In addition, the IWRB will appoint at least one of its members to serve as a liaison between the Committee and the IWRB. The Committee will serve at the pleasure of the IWRB and provide a forum for public participation. The IWRB staff will facilitate the work of the Committee and provide the technical information needed for its deliberations. The IWRB will make all final decisions concerning Plan project priorities, implementation, and funding.

As various programs are implemented, additional monitoring or modifications will likely be needed. Specific projects may require site-specific measurement and analysis that are not currently available. Additional analysis will likely be required to assist the IWRB and the Committee.

Outreach and Education

During implementation of the Treasure Valley CAMP, the Committee will help develop a plan for broad water education and outreach, building on existing efforts and programs. Emphasis will be placed on education efforts that promote conservation and a reduction in consumptive use.

Funding

Effective implementation of the CAMP actions will require a partnership among the state, local and federal governments, stakeholders, water users, and non-governmental organizations. These partnerships will advance the goals of CAMP because capabilities and resources can be combined to accomplish the shared goals. The costs of implementation are anticipated to be shared among willing partners. As the implementation plan is developed, the funding needs for the Plan components will be evaluated and potential funding sources, including federal grants, will be identified.

The many existing activities for maintaining the health of the Treasure Valley Aquifer reflect the value and importance the aquifer and water resources have to the region. These existing activities are

undertaken by all levels of government. These activities are funded through various sources and through various programs. The IWRB supports existing programs that protect and enhance the water resources of the area. Opportunities to combine resources and leverage existing programs with CAMP implementation will be encouraged and supported.

Additionally, the IWRB has an existing financial program that can provide financial assistance to improve infrastructure for irrigation and community water supplies and for flood control and hydroelectric power. This assistance is provided in the form of loans and IWRB-issued revenue bonds.

Adaptive Management

The goal of adaptive management is to support improved decision making and performance of water management actions over time.

Key principles fundamental to this approach include:

1. Anticipating possible future uncertainties and contingencies during planning
2. Employing science-based approach to build knowledge over time
3. Designing projects that can be adapted to uncertain or changing future conditions

Adaptive management involves taking actions, testing assumptions, and then monitoring and adapting/adjusting the management approach as necessary. It is a way of taking action in a complex system with many variables and constant change.

Developing perfect knowledge concerning any system, including the Treasure Valley Aquifer, is impossible. Therefore, an adaptive management approach is critical to the successful attainment of the qualitative and quantitative goals set forth in the Plan. Successful adaptive management requires patience and long-term commitment, just as acquiring enough data to make decisions about program changes takes time.

The adaptive management strategy will allow the IWRB to:

- Develop protocols for revising management actions;
- Compare costs and impacts of different actions on the Treasure Valley Aquifer;
- Adjust funding allocation between projects to get the most "bang for the buck";
- Concentrate funding on management actions that produce results;
- Make adjustments and revisions to the Plan as new information becomes available or in response to changing water supply and demand needs;
- Proceed with flexibility, depending on results and analysis of monitoring and measurement data.

Coordination and Implementation

Management of the Treasure Valley Aquifer affects numerous stakeholders within Idaho and requires coordination. The Committee will be charged with providing guidance and recommendations concerning the implementation of management strategies. The Committee will provide a forum for discussing implementation, establishing

benchmarks for evaluating the effectiveness of actions, coordinating with water users and managers, evaluating and addressing environmental issues, and identifying and pursuing funding opportunities.

Monitoring and Data Gathering

The Advisory Committee and Board staff will be able to assess the impacts of various management activities using data gathered through the monitoring process. In some cases, it may take a number of years to obtain sufficient data to achieve a comprehensive understanding of the effects of particular actions. Regardless, the success of the plan depends upon the development and maintenance of state-of-the-art monitoring and evaluation tools that provide the information necessary to make sound planning decisions for the future.

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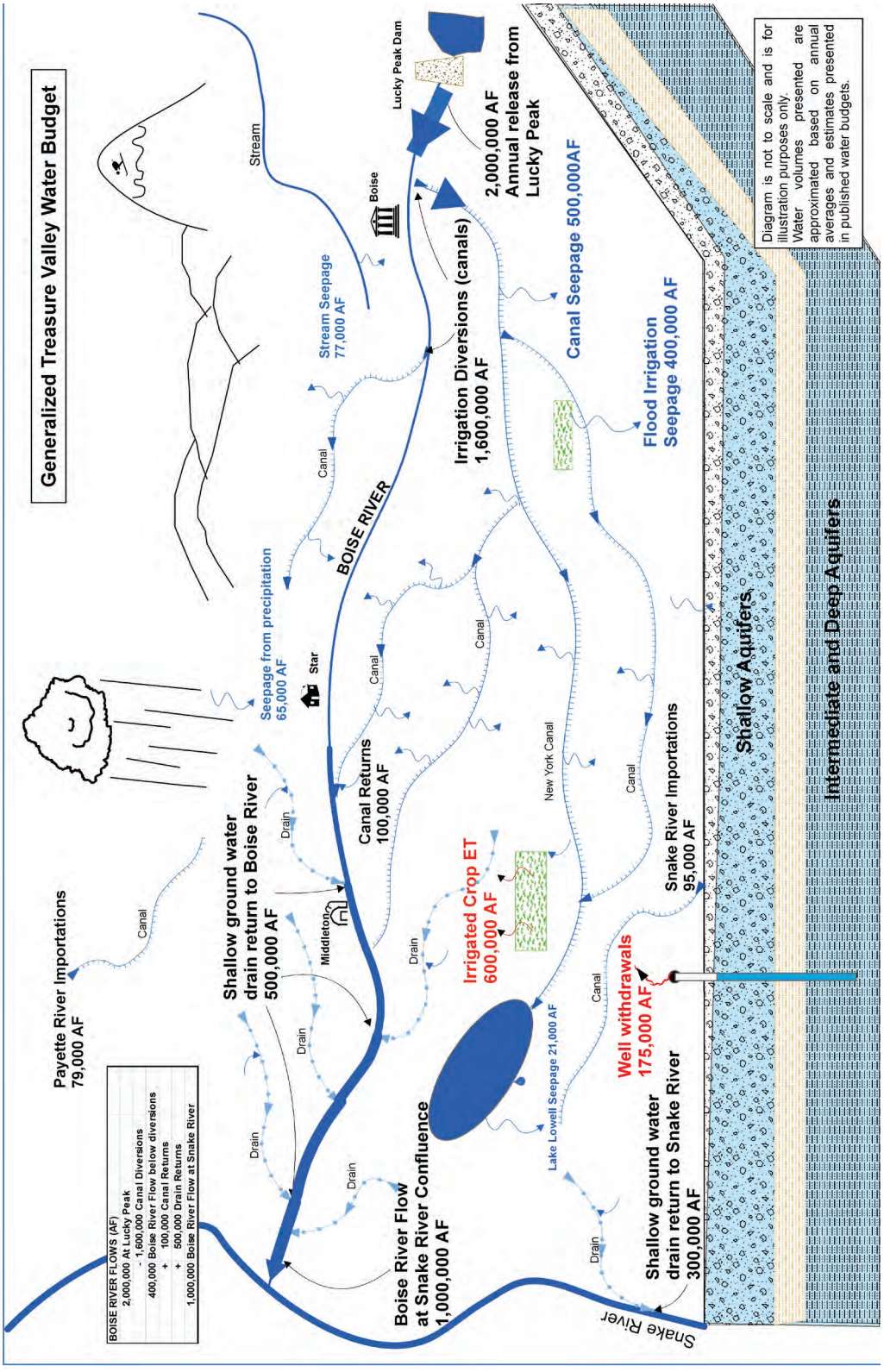
Appendices

Appendix 1. Water Budget Schematic



Appendix 2. Treasure Valley Comprehensive Management Plan Advisory Committee Members and Affiliations

TV CAMP MEMBER*	AFFILIATION
Abramovich, Ron	Natural Resources Conservation Service
Adamson, Brent	Boise County
Amick, Doug	City of Greenleaf
Anderson Jamie	Boise County
Barrie, Rex	Water District #63
Case, Vern	Wilder Irrigation District
Berggren, Ellen	U.S. Army Corps of Engineers
Bowling, Jon	Idaho Power Company
Burnell, Barry	Idaho Department of Environmental Quality
Dane, Russ	Keller Williams Realty
Decker, Kevin	Idaho Wildlife Federation
Deveau, Paul	Boise Project Board of Control
Dixon, Dave	Greenleaf Farms Inc.
Duspiva, Gary	Canyon County Planning and Zoning Commission
Echeita, Mike	City of Eagle
Funkhouser, Allen	Drainage District # 2
Fuss, Michael	Nampa Public Works
Goodson, Stephen	Governor's Office
Howard, Matt	U.S. Bureau of Reclamation
Jones, Chris	Ted Trueblood Chapter, Trout Unlimited
Kennedy, Ben	Micron Technology, Inc.
Larson, Bill	Treasure Valley Partnership
Leatherman, Megan	Ada County
McKee, Lynn	Ada County Soil and Water Conservation District
Nelson, Greg	Idaho Farm Bureau
Patton, Brian	Idaho Department of Water Resources
Peter, Kathy	Unaffiliated
Pline, Clinton	Nampa-Meridian Irrigation District
Prigge, John	Sorrento Lactalis
Rhead, Scott	United Water of Idaho
Ronk, Jayson	Idaho Association of Commerce & Industry
Schmillen, Bob	City of Middleton
Shoemaker, Gary	City of Caldwell
Stewart, Lon	Sierra Club
Stewart, Warren	City of Meridian
Telford, Craig	City of Parma
Thornton, John	North Ada County Technical Working Group
Ward, Rick	Idaho Department of Fish and Game
Woods, Paul	City of Boise
Yerton, Janice	City of Kuna
Zirschky, Mark	Pioneer Irrigation District

*Former members: Gayle Batt, Michelle Atkinson

Appendix 3. Abbreviations and Terms

acre-foot	A volume of water equivalent to one acre covered in water one foot deep. One acre-foot (af) equals 325,851 gallons
aquifer	A water-bearing layer of rock that will yield water in a usable quantity to a well or spring
Bank	Water Supply Bank
CAMP	Comprehensive Aquifer Management Plan
cfs	Cubic feet per second. A rate of flow equal to one cubic foot of water passing a point each second. One cfs equals approximately 7.48 gallons per second or 449 gallons per minute.
Committee	Treasure Valley CAMP Advisory Committee
consumptive use	Consumptive use is water that is actually consumed and not returned to the immediate water environment. It is the portion of water that evaporates, is used in products or crops, or consumed by humans or livestock.
DCMI	Domestic, Commercial, Municipal, and Industrial
GWMA	Ground Water Management Area
IDP	Idaho Drought Plan
KAF	Thousand acre-feet
kW	Kilowatt, one thousand Watts of electric power
MAF	Million acre-feet
Plan	Treasure Valley Comprehensive Aquifer Management Plan
Rental Pool	Water District #63 Rental Pool
SRBA	Snake River Basin Adjudication
TVAS	Treasure Valley Aquifer System

Appendix 4. Key Agencies/Entities

BPBC	Boise Project Board of Control
IDEQ	Idaho Department of Environmental Quality
IDWR	Idaho Department of Water Resources
IDFG	Idaho Department of Fish and Game
IDWR	Idaho Department of Water Resources
IWRB	Idaho Water Resource Board
NRCS	Natural Resources Conservation Service
USACE	U.S. Army Corps of Engineers
USBOR	U.S. Bureau of Reclamation
USGS	U.S. Geological Survey
WRIME	Water Resources & Information Management Engineering, Inc.

Appendix 5. Resource Directory

For more information about the Comprehensive Aquifer Management Planning Program:
http://www.idwr.idaho.gov/waterboard/WaterPlanning/CAMP/CAMP.htm

For information about the Idaho Water Resource Board:
http://www.idwr.idaho.gov/waterboard/

For information about the Idaho Department of Water Resources:
http://www.idwr.idaho.gov/

For additional information on Water District #63:
http://www.idwr.idaho.gov/WaterManagement/waterDistricts/BoiseRiver/default.htm

For information on the Water Supply Bank and Water District #63 Rental Pool:
http://www.idwr.idaho.gov/WaterManagement/WaterRights/WaterSupply/ws_default.htm

For additional information on the Boise Project Board of Control:
http://www.boiseproject.org/
http://www.usbr.gov/projects/Project.jsp?proj_Name=Boise+Project

For information on the Treasure Valley Hydrologic Project:
http://www.idwr.idaho.gov/WaterInformation/projects/tvhp-revised/

For additional USGS water data:
http://id.water.usgs.gov/water_data/

For additional information on ground water levels in the Treasure Valley:
Public access to ground-water measurement data is available at Hydro.Online or by contacting IDWR staff

For additional information on hydropower production in the region:
http://www.idahopower.com/AboutUs/OurPowerPlants/Hydroelectric/hydroelectric.cfm

For additional information on water quality, see the Idaho Department of Environmental Quality:
http://www.deq.idaho.gov/

For more information on the Idaho Snow Survey Program, see the Natural Resource Conservation Service:
http://www.id.nrcs.usda.gov/

For more information on Bureau of Reclamation activities in the region:
http://www.usbr.gov/pn/

For more information on US Army Core of Engineers activities in the region:
http://www.nww.usace.army.mil/boise/outreach.html

Appendix 6. References and Information Sources

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IDAHO
WATER RESOURCE BOARD

IDAHO
STATE WATER PLAN

IDAHO WATER RESOURCE BOARD

PROPOSED MAY 2012

"There shall be constituted a Water Resource Agency, composed as the Legislature may now or hereafter prescribe, ... Additionally, the State Water Resource Agency shall have power to formulate and implement a state water plan for optimum development of water resources in the public interest. The Legislature of the State of Idaho shall have the authority to amend or reject the state water plan in a manner provided by law . . . ."

Idaho Constitution, Article XV, Section 7

State of Idaho

THE STATE WATER PLAN

C.L. "Butch" Otter, Governor

Idaho Water Resource Board

Terry T. Uhling
Chairman

Roger W. Chase
Vice-Chairman

Robert Graham
Secretary

Vince Alberdi
Leonard Beck
Charles "Chuck" Cuddy
Peter Van Der Meulen
Jeff Raybould

Idaho Water Resource Board
Proposed Revision
May 2012

Former members of the Idaho Water Resource Board

Vic Armacost, New Meadows
Robert M. Bandy, Priest River
Brent J. Bell, Rexburg
Mary T. Brooks, Boise
Jack Buell, St. Maries
Gary Chamberlain, Challis
George Crookham, Caldwell
Sally L. Cupan, Sandpoint
J. David Erickson, Buhl
Leonard E. Graham, Rigby
Gene M. Gray, Payette
Robert M. Hammes, St. Maries
M. Reed Hansen, Idaho Falls
William B. Holden, Idaho Falls
Kenneth E. Hungerford, Moscow
Franklin Jones, Boise
Joseph L. Jordan, Boise
Dr. Evan Kackley, Soda Springs
Donald R. Kramer, Castleford
Ferris M. Kunz, Montpelier
William J. Lanting, Twin Falls
Charles J. Marshall, Jerome
Herman J. McDevitt, Pocatello
Joe Nettleton, Murphy
Thomas Olmstead, Twin Falls
Arlie Parkins, Marsing
Clarence Parr, Heyburn
William S. Platts, Boise
Erval Rainey, Sandpoint
Scott Reed, Coeur d'Alene
Edward Reichert, Filer
Jerry Rigby, Rexburg
F. Dave Rydalch, St. Anthony
D. Mike Satterwhite, Lewiston
Edwin Schlender, Malta
James Sawver, Eden
LeRoy Stanger, Idaho Falls
Claude Storer, Idaho Falls
John F. Streiff, Lewiston
Richard W. Wagner, Lewiston
J.D. Williams, Boise
D. Richard Wyatt, Lewiston
George L. Yost, Emmett

May 18, 2012

To the Citizens of Idaho:

<insert letter from Chairman>

Insert Resolution of Adoption by the IWRB

Table of Contents

Table of Contents (cont.)

THE WATER PLANNING PROGRAM

The Idaho Comprehensive State Water Plan ("State Water Plan" or "Plan") was adopted by the Idaho Water Resource Board ("Idaho Water Resource Board" or "Board") to guide the development, management, and use of the state's water and related resources. The wise use and management of the state's water is critical to the state's economy and to the welfare of its citizens. The Plan seeks to ensure that through cooperation, conservation, and good management, future conflicts will be minimized and the optimum use of the state's water resources will benefit the citizens of Idaho. The Plan is subject to change so as to be responsive to new opportunities and needs.

Constitutional Authority

Article XV, section 7 of the Idaho Constitution provides the authority for the preparation of a Comprehensive State Water Plan. This constitutional amendment was adopted in November 1964 following a statewide referendum and states:

> *There shall be constituted a Water Resource Agency, composed as the Legislature may now or hereafter prescribe, which shall have power to formulate and implement a state water plan for optimum development of water resources in the public interest; to construct and operate water projects; to issue bonds, without state obligation, to be repaid from revenues of projects; to generate and wholesale hydroelectric power at the site of production; to appropriate public waters as trustee for Agency projects; to acquire, transfer and encumber title to real property for water projects and to have control and administrative authority over state land required for water projects; all under such laws as may be prescribed by the Legislature.*

Article XV, section 3 of the Idaho Constitution provides for the appropriation and allocation of water. Section 3 provides that:

> *The right to divert and appropriate the unappropriated waters of any natural stream to beneficial uses, shall never be denied, except that the state may regulate and limit the use thereof for power purposes. Priority of appropriation shall give the better right as between those using the water; but when the waters of any natural stream are not sufficient for the service of all those desiring the use of the same, those using the water for domestic purposes shall (subject to such limitations as may be prescribed by law) have the preference over those claiming for any other purpose; and those using the water for agricultural purposes shall have preference over those using the same for manufacturing purposes. And in any organized mining district those using the water for mining purposes or milling purposes connected with mining have preference over those using the same for manufacturing or agriculture purposes. But the usage by such subsequent appropriators shall be subject to such provisions of law regulating the taking of private property for public and private use, as referred to in section 14 of article I of this Constitution.*

Legislative Authority

Article XV, section 7 of the Idaho Constitution provided for the creation of a "Water Resource Agency" but did not establish the agency. In 1965, the 38th Legislature established the Idaho Water Resource Board, and directed that (as amended):

> *The Idaho Water Resource Board shall, subject to legislative approval, progressively formulate, adopt and implement a comprehensive state water plan for conservation, development, management and optimum use of all unappropriated water resources and waterways of this state in the public interest.*

Idaho Code § 42-1734A(1).

To assist the Board, the legislature provided for the director of the Department of Water Resources ("Department"):

> *To perform administrative duties and such other functions as the Board may from time to time assign to the Director to enable the Board to carry out its powers and duties.*

Idaho Code § 42-1805(6).

Article XV, section 7 was amended by the electorate during the general election of November 6, 1984. The amendment provides that:

> *The Legislature of the State of Idaho shall have the authority to amend or reject the state water plan in a manner provided by law. Thereafter any change in the state water plan shall be submitted to the Legislature of the State of Idaho upon the first day of a regular session following the change and the change shall become effective unless amended or rejected by law within sixty days of its submission to the Legislature.*

Chapter 17 of title 42, Idaho Code, was amended in 1988 to designate the Plan as the Comprehensive State Water Plan Part A. Plans developed for specific geographic areas became components of the Comprehensive State Water Plan Part B.

> *The board may develop a comprehensive state water plan in stages based upon waterways, river basins, drainage areas, river reaches, ground-water aquifers, or other geographic considerations.*

Idaho Code § 42-1734A(2).

> *As part of the comprehensive state water plan, the board may designate selected waterways as protected rivers as provided in this chapter.*

Idaho Code § 42-1734A(1).

The authority to designate "protected rivers" derives from the state's power to regulate activities within a stream bed including stream channel alterations, water diversions, the extraction of minerals or other commodities, and the construction of impoundments.

Legislation in 2008 provided for the development of a statewide comprehensive aquifer management planning and management effort and fund. Idaho Code §§ 42-1779 and 42-1780.

> *Pursuant to the provisions of Idaho law and legislative funding approval, the Idaho water resource board and the Idaho department of water resources shall conduct a statewide comprehensive aquifer planning and management effort over a ten (10) year period of time beginning in fiscal year 2009.*

Idaho Code § 42-1779.

Idaho Water Resource Board Programs

Pursuant to its constitutional and statutory authorities, the Board:

1. Formulates, adopts, and implements the State Water Plan, River Basin Plans, and Comprehensive Aquifer Management Plans.

2. Designates natural and protected rivers and files applications for and holds minimum stream flow water rights.

3. Provides financial assistance for water development and conservation projects in the form of revenue bonds, loans, and grants.

4. Establishes programs that address specific water resource issues at the direction of the Idaho Legislature.

5. Adopts rules governing:
   * Well Construction
   * Well Driller Licensing
   * Construction and Use of Injection Wells
   * Drilling for Geothermal Resources
   * Mine Tailings Impoundment Structures
   * Safety of Dams
   * Stream Channel Alteration

   The Department administers these programs.

6. Hears appeals challenging the Department’s administrative decisions pursuant to programs administered under the Board’s administrative rules.

7. Administers the Idaho Water Supply Bank.

8. At the request of the Governor, appears on behalf of and represents the state in proceedings, negotiations, or hearings involving the federal government, Indian tribes, or other states.

9. Files applications and obtains permits to appropriate, store, or use unappropriated waters, and acquires water rights subject to the provisions of applicable law.

10. Investigates, undertakes, and promotes water resource projects deemed to be in the public interest.

11. Cooperates and enters into contracts with federal, state, and local governmental agencies and private entities for water studies, planning, research, and activities.

12. Studies water pollution and advises the Idaho State Board of Environmental Quality regarding the establishment of water quality criteria in the context of the optimum development of the state's water resources.

13. Formulates and recommends legislation for water resource conservation, development, and utilization.

Comprehensive State Water Plan Formulation

Formulation of the State Water Plan is a dynamic process. Adoption of The State Water Plan – Part One, The Objectives, in 1974, and The State Water Plan - Part Two, in 1976, provided an initial state water policy. The purpose of Part One was to identify and define policies and objectives adopted by the Board to govern the planning, development, and conservation of the state's water and related lands. Part Two identified and evaluated projects and programs necessary to implement the objectives of Part One and delineated those areas where legislative action was required, identified the programs to be implemented by the Board, and described programs requiring the cooperation of public and private interests. The Plan was updated and re-adopted in 1982 and was amended in 1985 in connection with the Swan Falls settlement. The Plan was revised in 1986, 1992, and 1996 to reflect changing social and economic conditions and water resource needs. The Plan continues to evolve and provides a framework for the adoption and implementation of policies, programs, and projects that develop, utilize, conserve, and protect the state's water supplies.

Planning Process

The planning process encompasses five steps:

1. A comprehensive public involvement program to determine public views and interests regarding resource problems, needs, and opportunities as they relate to water use and management;

2. An ongoing evaluation of the state's water resources and uses and estimation of the future availability and demands on the resource;

3. A comprehensive evaluation of the effects resulting from the development and protection of the state's water resources;

4. Adoption of the Plan by the Board as required by Article XV, section 7 of the Idaho Constitution; and

5. Approval by the Idaho Legislature as provided by law.

Public involvement is an essential part of the planning process. Scoping meetings, comment periods, and formal hearings provide opportunity for public input during plan development. After adoption and approval, public comment on the effectiveness of the Plan is encouraged.

COMPREHENSIVE STATE WATER PLAN

The Comprehensive State Water Plan represents the state's position on water development, allocation, and conservation. Accommodating Idaho's growing and changing water needs and the increasing demands on both surface and ground water presents a significant challenge. The Plan seeks to meet that challenge through the establishment of policies on water development, management, and conservation with accompanying strategies that may be implemented depending on the availability of funds, and milestones which will assist in ongoing Plan review.

Objectives

The following objectives of the State Water Plan are formulated for the conservation, development, management and optimum use of all unappropriated water resources and waterways of this state in the public interest [Idaho Code § 42-1734A].

1. **Water Management** - Encourage the quantification of water supplies, water uses and water demands for all water rights within the state. Encourage integrated, coordinated, and adaptable water resource management and the prudent stewardship of water resources.

2. **Public Interest** - Ensure that the needs and interests of the public are appropriately considered in decisions involving the water resources of the state.

3. **Economic Development** - Encourage and support economic development through the optimum use of water resources, in accordance with the prior appropriation doctrine as established by law. Promote the integration and coordination of the use of water, the augmentation of existing supplies, and the protection of designated waterways for all beneficial purposes. [Idaho Code § 42-1734A(1)(b)].

5. **Environmental Quality** - Maintain, and where possible enhance water quality and water-related habitats. Study and examine the quality of rivers, streams, lakes and ground water [Idaho Code § 42-1734(15)], and ensure that due consideration is given to the needs of fish, wildlife, and recreation in managing the water resources of the state. Where appropriate, initiate state protection of waterways or water bodies with outstanding fish and wildlife, recreation, geologic or aesthetic values.

6. **Public Safety** - Encourage programs ensuring that life and property within the state are not threatened by the management or use of the state's water resources.

Policies

A main goal of this document is to help water managers, planners, and users formulate management strategies and policies needed to meet growing and changing water-use needs. The Board adopts the following policies for the conservation, development, management and optimum use of all the unappropriated water resources and waterways of this state in the public interest. [Idaho Code § 42-1734A]

Photo: Falls on the Teton River in Eastern Idaho (*IDWR Photo*)

1. OPTIMUM USE

It is in the public interest to establish policies, initiatives, and programs that lead to optimum use of the water resources of the state. Water is essential to the vitality and prosperity of the state. All the waters of the state, when flowing in their natural channels, including the waters of all natural springs and lakes within the boundaries of the state are the property of the state (Idaho Code § 42-101). The state, through the Department, supervises the appropriation and allocation of the right to use the state waters for beneficial purposes.

1A - STATE SOVEREIGNTY

All waters, whether surface or ground water, are owned by the state as public property and the state asserts its sovereign right to regulate all waters within the state of Idaho for the benefit of its citizens. Thus, the state opposes any attempt by the federal government or other states, or any other entity to usurp the state's control over Idaho's water resources.

Discussion:

The Idaho Water Resource Board is responsible for the formulation of state water policy through the State Water Plan. The state's position on existing and proposed federal policies and actions affecting Idaho's waters shall be coordinated by the Board to ensure the state retains its sovereign right to control its water resources. Idaho Code § 42-1734B(4). The State Water Plan shall be filed with the Federal Energy Regulatory Commission, the Pacific Northwest Electric Power and Conservation Planning Council, and other federal agencies as Idaho's plan for the conservation, development, management and optimum use of the state's water resources. [Idaho Code § 42-1734C]

Implementation Strategies:

- Take legal action when necessary to protect the state's sovereignty over its water resources.
- Implement and maintain cooperative water resource agreements and partnerships with neighboring states, the federal government, and Indian tribes for the benefit of Idaho's citizens.
- Work with the office of the Governor, state agencies, and the legislature to ensure the development and implementation of a unified state position on water resource issues.

Milestones:

- Partnerships established with neighboring states, federal agencies, and Indian tribes to anticipate and plan for water resource conflicts that may occur.
- Protocols established ensuring coordination of the state's position on water resource issues.

1B - BENEFICIAL USE OF WATER

The concept of beneficial use must necessarily evolve with changing conditions.

Discussion:

Idaho Code § 42-104 provides that an appropriation of water must be for "some useful or beneficial purpose" but does not define beneficial purpose. Except for the constitutionally protected beneficial uses which are domestic, agricultural, manufacturing and mining, the concept of what constitutes a beneficial use of water has evolved over time based upon societal needs. For example, use of water for hydropower, the protection of fish and wildlife habitat, aquatic life, recreation, aesthetics, municipalities, navigation, water quality, and managed ground water recharge are recognized as beneficial uses. A broad definition of beneficial use has and will continue to allow for the optimum use of the state's water resources.

Implementation Strategies:

- Review existing state policies and programs to ensure that traditional and emerging water use needs are recognized as beneficial uses of water.
- Establish or participate in local and regional advisory groups to formulate recommendations regarding traditional and emerging water use needs and priorities.

Milestones:

- Policies and rules revised to accommodate emerging water use needs.
- Reports submitted on advisory group recommendations.
- Statutory and/or regulatory changes made to accommodate emerging beneficial uses of water.

1C - TRANSFERABILITY OF USE

Changes in the nature of use of a water right should be allowed to meet emerging needs and to provide for optimum use of the state's water resources.

Discussion:

The demand for water increases every year while the volume of unappropriated water within the state continually decreases and many basins do not provide a dependable water supply for current uses. Allowing for transferability of water rights provides flexibility in water allocation to meet changing conditions. Idaho Code §§ 42-108 and 42-222 provide for changes in place of diversion, place of use, and period of use, while also providing for the protection of other water users, the agricultural base of a region, and the local public interest. Pursuant to state law, priority dates are retained where other water right holders are not injured.

Implementation Strategies:

- Review Department of Water Resources policies and procedures and revise as necessary to implement a more efficient water right transfer process.
- Review existing statutes and regulations and propose revisions to establish a more efficient water right transfer process.

Milestones:

- Number of transfers processed.

1D - WATER SUPPLY BANK

The sale or lease of water is critical to the efficient management and optimal use of the state's water resources. Thus, use of the state's Water Supply Bank should be expanded to meet traditional and emerging needs for water.

Discussion:

As the state approaches the time when there is little or no unappropriated water, the Water Supply Bank, established by Idaho Code § 42-1761, provides an efficient mechanism for the sale or lease of water from natural flow and storage. The purpose of the Water Supply Bank is to obtain the highest duty of water, provide a source of adequate water supplies to benefit new and supplemental water users, and provide a source of funding for improving water use facilities and efficiencies. By aggregating water available for lease, rental pools operating under the authority of the Water Supply Bank can supply the water needs of many users.

Photo: Shoshone Falls near Twin Falls (*IDWR Photo*)

The Idaho Water Resource Board has adopted rules governing the sale or lease of water through the Water Supply Bank. Pursuant to state law, the Board has authorized local entities to operate storage and natural flow rental pools in numerous water districts that meet regional needs. The Shoshone-Bannock Tribes are also authorized by the state to operate a storage water rental pool.

The scope of existing and future water use needs requires further development of flexible water banking systems that address local water use needs and ensure the optimum use of the state's water resources. The Water Supply Bank should provide for efficient mechanisms that are responsive to traditional and emerging needs for water.

Implementation Strategies:

- Review existing statutes, rules, and Water Supply Bank procedures to identify revisions needed to meet current and future water use demands.
- Propose statutory, regulatory, and procedural changes that provide the Idaho Water Resource Board authority and flexibility to establish local rental pools adapted to the unique needs of a local area.
- Establish natural flow and storage rental pools in basins where local water users have identified the need for rental pools.
- Develop a public information and education program to promote use of the Water Supply Bank.

Milestones:

- Increased use of the Water Supply Bank.
- New storage and natural flow rental pools established.
- Efficient mechanisms in place that facilitate the optimum use of water.

1E - CONJUNCTIVE MANAGEMENT

Where a hydraulic connection exists between ground and surface waters, including spring flow, they are to be managed and administered conjunctively to ensure a sustainable water supply, in accordance with the prior appropriation doctrine as established by law.

Discussion:

Irrigation practices, ground water pumping, and climate variability impact the available supply of ground and surface water and effect changes in regional water budgets. This can result in insufficient water supplies to satisfy beneficial uses and increased administrative curtailment, conflict among water users, and litigation.

The goal of conjunctive management of ground and surface water is to protect the holders of senior water rights while allowing for the optimum development and use of the state's water resources.

Quantification and monitoring of the hydraulic relationship between ground water and surface water, including spring flow, is required to allow for optimal utilization of the water supply and to ensure the protection of senior water rights in accordance with the prior appropriation doctrine as established by Idaho law. Quantification and monitoring is also necessary for the development of plans and projects designed to maintain a stable balance between supply and demand.

Implementation Strategies:

- Continue to quantify the hydraulic relationship between ground water supplies, surface water supplies, and spring flows in designated river basins.
- Develop prioritized list of basins where additional technical information is needed to assess ground and surface water interaction.
- Develop enhanced technical tools for evaluating the interaction between surface and ground water resources for use in planning and administration.
- Increase measurement and monitoring of spring flow and promote cooperative efforts to better quantify spring flow hydraulics.
- On a continuing basis, assess conditions and trends of ground water levels in primary aquifers to estimate the rate of future aquifer recharge and withdrawal under various climatic conditions.
- Procure funding for studies and project implementation.

Milestones:

- Number of studies initiated and completed to quantify ground water/surface water relationships.
- Increased effectiveness of technical tools used to evaluate the hydraulic relationship between ground water and surface water and other water supply data.
- Projects implemented that contribute to stable balance between supply and demand.

1F - GROUND WATER WITHDRAWAL

Average withdrawals from an aquifer should not exceed the reasonably anticipated rate of future natural recharge to that aquifer.

Discussion:

Idaho Code § 42-226 allows for the full economic development of the state's underground water resources. Declining ground water levels, however, may result in insufficient water supplies to satisfy beneficial uses, impaired economic development, water quality problems, and conflicts between water users. All beneficial uses, including interdependent spring and surface water uses, should be considered in evaluating the full economic development potential of the state's ground water resources.

The Director of the Idaho Department of Water Resources is authorized to establish reasonable ground water pumping levels when necessary to protect prior appropriations of ground water. Idaho Code § 42-237a provides that the Director may prohibit or limit the withdrawal of water from a well if withdrawal would result in diversion of the ground water supply at a rate beyond the reasonable anticipated rate of future natural recharge. The Director may allow withdrawals to exceed natural recharge if a program exists to increase recharge or decrease withdrawals and senior water rights are protected. Idaho Code §§ 42-233a and 42-233b authorize the Director to designate areas as either Critical Ground Water Areas or Ground Water Management Areas. Designating a ground water basin as a Critical Ground Water Area or Ground Water Management Area provides management options to prevent excessive withdrawals from an aquifer. Where such designations are made, the Department requires additional measurement and reporting to determine available ground water supplies and use.

The comprehensive aquifer management planning initiated by the Idaho Water Resource Board provides opportunities for stakeholder participation in ground water management. Local advisory committees help the Board establish goals, objectives, and strategies to maximize available water supplies and assist with plan implementation. Public participation is key to the development of innovative approaches for meeting current and future demands on the state's ground water resources.

Implementation Strategies:

- Monitor ground water levels to estimate the rate of future natural aquifer recharge and withdrawal under various climate conditions.
- Develop water budgets for aquifers.
- Establish local advisory committees and solicit recommendations for ground water management.
- Identify opportunities for conducting cooperative ground water studies with state, federal and local agencies.
- Implement management strategies to maximize available water supply.

Milestones:

- Number of water budgets developed.
- Number of advisory committees active in ground water management and critical ground water areas.
- Number of ground water management plans adopted for all administratively designated areas.
- Number of basins with adequate monitoring networks.

1G - INTERSTATE AQUIFERS

Cooperative arrangements with neighboring states should be developed for shared aquifers to avoid water supply conflicts and to optimize utilization of the resource.

Discussion:

The growing demand for water increases competition between states with shared aquifers. Cooperative agreements to jointly develop, manage, and protect shared aquifers are necessary to avoid water supply conflicts, to ensure economic development, and to provide a mechanism for the exchange of technical information.

Implementation Strategies:

- Establish cooperative agreements with neighboring states to gather data and conduct studies to assess ground water conditions and trends.
- Develop coordinated aquifer management plans with neighboring states that resolve interstate conflict and address Idaho's water supply needs.

Milestones:

- Approval and implementation of cooperative agreements, which may include coordinated aquifer management plans, that ensure Idaho's water supply meets current and future needs.
- Cooperative technical studies conducted.

1H - QUANTIFICATION AND MEASUREMENT OF WATER RESOURCES

Quantification and measurement of Idaho's water supply and use is essential for sound water resource planning, management, and administration.

Discussion:

The Director of the Department of Water Resources is required to maintain an inventory of the state's water resources. Idaho Code § 42-1815. The measurement of water availability and use is necessary to administer and regulate existing water uses and to promote optimal water resource planning and management.

Chapters 6 and 7, title 42, Idaho Code, provide for water use measurement and reporting throughout the state. New instrument technologies for the measurement of water availability and use will continue to improve the accessibility and reliability of data collection and interpretation. These new technologies, such as automated electronic data recording equipment and transfer of data through wireless systems, provide transparency and instantaneous access to data, improve calibration of models used for administration and planning, and educate the public about water use by region and throughout the state.

Implementation Strategies:

- Assess existing measurement network and facilities and develop plan for improving data collection and reporting.
- Prioritize projects for conversion to automated electronic data collection and reporting systems.
- Provide technical assistance and participate in securing funding for improved measurement and reporting systems.

Milestones:

- Number of assessments completed.
- Number of automated data collection systems in use.
- Number of improved measurement and reporting strategies implemented.

1I - AQUIFER RECHARGE

Aquifer recharge should be promoted and encouraged, consistent with state law.

Discussion:

Managed aquifer recharge: Managed recharge projects may be an appropriate means for enhancing spring flows, providing mitigation for junior ground water depletions, or to help maintain desirable aquifer levels. In addition, managed recharge may help optimize existing water supplies by changing the timing and availability of water supplies to meet demand. Managed recharge may also be used as an adaptive mechanism for minimizing the impacts of variability in climate conditions. Monitoring and evaluation of managed recharge projects is essential to document hydrologic effects and effects on surface and ground water quality. All water use needs affected by managed recharge projects should be considered. The Idaho Water Resource Board supports and assists in the development of managed recharge projects that further water conservation and increase water supplies available for beneficial use, consistent with state law. Projects involving the diversion of natural flow water appropriated pursuant to Idaho Code § 42-234 for managed recharge in excess of ten thousand (10,000) acre-feet on an average annual basis must be submitted to the Idaho Water Resource Board for approval prior to construction. [Idaho Code § 42-1737]

Aquifer storage and recovery: The use of managed recharge to store surface water in a confined underground area could be an important element in meeting future water use needs. Further understanding of the economic, legal, ecological, and technical feasibility of using confined underground aquifers for water storage in Idaho is required for the purpose of policy development and planning and to avoid injury to existing water rights.

Incidental aquifer recharge: The incidental recharge of aquifers occurring "as a result of water diversion and use that does not exceed the vested water right of water right holders is in the public interest." [Idaho Code § 42-234(5)] Incidental recharge may be an important component of some aquifer water budgets.

Implementation Strategies:

- Cooperate with public and private entities to develop, implement, and evaluate managed recharge projects.
- Identify and propose changes to statutes, rules, and policies that will assist the development and implementation of managed recharge projects.
- Identify river basins where the use of managed recharge projects should be evaluated as a potential strategy for addressing increased demand on water supplies.
- Monitor and evaluate recharge projects to document effects on water supply and water quality.
- Appoint an Aquifer Storage and Recovery Task Force.

Milestones:

- Managed recharge projects that optimize water supplies implemented.
- Effects of managed recharge projects on water supply and water quality documented.
- Aquifer Storage and Recovery Task Force recommendations submitted.

1J - WATER QUALITY

The citizens of Idaho will be best served by a cooperative effort involving public and private entities to assure that the state's surface and ground water sources meet state water quality standards and maintain designated beneficial uses.

Discussion:

Water quality impacts the usability of water for a variety of purposes and it is essential that the quality of Idaho's water resources be protected for public safety and economic stability and growth. The Department of Environmental Quality (DEQ) is the lead state agency for protecting water quality. DEQ's Surface Water Program measures and assesses the levels of pollutants in surface waters. Pursuant to the Ground Water Quality Plan, adopted by the Legislature in 1992, the Department of Water Resources administers a statewide ambient ground water quality monitoring network and the Environmental Data Management System. The system collects, and makes available to the public, data obtained from ground water monitoring networks across the state.

When water quality fails to meet state standards, DEQ works with communities, industry, agricultural interests, state and federal agencies, and other stakeholders to develop water quality improvement plans. These plans outline actions needed to restore impaired water bodies so that they support designated uses. Where the quality of surface and ground water depends on land and water-use practices within a watershed, water users, land managers, state and federal agencies, and other units of local government are working together to implement best management practices and other strategies that reduce impairments to beneficial uses.

The use of water flow to dilute pollution is not a substitute for adequate water quality treatment. Instead, the allocation of water for instream flow use is directed toward meeting fish, wildlife, and recreational needs and not to the dilution of pollution. Through the collaborative efforts of the Board, DEQ, state and federal agencies, municipalities and other local units of government, water users, land managers, and other stakeholders projects can be implemented to protect and improve the water quality of the state's surface and ground water.

Implementation Strategies:

- Coordination and integration of monitoring programs with public and private entities.
- Ongoing analysis of statewide water quality monitoring program to identify need for modifications.
- Participate with DEQ and other state agencies to integrate water management programs and policies.
- Ongoing monitoring of baseline conditions and trends.

Milestones:

- Collaborative projects implemented that protect and enhance the water qualityof the state's surface and ground water.

1K - COMPREHENSIVE AQUIFER MANAGEMENT PLANS

The Idaho Water Resource Board will complete and implement comprehensive aquifer management plans to address the increasing demands on the state's water supply.

Discussion:

Idaho Code §§ 42-1779 and 42-1780 established the Statewide Comprehensive Aquifer Planning and Management Program and the Aquifer Planning and Management Fund, which are designed to provide the Idaho Water Resource Board and the Department of Water Resources with the necessary information to develop aquifer management plans throughout the state. The program will be implemented in three phases. First, technical information describing the hydrology of the ground and surface water systems and the relationship between surface and ground water in a designated basin will be compiled.

Second, the Board, with the assistance of an advisory committee, will develop a management plan, based on an assessment of current and projected water uses and constraints, to address water supply and demand issues specific to each basin. Finally, the Board will be responsible for implementing the plan to obtain sustainable water supplies and provide for the optimum use of a region's water resources.

Idaho's first Comprehensive Aquifer Management Plan was developed for the Eastern Snake River Plain Aquifer ("ESPA CAMP"). The ESPA CAMP was adopted by the Idaho Water Resource Board and approved by the legislature in 2009. The ESPA CAMP sets forth actions designed to stabilize and improve spring flows, aquifer levels, and river flows across the Eastern Snake River Plain. The ESPA CAMP uses a phased approach to achieve a designated water budget change through a mix of management actions, including but not limited to, aquifer recharge, ground-to-surface water conversions, and demand reduction strategies. The Idaho Water Resource Board is responsible for implementation of the plan with the assistance of an advisory committee made up of representatives of stakeholders who rely upon the Eastern Snake River Plain aquifer to supply water for beneficial use.

Statewide comprehensive aquifer planning was initiated in 2008. The Rathdrum Prairie plan was completed in 2011 and the Treasure Valley plan is expected to be completed in 2012. Additional aquifers will be designated for the development of comprehensive plans as funding and conditions allow.

Implementation Strategies:

- Develop and implement comprehensive aquifer management plans for selected basins that establish goals, objectives, and implementation strategies to maximize available water supplies.
- Secure funding for technical studies and planning activities.

Milestones:

- Number of comprehensive aquifer management plans completed.
- Number of comprehensive aquifer management plans implemented.

1L - SURFACE WATER SUPPLY ENHANCEMENT

Surface water development will continue to play an important role in meeting Idaho's future water needs.

Discussion:

Future economic development, population growth, and evolving priorities will bring additional demands on Idaho's water resources, and surface water development will continue to play an important role in the state's future. The construction of new reservoirs, enlargement of existing reservoirs, and development of off-stream storage

sites could increase water supplies necessary to meet increased demand. These strategies are also important for flood management, hydropower generation, and recreation use.

Engineering, economic, legal, political, and environmental issues associated with water development projects affect decisions concerning the construction of reservoir facilities. In addition, changes in climate conditions will likely be an important factor in determining the costs and benefits of additional storage facilities. As required by Idaho Code § 42-1736B(c), the Idaho Water Resource Board maintains an inventory of potential storage sites. An inventory of reservoir sites with apparent high potential for development is set forth in Table 1.

Implementation Strategies:

- Concentrate assessment and evaluation of potential storage facilities on projects with the highest potential for development. Major considerations in defining high-potential projects are: cost per unit of storage, extent of public support, environmental considerations, adequacy of existing information and studies, extent and availability of funding sources for evaluation and assessment, and expected benefits that would accrue from the construction and operation of the facility.
- Review inventory and prioritize potential projects annually.
- Initiate feasibility/construction design studies for sites determined to be high priority.
- Identify potential funding sources for project evaluation and construction.
- Develop partnerships with private entities, local governments, and federal agencies to evaluate, design, and construct water storage projects.
- Provide recommendations regarding potential storage sites to private and public entities to ensure that land and resource development associated with these sites is consistent with the State Water Plan.

Milestones:

- Complete annual review of potential storage site inventory and revise as appropriate.
- Initiate construction of additional storage facility for approximately 600,000 acre-feet by 2025.

Table 1. Reservoir Sites with Apparent High Potential for Development

Potential Reservoir	Stream	Reservoir Capacity (AF)	Potential Purpose	Status of Study
Upper Snake Minidoka (enlargement)	Snake River	67,000	Irrigation, Power, Flood Control, Flow Augmentation, Recharge, Recreation	*Minidoka Dam Raise Special Study* (USBOR, Dec. 2009). Raise determined to be feasible. No action by the IWRB at this time.
Teton (or alternative)	Teton River	300,000	Irrigation, Power, Flood Control, Flow Augmentation, Recreation	*Henrys Fork Basin Study* ongoing. Multiple on- and offstream sites within basin under consideration.
Southwest Idaho Twin Springs (or alternative)	Boise River	70,000 to 300,000	Irrigation, Power, Flood Control, Flow Augmentation, Recreation	*Lower Boise Interim Feasibility Study* ongoing. Three sites prioritized for further analysis: (1) replacement of existing Arrowrock Dam, (2) new dam at Alexander Flats site, and (3) new dam at Twin Springs site.
Lost Valley (enlargement)	Lost Valley Creek	20,000 (increase)	Irrigation, Recreation	Not currently under investigation.
Galloway	Weiser River	900,000	Irrigation, Power, Flood Control, Flow Augmentation, Recreation	Weiser-Galloway Studies currently ongoing: *Geologic Investigation and Analysis Project* and *Snake River Operational Analysis Project*.
Bear Caribou	Bear River	48,000	Irrigation, Power, Flood Control, Recreation	Last study update completed in 1996. Not currently under investigation.

1M - WEATHER MODIFICATION

Weather modification offers the possibility of augmenting water supplies.

Discussion:

Weather modification, primarily winter cloud seeding to increase snowpack, has been practiced in Idaho and across the western states for many years. Increasing challenges, including a changing climate, growing population, and water allocation conflicts related to the presence of threatened and endangered species magnify pressures on a variable water supply. While the specific water quantities resulting from weather modification remain unknown, additional investigation should be conducted and pilot projects implemented to determine where and under what circumstances weather modification is a feasible strategy for increasing water supplies. A number of cloud seeding programs and studies have been conducted in Idaho with positive overall results, including programs funded by the Idaho Water Resource Board and Idaho Power Company.

Weather modification has the potential to raise legal issues related to the effect of weather modification activities outside state boundaries, potential adverse environmental effects, and intergovernmental conflicts where projects occur on or near public lands. Addressing these issues through legislation, rulemaking, and interstate agreements will help avoid future conflicts and litigation.

Under Idaho law, any person who intends to conduct weather modification activities is required to register with the Department of Agriculture and file a log of activities upon completion of the program. [Idaho Code §§ 22-3201, 22-3202] Idaho law also provides for the creation of weather modification districts. [Idaho Code §§ 22-4301, 22-4302]

Implementation Strategies:

- Support the continued evaluation of existing weather modification projects.
- Develop criteria for the development and implementation of additional weather modification projects.
- Collect baseline data and continue effectiveness research.
- Coordinate weather modification research and pilot projects with neighboring states.
- Ensure that state-funded projects are scientifically sound and include robust monitoring and evaluation component.

Milestones:

- Number of weather modification projects implemented that increase water supply.
- Increase in annual runoff resulting from weather modification projects.

- Increase in baseline data and effectiveness research.
- Agreements in place with neighboring states and federal agencies addressing research and implementation of weather modification projects.

1N - HYDROPOWER

Appropriation of water for hydropower should be subordinated to subsequent upstream beneficial uses to assure an adequate supply of water for all future beneficial uses and minimum stream flows for hydropower projects should be established through the Board's minimum stream flow program.

Discussion:

The relationship of hydropower water rights to future upstream uses was the subject of an ongoing debate from statehood until the 1985 Swan Falls Settlement, when the Idaho Legislature enacted Idaho Code § 42-203B to resolve the debate. Pursuant to section 3 of Article XV of the Idaho Constitution, the legislature determined that it was in the public interest to specifically implement the state's power to regulate and limit the use of water for power purposes. Through enactment of Idaho Code § 42-203B, the Legislature sought to avoid future Swan Falls-like controversies by creating a framework for balancing the use of water for hydropower and other beneficial uses. This framework provides for the subordination of appropriations of water for hydropower purposes to assure an adequate supply of water for all future upstream beneficial uses. The framework also provides for protection of base flows for hydropower and other instream uses through the Board's minimum stream flow program. Establishment of a minimum flow water right through the Board's minimum stream flow program ensures an open and transparent public process for establishing a balance between sustaining economic growth, maintaining reasonable electric rates, protecting and preserving existing water rights, and protecting water quality and other environmental values.

Implementation Strategies:

- Ensure that all future applications, permits and licenses for use of water for hydropower purposes contain a subordination provision.
- Establish minimum stream flows to protect base flows for hydropower users.
- Define, through agreements with the holders of existing hydropower water rights, the relationship between such rights and existing and future depletionary water rights.

Milestones:

- Execution of subordination agreements and/or implementation of minimum stream flows for existing hydropower facilities.

2. CONSERVATION

The Conservation policies focus on careful planning and prudent management of Idaho's water. The policies in this section encourage water conservation practices and efficient management of water resources for the benefit of Idaho citizens, consistent with the prior appropriation doctrine, as established by law. Conservation and water efficiency practices should be implemented through voluntary, market based programs, when economically feasible.

2A - WATER USE EFFICIENCY

Water conservation and water use efficiency should be promoted in accordance with state water law.

Discussion:

The Legislature, in Idaho Code § 42-250(1) determined that voluntary water conservation practices and projects can advance the policy of the State to promote and encourage conservation, development, augmentation and utilization of Idaho's water resources. "Water conservation practice" means any practice, improvement, project, or management program that results in the diversion of less than the authorized quantity of water while maintaining the full beneficial use(s) of the water right. [Idaho Code § 42-250(2)] Water conservation practices include, but are not limited to, practices that reduce consumptive use as defined in Idaho Code § 42-220B, reductions in conveyance losses, and reductions in surface and seepage losses occurring at the place of use. Idaho Code § 42-223 encourages conservation of water resources by providing that no portion of any water right shall be lost or forfeited for nonuse if the nonuse results from a water conservation practice which maintains the full beneficial use(s) authorized by a water right. As water efficiencies increase, conserved water may be available to supply existing uses, new demands, or improve instream flows. Conservation and water efficiency practices may offset the need for new water supply enhancement projects. Policies that promote water conservation and efficiency should be encouraged, where such practices do not result in adverse consequences to other users of the resource.

Photo: Idaho Irrigation (*IDWR Photo*)

Implementation Strategies:

- Review existing laws and regulations and identify inconsistencies or constraints to implementing water efficiency practices.
- Develop partnerships with local, state, and federal governments and non-governmental organizations to coordinate and support water conservation programs.
- Establish a public information program and conservation guidelines for a range of water uses.
- Evaluate opportunities for conservation and water efficiency practices in conjunction with the evaluation of new water supply enhancement facilities, including existing and new water metering for all municipalities that provide public drinking water and water for other uses.
- Identify localized opportunities for water conservation.

Milestones:

- Number of conservation guidelines implemented.
- Number of partnerships developed to coordinate water conservation.
- Number of water use efficiency practices implemented.
- Effects of conservation efforts quantified.

2B - FEDERALLY LISTED SPECIES AND STATE SPECIES OF GREATEST CONSERVATION NEED

Voluntary community-based conservation programs that benefit species listed under the Endangered Species Act and Species of Greatest Conservation Need and resolve water resource issues should be the primary strategy for achieving species protection and recovery.

Discussion:

The intersection between state water rights and the Endangered Species Act (ESA) requires development of integrated solutions to water allocation conflicts. In enacting the ESA, Congress contemplated a state-federal alliance to advance the recovery of listed species and provided for the development of state-led recovery efforts. Congress has directed federal agencies to "cooperate with State and local agencies to resolve water resource issues in concert with conservation of endangered species." 16 U.S.C. § 1531(c)(2). Cooperative community-based conservation programs are more effective in providing on-the-ground habitat benefits than enforcement actions. With site-specific information about water and land use practices and habitat requirements, targeted and effective conservation strategies can be developed and implemented that protect private property rights and assure state primacy over water resources while, at the same time, providing natural resource protection.

The Idaho Water Resource Board holds minimum stream flow water rights for 205 river reaches important to ESA-listed species and established as part of the Snake River Water Rights Settlement Act of 2004 ("2004 Water Rights Agreement"). The minimum stream flow water rights provide significant protection for ESA-listed species in the Salmon and Clearwater River Basins. The water rights for streams in watersheds with substantial private land ownership and private water use were established after consultation with local communities. Where the minimum stream flow water rights are higher than existing flows, the state works with water users on a voluntary basis to rent or otherwise acquire water to return to the streams. The Water Supply Bank and Idaho Water Transactions Program are used to achieve these objectives. In conjunction with the minimum stream flows, the state agreed to work with local stakeholders and communities to address habitat concerns on a limited number of streams with degraded habitat. The work plans include measures to remove barriers to fish passage, revegetate stream banks, and restore wetlands to proper functioning.

The 2004 Water Rights Agreement also provides for the development of long-term habitat conservation plans to assist in the recovery of ESA-listed species, under section 6 of the ESA. The plans are to be developed in collaboration with local landowners and water users, affected Indian tribes, and state and federal natural resource agencies. Section 6 agreements will provide incentives for conservation through the granting of incidental take coverage to participants in the program. Such agreements would provide participating water users with protection against uncertainty and regulatory delays while contributing to the recovery of listed species. Section 6 of the ESA may also provide opportunities for the implementation of voluntary conservation plans developed in collaboration with local water users and stakeholders in other regions of the state. It is in the interest of the public for the Idaho Water Resource Board to take a leadership role in the development of local and regional conservation strategies that contribute to the recovery of ESA-listed species and Species of Greatest Conservation Need.

Implementation Strategies:

- Participate in the development and implementation of habitat conservation plans pursuant to section 6 of the ESA.
- Collaborate with the Office of Species Conservation, state and federal agencies, affected Indian tribes, and local stakeholders to develop and implement habitat conservation programs that preclude the need for listing of species and contribute to listed species' recovery.
- Coordinate with the Office of Species Conservation to integrate water resource programs with species protection and recovery, including the establishment of minimum stream flows, and state designation of protected rivers.

Milestones:

- Number of section 6 agreements implemented.
- Number of voluntary conservation agreements and measures implemented.
- Number of strategies implemented that preclude the need for listing under the ESA and result in listed species' recovery.

2C - INSTREAM FLOW

The Idaho Water Resource Board will exercise its authority to establish and to protect minimum stream flow water rights on those water bodies where it is in the public interest to protect and support instream uses.

Discussion:

Instream flows protect and support many nonconsumptive, beneficial uses of water such as fish and wildlife habitat, aquatic life, recreation and aesthetic values, transportation, navigation, hydropower generation, and water quality. These uses contribute to Idaho's economy and the well being of its citizens.

In 1971, the legislature authorized the first formal appropriation of minimum stream flows by directing the Idaho Department of Parks and Recreation to appropriate a specific reach of Niagara Springs in the Malad Canyon area for instream flow purposes. The 1976 State Water Plan called for, and eventually legislation was enacted, creating a state-wide minimum stream flow program. The ability to obtain state-based minimum stream flow water rights in Idaho lies exclusively with the Idaho Water Resource Board. Chapter 15, title 42, authorizes the Idaho Water Resource Board to appropriate the minimum flow of water required to protect designated uses if the appropriation is in the public interest and will not interfere with any vested water right, permit, or water right application with a senior priority. Idaho currently has 297 licensed or permitted water rights for minimum stream flow purposes, including six minimum lake level water rights held by the state. At the legislature's direction, 205 of the minimum stream flow water rights were adopted pursuant to the Snake River Water Rights Agreement which, as discussed more fully in Policy 6B, provided a programmatic approach to addressing the needs of species listed under the federal Endangered Species Act. Similarly, the legislature has authorized the Idaho Water Resource Board to appropriate minimum stream flow water rights in the Lemhi and Wood River basins where the rights are maintained through operation of a Water Supply Bank. These locally managed programs are used to maintain or enhance instream flow in a manner that respects water use practices and addresses community concerns.

The Idaho Water Resource Board supports efforts to obtain storage and natural flow rights to improve and maintain instream flows when in the public interest. The Water Supply Bank and local rental pools are tools that can be used to improve instream flows through voluntary cooperation and to meet local needs. To facilitate their use throughout the state for use in improving and sustaining minimum stream flows, statutory changes are needed authorizing the Idaho Water Resource Board to establish local rental pools at the request and in cooperation with local communities. As recognized in the 1996 State Water Plan, statutory changes are also needed to authorize the Idaho Water Resource Board to apply for a change in the nature of use of an acquired right, where it has been determined that a minimum stream flow water right is in the best interest of the state. Idaho Code §§ 42-108 and 42-222 contain provisions that protect other water users, the agricultural base of an area, and the local public interest. Priority dates are retained only if other water rights holders are not injured.

Implementation Strategies:

- Establish local rental pools to meet instream flow needs as requested.
- Submit applications for minimum stream flow water rights that are in the public interest.
- Coordinate with state and federal agencies and stakeholders to identify potential minimum stream flow needs.
- Revise chapter 15, title 42 to authorize the Idaho Water Resource Board to establish local natural flow rental pools.
- Revise chapter 15, title 42 to authorize the Idaho Water Resource Board to transfer acquired water rights to minimum stream flow water rights.

Milestones:

- Minimum stream flow water rights established.
- Annual inventories of instream flow water rights completed.
- Statutory changes authorize the Idaho Water Resource Board to establish local natural flow rental pools.
- Statutory changes authorize the Idaho Water Resource Board to transfer acquired water rights to minimum stream flow water rights.

2D - STATE PROTECTED RIVER SYSTEM

The Idaho Water Resource Board will exercise its authority to protect the unique features of rivers where it is in the public interest to protect recreational, scenic, and natural values.

Discussion:

Idaho Code § 42-1734A(1) authorizes the Idaho Water Resource Board to protect highly-valued waterways as state protected rivers. The authority to designate "protected rivers" derives from the state's ownership of the beds of navigable streams and the state's right to regulate all waters within the state. The Idaho Water Resource Board has consistently recognized the value of free-flowing waterways by designating specific streams and rivers as natural or recreational rivers.

Although rivers can be protected under the federal Wild and Scenic Rivers Act, the Idaho Water Resource Board encourages federal officials to seek protection of streams and rivers through the Comprehensive State Water Planning process. The state planning process ensures coordinated and efficient water planning for Idaho rivers and streams and avoids potential state/federal sovereignty conflicts.

Implementation Strategies:

- Coordinate with local governments and federal agencies to identify specific waterways for consideration as protected rivers.
- Develop priority list of potential rivers for consideration in comprehensive basin planning
- Establish agency policy and procedures to ensure requirements of the protected rivers program are addressed when the Department of Water Resources reviews water right permit applications and stream channel alteration permits.
- Ensure that permits issued include provisions for the protection, restoration or enhancement of designated river reaches.

Milestones:

- Ongoing review of state rivers and streams for determination of whether they should be designated as part of the protected river system.
- Number of state/federal agreements to coordinate river planning implemented.
- Designation of streams or rivers determined to warrant protected status.

2E - RIPARIAN HABITAT AND WETLANDS

Protecting the ecological viability of riparian habitat and wetlands within the state is a critical component of watershed planning.

Discussion:

Functional riparian zones and wetlands contribute to water quality protection, storm water control, and ground water protection and provide important habitat for fish and wildlife. Riparian and wetlands areas cover approximately 20% of the state and support 80% of the species in the state. Riparian zones and wetlands should be protected to preserve their ecological values.

The integration of water resource and land use planning activities that affect riparian zones and wetlands requires coordination among various local, regional, and state authorities. The Department of Water Resources has exclusive authority over the appropriation of the public surface waters and ground waters of the state. The Department of Water Resources also regulates the alteration of stream channels and stream beds below the mean high watermark. Idaho Code §§ 42-3801 thru 42-3812. Local governments are authorized to regulate land use and development. The Idaho Department of Environmental Quality administers the state's Nonpoint Source Management Program which is based upon strong working partnerships and collaboration with state, tribal, regional, and local entities, private sector groups, citizens' groups, and federal agencies and the recognition that a successful program must be driven by local wisdom and experience.

In 2008, the Idaho Wetlands Working Group developed a Draft Wetlands Conservation Strategy that sets out a framework for protecting, restoring, and enhancing wetlands through collaborative, voluntary approaches. The Idaho Water Resource Board supports voluntary watershed-based conservation strategies for the protection of riparian and wetland areas above the mean high watermark developed and implemented through collaboration with water users, land managers, local governments, and state and federal agencies.

Implementation Strategies:

- Support collaborative watershed planning and the implementation of voluntary strategies to protect Idaho's wetlands and riparian areas.
- Support the development of guidelines and strategies to assist in the implementation of projects that protect, restore, and enhance wetlands and riparian areas.
- Evaluate whether the Stream Channel Protection Act, Idaho Code §§ 42-3801 thru 42-3812 adequately assists in the protection of wetlands and riparian areas and propose statutory changes as appropriate.
- Assist state and federal agencies and stakeholders in the acquisition of funding for project implementation.

Milestones:

- Project and funding proposals submitted.
- Projects implemented.

2F - STREAM CHANNEL REHABILITATION

The Idaho Water Resource Board will support cost effective stream channel rehabilitation where past activities adversely affect or could affect the ecological goods and services of the state's watersheds.

Discussion:

Functional stream channels provide ecological goods and services desired by the public. Ecological goods are those qualities that have economic value, such as timber resources, habitat that supports fishing and hunting, and aesthetic qualities of landscapes that would attract tourists. Ecological services include systems that best manage water resources, such as the regulation of runoff and flood waters, or the stabilization of landscapes to prevent erosion. Damage and destruction of stream channels can result from natural and human-caused changes and disturbances. Where current practices, legacy effects of past activities, or natural disturbances threaten public safety, private property, or the overall quality and quantity of water produced in the affected watershed, it is in the state's interest to take remedial action in a cost-effective manner. In many instances, historical targets for restoration are not practical and therefore restoration efforts should be designed to be sustainable in a rapidly-changing environment. Preventing damage to a

stream channel and adjacent property is more cost effective than restoration. It is in the state's interest to ensure that the stream channels of the state and their environments be protected.

Implementation Strategies:

- Conduct a statewide inventory of streams where natural events or human activities have altered channels and the disturbances threaten the public safety, private property, or other water resource values.
- Conduct cost/benefit analyses for rehabilitation of affected streams.
- Prioritize projects.
- Obtain funding for restoration of prioritized streams.

Milestones:

- Inventory conducted.
- Cost/benefit analyses conducted and priorities established.
- Funding obtained.
- Projects implemented.

2G - SAFETY MEASURES PROGRAM

Owners of water distribution and storage facilities are encouraged to establish or continue safety initiatives including construction and maintenance of safety features and development of public awareness programs to educate residents about hazards associated with these facilities.

Discussion:

Fatal accidents occur in waterways at or near water distribution and storage facilities in Idaho because of the inherent dangers of these facilities. With the increasing urbanization of rural areas, there has been a greater effort to provide public awareness programs and, where feasible, implement measures designed to prevent such occurrences. The Idaho Water Resource Board supports these voluntary initiatives.

Implementation Strategies:

- Secure and provide funding for the construction and maintenance of safety features at water distribution and storage facilities.
- Encourage the implementation of public safety awareness programs.

Milestones:

- Reduced number of accidents associated with water distribution and storage facilities.

2H - FLOOD HAZARD AREAS

Protection of floodplains through effective floodplain management and pre-disaster mitigation is essential to reducing and preventing flood damages.

Discussion:

Floods are the most frequent and costly disasters in Idaho and can occur in most any area of the state. With population growth, there will be increased interest in the development of lands subject to periodic flooding. The Federal Emergency Management Agency (FEMA) administers the National Flood Insurance Program (NFIP), which many Idaho communities have joined by adopting and enforcing flood damage prevention ordinances. Although FEMA has prepared Flood Insurance Rate Maps (FIRMS) for some of the waterways within Idaho, the majority of FIRMs are more than 20 years old and require updating. In order to create safer communities and reduce the loss of life and property due to flood events, local governments are encouraged to use land use controls, building practices, and other tools to protect the natural function of floodplains.

Implementation Strategies:

- Assist local governments in securing funding to update or develop Digital Flood Insurance Rate Maps.
- Provide technical information on flood plain management and flood risk to elected officials, public and private organizations, and land developers.

Milestones:

- Increased participation in NFIP by communities.
- Decreasing trends in annual flood damages.

Photo: Dworshak Dam on the North Fork of the Clearwater River
(*IDWR Photo*)

2I - FLOOD DAMAGE REDUCTION LEVEE REGULATION

Levees should be designed, constructed and maintained to meet the intended purpose of reducing water and flood damage for the useful life of the levee.

Discussion:

Pursuant to Idaho Code § 42-1717, the Department of Water Resources regulates nearly 600 water storage dams and more than 20 mine tailing impoundment structures throughout the state. Levees are exempted by statute from IDWR dam safety regulations, and the construction, maintenance, and safety of levees is, for the most part, left to local entities. Presently, there is no state agency that is authorized to regulate levees for the protection of public health or safety.

The Idaho Water Resource Board supports the development of a comprehensive state program governing the design, construction, and maintenance of new flood reduction levees, and the periodic safety inspection of existing levees. A state flood reduction levee program should focus on the use of sound technical practices in levee design, construction, and operation. This should include the establishment of a safety program that helps ensure public education and awareness of the capacities and limitations of levees during flood events.

Implementation Strategies:

- Develop a state safety program to regulate the design, construction, and maintenance of new flood reduction levees.
- Investigate the implementation of a state levee safety program consistent with the standards and guidelines recommended by the Draft National Levee Safety Program.
- Provide testimony upon request to the legislature regarding the benefits offered to Idaho citizens resulting from implementation of a state levee safety inspection program.
- Participate in the development of a National Levee Safety Program with other state and federal agencies, as appropriate.
- In the event a National Levee Safety Program is adopted, obtain certification as a state levee safety program and assist with development of levee criteria for use by the states and the federal government.

Milestones:

- State levee safety program established.
- Levee failures in Idaho decreased.
- Reduce annually property losses resulting from levee failures.

3. MANAGEMENT

The Management policies focus on maintaining and enhancing administrative programs and practices related to current and future demands on Idaho's water and energy resources.

3A - REVIEW OF FEDERAL RESERVOIR WATER ALLOCATION

It is in the state's interest that proposed water allocations and reallocations of water in federal reservoirs be consistent with the Comprehensive State Water Plan.

Discussion:

Historically, the Board has reviewed federal water allocations proposed by the United States Bureau of Reclamation to determine whether the proposed allocations are consistent with state water resource planning and management objectives. In 1988, this cooperative arrangement was formalized through an agreement providing for Idaho Water Resource Board review of proposed water allocations from federal reservoirs in excess of 500 acre-feet annually, within an existing approved water right not otherwise reviewable by the Idaho Department of Water Resources. This state and federal partnership ensures that water resource and management issues are addressed in a comprehensive way, thereby providing for optimal use of the state's resources. It will become even more important to coordinate state and federal management strategies as demands on the state's water supply increase.

Implementation Strategies:

- Review status of existing cooperative agreements related to review of proposed allocations and revise accordingly.
- Identify opportunities for additional agreements providing for review of proposed allocations.
- Work with the United States Army Corps of Engineers to determine if cooperative agreements addressing allocations at the Albeni Falls and Dworshak facilities would be in the state's interest.

Milestones:

- Existing agreements maintained and revised accordingly.
- Additional cooperative agreements executed that promote optimal use of the state's water resources.

3B - HYDROPOWER SITING

The expansion of hydropower capacity and generation consistent with the state water plan can help meet the need for affordable and renewable energy resources.

Discussion:

Hydropower provides a clean, efficient, and renewable energy source and has contributed significantly to the state's energy supply. The state and region's power demand is expected to increase substantially over the next several decades as the population continues to grow. Although most cost effective and flexible sites have been developed, there will be opportunities for increasing hydroelectric generating capacity, while preserving environmental protection. These include enhancing incremental capacity at existing sites through new technologies that yield greater energy efficiency, adding generation capacity at existing dams, and the development of generation capacity in conjunction with the construction of new water storage projects.

The 2012 Idaho Energy Plan recommends that energy conservation and energy efficiency should be the highest priority resource. The 2012 Idaho Energy Plan also recommends development of in-state renewable resources that will contribute to a secure, reliable energy system for the state. The Idaho Water Resource Board supports the promotion of a more efficient use of energy throughout Idaho's economy, implementation of efficiency improvements at existing sites, and retrofitting existing dams. Hydropower development should be considered when planning new water storage projects. Feasibility studies for new storage projects should include evaluation of the costs, benefits, and adverse consequences of hydropower generation.

Under 16 U.S.C. § 803, the Federal Energy Regulatory Commission must determine that proposed projects are consistent with Idaho's comprehensive water plans when making licensing decisions. The Idaho Water Resource Board will review hydropower development proposals to determine whether they are consistent with the comprehensive state water plan, including the comprehensive basin and river plans, which address region-specific siting issues. The Board agrees with the 2012 Idaho Energy Plan recommendation to establish an Energy Facility Site Advisory Team that would provide technical expertise and assistance upon request from local officials considering energy facility siting proposals.

Implementation Strategies:

- Provide information and technical assistance to local communities through participation in an Energy Facility Site Advisory Team.
- Include evaluation of hydropower generation potential in feasibility studies for water storage projects.
- Provide information and technical assistance to proponents of projects that increase energy efficiency, increase generation capacity, or retrofit existing dams for hydroelectric generation.

Milestones:

- Hydropower siting proposals and projects comply with the Comprehensive State Water Plan.
- Efficiency improvements implemented at existing hydropower facilities.
- Generation capacity increased at existing hydropower projects, while protecting the environment.
- Existing dams retrofitted with generation capacity, while protecting the environment.

3C - RESEARCH PROGRAM

Focused research is necessary to support water resource planning and collaborative solutions that address the increasing demands on the state's water supplies.

Discussion:

Research and data gathering are essential to the state's efforts to meet future water challenges in a sustainable way. Adequate data on water availability, use and efficiencies, surface and ground water interaction and relationships, and emerging water management technologies is needed to help water managers and end-users make sound decisions and develop adaptive strategies for responding to the impacts of climate variability. Data collection and research is conducted by numerous public and private entities. A cooperative exchange of information contributes to more efficient use of limited financial resources for research and monitoring necessary to further the state's water supply objectives. Research priorities include: water use efficiency; water use monitoring; ground and surface water relationships, specifically the timing and spatial distribution of pumping and recharge efforts; ground water flow models; and system operation modeling methods for Idaho river basins. Environmental considerations should be addressed as studies are designed and implemented.

Implementation Strategies:

- Facilitate coordination and dissemination of research and data among state and federal agencies, universities, and private entities.
- Identify and prioritize research needs.
- Identify dedicated funding sources for basic and applied research.

Milestones:

- Cooperative research activities implemented.
- Completed research projects.
- Application of research results to planning and management

3D - FUNDING PROGRAM

Funding mechanisms to support the development, preservation, conservation, and restoration of the water resources of the state should be based on flexible strategies that provide equitable benefits.

Discussion:

The water resources of the state are essential to Idaho's economy and its citizens. There is no single strategy for successfully financing water resource projects. Instead, funding mechanisms for water planning and management should be based on flexible strategies that are broad-based and provide equitable benefits. Strategies for financing water resource programs include state appropriations, the establishment of water management improvement or conservancy districts, targeted user fees, the development of a state water fund supported by power franchise fees, targeted sales, property, or special product and services taxes, and revenue bonds. While the existing institutional and legal framework may be adequate for some projects, it is important to develop innovative approaches that are responsive to future needs. Transparency and clarity about the intent and limitations of any particular funding strategy will help ensure that a strategy is used and evaluated appropriately. Projects proposed for funding must be in the public interest and in compliance with the State Water Plan.

The Idaho Water Resource Board's Revolving Development Fund and the Water Management Account are supported by the appropriation of moneys from the state's general fund, federal funds, and other revenue sources. These programs have and will continue to provide financial assistance to project sponsors for water development and conservation, system rehabilitation, and treatment projects. The Board is also authorized to finance water projects with revenue bonds. The issuance of revenue bonds does not constitute a general obligation of the State of Idaho or the Idaho Water Resource Board.

Sources of funding for programs focused on the protection and restoration of species listed under the federal Endangered Species Act include Snake River Water Rights Act of 2004 appropriations, the Columbia Basin Water Transaction Program, the Pacific Coast Salmon Recovery Fund, and the 2008 Columbia Basin Fish Accords.

The Eastern Snake River Aquifer Comprehensive Management Plan calls for a water-user fee in conjunction with state appropriations. Implementation of strategies for addressing regional water use issues on the Eastern Snake River Plain Aquifer will assist in the development of comprehensive aquifer management implementation plans in other areas of the state.

The Board will continue to pursue opportunities for partnerships with the federal government and private entities to determine the feasibility of increasing water supplies through development of additional storage capacity. At the direction of the legislature, the Board has entered into agreements with the U.S. Army Corps of Engineers and the Bureau of Reclamation for studies in the Boise River and Snake River basins. As demands increase on Idaho's water storage and delivery systems, the need for additional water storage feasibility studies and funding partnerships will be assessed.

Implementation Strategies:

- Review existing authorities and identify changes needed to optimize financing for water resource projects.
- Evaluate Idaho Water Resource Board financial program procedures to determine whether revisions are needed to improve efficiency and accessibility.
- Pursue opportunities for private funding partnerships.
- Pursue opportunities for local, federal, and intra-state funding partnerships and projects.

Milestones:

- Financial programs and funding strategies meet the future water resource needs of the state.

3E - WATER RESOURCE PLANNING PROGRAM

Comprehensive water planning will help ensure sufficient water supplies to satisfy Idaho's future water needs.

Discussion:

Idaho Code § 42-1734A(1) directs the Idaho Water Resource Board to formulate and adopt a comprehensive state water plan for conservation, development, management and optimum use of all unappropriated water resources and waterways of the state. The legislature also authorized the Idaho Water Resource Board to develop plans for specific geographical areas. Comprehensive plans for individual hydrologic river basins include state protected river designations and basin-specific recommendations concerning water use and resource values. Basin plans also assure that the state's interests will be considered in federal management agency decisions. Public review and comment ensures that the state water plan serves the public interest. Article XV, section 7 of the Idaho Constitution authorizes the legislature to amend or reject the state water plan, as provided by law.

Adoption of The State Water Plan - Part One, The Objectives, in 1974, and The State Water Plan - Part Two in 1976, provided a comprehensive water plan, based upon an initial resource inventory, and provided a basis for more detailed planning for the hydrologic river basin plan areas. Implementing the policies in Part Two required the combined efforts of government agencies, the legislature, private concerns and the public. Consequently, the Plan delineated those areas where legislative action was required, identified the programs to be implemented by the Idaho Water Resource Board, and described programs requiring the cooperation of public and private interests. The Plan was revised and re-adopted in 1982, 1985, 1986, 1992, and 1996.

In 2008, the Idaho Legislature adopted Idaho Code Section 42-1779 and 42-1780, establishing the Comprehensive Aquifer Planning and Management Program (CAMP) and Aquifer Planning and Management Fund, which authorize the development of

aquifer management plans throughout the state for hydraulically connected ground and surface water resources. As funding allows, the Idaho Water Resource Board will undertake comprehensive aquifer management planning in prioritized basins. CAMP development provides opportunities for addressing existing and future water-use disputes through a public process involving affected water users, state and federal agencies, and other stakeholders.

In exercising its responsibilities for water resource planning, the Board will focus on the coordination of local, state and federal planning activities to minimize duplication and to promote the optimum use of Idaho's water resources.

Implementation Strategies:

- Review and update existing agreements for coordinated water resource planning.
- Develop new cooperative planning agreements.
- Secure funding to complete CAMPs for priority aquifers consistent with the schedule established by the Board.

Milestones:

- Cooperative planning agreements executed and implemented.
- Adoption of Treasure Valley and Rathdrum Prairie CAMP.
- Completion and adoption of CAMPs for remaining priority aquifers.

3F - WATER RIGHTS ADJUDICATION

Adjudication of water rights through the state courts should be completed to fully define and quantify all state, tribal and federal water rights.

Discussion:

The purpose of a general stream adjudication is to provide certainty and predictability in the administration and distribution of water diverting from hydraulically connected water sources. The need for a general adjudication of water rights in the Snake River Basin became apparent as the spring flows in the Thousand Springs reach began to decline and disputes arose over the availability of water supplies on the Snake River Plain. As part of the 1984 Swan Falls Agreement, the State agreed to commence the Snake River Basin Adjudication ("SRBA"), the largest legal proceeding in the history of the state. The SRBA is the cornerstone for the long-term management of the Snake River Basin within Idaho. At the conclusion of the SRBA, the state will have a listing of all water rights within the basin, which is the predicate for establishing water districts to administer all water rights in accordance with the prior appropriation doctrine, as established by law.

Pursuant to Idaho Code § 42-1734(3), the Idaho Water Resource Board is authorized to represent the state, when requested to do so by the Governor, in proceedings, negotiations, and hearings involving the federal government. In the SRBA, the Board

coordinated state participation in the negotiation of federal reserved water rights, including tribal claims. The Idaho Water Resource Board successfully negotiated agreements resolving federal reserved right claims including those filed by the Shoshone-Bannock, Nez Perce, and Shoshone-Paiute tribes as well as the claims of numerous federal agencies. The final settlement of the Nez Perce Tribe's claims reflected the tribe's and the state's shared interest in addressing environmental concerns and addressed the conflicting demands for consumptive and nonconsumptive uses. Consistent with state law, the Board should serve as the lead agency for coordinating state participation in all general stream adjudications.

On November 12, 2008, the district court ordered the commencement of an adjudication in the Coeur d'Alene Spokane River water system. Like the SRBA, the determination of all existing water rights from the water basins in Northern Idaho will provide the basis for administration of water rights in accordance with the prior appropriation doctrine, as established by law.

Implementation Strategies:

- As requested by the Governor, provide coordination and negotiation adjudication activities.
- As determined by state and local support, encourage general adjudications in unadjudicated basins in northern Idaho and the Bear River basin in eastern Idaho.

Milestones:

- Issuance of final unified decree in SRBA.
- Complete Coeur d'Alene Spokane River Basin adjudication.

3G - CLIMATE VARIABILITY

Preparedness strategies should be developed to account for the impact of climate variability on the state's water supplies.

Discussion:

Evidence suggests that currently the Earth's climate is warming and that warming may continue into the foreseeable future. While recognizing the uncertainties inherent in climate prediction, it is important to anticipate how a warming climate can potentially affect water supplies and plan accordingly.

Climate experts are less confident about how continued warming will affect the overall amount of precipitation Idaho receives, but changes in seasonal stream flows and increased annual variability have been documented. It is expected that seasonal flows in snowmelt-fed rivers will occur earlier, summer and fall stream flows will be reduced, and water temperatures will increase. Increased precipitation in the form of rain and fewer, but more intense, storm events are expected to result in more severe droughts and greater flooding. Potential impacts could also include more evaporation, reduced ground water

recharge, water quality challenges, reduced productivity of hydropower facilities, and irreversible impacts on natural ecosystems. Water resource managers must evaluate and plan for these possibilities.

Planning for the potential impacts of climate variability requires increased flexibility in water administration and the identification of existing tools that can be adapted to address climate-induced changes in water supplies. Increased monitoring and data collection as well as conducting an initial vulnerability analysis for watersheds will help managers develop adaptive approaches to changes in the hydrologic regime that may accompany an increase in climate variability. Increasing public awareness and strengthening community and regional partnerships to manage shared water resources are proactive steps that should be taken now to provide for the optimum use of Idaho's water resources.

Implementation Strategies:

- Evaluate existing legal and institutional tools and constraints that can be adapted to provide flexibility for water resource managers.
- Implement a collaborative approach to the analysis of reservoir operation rule curves that adequately considers past and current hydrologic data.
- Pursue expansion and diversification of water supplies, including increased surface and ground water storage.
- Develop and update flood-risk assessments and environmental impact mitigation measures.
- Identify and implement adaptive mechanisms to address the impact of climate variability on water supplies.
- Establish stakeholder forums involving state and local water supply managers, scientists, state and federal agencies, and water users to enhance understanding about the science of climate variability, to share information about existing and potential tools for ameliorating the impact of climate variability, and to increase understanding of the challenges facing water users and managers.

Milestones:

- Completion and implementation of updated flood control rule curves.
- Construction or expansion of water supply projects.
- Finalization of risk assessment studies.
- Documentation of legal and institutional framework and water management tools that anticipate and respond to climate variability.
- Establishment of regional forums that encourage the development of collaborative programs and decision making.
- Funding mechanisms in place for climate variability preparedness and risk assessment.

4. SNAKE RIVER BASIN

The Snake River was accurately described in the 1960s as "A Working River" by Senator (and former Idaho Governor) Len B. Jordan. This description accurately portrays the development of the river since the earliest settlement and irrigation of the semiarid lands of southern Idaho.

As a "Working River" the Snake has had – and continues to have – many competing demands for its water that affect the management of the river, among them: irrigation, hydroelectricity, municipal supply, flood control, recreation, fish, and wildlife management. Multiple governmental interests regulate activities that affect the use of the waters of the Snake River, among them: the Idaho Water Resource Board (Water Policy), Idaho Department of Water Resources (Water Administration), U.S. Bureau of Reclamation (Irrigation, Water Storage and Hydroelectricity), U.S. Army Corps of Engineers (Flood Control), National Oceanographic and Atmospheric Administration – Fisheries Service (Anadromous Fisheries Management), U.S. Fish and Wildlife Service (resident fisheries), Bonneville Power Administration (Federal Power), and the Federal Energy Regulatory Commission (Hydropower). The Snake River policies in this Plan provide essential policy guidance for the management of the Snake River in the public interest. When conflicts arise between competing interests – and with water resources in the arid American West, as they inevitably do – the laws of the State of Idaho and the policies in this Plan establish the blueprint for allocation of unappropriated waters of the Snake River.

This plan sets forth ten policies for the Snake River Basin. Policy 4A describes the minimum stream flow framework that guides overall water planning and management in the Snake River Basin. Policy 4B reaffirms the Milner Zero Flow policy that guides water resource planning and management in the Snake River Basin above Milner Dam. Policy 4C describes the trust created by the Swan Falls Settlement that guides water resource planning and development in the Milner to Murphy reach of the Snake River Basin. Policy 4D establishes a process for conjunctive management of the Eastern Snake Plain Aquifer and the Snake River. Policy 4E identifies the need and process for developing new storage within the Snake River Basin. Finally, Policies 4F through 4J set forth additional policies applicable to water supplies for agriculture, DCMI (domestic, commercial, municipal and industrial), hydropower, navigation, fish, wildlife, recreation, and scenic values.

4A - SNAKE RIVER MINIMUM STREAM FLOWS

The main stem Snake River above Hells Canyon Dam will be managed to meet or exceed the following minimum average daily flows at the designated stream gaging stations:

Gaging Station	Minimum Average Daily Flow
Milner	0 cfs
Murphy	3,900 cfs (4/1 through 10/31) 5,600 cfs(11/1 through 3/31)
Weiser	4,750 cfs

These minimum stream flows provide the framework for water planning and management in the Snake River Basin and shall be administered in priority with other water rights under the prior appropriation doctrine.

Discussion:

Approximately 57%[1] of the surface area of the State of Idaho is within the Snake River Basin. The waters of the Snake River Basin represent 50% of the water resources of the State, but represent the water supply for 76% of Idaho's population. Thus, the Snake River forms the backbone of Idaho's economy, and effective management of this resource is essential to protect existing water rights, supporting agriculture, sustaining economic growth, maintaining a base flow for hydropower generation, and preserving fish, wildlife, and other environmental values.

The Snake River minimum stream flows have been an integral part of the State Water Plan since their adoption in 1976. They were established to provide the framework for achieving a balance between diversion of water for consumptive uses and preservation of Snake River flows for instream uses.

The policy of managing the Snake River to meet or exceed these designated minimum stream flows evolved over the course of the 20th Century as a result of the need to reconcile the conflict between irrigation, which requires diverting water out of the stream, and hydropower, which relies on retaining water in the stream. A brief overview of the evolution of the Snake River minimum stream flow framework is provided to give context for the Snake River policies that follow.

The dynamic tension between diversion of water for consumptive uses and retention of flows for instream uses manifested itself during the simultaneous development of the irrigable lands within the Snake River Basin and the development of the hydropower potential of the main stem Snake River. The inevitable conflict between these two uses was recognized as early as the 1889 Constitutional Convention, and the tension continued through the 20th Century.

[1] The Salmon and Clearwater Basins are not included in this calculation because they are treated as separate basins for purposes of the State Water Plan.

The initial effort to create a balance between hydropower and irrigation development arose out of a 1920 plan for construction of the American Falls Reservoir. Upstream from the Milner Dam the Snake River is not deeply entrenched, which facilitated gravity water diversions into canal systems. Below Milner Dam, the Snake River enters a deep canyon and was largely inaccessible for agricultural development in the 1920s, although a number of sites in the canyon were well suited for hydropower development. Based upon this physical divide, the Board of Engineers, which consisted of the State Engineer, U.S. Reclamation Service and irrigation interests, agreed to a concept that called for dedicating the entire flow of the Snake River above Milner Dam for future agricultural development.

The Board of Engineers' plan proposed the construction of storage capacity, to the extent economically feasible, to capture flows above Milner Dam for existing and future agricultural development. The Board of Engineers recognized, however, that it would take a number of years to fully develop the water supply for agricultural purposes and that the establishment of unlimited hydropower water rights in the meantime could frustrate the plan. Thus, the Board of Engineers' report recommended that future hydropower water rights be conditioned to prevent them from precluding storage and agricultural development of the flows of the Snake River above Milner Dam. This limitation on the ability of hydropower water right holders to establish rights to water above Milner Dam was integral to the Board of Engineers' plan for the "maximum utility" and "greatest use" of the water resources of the Snake River. The Board of Engineers' plan was viewed as not greatly impacting hydropower development because the Snake River soon reconstituted itself downstream from Milner Dam from irrigation return flows, tributary springs, and surface water sources.

The physical differences in the reaches above and below Milner Dam, and the corresponding differences in the existing and planned-for development above and below Milner Dam, led to the commonly-held view of the Snake as consisting of "two rivers." The "two rivers" concept, and its policy against allowing water to be called from above Milner Dam to satisfy downstream uses, was reaffirmed in every major Snake River water project and controversy in subsequent years. For instance, concern that development of the hydropower potential in Hells Canyon might monopolize the flows of the Snake River upstream led to an agreement between the State of Idaho and Idaho Power Company in the 1950's that subordinated hydropower generation at the Company's Hells Canyon Complex (HCC) to upstream consumptive uses, consistent with the "two rivers" concept.

The "two rivers" concept was formally recognized in the 1976 State Water Plan, which set a "protected flow" of zero cfs at the Milner U.S.G.S. gaging station. The purpose for allowing a zero flow at Milner Dam was to maximize the water supply available for development above the dam, including ground water development of the Eastern Snake Plain Aquifer, by allowing existing uses to continue, and by providing water for new uses above the dam. The Idaho Water Resource Board (IWRB) recognized, however, that the Milner zero minimum flow was not a target or goal to be achieved, nor was a zero cfs flow necessarily desirable. Rather, the Milner zero minimum flow recognizes that the exercise of water rights above Milner Dam has in the past, and may in the future, reduce

the flow of the Snake River at Milner Dam to zero. This concept is codified in Idaho Code § 42-203B(2).

To establish a balance between instream flow uses and consumptive uses of the flows of the main stem Snake River below Milner Dam, the 1976 State Water Plan also established minimum average daily flows[2] at the Milner, Murphy, and Weiser gauging stations. In the 1976 State Water Plan, "[t]he Idaho Water Resource Board concluded, after considering all current and potential uses of water on the main stem Snake River, that depletion of flows below that currently available in the low flow months to maintain water for production of hydropower and other main stem water uses [was] not in the public interest."

While the 1976 Idaho State Water Plan also recognized the 5,000 cfs at Johnson's Bar and 13,000 cfs at Lime Point flow requirements contained in the HCC Federal Energy Regulatory Commission (FERC) license were in the public interest, the 1976 Plan did not establish these flow requirements as state minimum stream flows. The Idaho Legislature in 1978, however, established a 5,000 cfs minimum average daily flow at Johnson's Bar to be maintained 95% of the time. In 1986, the Idaho State Water Plan recognized a minimum average daily flow at Lime Point of 13,000 cfs to be maintained 95% of the time. Like the HCC federal power license, however, neither the Johnson's Bar nor the Lime Point minimum stream flows are based upon natural flow conditions, but rather, are intended to protect natural flow of the Snake River below the HCC and operational releases from the HCC. Neither minimum stream flow is enforceable against junior water rights diverting from the Snake River above the HCC nor can a call be made for the release of water stored in the HCC. In addition, the Lime Point minimum stream flow water right cannot be used to seek administration of water rights diverting from the Salmon River Basin.

The Swan Falls Controversy of the 1980s marked the most recent chapter in the development of the Snake River minimum stream flow framework. While the primary legal issue in the Swan Falls controversy was the question of the subordination of certain water rights claimed by Idaho Power Company to consumptive-use water rights upstream of Swan Falls Dam, at the center of the controversy was the declining flows of the Snake River below Milner Dam that had resulted, in part, from ground water development of the Eastern Snake Plain Aquifer. The Company also was concerned that the 3,300 cfs Murphy minimum stream flow of the 1976 Idaho State Water Plan would allow further depletion of the flow of the Snake River. As part of the resolution of this controversy, the Idaho State Water Plan was amended to increase the minimum average daily flow at the Murphy gage to 3,900 cfs during the irrigation season and 5,600 cfs during the non-irrigation season. In exchange, a portion of Idaho Power Company's hydropower power water rights were explicitly subordinated to existing and certain future upstream water rights. The settlement also explicitly reaffirmed the Milner zero minimum stream flow, but recognized the hydraulic connection between the Eastern Snake Plain Aquifer and directed that it "be managed as an integral part of the river system."

[2] An average daily flow is the average of multiple flow measurements taken during a 24-hour period.

To summarize, the Milner, Murphy and Weiser minimum stream flows establish the framework for water planning and management in the Snake River Basin above the HCC. The State Water Plan, beginning with the first version in 1976, and continuing though each successive plan, has recognized that the minimum stream flows at Milner, Murphy, and Weiser ensure a balance between consumptive and instream uses of the flow of the main stem Snake River. Johnson's Bar and Lime Point minimum stream flows reflect FERC operating conditions for the HCC, and therefore do not establish a framework for water planning and management in the Snake River Basin above the HCC.

Implementation Strategies:

- A monitoring program will be developed by 2014 to account for fluctuations resulting from the operation of Idaho Power Company's hydropower facilities in the calculation of the Murphy minimum average daily flow.
- Develop tools to predict Snake River flows at the Murphy Gage based on ESPA ground water level trends, precipitation patterns, new appropriations and changes in conservation practices.
- Develop by 2014 management scenarios to ensure that Snake River flows at the Murphy and Weiser Gages remain above established minimum stream flow levels.
- Reevaluate the Johnson's Bar and Lime Point minimum stream flows when the FERC license for the HCC is issued.

Milestones:

- Snake River minimum average daily stream flows are maintained.
- Tools developed to predict Snake River flows at the Murphy Gage.
- Management strategy developed to ensure that Snake River minimum stream flows at the Murphy and Weiser Gages are maintained.
- Johnson's Bar and Lime Point minimum stream flows are reviewed.

4B - SNAKE RIVER MILNER ZERO MINIMUM FLOW

Water resource policy, planning, and practice should continue to provide for full development of the Snake River above Milner Dam recognizing that the exercise of water rights above Milner Dam has and may reduce flow at the Dam to zero.

Discussion:

Idaho Code § 42-203B(2) provides that water rights diverting from the Snake River and surface and ground water tributary to the Snake River downstream from Milner Dam shall not be considered for purposes of the determination and administration of existing and future rights to the use of the waters of the Snake River or its tributaries upstream from Milner Dam. As discussed in Policy 4A, the Milner Zero Minimum Stream Flow

evolved out of the 1920 Board of Engineers' plan that sought to provide for the optimum development of the Snake River upstream from Milner Dam by capturing and storing, to the extent economically feasible, the flow of the river for future agricultural development.

The 1976 State Water Plan formally implemented the Milner Zero Minimum Stream Flow by establishing a "protected flow" of zero cubic feet per second at the Milner gaging station. The 1976 State Water Plan Milner Zero Minimum Stream Flow Policy recognized that for purposes of administration, the Snake River at Milner is severed. As part of the resolution of the Swan Falls controversy, the State reaffirmed the "two rivers" administration concept through adoption of Policy 5A of the 1986 Idaho State Water Plan and enactment of Idaho Code § 42-203B(2).

The Board reaffirms the Milner "two rivers" concept that has appeared in each successive revision of the Idaho State Water Plan and finds that it is in the public interest to develop in-stream and off-stream storage projects as well as aquifer recharge projects to capture unappropriated flows to satisfy current and future water supply needs. The impact of developing new storage above Milner must be accounted for in water resource planning and management decisions in the Snake River Basin below Milner.

As this Board recognized in the Memorandum of Agreement entered into with Idaho Power Company as part of the 2009 Framework Reaffirming the Swan Falls Settlement, "implementation of managed recharge will have an effect on the flow characteristics of the Snake River above and below Milner Dam." Accordingly, while the Eastern Snake Plain Aquifer Comprehensive Management Plan established a long-term annual hydrologic target of 150,000 to 250,000 acre-feet of managed recharge, the Memorandum of Agreement provides that the long-term target should be phased in so that the State can "make informed water management and planning decisions . . . ." Consistent with the Memorandum of Agreement, the managed recharge hydrologic target for the Snake River Basin above Milner is to recharge between 100,000 and 175,000 acre-feet into the ESPA on an average annual basis by January 1, 2019. The Board, based upon data gathered during the initial phase of managed recharge, will establish a plan for implementation of the ESPA long-term managed recharge hydrologic target in 2019.

Development of new storage will take time. In the interim, the Board will cooperate with stakeholders to explore ways to optimize the management of flows that are currently passing over Milner Dam to first meet water supply needs above Milner Dam, and second to shape any remaining excess flows for hydropower and other uses below Milner Dam. Consistent with Policy 4B and Idaho Code § 42-203B(2), no use of any unappropriated flows passing Milner Dam by downstream users establishes a right to call on such flows now or in the future.

Implementation Strategies:

- Develop and maintain a reliable supply of water for existing uses and future beneficial uses above Milner Dam.
- Assess the feasibility of construction of new on-stream and off-stream storage in the Snake River Basin above Milner Dam.

- Implement a sustainable aquifer recharge program.
- Implement a process to address water management and reservoir operation needs through a standing advisory subcommittee that will include at least one representative from Idaho Power Company, the Committee of Nine, and the Bureau of Reclamation. The subcommittee will be a collaborative forum where relevant information may be exchanged and reviewed on how the state and the Bureau of Reclamation, in the exercise of their respective authorities, can optimize the management of the water resources and the reservoir system above Milner Dam. This subcommittee may periodically submit advisory recommendations to the Board and the U.S. Bureau of Reclamation, but will have no power or authority to affect vested water rights or to prescribe the manner in which the federal reservoir system or the water resources above Milner Dam shall be managed.
- Measurement and Monitoring Implementation Strategy:
  - Continuously improve the Eastern Snake River Aquifer Model (ESPAM), the Snake River Planning Model (SRPM), and the Snake River Accounting System.
  - Promote linkage of the models and their use in evaluation of impacts of various management decisions on Snake River flows, aquifer levels, and reservoir operations.
  - Undertake measurement and monitoring of the combined river and aquifer system to facilitate water management and planning in the Snake River Basin above Milner Dam.
  - Investigate, test, and adopt new water measurement and modeling methods and technologies that improve water management capabilities.
- Implement and maintain cooperative water resource agreements and partnerships with neighboring states, the federal government, and Indian tribes in managing the water resources of the Snake River above Milner Dam.
- Identify constraints that restrict or limit water transferability for DCMI and other emerging needs.

Milestones:

- Process in place that provides recommendations to optimize the management of the water resources and the reservoir system above Milner Dam.
- A managed aquifer recharge program above Milner Dam implemented that recharges between 100,000 and 175,000 acre-feet on an average annual basis by 2019 and data gathered to assess the efficacy of the program.
- Projects implemented that enhance the water supply above Milner Dam.

4C - REALLOCATION OF SNAKE RIVER TRUST WATER

Water made available for reallocation to new uses in the Snake River trust water area pursuant to Idaho Code § 42-203B shall be allocated in accordance with criteria established by Idaho Code §§ 42-203A and 42-203C.

Discussion:

The 1984 Swan Falls Settlement resolved the long-standing conflict between use of the flow of the Snake River for hydropower purposes and for agriculture and other depletionary uses. The details of this century-long conflict are chronicled in two Idaho Supreme Court decisions and the SRBA District Court's Memorandum Decision and Order on Cross-Motions for Summary Judgment dated April 18, 2008, and therefore, are not repeated here. The statutory trust created as a result of the settlement, however, establishes the framework for water planning and management of the main stem Snake River between Milner Dam and the Murphy gage. A brief overview of the trust created by Idaho Code § 42-203B(2) is provided as context for this policy.

One of the core principles of the Swan Falls Settlement was that the flow of the Snake River downstream from Milner Dam in excess of the Murphy minimum average daily flow of 3,900 cfs during the irrigation season and 5,600 cfs during the non-irrigation season would be available for future development in accordance with state law. The Settlement, however, recognized development would occur over time and that in the interim it was in the public interest to allow Idaho Power Company to continue to use the flow of the Snake River below Milner Dam up to the licensed amount of its hydropower water rights "pending approval of depletionary future beneficial uses." In order to implement these dual objectives, the State of Idaho took title to twenty-five hydropower water rights, under a statutory trust, which operates for the joint benefit of Idaho Power Company and the people of the State of Idaho. The State, by and through the Governor, is the trustee.

While the water made available for future development as a result of the trust is often referred to as "trust water," this term is a misnomer. The trust consists of "water rights" as opposed to "water." Trust Water is simply a shorthand term referring to flows above the minimum stream flow at the Murphy Gage, which were originally appropriated under water rights for hydropower generation at Idaho Power Company's facilities located between Milner Dam and the Murphy Gage. Additionally, the term refers only to water sources tributary to the Snake River below Milner Dam, as shown on Figure 1[3]. There is no specific amount of trust water; rather, the term describes the flow at Idaho Power Company's facilities in the Milner to Murphy reach of the Snake River in excess of the Murphy minimum flow and less than the total appropriated flow at each facility. The Swan Falls

[3] Pursuant to the Swan Falls Settlement and Idaho Code § 42-203B(2) "water rights for hydropower purposes on the Snake river or its tributaries downstream from Milner dam shall not place in trust any water from the Snake river or surface or ground water tributary to the Snake river upstream from Milner Dam." Thus, the hydropower water rights held in trust carry no right to seek administration of the rights to the use of the waters of the Snake or its tributaries upstream from Milner Dam.

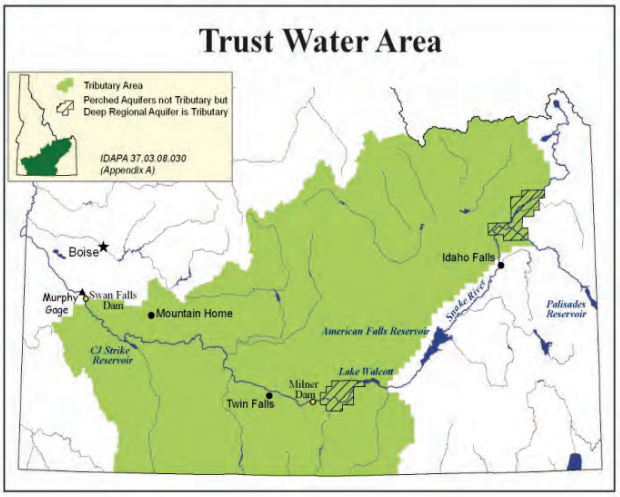


Figure 1 Trust Water Area

Framework recognized that "[t]he actual amount of development that can take place without violation of the [Murphy] minimum streamflows will depend on the nature and location of each new development, as well as the implementation of new practices to augment the streamflow."

Figure 2 shows what is deemed trust water at the Swan Falls dam[4]. The original graph used in implementation of the Swan Falls Settlement included the 1961 average daily flow at the Murphy Gage as representative of the then existing low flow year. Average daily flow data from 1984 to 2011 is added to Figure 2 to show the relative change in flow at the Murphy Gage since implementation of the Swan Falls Settlement.

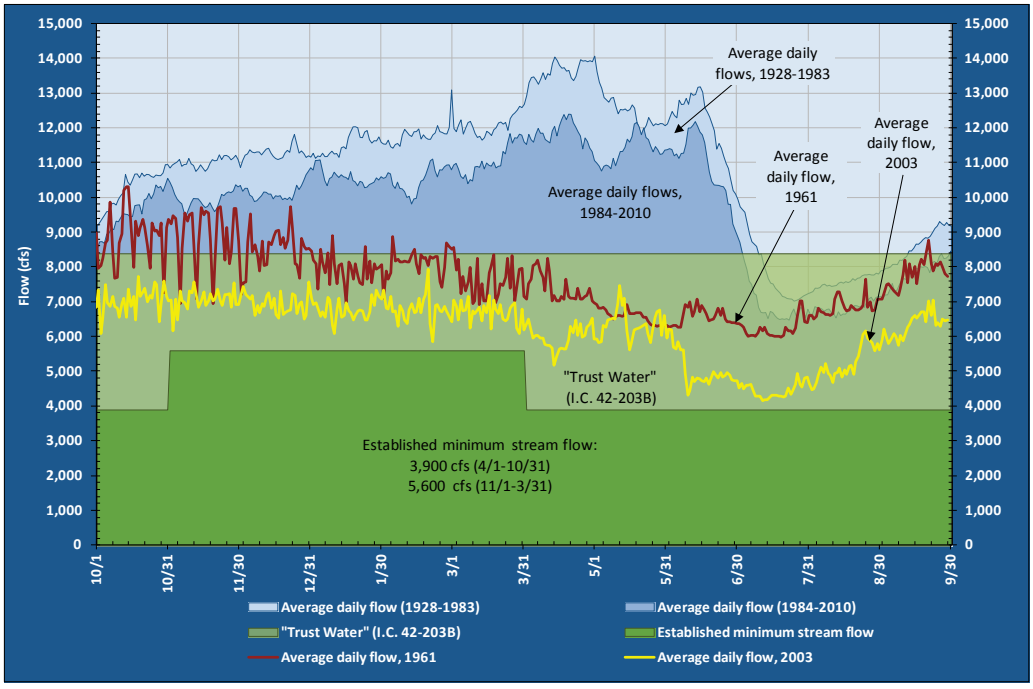


Figure 2 Swan Falls Trust Water Flows

[4] Figure 2 updates Figure 3 contained in the IDWR Policy and Implementation Plan for Processing Water Right Filings in the Swan Falls Area, dated November 3, 1988, which depicted water made available for appropriation above the Murphy Gage as a result of the Swan Falls Settlement. The original graph used average monthly flows for the purpose of representing the amount of water potentially available for future development. Since that time, technology has made it easier to graph average daily flows. Thus, Figure 2 uses average daily flows as reported by the USGS to provide a more accurate depiction of flow conditions at the Murphy Gage. Specifically, Figure 2 shows average daily flows for 1961 and 2003 and the average of the average daily flows for the years 1928 through 1983 and 1984 through 2010. Although not included here, the Policy and Implementation Plan also contains a similar graph that depicted water available for appropriation upstream from the Bliss hydropower facility as a result of the Swan Falls Settlement.

While flows are beginning to approach the minimum average daily flow at the Murphy Gage during certain times in low flow years, in most years flows are significantly above the Murphy minimum flow. The opportunity for further development of trust water, however, is currently limited by three factors. First, there is uncertainty over the relative rights of senior water right holders for uses other than hydropower to the spring flows in the Thousand Springs reach. While the Swan Falls Settlement subordinated the use of the flows of the Snake River for hydropower purposes, it did not address the rights of other senior water right holders. Second, term limited trust water right will be subject to a public interest review in the near future. Third, there is a moratorium on issuance of new water rights within the trust water area. Until these issues are resolved, it is not possible to make informed decisions regarding the allocation of the remaining trust water.

Implementation Strategies:

- Conduct hydrologic studies to determine the amount of additional development possible within the Murphy minimum stream flow constraint.
- Develop a conjunctive management plan setting forth measures necessary for future development of trust water.
- Review term limited trust water rights.

Milestones:

- Quantification of the amount of additional development possible within the Milner to Murphy reach of the Snake River consistent with maintaining the Murphy minimum stream flow.
- Adoption of a conjunctive management plan for the Milner to Murphy reach of the Snake River.
- Complete review term limited trust water rights.

4D - CONJUNCTIVE MANAGEMENT OF THE ESPA AND SNAKE RIVER

The Eastern Snake Plain Aquifer and the Snake River below Milner Dam should be conjunctively managed to provide a sustainable water supply for all existing and future beneficial uses within and downstream of the ESPA.

Discussion:

Most of the Eastern Snake Plain Aquifer (ESPA) is in direct hydraulic connection with the Snake River. The Snake River alternately contributes water to – and receives water from – the ESPA. The ESPA discharges an average of approximately 2,500 cfs of water to the Snake River at American Falls and approximately 5,200 cfs in the Thousand Springs reach between Milner and King Hill.

The advent of extensive ground water pumping in the ESPA, combined with changes in surface water irrigation practices and a series of droughts, have had a profound effect on the ESPA groundwater and spring discharge rates. Overall, spring discharge rates in the

Thousand Springs reach of the Snake River have declined from about 4.9 MAF/ear (6,800 cfs) in the early 1950s to about 3.8 MAF/year (5,200 cfs) currently – a decline of just over twenty (20)% over the past 60 years. Past aquifer level declines, and resulting reductions in spring discharge have created conflicts between surface and groundwater users, and in some instances between senior and junior groundwater users.

During certain times in low-flow years, the Snake River flow upstream of Milner Dam is fully diverted, and the Snake River flow at Milner is reduced to zero. At these times the Snake River flow at the Murphy Gage consists mostly of ESPA discharge from the Thousand Springs area.

Recognizing the hydraulic-connected nature of ground and surface water in the ESPA, the State began conjunctive management of ground- and surface-water resources in 1986. In recent years, the State has implemented scientific measures to increase knowledge of the hydraulic connection between the ESPA and the Snake River, and implemented measures to improve aquifer conditions in, and spring discharge from, the ESPA. Continuation of these efforts is fundamental to ensuring an adequate water supply for existing and future water demands within the Eastern Snake River Basin.

Conjunctive management of the Snake River Basin water resources is also key to meeting Snake River minimum stream flows at the Murphy and Weiser Gages set forth in Policy 4A. The 1984 Swan Falls Settlement explicitly recognized effective water management of the ESPA and Snake River – and associated policies and recommendations laid out in the State Water Plan – as the means of ensuring the Murphy minimum average daily flow while optimizing the development of the Snake River Basin: "[t]he State Water Plan is the cornerstone of the effective management of the Snake River and its vigorous enforcement is contemplated as a part of the settlement." [5]
Building on the existing conjunctive administration and management efforts, the Idaho Legislature in 2006, adopted Senate Concurrent Resolution 136, which requested that the Idaho Water Resource Board develop a comprehensive aquifer management plan for the Eastern Snake River Plain Aquifer. In January 2009, the Board adopted the ESPA Comprehensive Aquifer Management Plan (CAMP). The overall goal of ESPA CAMP is to "[s]ustain the economic viability and social and environmental health of the Eastern Snake Plain by adaptively managing the balance between water use and supplies." The objectives of the plan are to increase predictability for water users by managing for a reliable supply, creating alternatives to administrative curtailment, managing overall demand for water within the Eastern Snake Plain, increasing recharge to the aquifer, and reducing withdrawals from the aquifer.

[5] This policy addresses conjunctive management of the Eastern Snake River Aquifer and the Snake River and not water rights administration. Water rights administration is the enforcement of the relative rights of water right holders under the prior appropriation doctrine. By comparison, conjunctive management encompasses actions other than water rights administration that can be taken to optimize the benefits and value of Idaho's water resources. While conjunctive management is not a substitute for water rights administration, it is in the public interest to conjunctively manage the ESPA and the Snake River to lessen or obviate the need for broad-scale water rights administration to accomplish general water-management goals.

Policy 4D embraces conjunctive management goals and objectives of the ESPA CAMP. Implementation of the ESPA CAMP will improve the opportunities to adaptively manage and optimize water supplies within and downstream of the ESPA, resulting in: increased gains in some river reaches; improved storage carryover; increased aquifer levels; opportunities for municipal and industrial growth; reductions in overall consumptive use; increased spring discharge rates; and an ongoing public process for assessing the hydrologic, economic, and environmental issues related to the implementation of management strategies.

The overall goal of the ESPA CAMP is to effectuate a net annual ESPA water budget change of 600 thousand acre-feet (kaf) by the year 2030. This change is to be achieved through implementation of measures designed to both reduce demand on and increase the water supply of the ESPA. Approximately 100 kaf of demand reduction is to be achieved through groundwater to surface water conversions, and another 250-350 kaf of demand reduction is to be achieved through various measures designed to retire existing water rights. Aquifer recharge is expected to increase the ESPA water supply by 150-250 kaf.

The ESPA CAMP uses a phased approach to achieving the long-term change in the water budget. The goal of Phase 1 of ESPA CAMP is to implement measures that will result in a net annual change in the ESPA water budget of between 200 kaf and 300 kaf. The recommended actions to achieve this change include redistributing existing water supplies (including selected ground- to surface-water irrigation conversions), managed aquifer recharge, and augmentation of supplies through demand reduction and weather modification. The ESPA CAMP calls for implementation of Phase I strategies by 2018 with ongoing monitoring and evaluation of the intended and unintended effects of the strategies. The Phase I monitoring and evaluation studies will be used to select, design, and implement Phase II strategies that will lead to an additional 300-400 kaf "water budget change."

Most of the human made changes to the ESPA water balance during the past decades are reflected in current aquifer levels and spring flows. Continued changes in irrigation practices (e.g., conversion from gravity irrigation to sprinkler irrigation) and future climate variability, however, may create additional impacts to ESPA aquifer levels and aggregate spring discharge. Such impacts affect not only the ESPA area but also the Snake River downstream of the ESPA, because aggregate spring discharge from the Thousand Springs reach is the primary source of water sustaining the Murphy minimum stream flow, during portions of some years.

To date, efforts to monitor and measure ESPA groundwater levels, diversion volumes, and river reach/gains have focused on the ESPA, individual springs discharging water from the ESPA, and reaches of the Snake River hydraulically-connected with the ESPA. Because of the importance of the ESPA discharge on downstream reaches of the Snake River, however, it is imperative that an enhanced spring-flow monitoring program be developed to provide the information necessary for identifying, tracking, and predicting changes in future spring discharge trends. Such a monitoring program will need to include long-term measurements of aggregate annual spring discharge (as opposed to point-in-time discharge from individual springs) and ESPA ground-water levels.

Sustaining Snake River minimum stream flows downstream of the ESPA may require short-term and long-term adaptive management measures. A monitoring program aimed at identifying long-term spring-discharge trends in the Snake River Thousand Springs reach should be designed to support the development of one or more adaptive management "triggers" based on pre-determined observed or predicted change in aggregate spring discharge rate, aquifer levels, and/or Snake River flow. The triggers should be used to initiate adaptive management measures that address the cause – or impacts – of any unacceptable decline in Snake River flow downstream of the ESPA.

Monitoring efforts and adaptive management measures are crucial to sustaining the economic viability and social and environmental health of the ESPA and the Snake River. Successful adaptive management strategies, built on the principles of conjunctive management of ground and surface water, supported by scientific understanding and reliable data, and that take into account the complex and interrelated nature of Snake River subasins, will accomplish two goals: 1) ensure an adequate and sustainable water supply for existing and future uses, and 2) reduce conflicts between ground and surface water users.

Implementation Strategies:

- Implement actions delineated in the ESPA CAMP that will enhance aquifer levels and spring flows.
- Continue existing efforts to measure and monitor ground and surface water diversions, water levels, spring discharge rates, and Snake River reach gains/losses, and quantify ground and surface water interactions.
- Develop and implement a monitoring program to better predict the occurrence and duration of future low flows in the Snake River.
- Revise Part B of the State Water Plan to further develop the conjunctive management objectives set forth in the State Water Plan.

Milestones:

- ESPA CAMP hydrologic conjunctive management targets met or exceeded.
- Snake River flows at the Murphy and Weiser Gages remain at or above established minimum stream flows.
- Reduced water-related conflict in the Snake River Basin.
- Revision of Part B of the State Water Plan.

4E - SNAKE RIVER BASIN NEW STORAGE

Development of new on-stream, off-stream, and aquifer storage is in the public interest; provided, however, applications for large surface storage projects in the Milner to Murphy reach of the Snake River should be required to mitigate their impact on hydropower generation.

Discussion:

Most of the Eastern Snake Plain Aquifer (ESPA) is in direct hydraulic connection with the Snake River. The Snake River alternately contributes water to – and receives water from – the ESPA. The ESPA discharges an average of approximately 2,500 cfs of water to the Snake River at American Falls and approximately 5,200 cfs in the Thousand Springs reach between Milner and King Hill.

Although there are major dams and reservoirs designed for water storage, flow regulation, and flood control on the Snake River and its tributaries, their existing capacity is insufficient to provide the water supply and management flexibility needed for the myriad of existing and future beneficial uses. This is the case in every water year, especially in years of drought and limited snowpack. As a consequence, new storage should be pursued throughout the Snake River Basin, with one exception.

While additional storage water in the Milner to Murphy reach of the Snake River would be beneficial, diversion of water from the main stem of the Snake River between Milner and the Murphy Gaging station during the period November 1 to March 31 will have a significant impact on hydropower generation. Thus, no new storage projects within this reach of the Snake River are recommended and any approval of new storage projects in this reach should be coupled with provisions that mitigate the impact of such depletions on hydropower generation. The term “mitigation” is defined as causing to become less harsh or hostile, and is used here rather than “compensate” which connotes equivalence. Methodology will be developed for use in calculating impacts on hydropower generation as part of any application to construct new storage within this reach of the Snake River.

A number of studies focusing on water storage as one potential measure for addressing water supply demand and flood risk reduction are underway. This section provides a brief description of the most significant studies that have been initiated or are in the planning process.

Henry’s Fork Project/Teton River Basins

The Board and the U.S. Bureau of Reclamation are conducting a study of water resources in the Henry’s Fork/Teton River Basins to develop alternatives for improving water supply conditions in the Eastern Snake Plain Aquifer and upper Snake River Basin. These alternatives include new water storage projects, enlargement of existing reservoirs, and conservation and water management strategies, including managed aquifer recharge and automated water delivery systems.

Minidoka Dam Enlargement

In the 1980s, the Bureau of Reclamation and irrigation districts initiated the required planning process and feasibility studies to replace the spillway and two canal headworks due to the state of deterioration and potential for ongoing damage to sections of the Minidoka Dam. In 2008, the Board partnered with the Bureau of Reclamation to also evaluate the structural raising of Minidoka Dam to accommodate a 5-foot rise in normal reservoir surface elevation, in conjunction with planned spillway repairs. The study found that a 5-foot rise is technically feasible, and would provide an additional 67,000 acre-feet of storage with an average annual yield of 33,000 acre-feet. Funding for the enlargement of Minidoka Dam, however, is currently not available. If economic or other conditions change, the Board will consider further evaluation of this storage option.

ESPA Managed Recharge Pilot program

Recharging aquifers as a water supply alternative has significant potential to address water supply needs, in addition to addressing conjunctive management issues. Pursuant to the ESPA CAMP, the Board is undertaking a five-year pilot program of managed aquifer recharge to the Eastern Snake Plain Aquifer. One of the potential benefits of managed recharge in the ESPA is increased water storage in the aquifer. Effectiveness monitoring and evaluation results will be used to select and design future managed recharge strategies and projects.

Lower Boise River Interim Feasibility Study

The lower Boise River corridor, from Lucky Peak Dam to its confluence with the Snake River has experienced rapid population growth and significant urban development over the past several decades. As a consequence, there is renewed interest in addressing water supply and flood control issues. Interest has also been expressed in environmental restoration, to include habitat preservation, aesthetics and recreation along the Boise River.

In 2009, the Board and the U.S. Army Corps of Engineers (Corps) partnered to conduct an Interim Feasibility Study focused on water storage potential and flood reduction in the Boise River Basin. A preliminary analysis ranked an enlargement of Arrowrock Reservoir as the highest priority alternative, followed by the construction of a new reservoir at the Alexander Flat site and a new reservoir at the Twin Springs site. A preliminary analysis completed in 2011 concluded that based on existing information, raising Arrowrock Dam is technically feasible. The evaluation identified a number of uncertainties that will be addressed during future study and data collection efforts, as funding becomes available.

Weiser-Galloway Gap Analysis, Economic Evaluation and Risk-Based Cost Analysis (Gap Analysis)

Water storage on the Weiser River and at the Galloway site has been studied for decades. In 1954, the Corps received a study authorization resolution for the Galloway Project from the U.S. Senate Public Works Committee. In the early 1970s, federal lands for the potential Galloway dam and reservoir site were classified and withdrawn for hydropower purposes by the Federal Power Commission (now FERC). In 2008, Idaho House Joint

Memorial 8 directed the Board to investigate water storage projects statewide, including the Weiser-Galloway Project. The Board and the Corps partnered to conduct a "Gap Analysis" which was completed in March 2011. The Gap Analysis was designed to inform decision makers of critical information gaps that need to be addressed before deciding whether to move forward with comprehensive new environmental, engineering and economic feasibility studies. The analysis identified two critical information gaps that must be resolved before deciding to move forward with a new and more comprehensive feasibility, environmental and engineering studies:

1. Determine the safety, suitability and integrity of geologic structures at the potential dam and reservoir site.
2. Evaluate whether basin and system benefits would be realized by analyzing a series of system operating scenarios with a range of new storage options on the Weiser River. Potential benefits include flood risk reduction, hydropower, additional water storage, pump back, irrigation, recreation and flow augmentation requirements for anadromous fish recovery. On July 29, 2011, the Idaho Water Resource Board authorized expenditure of up to $2 million to address these questions, and the required studies are currently underway.

Implementation Strategies:

- Implement a long-term managed aquifer recharge program to achieve an average annual recharge of 250,000 - 300,000 acre feet. In recognition that implementation of managed recharge will have an effect on the flow characteristics of the Snake River above and below Milner Dam and in order to confirm the relative merits of managed recharge, the Board's managed recharge program will be limited to not more than 175,000 acre-feet on an average annual basis until January 1, 2019.
- Undertake studies of potential surface storage opportunities, which include assessing the benefits and consequences of development.
- Managed aquifer recharge goals achieved.

Milestones:

- Studies completed.
- Actions taken to defer or move forward with storage development.
- Aquifer management goals achieved.

4F - SNAKE RIVER BASIN AGRICULTURE

Development of supplemental water supplies to sustain existing agricultural development is in the public interest.

Discussion:

Agricultural use accounts for about 85% of the total diversions of the water of the Snake River Basin. Approximately 3.4 million acres of land are irrigated with surface water and 1.13 million acres of land are irrigated with ground water. As discussed more fully in Policy 4B, it has been the policy of the State since the adoption of the first state water plan to encourage the development of on-stream and off-stream storage above Milner Dam to capture unappropriated flows to the extent economically feasible for existing and future agricultural development in the Snake River Basin above the Dam, as well as other beneficial uses.

As a result of the Swan Falls Settlement, the flow of the Snake River between Milner Dam and the Murphy Gage in excess of the Murphy minimum stream flow is available for future agricultural (and DCMI) development. As discussed in Policy 4C, however, the opportunity for additional agricultural development of the waters of the Snake River and surface and ground water tributary to the Snake River between Milner Dam and the Murphy Gage is limited because of the conflicts over conjunctive management of Thousand Springs flows and a moratorium on the issuance of new permits within this reach of the Snake River issued on April 30, 1993.

In summary, agricultural development for the foreseeable future is likely to be limited because of the absence of a reliable water supply. To the extent new agricultural development occurs, it is likely to be located on streams tributary to the main stem Snake River. Appropriation of water for agriculture likely will be for a supplemental water supply to address existing water shortages.

Implementation Strategies:

- Identify and develop opportunities to acquire water to address existing agricultural water supply shortages.
- Encourage the more efficient use of existing water supplies where such action will provide water to address existing water supply shortages.

Milestones:

- Existing water supply maintained.
- Supplemental water supply developed.
- Enrollment of agricultural lands into Conservation Reserve Enhancement Program (CREP).
- Implementation of water conservation projects that reduce demand.
- Acres in agricultural production maintained.

4G - SNAKE RIVER DOMESTIC, COMMERCIAL, MUNICIPAL AND INDUSTRIAL USES (DCMI)

It is in the public interest to ensure the availability of water for future DCMI uses in the Snake River Basin.

Discussion:

While most DCMI water uses are largely nonconsumptive, future growth in Idaho's population and commercial and industrial expansion require a sustainable water supply.

Snake River Above the Murphy Gage

As discussed in Policy 4C, development of the water supply tributary to the Snake River below Milner has led to flows that are approaching the Murphy minimum flow of 3,900 cfs during a portion of the summer months, which may limit the amount of water available in this reach for all beneficial uses.

Snake River Below the Murphy Gage

DCMI demands on the Snake River downstream of the Boise River drainage are anticipated to grow at a slow to moderate rate but the increased demands are not as pressing as in the lower Boise River area.

Boise River Basin

As discussed in Policy 4E, the lower Boise River area has experienced rapid population growth over the past several decades with land-use changing from agriculture to urban use. Water supply for DCMI uses is forecasted to be one of the most pressing water supply issues in this area. Additional DCMI demands are particularly pressing upstream of Star located on the Boise River.

The principle source of water for DCMI in the Boise River Basin is ground water, however, there is unappropriated water during the spring runoff that could be captured and stored. Thus, while increased demand for DCMI use may be partially met by water conservation and some decrease in or conversion from agricultural production, additional strategies, such as aquifer and surface water storage, efficient water marketing systems, and water re-use must be evaluated. Because the Treasure Valley water system is a complex system of ground and surface water, further studies are underway to determine the contribution of surface water to aquifer recharge and the importance of aquifer discharge to surface water systems.

Implementation Strategies:

- Maintain existing surface irrigation distribution system and establish dual-use residential systems to preserve incidental recharge to aquifers.
- Develop flexible water marketing tools to facilitate rental and/or acquisition of water rights for new uses on a willing buyer/willing seller basis. Water

acquisition strategies, however, must account for any adverse hydrologic, economic and social impacts.

- Evaluate opportunities to enhance water supplies including but not limited to, ground water conservation, additional storage, and water re-use.
- Support programs that protect water quality for DCMI use.

Milestones:

- Completion of water supply enhancement projects.
- Infrastructure in place to distribute surface irrigation water to lands undergoing conversion from agricultural to residential.

4H - SNAKE RIVER HYDROPOWER USE

Hydropower generation is a beneficial use of the flow of the Snake River, and it is in the public interest to protect the minimum average daily flows set forth in Policy 4A as a base flow for hydropower use.

Discussion:

The Snake River and related tributaries provide Idaho with significant hydropower energy resources. Hydropower generation is a beneficial use of the waters of the Snake River, supplying approximately 65% of the State's energy production and ensuring that Idaho electric rates are among the lowest in the nation. Through enactment of Idaho Code Section 42-203B the State established the framework for balancing the use of the flow of the Snake River for hydropower and other instream purposes and the diversion of flow for depletionary uses.

As discussed in Policy 4C, the Swan Falls Settlement recognized the Snake River minimum stream flows set forth in Policy 4A provide an adequate base flow for hydropower use. Further, while hydropower water rights in excess of the Murphy minimum average daily flow are subject to subordination to future consumptive uses approved in accordance with state law, the Settlement allows Idaho Power Company to use up to the decreed amount of the hydropower water rights held in trust by the State of Idaho for power generation pending reallocation of such flows for future consumptive uses.

The HCC, which represents the majority of Idaho Power's hydropower generation capacity, is the largest privately owned hydroelectric project in the United States. The FERC license for the HCC expired in 2005 and Idaho Power is currently operating the project under annual licenses while FERC processes Idaho Power's pending relicense application. The new license for the HCC will determine the operating conditions for the project and address the protection and enhancement of recreational, aesthetic, navigation, and fish and wildlife resources in the reach of the Snake River that are affected by the project. The Board is participating in the FERC licensing proceeding to ensure that the

new license for the HCC includes operational conditions that preserve and enhance the generation capacity of the project in a manner consistent with the State Water Plan.

Implementation Strategies:

- Develop technical tools capable of assessing the impact of actions within the Snake River hydrologic system on the minimum stream flows of the Snake River.
- Evaluate management and administrative activities to determine the intended and unintended consequences of meeting the minimum stream flows on the Snake River.

Milestones:

- Minimum flows are maintained to meet power generation targets.

4I - SNAKE RIVER NAVIGATION

The minimum stream flows set forth in Policy 4A are sufficient for commercial and recreational navigation on the Snake River.

Discussion:

Above Milner Dam the flow of the Snake River is completely regulated; therefore, no base flow for navigation is proposed for this reach of the Snake River. The Murphy and Weiser minimum flows set forth in Policy 4A provide a sufficient base flow for recreational and commercial navigation in the Snake River between Milner Dam and the Hells Canyon Dam.

Below HCC, the Snake River flows into a steep and spectacular gorge that cuts through the Salmon River Mountains and Blue Mountains of Idaho and Oregon. Hells Canyon is one of the most rugged and treacherous portions of the course of the Snake River. The river flows 8,000 feet below the He Devil Peak of Idaho's Seven Devils Mountains. The Salmon River is a major tributary in this reach of the Snake River.

Photo: Rafting on the Snake River in Hells Canyon
(*Photo Courtesy of IDWR Staff*)

The Hells Canyon reach of the Snake River below the HCC provides unique recreational opportunities, including rafting, fishing, private and commercial jet boating, hiking, camping, and wildlife viewing. The area is a tourist destination that positively contributes to the local and regional economy. As such, providing adequate navigation conditions for private and commercial boating below the HCC is in the public interest.

The license issued by the Federal Power Commission for the HCC in 1955 addressed navigational flows below the HCC. Article 43 of the power HCC license provides that:

> *The project shall be operated in the interest of navigation to maintain 13,000 cfs flow in the Snake River at Lime Point (river mile 172) a minimum of 95 percent of the time, when determined by the Chief of Engineers to be necessary for navigation. Regulated flows of less than 13,000 cfs will be limited to the months of July, August, and September, during which time operation of the project would be in the best interest of power and navigation, as mutually agreed to by the Licensee and the Corps of Engineers. The minimum flow during periods of low flow or normal minimum plant operations will be 5,000 cfs at Johnson's Bar, at which point the maximum variation in river stage will not exceed one foot per hour. These conditions will be subject to review from time to time as requested by either party . . . .*

This license article has governed navigation flows since the original licensing of the HCC in 1955.

In the 1976 State Water Plan, the Board concluded that there was sufficient water in excess of the minimum flows established at the Milner, Murphy, and Weiser gaging stations to provide for additional uses and development and also allow for the navigation flow targets in Article 43 of the HCC license to be met without significantly affecting hydropower production. Based upon these conclusions, the 1976 State Water Plan found providing flows consistent with Article 43 was in the public interest. The 1976 Plan, however, did not establish minimum stream flows at Johnson's Bar or Lime Point.

In 1978, the Idaho Legislature, through enactment of Idaho Code § 42-1736A, created a minimum stream flow at Johnson's Bar to provide for "stream flows and hydro-power base" below the HCC. Through the adoption of the 1986 Idaho State Water Plan a minimum stream flow was established at Lime Point. Both minimum stream flows were recognized as providing a sufficient base flow for recreational and commercial navigation below the HCC. Consistent with the HCC FERC license, the Johnson's Bar and Lime Point minimum stream flows, however, are subordinated to upstream consumptive uses above the HCC and carry no right to seek the release of water from the HCC other than that required to be released by the terms of the FERC license.

As discussed in Policy 4F, FERC is in the process of relicensing the HCC. Various state and federal agencies exercise jurisdiction over resources in Hells Canyon and each of these agencies, together with private interests are parties to the HCC relicensing proceedings pending before FERC. Section 10(a)(1) of the FPA requires that a FERC licensed project "be best adapted to a comprehensive plan for improving and developing

a waterway"; which requires a balancing of public interest factors. The Final Environmental Impact Statement (FEIS 2007) issued by the FERC preliminarily addressed navigation flows below the HCC and the issue will be determined by FERC in a subsequently issued final license order. The Board believes that FERC should consider and address the navigation issue in the new HCC license in a manner consistent with this State Water Plan while ensuring that upstream water rights and water development is not impacted, and the full hydropower capacity of the HCC is preserved. The State of Idaho is actively participating in the HCC relicensing process to ensure that the State's interests are adequately addressed. The Board will continue to monitor the relicensing process to ensure consistency and continuity with this and future State Water Plans. Upon issuance of the new HCC license, the Board intends to review the impact of the new license on this policy.

Implementation Strategies:

- Participate with state and federal agencies in FERC relicensing proceedings to ensure the new FERC license for the HCC is consistent with the State Water Plan.

Milestones:

- When issued, FERC license consistent to Idaho State Water Plan.

4J - SNAKE RIVER FISH, WILDLIFE, RECREATION, AND SCENIC RESOURCES

The minimum stream flows set forth in Policy 4A provide adequate flows for current Snake River fish, wildlife, recreation, and scenic values. Any additional flows for future fish, wildlife, recreation, and scenic purposes should be addressed through collaborative agreements.

Discussion:

In addition to the minimum stream flows set forth in Policy 4A, the state has entered into a number of voluntary agreements that benefit fish, wildlife, recreation, and scenic values while protecting existing water rights and uses and providing for economic stability. These agreements are described below.

Snake River Flow Augmentation

The State of Idaho, as part of the 2004 Snake River Water Rights Agreement (2004 Agreement), established a flow augmentation program that provides water for salmon and steelhead listed under the Endangered Species Act. Pursuant to the provisions of the biological opinion for the Federal Columbia River Power System (FCRPS), and the 2004 Agreement, the U.S. Bureau of Reclamation annually seeks to rent up to 487,000 acre-feet of water from willing lessors in Idaho for Snake River flow augmentation to assist in offsetting the impact of the FCRPS. Although flow augmentation from the upper Snake River has proven to be controversial because of the inability to demonstrate the specific benefits to ESA-listed fish, the State of Idaho cooperates with the federal

program (see Idaho Code § 42-1763B) as a means of providing incidental take coverage for U.S. Bureau of Reclamation projects operations in Idaho.

This flow augmentation program consists of two tiers. Tier 1 minimum flows are those established by the Swan Falls Settlement. Tier 2 provides for the rental of up to 427,000 acre feet of storage water in accordance with the provisions of Idaho Code § 42-1736B and the Snake River flow component of the 2004 Agreement. The 2004 Agreement also allows for the United States to rent up to 60,000 acre feet of consumptive natural flow water rights through the Board's water bank in accordance with state law. The Board acquired the natural flow water rights of the Bell Rapid's irrigation project and is leasing a portion of those water rights to the U.S. Bureau of Reclamation to provide the 60,000 acre feet of natural flow water. The rental agreement provides that "protection of the Leased Water . . . will result in the protection of 48,320 acre-feet during the period of April 10 through August 31 of each year for the term of the Agreement."

The state agreed to the implementation of the flow augmentation program for the term of the Biological Opinion as a means of protecting existing water rights and uses and providing for economic stability. It is important, however, that evaluation of the efficacy of flow augmentation be conducted in conjunction and/or cooperation with other State and Federal agencies and regional interests.

Hells Canyon National Recreation Area:

The early controversy over the development of Hells Canyon gave rise to emerging concerns about the preservation of the region's natural features and ultimately led to enactment of the Hells Canyon National Recreation Area Act of 1975, which precluded future hydropower development in the Hells Canyon reach of the Snake River. The Act also designated the Snake River as "wild" (Hells Canyon Dam to Pittsburg Landing) and "scenic" (Pittsburg Landing to 37 miles south of Lewiston) to preserve the free-flowing character and unique environment while providing for continued public use. While providing protection to these important resources, the Act also protects present and future uses of the waters of the Snake River for consumptive or non-consumptive beneficial uses, including domestic, municipal, stock water, irrigation, mining, power, and industrial uses. The Act specifically provides that no flow requirements of any kind may be imposed on the waters of the Snake River below Hells Canyon Dam under the provisions of the Act, or any rules, regulations, or guidelines adopted pursuant to the Act. Pursuant to an agreement between the state and the federal government, the United States' federal reserved water rights associated with the HCNRA are limited to the tributary streams of the Snake River within the HCNRA. The decrees quantifying the federal reserved water rights on streams tributary to the main stem Snake River contain subordination provisions that protect existing rights and allow for a limited amount of future development on the tributary streams.

Owyhee Initiative

In 2009, Congress enacted the Owyhee Public Land Management Act, Pub. L. 111-11, 123 Stat. 1037. This Act set aside certain lands in southwestern Idaho as wilderness. The Act was the result of a collaborative effort initiated by the Owyhee County Commissioners to resolve decades-old land management issues in Owyhee County. The

goal was to develop and implement a landscape-scale program that preserves the natural character of the area while providing for economic stability and growth. Central to local support for enactment of the Act was the 2006 Owyhee Initiative Water Rights Agreement (2006 Agreement), which provided for a balance between instream and out-of-stream water uses within the Owyhee River Basin. The 2006 Agreement recognizes the ecological importance of stream and river flows in this arid region and recognizes local citizens' desire to maintain and protect their current way and quality of life. The 2006 Agreement calls for memorializing this balance through subordination language in the decreed federal reserved water rights for the designation of river segments that sets aside a certain amount of water for future development. The Agreement was signed by a local collaborative group that included ranchers, conservationists, landowners, business interests, outfitters, and off-road recreationists. Implementation of this water rights agreement will provide additional fish and wildlife benefits for the Owyhee River Basin.

Implementation Strategies:

- Maintain minimum stream flows set forth in Policy 4A for Snake River fish, wildlife, recreation, and scenic values.
- Ensure the flow augmentation plan of the 2004 Snake River Water Rights Agreement is implemented consistent with the Agreement.
- In conjunction and/or cooperation with other State and Federal agencies and regional interests, evaluate the efficacy of the flow augmentation program.
- Ensure the federal reserved water rights decreed as part of the implementation of the Owyhee Public Land Management Act contain subordination provisions consistent with the 2006 Owyhee Initiative Water Rights Agreement.
- Ensure new appropriations of water are consistent with the subordination provisions of the reserved water rights for the Hells Canyon National Recreation Area and the Owyhee wild and scenic rivers.

Milestones:

- Minimum stream flows maintained.
- Snake River flow augmentation is conducted in accordance with the terms of the 2004 Snake River Water Rights Agreement.
- Flow augmentation evaluation studies underway or completed.
- Federal reserved water rights decreed for Owyhee wild and scenic rivers contain subordination provisions consistent with the 2006 Owyhee Water Rights Agreement.
- New appropriations of water in the streams tributary to the Snake River within the Hells Canyon National Recreation Area satisfy the subordination requirements contained in the federal reserved water right decrees.
- New appropriations within the Owyhee River Basin satisfy the subordination requirements contained in the federal reserved water right decrees for the Owyhee wild and scenic river reaches.

5. BEAR RIVER BASIN

5A - BEAR RIVER COMPACT

Water use and management in the Bear River Basin shall conform to the allocations agreed to in the Bear River Compact.

Discussion:

The original Bear River Compact was signed into law on March 17, 1958, and amended on February 8, 1980. Idaho Code § 42-3402. The Compact was negotiated to provide for the efficient use of water for multiple purposes, to permit additional development, to promote interstate comity, and to accomplish the equitable apportionment of the waters of the Bear River among Idaho, Utah, and Wyoming. Water allocations for the Bear River Basin were adopted in 1978. The Compact is administered by an interstate administrative agency, the Bear River Commission, which is comprised of three members from each state and a non-voting federal chairman. The Bear River Commission must review the Compact at intervals of not less than twenty years and may propose amendments.

The Compact divides the Bear River into three divisions and treats allocation differently in each. The Upper Division of the river extends from its source in the Uinta Mountains, to and including Pixley Dam Wyoming. The Central Division includes the portion of the Bear River from Pixley Dam to, and including Stewart Dam. The Lower Division of the Bear River includes the flow from Stewart Dam to the Great Salt Lake and encompasses Bear Lake and its tributary drainage. The Compact makes allocations for the diversions of surface water, the storage of water above Bear Lake, ground water depletion, and future development. The allocation provisions for the three divisions of the Bear River apply only during times of shortage.

Photo: Diesel-driven pump out of the Bear River near Preston
(*Photo Courtesy of Corbin Knowles)*

Idaho and Utah are implementing conjunctive management of surface and ground water. Idaho's Bear River Conjunctive Management Plan guides the development of ground water in the Bear River Ground Water Management Area. Although initial estimates of ground water depletions in the Lower Division indicate equal depletions in Idaho and Utah, the Idaho Water Resource Board encourages the Bear River Commission to prioritize additional studies to determine the effects of ground water use on the Bear River system.

Implementation Strategies:

- Encourage and assist the Bear River Commission to initiate further study and consideration of the effects of ground water use on Bear River surface flow.
- Ongoing review of Bear River Compact implementation and related issues, including depletion calculation procedures.

Milestones:

- Studies completed on the interaction between ground water and surface water in the Bear River Basin.

5B - BEAR RIVER BASIN WATER MANAGEMENT

The Idaho Water Resource Board supports enhancing water supplies, increasing water use efficiency, and implementing water supply bank mechanisms to help meet future water needs in the Bear River Basin.

Discussion:

The Bear River Compact designates how the undeveloped water supplies of the Bear River are to be allocated among Idaho, Utah, and Wyoming. The Compact allocates a first right to development and depletion of water not currently allocated in the Lower Division to Idaho, in the amount of 125,000 acre feet. In addition to the efficient use of existing developed water supplies, the state should move forward with the development of Idaho's depletion allocations as provided for in the Compact.

Ground water is available for development, but its development cannot injure existing senior water rights. In 2001, the Department of Water Resources established the Bear River Ground Water Management Area and created an advisory committee to provide guidance in the preparation of a ground water management plan. The Bear River Ground Water Management Plan, adopted in 2003, provides for managing the effects of ground water withdrawals to accommodate projected growth and water demand in the Bear River Basin, while protecting senior priority surface and ground water rights from injury. In addition to the use of mitigation plans that protect existing rights, the plan encourages flexible strategies for making water available for new development including new surface storage, ground water recharge projects, and transfers of existing rights through water banking and other marketing mechanisms. The ground water management plan encourages the wise use of available water supplies and continues the involvement of a local advisory committee in the development of management policies for the area. To

address declining ground water levels, the Bear River Basin has been designated as a priority basin for the development and implementation of a comprehensive aquifer management plan.

Idaho Code § 42-1765 authorizes the Idaho Water Resource Board to create a local rental pool to facilitate marketing of stored water. A Bear River rental pool would provide the advantage of being locally managed and controlled, with the flexibility to develop specific procedures designed to address special conditions existing in the basin. Use of water supply banks also provides protection from forfeiture for unused water rights in Idaho and a source of funding for improving water management. Cooperation between Idaho, Utah, and PacifiCorp will be required to establish a storage rental pool for Bear Lake.

Implementation Strategies:

- Initiate further discussion concerning the development of a Bear River storage water rental pool with the Bear River Commission, Utah, and PacifiCorp.
- Develop strategies to improve water supplies and reduce demand through the implementation of a comprehensive aquifer management plan, in coordination with Utah, Wyoming, and PacifiCorp.

Milestones:

- Bear River Basin comprehensive aquifer management planning underway.
- Strategies developed to meet future water needs.
- Local storage rental pool established.
- Development of Idaho's depletion allocation.

5C - INTERSTATE WATER DELIVERY

Idaho water users in the Lower Division of the Bear River Basin must be protected from inequitable water allocation in the event of a water emergency and the scheduling of interstate water deliveries.

Discussion:

The Bear River Compact authorizes the Bear River Commission to implement a water delivery schedule in the Lower Division without regard to state boundaries if the Bear River Commission finds that a "water emergency" exists. Idaho Code § 42-3402. This provision was intended to apply only to true emergency conditions which must be determined using comprehensive accounting processes. Idaho and Utah have developed separate, but similar water accounting models that incorporate the rights identified in the Commission Approved Lower Division Water Delivery Schedule. Absent a water emergency, Idaho water users are not required to accept delivery based upon interstate accounting allocation. Both states, however, have worked to reconcile their respective accounting models to reduce conflict over water delivery.

The "Bear Lake Settlement Agreement" was signed and voluntarily adopted by Lower Division water users and PacifiCorp in 1995 and amended in 2004. The agreement established, among other things, an "Irrigation Water Allocation and Lake Recovery Proposal" for Bear Lake. The proposal provides for an "Annual Allocation" which represents the total, estimated quantity of water available to be delivered to storage contract holders. This agreement and the state water accounting models have resulted in a process by which Lower Division water users have voluntarily agreed to water delivery by water right priority without regard to state boundaries.

Implementation Strategies:

- Continue work with Utah and Lower Division water users to improve water right accounting models.
- Facilitate and promote improved water delivery and measurement, including gage and diversion automation.

Milestones:

- Continued cooperation in interstate water administration.
- Completion of technical upgrades to water delivery and measurement infrastructure.

5D - BEAR LAKE

The outstanding recreational, aesthetic, and fish and wildlife resource values of Bear Lake should be preserved, while recognizing the existing storage allocations for irrigation and hydroelectric power generation.

Discussion:

Bear Lake, noted for its unique coloration and endemic fish species, provides an abundance of recreational opportunities. To protect these values, the Idaho Water Resource Board obtained a minimum lake level water right for Bear Lake of 5902 feet.

The 2004 Amended and Restated Bear Lake Settlement Agreement between PacifiCorp and several water users and private interests confirmed that Bear Lake must be operated primarily as a storage reservoir to satisfy contracts for existing irrigation uses and flood control needs in the three states, with the use of water for hydropower generation being incidental to other purposes. Bear Lake storage is allocated based on lake elevation with reduced allocations occurring when Bear Lake falls below the irrigation reserve of 5914.7 feet. The settlement agreement also provides for a portion of the active storage in Bear Lake to be voluntarily retained to enhance recreation and water quality values.

Pursuant to the 2002 Settlement Agreement Resolving the Relicensing of the Bear River Hydroelectric Projects and the Federal Energy Regulatory Commission licenses issued for PacifiCorp's Bear River projects, protection, mitigation, and enhancement measures are being implemented to benefit fish and wildlife and recreational resources in the Bear

River Basin. The settlement agreement established a committee to guide implementation of these measures, with a primary focus on protecting and improving habitat for Bonneville Cutthroat Trout. The settlement agreement confirms that PacifiCorp's ability to regulate Bear Lake reservoir levels and provide instream flows at the projects for these purposes is restricted by and subject to historic practices, water rights, and flood control responsibilities that are memorialized in water contracts, water agreements, and judicial decrees and opinions.

The Bear River Compact provides for cooperation with state and federal agencies in matters relating to water pollution of interstate significance. The Idaho Water Resource Board supports the Bear River Commission's efforts to develop opportunities for more integrated watershed management throughout the basin.

Implementation Strategies:

- Cooperate with the Bear River Commission to address interstate issues of concern related to Bear Lake, including water quality, threatened or endangered species and species of special concern, and recreation.

Milestones:

- Bear Lake operations are consistent with 2003 Bear Lake Settlement Agreement.
- Cooperative programs addressing interstate issues of concern related to water quality, recreation, and sensitive species implemented.

Photo: Last Chance Canal over the Bear River
(*Photo Courtesy of Liz Cresto*)

6. SALMON / CLEARWATER RIVER BASINS

6A - CONSERVATION PLANS

Voluntary, community-based conservation plans and strategies for the benefit of ESA-listed species and other species of concern are key components of water planning and management in the Salmon and Clearwater River Basins.

Discussion:

The Salmon and Clearwater River basins support a thriving agricultural industry and significant tourism. Because a number of fish species in the Salmon and Clearwater River basins have been listed as threatened or endangered under the ESA, numerous programs are being implemented to improve fish habitat, while protecting existing water rights. A significant portion of freshwater habitat important to ESA-listed fish is located on private lands. As a consequence, local support is key to implementing conservation measures that advance species' recovery. Federal agencies are encouraged to cooperate with state and local landowners to develop voluntary, incentive-based conservation plans. Any water required for instream uses must be obtained in compliance with state law.

In the Snake River Basin Adjudication, the state entered into two agreements that provide for water management within the basin that supports agricultural-based communities, while encouraging the voluntary implementation of flow-related conservation measures that improve instream conditions for ESA-listed fish. The agreements are based upon improving instream flow conditions pursuant to state law.

Snake River Water Rights Agreement of 2004

The Snake River Water Rights Agreement of 2004 resolved all of the issues related to the Nez Perce Tribe's water right claims in the Snake River Basin Adjudication. In the Salmon and Clearwater basins, the primary goal of the settlement agreement provisions is to conserve and enhance fish habitat in order to address ESA concerns. There are three cornerstones to such efforts: the establishment of state minimum flows, the establishment of a voluntary forestry program with standards to improve fish habitat, and the establishment of voluntary programs by irrigators and other water users to improve instream flow.

The state and local water users are working with the federal agencies, tribes, and other stakeholders to advance the recovery of listed species through the development of conservation agreements under Section 6 of the ESA. In coordination with the Office of Species Conservation, the state has begun early implementation of voluntary conservation measures that provide immediate benefits to ESA-listed fish and provide the foundation for implementation of long-range plans.

As a result of the Snake River Water Rights Agreement, the Idaho Water Resource Board holds minimum stream flow water rights on 205 streams that provide significant protection for steelhead, salmon, and bull trout. Most of the streams flow through federal public lands and have minimal use. Twenty-four streams, however, are in basins with

substantial private ownership and significant private water use. The flows for those streams were established after consultation with local communities. Where the minimum stream flow water rights are higher than existing flows, the Idaho Water Resource Board works with water users on a voluntary basis to rent or otherwise acquire water to return to streams, in accordance with state law.

Wild and Scenic Rivers Agreement

The Wild and Scenic Rivers Agreement resolved issues related to federal reserved water right claims filed by the federal government under the Wild and Scenic Rivers Act. The agreement provides for the quantification of the wild and scenic federal reserved water rights and state administration of those rights. To protect existing rights and allow for some future development, the United States agreed to subordinate the federal rights to certain junior priority state and private rights and to a sum certain of future junior rights.

Photo: Scenic Central Idaho near Salmon (*Courtesy of Shari Ferree*)

Implementation Strategies:

- Ensure that the water right application review process considers basin conservation plans and limiting factors for ESA-listed fish.
- Ensure that the stream channel alteration permit process considers basin conservation plans and limiting factors for ESA-listed fish.
- Develop flow-limited reach GIS maps for use in water administration.
- Continue early implementation of conservation measures.
- Develop and implement conservation projects and plans based on local problem-solving and support.

Milestones:

- Conservation measures implemented.
- Conservation plans approved pursuant to Section 6 of the ESA and implemented.
- Approved water right transfers address limiting factors for ESA-listed fish.
- Water right permits address limiting factors for ESA-listed fish.
- Flow-limited reach GIS maps completed and in use.

6B - INSTREAM FLOW PROGRAM

The Idaho Water Resource Board will promote, provide, and where possible, expand opportunities for voluntary, market-based transactions to improve instream flow for the benefit of ESA-listed aquatic species.

Discussion:

The Idaho Water Resource Board administers and participates in a variety of programs to improve instream flows throughout the Salmon and Clearwater River basins. This programmatic approach to addressing the needs of ESA-listed and other sensitive species includes a suite of water supply acquisition tools including short and long-term leases, permanent purchases, partial season leases, diversion reduction agreements, and water use efficiency measures, all of which are market-based and voluntary. The Idaho Water Resource Board works collaboratively with organizations committed to voluntary, market-based conservation strategies, such as conservation easements, to maximize instream flow programs. These partnerships benefit targeted fish species and support local economies.

Columbia Basin Water Transaction Program

The Columbia Basin Water Transactions Program was initiated in 2002 to support innovative, voluntary, grassroots strategies to improve flows in the Columbia River Basin's streams and rivers. The majority of funding is provided by the Bonneville Power Administration in cooperation with the Northwest Power and Conservation Council. It is in the public interest to continue implementation of the Columbia Basin Water Transactions Program in the Salmon and Clearwater basins to keep agriculture productive and improve instream flows for ESA-listed and other sensitive fish species.

Section 6 Habitat Conservation Fund

Section 6 of the ESA directs "that Federal agencies shall cooperate with State and local agencies to resolve water resource issues in concert with conservation of endangered species." 16 U.S.C.A. § 1531(C)(2). Pursuant to the Snake River Water Rights Agreement of 2004, in addition to the establishment of minimum stream flow water rights, the state agreed to work with local stakeholders and communities to develop work plans for addressing limiting factors for fish on streams with degraded habitat. The state also agreed to develop cooperative agreements under Section 6 of the ESA with the assistance of local land owners, federal agencies, and tribes to establish long-term

conservation goals and conservation measures that will contribute to the recovery of anadromous and resident fish in the Upper Salmon River Basin. The Idaho Water Resource Board's instream flow programs are central to the development and implementation of Section 6 Conservation Plans.

Pacific Coast Salmon Recovery Fund

The Pacific Coast Salmon Recovery Fund provides grants to state agencies and treaty Indian tribes for salmon recovery efforts. The Idaho Water Resource Board works with agencies, tribes, and stakeholders to use Pacific Coast Salmon Recovery Fund monies for early implementation of conservation measures in the basins.

2008 Columbia Basin Fish Accords

The Columbia Basin Fish Accords are designed to supplement biological opinions for listed salmon and steelhead and the Northwest Power and Conservation Council's fish and wildlife program. The agreement between the State of Idaho, the Bonneville Power Administration, the U.S. Army Corps of Engineers, and the U.S. Bureau of Reclamation addresses issues associated with the direct and indirect effects of construction, inundation, operation and maintenance of the Federal Columbia River Power System, and Reclamation's Upper Snake River Project on the fish and wildlife resources in the Columbia River Basin.

Under the agreement, the Bonneville Power Administration committed to funding a suite of habitat quality improvement projects designed to address limiting factors within the basins affecting ESA-listed salmon and steelhead. The Idaho Water Resource Board uses these funds to develop projects that improve instream flow and freshwater survival of ESA-listed salmon and steelhead. The program targets flow-related projects that reconnect tributaries and increase flow in the mainstem Lemhi and Pashimeroi Rivers to improve fish passage conditions and increase the quantity and quality of fish habitat.

Implementation Strategies:

- Continue implementation of programs to improve instream flows in the Salmon and Clearwater River basins.
- Pursue opportunities for partnerships with local water users and other stakeholders to implement programs that improve instream flows and support local economies.

Milestones:

- Number and scope of instream flow improvement projects implemented.
- Number of participants in instream flow improvement projects.
- Degree of habitat improvement resulting from instream flow programs.

7. PANHANDLE RIVER BASINS

7A - INTERSTATE AQUIFERS

Completion of comprehensive aquifer management plans and the Northern Idaho Adjudication and implementation of interstate agreements are central to the optimum use of the Panhandle Basin's water resources.

Discussion:

The Panhandle's rivers and lakes are key to continued economic development and provide for multiple uses of water including irrigation, domestic supplies, mining, and commercial uses. These lakes and rivers also provide significant recreation, fish and wildlife, and aesthetic resources important for the region's economy. In average water years, Idaho's Panhandle region has an abundant water supply. A growing population and the urbanization of agricultural lands, however, have resulted in increased ground water use which has resulted in conflicts over water quantity and quality within the region and across state boundaries.

Spokane Valley-Rathdrum Prairie Aquifer

The Rathdrum Prairie Aquifer (RPA) extends south from Bonner County through Kootenai County toward the cities of Coeur d'Alene and Post Falls and west to the Idaho-Washington state line. The aquifer extends into Washington and becomes part of the larger Spokane Valley-Rathdrum Prairie (SVRP) Aquifer. The area includes the rapidly growing cities of Spokane, Washington and Coeur d'Alene and Post Falls, Idaho. The SVRP Aquifer was designated a "Sole Source Aquifer" by the U.S. Environmental Protection Agency in 1978 and a sensitive source aquifer by the state of Idaho.

In 2002, the Director of the Idaho Department of Water Resources , pursuant to Idaho Code § 42-233b, designated the Rathdrum Prairie Ground Water Management Area and created the Rathdrum Prairie Ground Water Management Area Advisory Committee, composed of members representing the interests of citizen groups, municipalities, counties, and other irrigation, commercial, and industrial water users within the designated area. On September 15, 2005, the Director issued a final order adopting the Ground Water Management Plan for the Rathdrum Prairie Ground Water Management Area. The plan, based in large part on the recommendations of the advisory committee, sets forth goals, strategies, and actions for managing the ground water resources of the SVRP Aquifer. Goals include obtaining adequate technical data and quantification of water availability and water use, managing the ground water resource efficiently and fairly for all users, and encouraging planning and water conservation efforts.

Although the states of Idaho and Washington have primary responsibility for water allocation and water quality, local governments are increasingly being called upon to consider water supply and water quality implications in land use planning. To address these challenges, a study of the SVRP Aquifer was conducted jointly by the Idaho Department of Water Resources, the Washington State Department of Ecology, and the United States Geological Service. Begun in 2003 with broad community support, the

purpose of the project is to provide a scientific foundation to assist the states in water administration. The SVRP Aquifer study established a collaborative modeling committee of experts from both states. Significant new information from the study refined earlier estimates of hydrologic information. The data, computer model, water budget, and other information are available to the public and provide a detailed, up-to-date basis for assessing all aspects of ground water use, including water development, establishing well head protection zones, and local and regional land use planning. A 2007 agreement between the Idaho Department of Water Resources and the Washington State Department of Ecology establishes a collaborative framework to maintain and enhance the model to inform state management decisions.

Pursuant to Idaho Code § 42-1779, which established the Statewide Comprehensive Aquifer Planning and Management Program, a comprehensive aquifer management plan was adopted on July 29, 2011 for the Rathdrum Prairie Aquifer by the Idaho Water Resource Board. The Idaho Water Resource Board will be responsible for implementing the plan to obtain sustainable water supplies and optimum use of the region's water resources.

Palouse Basin Aquifers

The development of a comprehensive aquifer management plan for the Palouse Basin is also a priority. The Grande Ronde and Wanapum aquifers underlie the Palouse Basin. The Pullman-Moscow area of eastern Washington and northern Idaho relies almost entirely on ground water for its supply of municipal, institutional, and domestic water. The Palouse Basin Aquifer Committee consists of representatives from the cities of Moscow, Pullman, Colfax, Latah, and Whitman counties, the University of Idaho and Washington State University and was formed to address concerns about declining ground water levels and coordinate studies to further inform water management decisions. In 1992, with the assistance of the states and pursuant to several intergovernmental agreements, a Pullman-Moscow Ground Water Management Plan was completed. The plan provides technical information about the general response of the Wanapum and Grande Ronde aquifers to pumping withdrawals and recommendations for future use that limit ground water depletion and protect water quality through conservation practices and other measures. Additional studies are needed to better understand the hydrology of the aquifers.

Managing cross-boundary conflicts requires an accounting of the state's water resources. Adjudication of water rights in the Panhandle region should therefore be completed to fully define and quantify existing water rights. The determination of all existing water rights from the river basins in northern Idaho will provide the basis for administration of water rights in accordance with the prior appropriation doctrine, as established by law, and for interstate cooperation. Pursuant to Idaho Code § 42-1406B, the Director of the Idaho Department of Water Resources filed a petition in the district court to commence an adjudication for northern Idaho. On November 12, 2008, the district court ordered the commencement of adjudication in the Coeur d'Alene Spokane River water system. The estimated date for completion of the adjudication is 2012.
Idaho Code § 42-1734(3) authorizes the Idaho Water Resource Board to appear on behalf of the state in negotiations with the federal government. Consistent with state law, the

Idaho Water Resource Board should serve as the lead agency for coordinating state participation in the Northern Idaho Adjudication.

Implementation Strategies:

- Implement the comprehensive aquifer management plan for the Rathdrum Prairie.
- Evaluate timing for developing a comprehensive aquifer management plan for the Palouse River basin that establish goals, objectives, and strategies to address the increasing demand on water supplies, reduce cross-boundary conflicts, and provide for effective conjunctive management of hydraulically connected water resources.
- Complete the Northern Idaho Adjudication.
- Implement and maintain the cooperative agreement between Idaho and Washington for maintenance of the SVRP Aquifer ground water model.
- Advise and provide technical support to Palouse Basin Aquifer Committee and other stakeholders to promote the wise use of the region's water supply.
- Provide technical support for the completion of aquifer studies that will assist in water management.

Milestones:

- Cooperative agreements approved and implemented by Idaho and Washington.
- Implementation of Rathdrum Prairie Comprehensive Aquifer Management Plan action items.
- Development and implementation of Palouse comprehensive aquifer management. Northern Idaho Adjudication completed.
- Aquifer studies completed.

7B - MINIMUM STREAM FLOWS

The Idaho Water Resource Board will establish and protect minimum stream flow and lake level water rights to preserve the scenic and recreational water bodies in the Panhandle river basins.

Discussion:

The Panhandle contains some of the most significant scenic and recreational water bodies in the state. The Idaho Water Resource Board holds 19 minimum stream flow water rights on reaches of the Pend Oreille, St. Maries, Pack, Moyie, St. Joe, Coeur d'Alene, and Spokane Rivers that protect approximately 17,600 cfs total flow. In 1927, the state established minimum lake levels for Priest, Pend Oreille and Coeur d'Alene Lakes. These water rights protect and support many beneficial uses of water such as fish and wildlife habitat, aquatic life, recreation and aesthetic values, and navigation in the

Panhandle basins and make a significant contribution to the economy of the region and the state.

Population growth and new water demands may increase the need to obtain additional minimum stream flows in the Panhandle region. The establishment and use of local water supply banks and rental pools should be considered as a strategy for addressing the need for meeting minimum stream flow water rights or new rights in the Panhandle region, including minimum lake levels for the protection of navigation and transportation, fish and aquatic resources, and aesthetic and recreational values.

Implementation Strategies:

- Coordinate with state and federal agencies and stakeholders to identify potential minimum stream flow needs.
- Submit applications for minimum stream flow water rights that are in the public interest.
- Monitor activities that could impair minimum stream flows.
- Evaluate the need for establishment of local water supply banks.

Milestones:

- Minimum stream flow water rights established.

7C - NAVIGATION, FISHERIES, AND RECREATION

Water management decisions in the Panhandle Region should minimize, where feasible, adverse effects on navigation, fisheries, and recreation.

Discussion:

The Panhandle's lakes and rivers provide for commercial and recreational navigation and important habitat for numerous fish and wildlife species. These resources are also affected by the operation of private and federal hydropower projects. Avista's Clark Fork projects, located in Montana and Idaho, are operated pursuant to a Federal Energy Regulatory Commission license based upon a comprehensive settlement agreement executed by Idaho, Montana, federal agencies and Indian tribes, and other stakeholders. The Post Falls project license is also based, in part, upon a settlement agreement between Avista, the Idaho Department of Fish and Game and the Idaho Department of Parks and Recreation. The Post Falls license requires a summer full-pool elevation and fall draw-down protocol for Lake Couer d'Alene that is protective of fishery needs, while providing adequate lake levels for summer recreation activities and navigation.

On the Pend Oreille River, the U.S. Army Corp of Engineers operates Albeni Falls Dam, which controls the level of Lake Pend Oreille. Lake Pend Oreille has been designated a Special Resource Water, a special body of water recognized by the state as needing intensive protection. Since 1996, consistent with a U.S. Fish and Wildlife Service Biological Opinion on the operation of the Federal Columbia River Power System, winter

lake levels have been managed for the protection of the lake's kokanee population, an important forage base for ESA-listed bull trout. Winter lake level management also directly affects the amount of erosion and sedimentation that occurs, waterfowl habitat, water quality, navigation, and shoreline infrastructure. Cooperation between the state and federal government and community stakeholders is essential for making sound management decisions regarding the operation of Albeni Falls Dam.

In 2003, the Idaho legislature created the Lake Pend Oreille, Pend Oreille River, Priest Lake and Priest River Commission (Lakes Commission) to address water quantity and water quality issues affecting the state's and local communities' interests, while recognizing existing authorities. The Idaho Water Resource Board supports the Lake Commission's participation in regional water management decisions and efforts to minimize adverse effects on navigation, water quality, and fish, wildlife, and recreational resources.

Implementation Strategies:

- Identify proposed actions that may affect navigation, water quality, and fish, wildlife, and recreation resources, in coordination with state and federal agencies and stakeholders.
- Provide technical assistance to assist the Lake Commission's participation in regional water management decisions.

Milestones:

- Collaborative water management decisions made that minimize adverse effects on navigation, water quality, and fish, wildlife, and recreational resources.

Photo: Mackay Lost River Range (*Photo by Mike McVay*)


GREAT SEAL OF
THE STATE OF IDAHO
ESTO PERPETUA

Memorandum

To: Idaho Water Resource Board

From: Helen Harrington

Date: May 18, 2012

Re: Water Transactions Program – Alturas Lake Creek 2012

In 2011, Katie Breckenridge, representing Breckenridge Family Limited Partnership, indicated an interest in selling portions of water rights 71-64A and 71-69 from Alturas Lake Creek. Alturas Lake Creek is a Salmon River tributary near the headwaters in Stanley basin. It is an important tributary that currently supports spawning Chinook salmon. The Breckenridge family has indicated that the water rights appurtenant to the ground not underneath the pivot (45 acres) are for sale to any interested buyers. Recent applications for new water rights in the area have been protested by IDFG and the Board, which may create a demand for these senior rights. Diversion of the rights for a new irrigation purpose may impact the Board's efforts to restore flows for Endangered Species Act-listed fish.

In December 2011, the Stream Flow Enhancement and Minimum Stream Flow Committee recommended moving forward with obtaining an appraisal of the water right. A resolution to undertake the expenditure (estimated to be between $13,000 and $18,000) was considered by the Board in January 2012. The Board declined to approve the expenditure and remanded the issue to the Committee. In March, the Committee discussed the issue with Ms. Breckenridge and has recommended that the Board enter into an agreement with Ms. Breckenridge to share the costs of the appraisal 50% each. Ms. Breckenridge is agreeable to this cost share. The Board's Columbia Basin Water Transactions Program FY 2012 contract does not include funding for an appraisal, so Board funds would be needed.

A resolution delineating the parameters is attached. Based on discussions, the conceptual method would be as follows:

1. A contract between the IWRB and Ms. Breckenridge be developed which provides for the Board to contract for the appraisal with WestWater Research LLC, a consulting firm with the water right appraisal expertise. Ms. Breckenridge would pay 50% of the cost within 30 days of receipt of the appraisal.

2. IWRB will contract with WestWater Research to complete the appraisal, at a cost not to exceed $18,000.

3. Upon receipt of the appraisal, the Board will consider entering into negotiations to purchase the water right. There has been some discussion about discounting the negotiated purchase price by the Board's cost of the appraisal.

4. The Columbia Basin Water Transactions Program would be approached to fund the purchase if the Board wanted to move forward. The appraisal would be required to demonstrate the value and it is doubtful the Board could fund any purchase which exceeded the appraised value.

Background

In the 1990s, Idaho Department of Fish and Game and the Sawtooth National Recreation Area worked with the Breckenridge family to remove a large irrigation diversion that dewatered Alturas Lake Creek and blocked upstream passage for migrating Chinook salmon, bull trout, and steelhead. Alturas Lake

supports a population of bull trout that spawns in the tributaries upstream of the lake. Due to the removal of the irrigation diversion, it may now also support overwintering bull trout that then utilize spawning habitat in other upper Salmon tributaries.

When the irrigation diversion was removed from Alturas Lake Creek, a new irrigation system was installed on the Breckenridge property, consisting of a center pivot and a well. An issue with the price of connecting a power supply to the pivot has prevented the Breckenridge family from irrigating. The Board has rented all or a portion of the Breckenridge water rights for delivery to the Alturas Lake Creek and Salmon River at East Fork minimum stream flows since 2006.

The water rights have not been used since 1997 and are currently in the Water Supply Bank. However, Ms. Breckenridge has indicated that she intends to divert water from Alturas Lake Creek during the upcoming irrigation season. Some or all of the rights have been rented during previous irrigation seasons, although there is no current agreement in place for 2012. Until recently, it did not appear that the water would be diverted so no agreement was discussed.

The Board holds a minimum stream flow at the mouth of Alturas Lake Creek (71-10890). There are no other diversions on Alturas Lake Creek. However, the following benefits and risks of maintaining flows in Alturas Lake Creek should be considered:

Benefits:

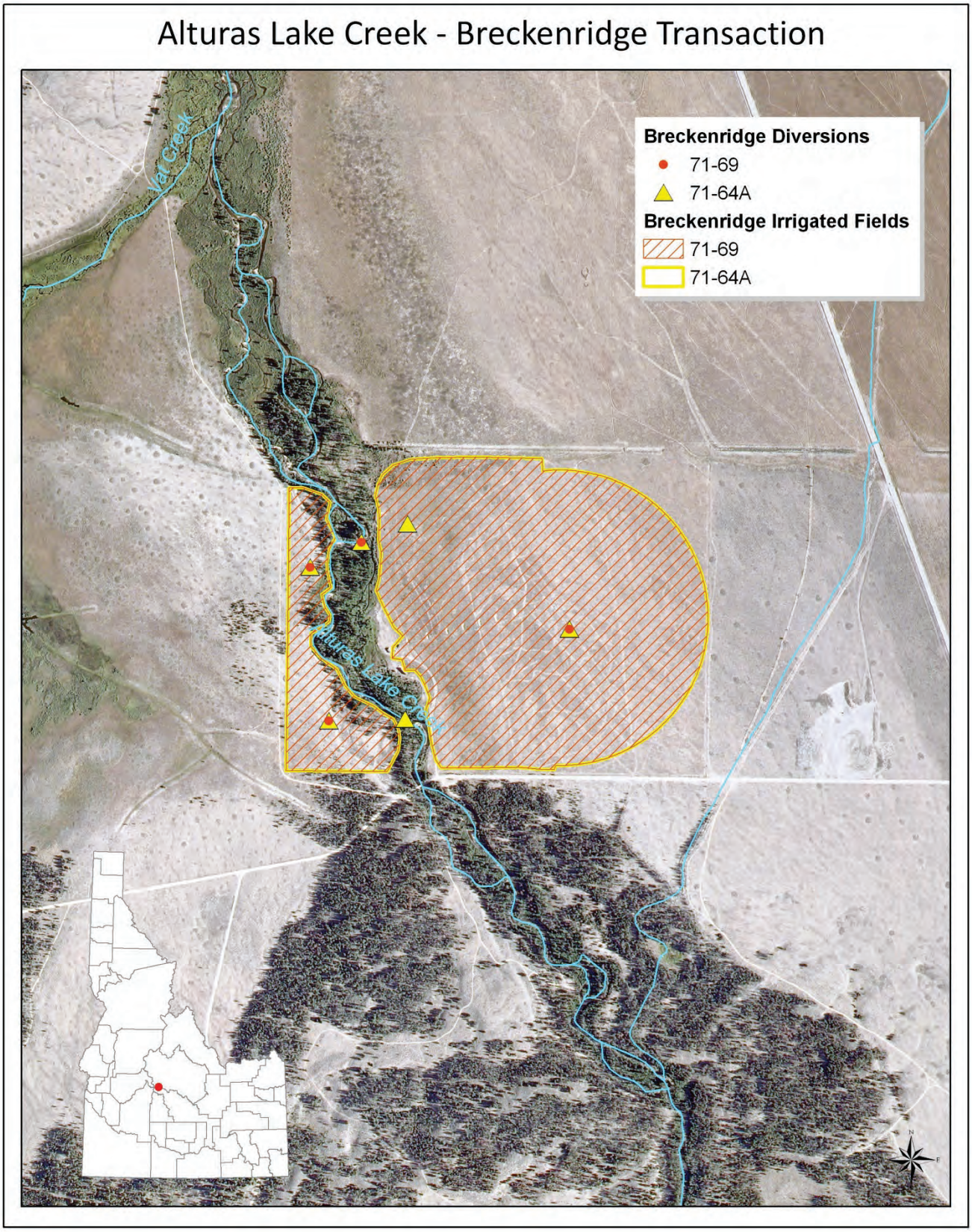
Ownership of these water rights would provide permanent protection of the flows for Chinook salmon and other species in this important tributary.

Risks:

Current or future owners of the land could divert the water and potentially decrease flows. There may be conditions which could influence a diversion, however. Because of the scenic easement between the landowner and the United States, it is the duty of the landowner to contact the USDA Forest Service to allow them to make a determination if it meets the conditions of the easement. Due to the complexity of the easement, this determination can't be made without the proposal for diversion. Additionally, landowner should consult with Idaho Department of Fish and Game to address Endangered Species Act concerns which could arise with the diversion and could influence the diversion practices.

If the water rights are purchased by a third party, changes to the diversion or irrigation system might occur which could harm the flows.

Alturas Lake Creek - Breckenridge Transaction



BEFORE THE IDAHO WATER RESOURCE BOARD

IN THE MATTER OF APPRAISALS FOR ACQUISITION OF WATER IN THE SALMON RIVER BASIN	A RESOLUTION TO MAKE A FUNDING COMMITTMENT

WHEREAS, the Idaho Water Resource Board (Board) has a contract with the Columbia Basin Water Transactions Program, with funding from the Bonneville Power Administration to undertake permanent or long term water transactions in the Upper Salmon River Basin; and

WHEREAS, water transactions in the Upper Salmon River Basin are intended to improve flows for Endangered Species Act listed Chinook salmon, sockeye salmon, steelhead, and bull trout; and

WHEREAS, Breckenridge Family Limited Partnership holds Water Right Nos. 74-64A and 74-69 from Alturas Lake Creek; and

WHEREAS, Breckenridge Family Limited Partnership is interested in selling a portion of Water Right Nos. 74-64A and 74-69; and

WHEREAS, the Board is required to have the water under consideration for permanent transactions appraised by a certified appraiser familiar with water transactions and expertise in establishing the fair market value of water.

WHEREAS, the Breckenridge Family Limited Partnership has agreed to pay one-half the cost of the appraisal; and

WHEREAS, prior to contracting for the appraisal, a contract will be negotiated with the Breckenridge Family Limited Partnership to reimburse the Board for one-half the cost of the appraisal within an agreed period of time following completion of the appraisal; and

WHEREAS, if a purchase is successfully negotiated, the cost of the appraisal will be recouped from the Breckenridge Family Limited Partnership by the Board in full as part of closing costs; and

NOW THEREFORE BE IT RESOLVED, that the Board authorizes the expenditure of funds up to eighteen thousand dollars ($18,000) to obtain the services of a certified appraiser to determine the fair market value of water to be purchased in the Upper Salmon River Basin; and

BE IT FURTHER RESOLVED, staff is authorized to enter into a contract with Breckenridge Family Limited Partnership to recoup one-half of the appraisal cost; and

BE IT FURTHER RESOLVED, that the Board authorizes the Chairman and the Director of the Department of Water Resources to take action necessary to accomplish long-term water transactions including appraisal services.

DATED this 18th day of May, 2012.

_____

TERRY T. UHLING, Chairman
Idaho Water Resource Board

ATTEST: _____

BOB GRAHAM, Secretary

Work Session Presentation
Flood Risk and the Boise River Interim Feasibility Study

May 17, 2012 at 1:00 pm

Idaho Water Center, 6th Floor, Conf Rms 602 & D
322 E. Front St., Boise, Idaho 83702

Meeting Purpose

- Provide update on the Boise River Interim Feasibility Study including federal funding available to continue study activities related to the Arrowrock Dam enlargement alternative. Discuss a path forward for the study given new guidelines from the U.S. Corps of Engineers regarding Feasibility Studies.
- Provide background and results of the Boise River Inundation Mapping effort which involved modeling different flood flows on the Boise River to provide information to the public about flood risk and a tool for emergency managers during flood events.

AGENDA

- Background on Boise River Interim Feasibility Study
    - Purposes: Reduce flood risk and provide future water supplies for the growing Treasure Valley.

- Boise River Inundation Mapping Study – U.S. Corps of Engineers
    - Project description
    - Presentation of floodplain modeling
    - Uses and Availability of Information
    - Discussion of Flood Risk on the Boise River

- Discussion of Boise River Interim Feasibility Study – Future Study Direction
    - Progress report on the Interim Feasibility Study – including potential Arrowrock Reservoir Enlargement
    - Discussion of new policies to complete Feasibility Studies through the Corps – presented by Lieutenant Colonel Caldwell, U.S. Corps of Engineers, Commander of the Walla Walla District and other Corps staff
    - Discussion of Path Forward

Prioritization of Aquifer Recharge Sites Based on Hydrologic Benefits

Presented by Mike McVay

May 17, 2012

Aquifer Water Balance

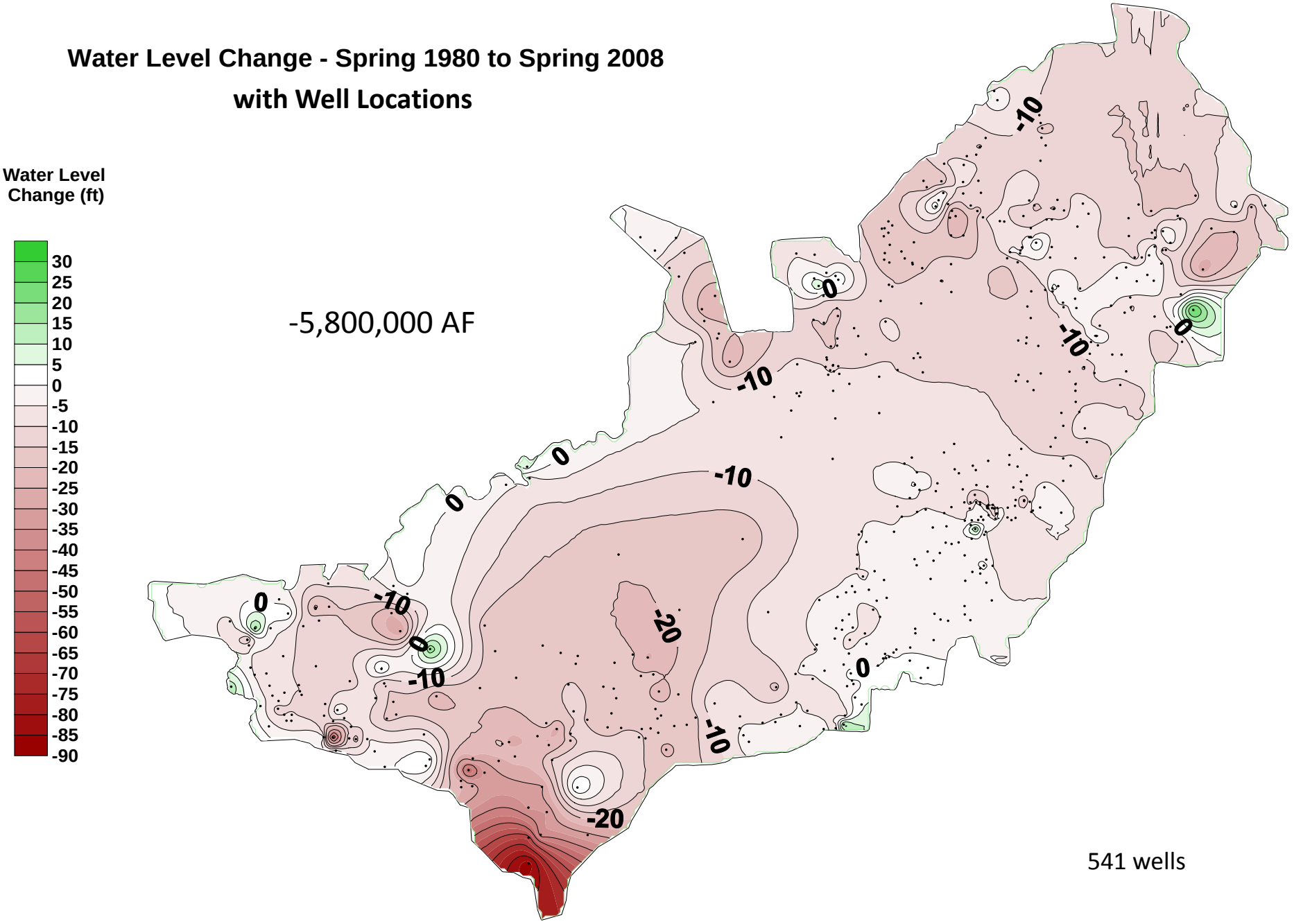
Inflow – Outflow = ΔStorage

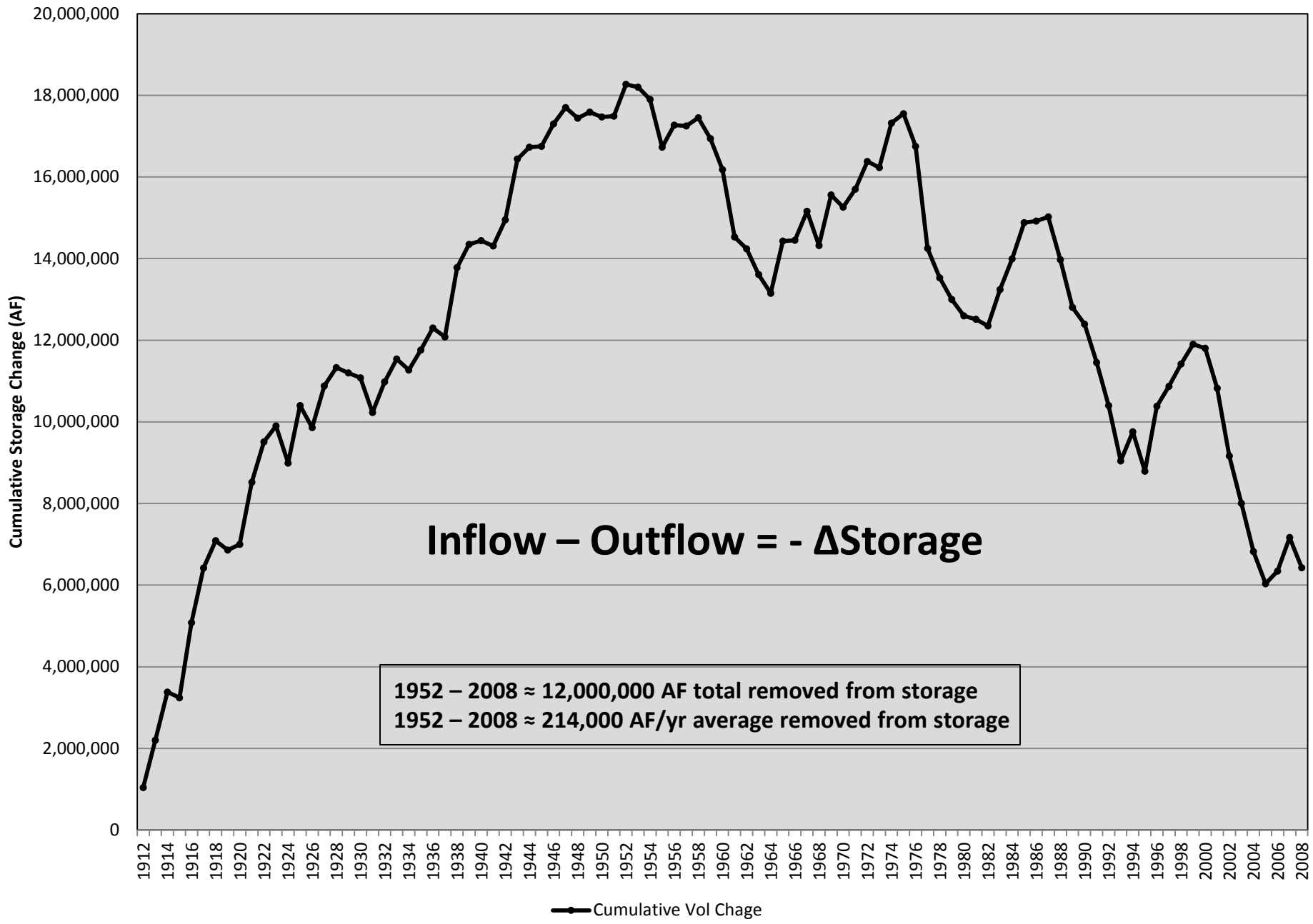
ESPA Inflows = Incidental recharge from SW irrigation, Canal Seepage, Perched River Seepage, Tributary Underflow, Precipitation.

ESPA Outflows = Evapotranspiration, Spring Discharge, Well Pumping

We can use estimates of aquifer storage to generate an aquifer "history."

Water Level Change - Spring 1980 to Spring 2008 with Well Locations




ESPA - Cumulative Change in Aquifer Storage
Cumulative Storage Change (AF)
20,000,000
18,000,000
16,000,000
14,000,000
12,000,000
10,000,000
8,000,000
6,000,000
4,000,000
2,000,000
0
1912 1914 1916 1918 1920 1922 1924 1926 1928 1930 1932 1934 1936 1938 1940 1942 1944 1946 1948 1950 1952 1954 1956 1958 1960 1962 1964 1966 1968 1970 1972 1974 1976 1978 1980 1982 1984 1986 1988 1990 1992 1994 1996 1998 2000 2002 2004 2006 2008
Inflow – Outflow = - ΔStorage
1952 – 2008 ≈ 12,000,000 AF total removed from storage
1952 – 2008 ≈ 214,000 AF/yr average removed from storage
Cumulative Vol Chage

How can we “balance the budget?”

The [CAMP] water budget adjustment mechanisms include:

A. Ground water to surface water conversions.
B. Managed aquifer recharge.
C. Demand reduction.
D. Pilot weather modification program.
E. Minimizing loss of incidental recharge.

-ESPA CAMP January 2009

The thing about recharge is…

1. There are several locations where recharge can take place; however; not all recharge sites are equal.
2. Site preference is specific to the recharge goal.
3. We still need to prioritize IWRB recharge sites.

Prioritization of Aquifer Recharge Sites Based on Hydrologic Benefits

Prepared for the
Idaho Department of Water Resources
and
Idaho Water Resource Board

by
Gary S. Johnson
Idaho Water Resources Research Institute
University of Idaho, Dept. of Geological Sciences
April, 2012

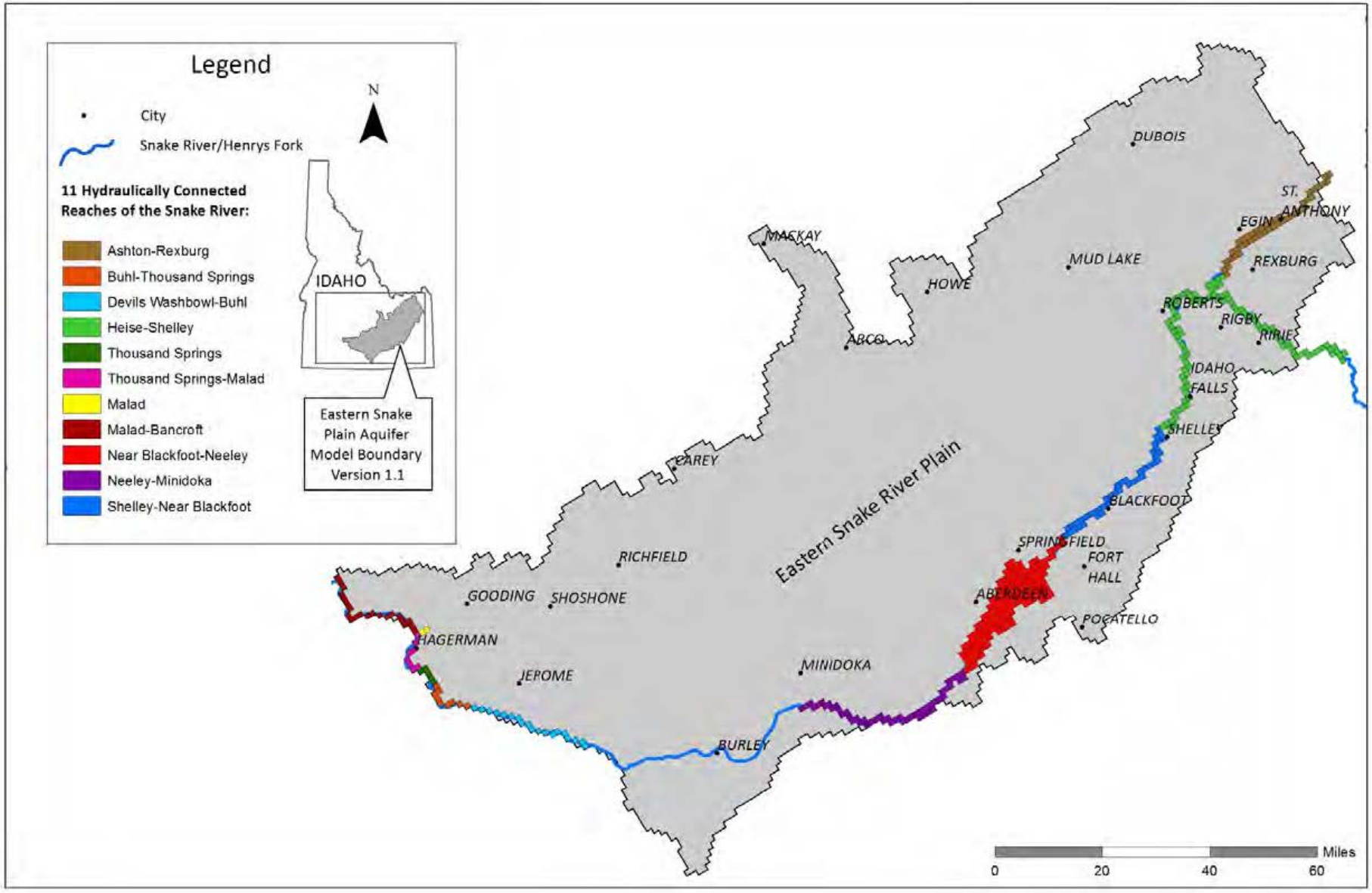


Figure 1. Snake River Plain aquifer and eleven hydraulically connected reaches of the Snake River.

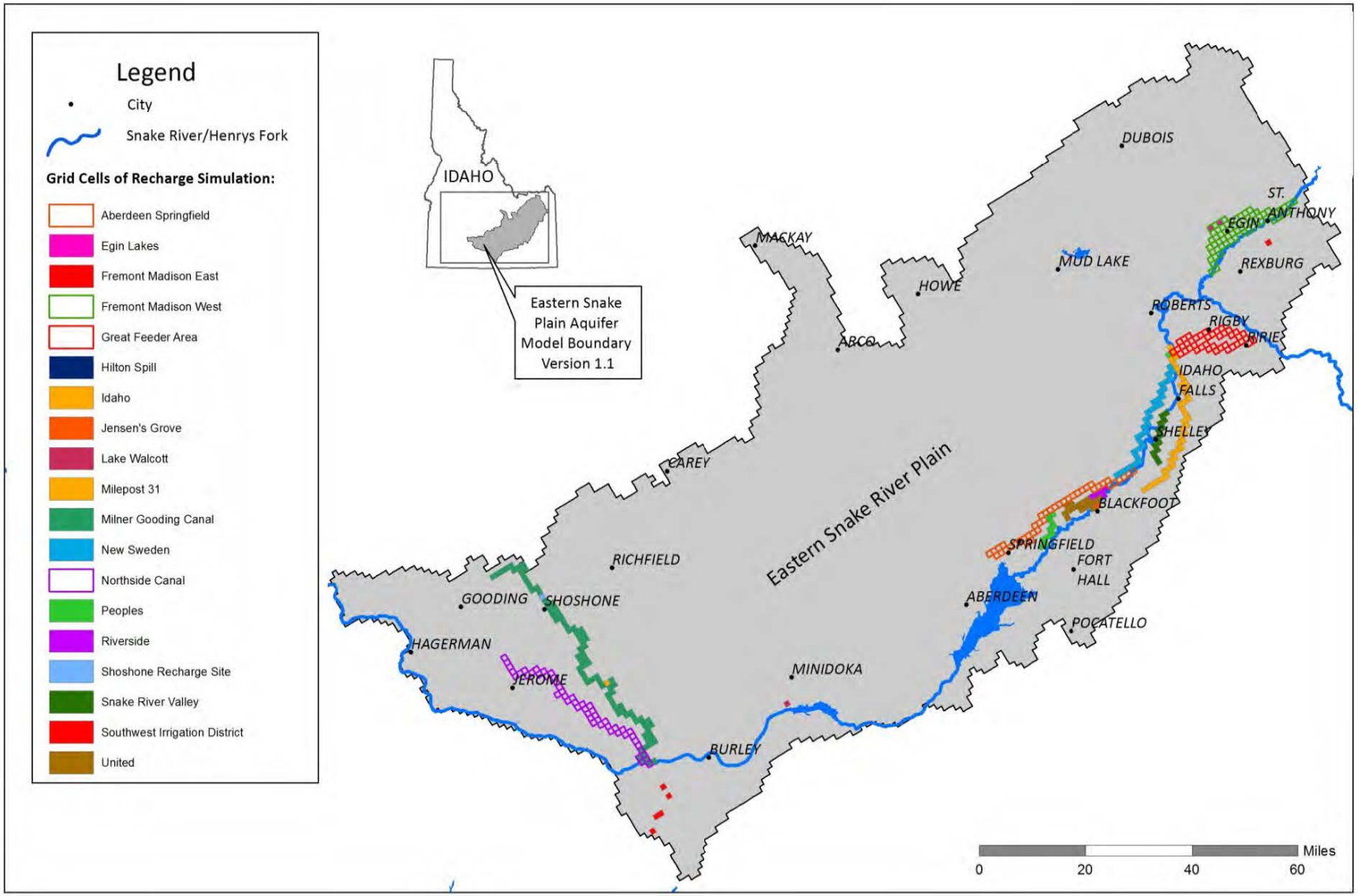


Figure 2. Recharge sites for locations considered in the recharge prioritization (from data provided by IDWR). Greater detail on individual sites in provided in figures 3 through 5.

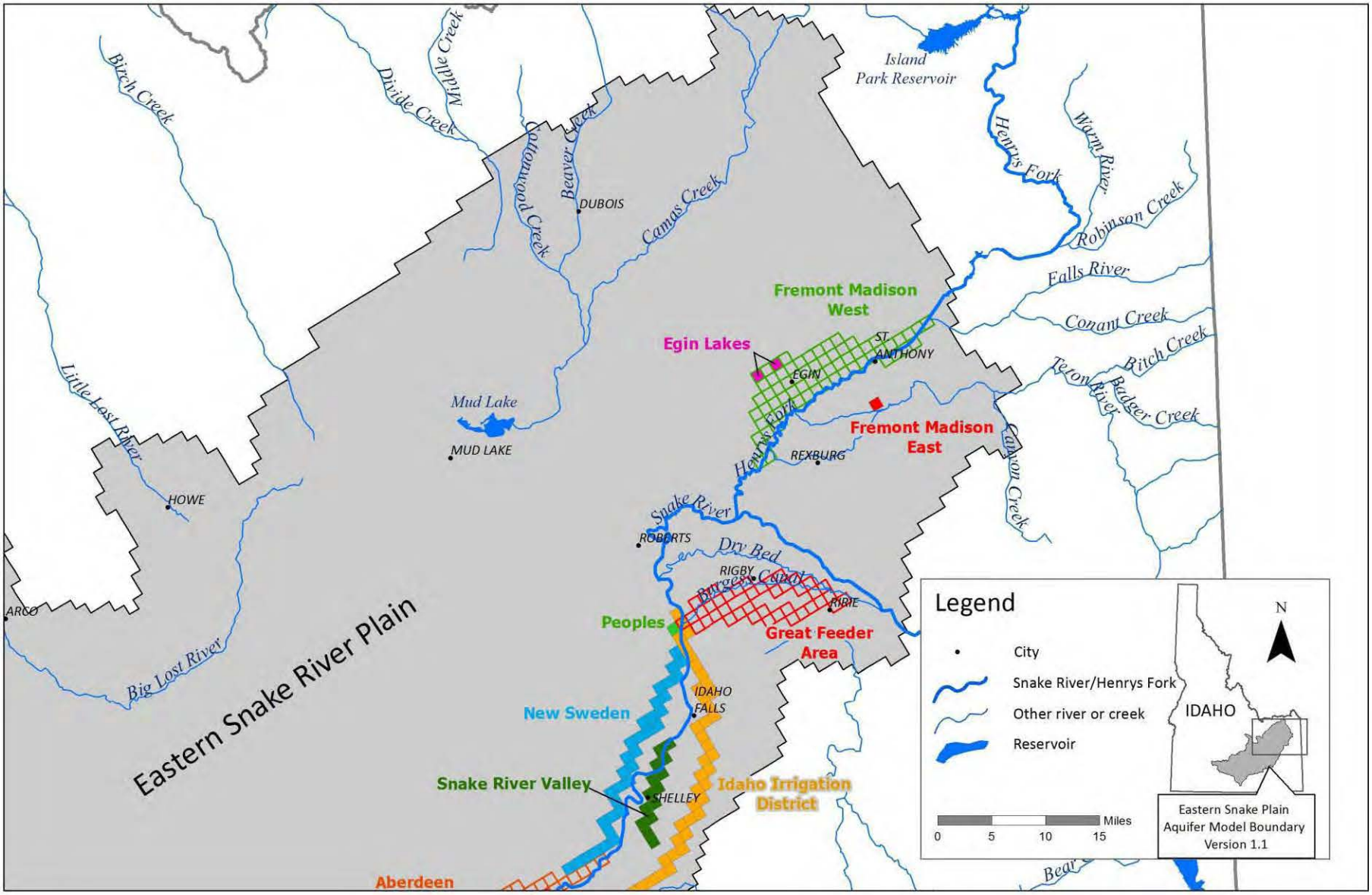


Figure 3. Evaluated recharge locations for the eastern most portion of the Eastern Snake River Plain aquifer.

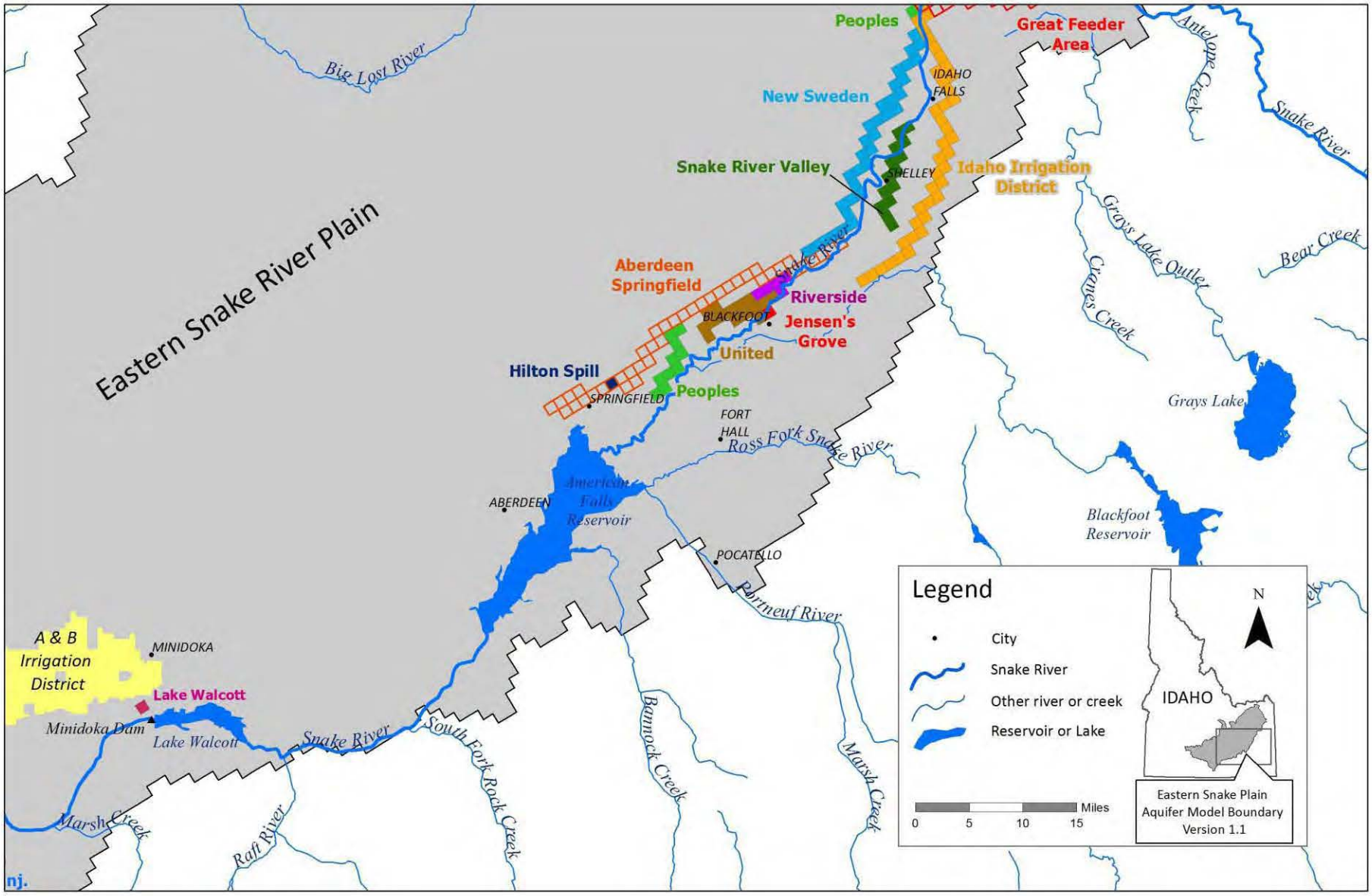


Figure 4. Evaluated recharge locations for the central portion of the Eastern Snake River Plain aquifer.

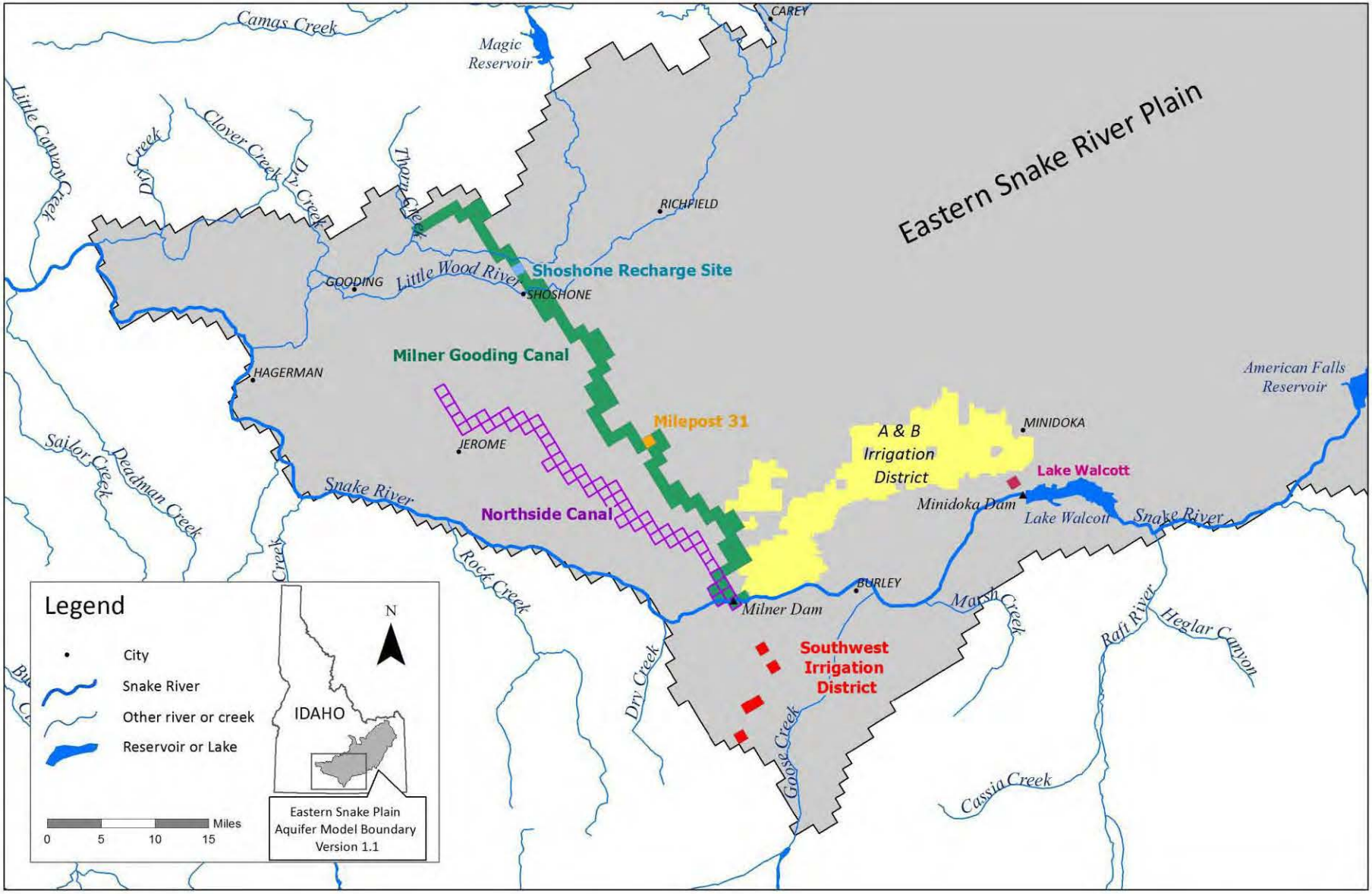


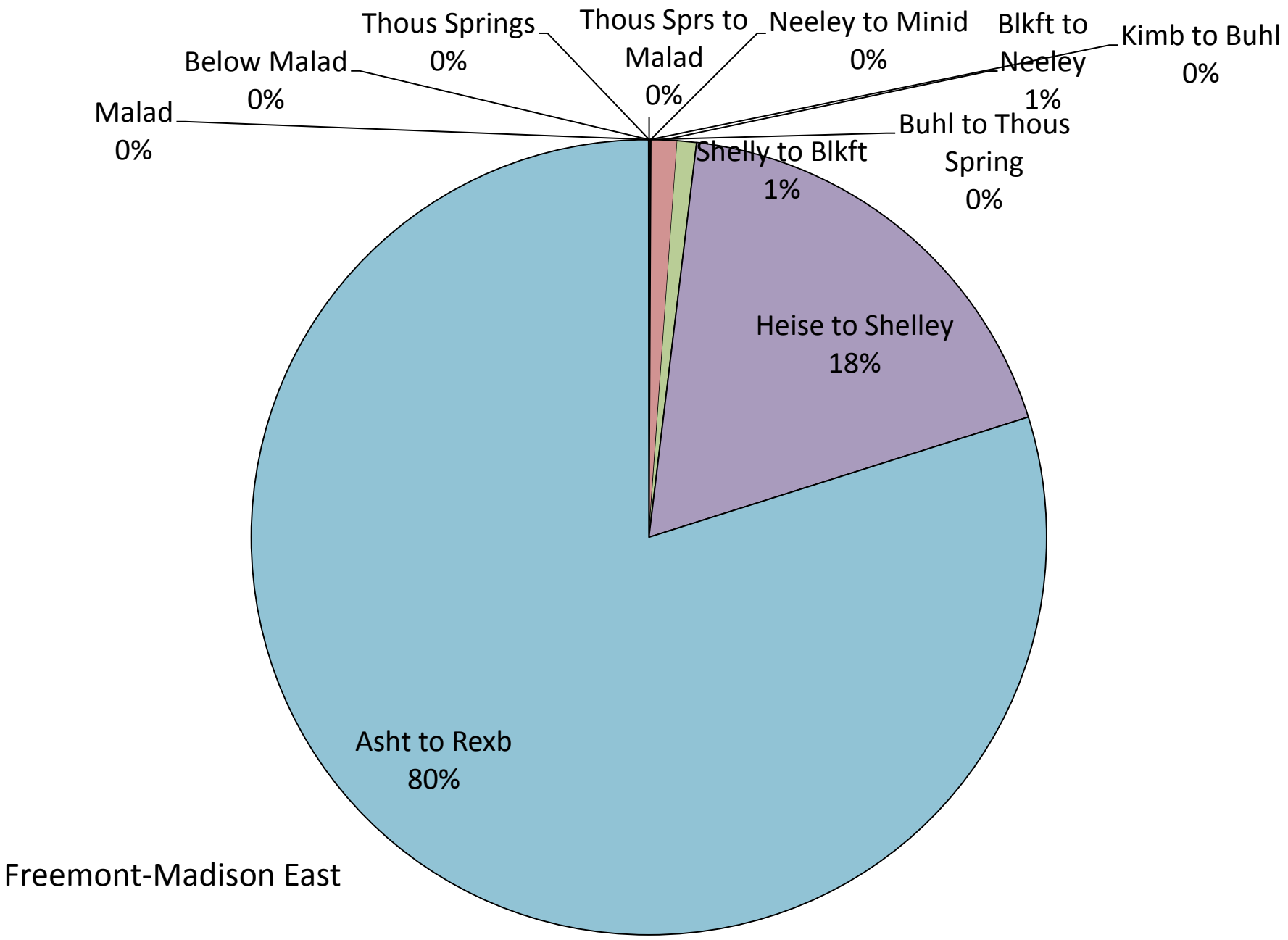
Figure 5. Evaluated recharge locations for the western portion of the Eastern Snake River Plain aquifer.

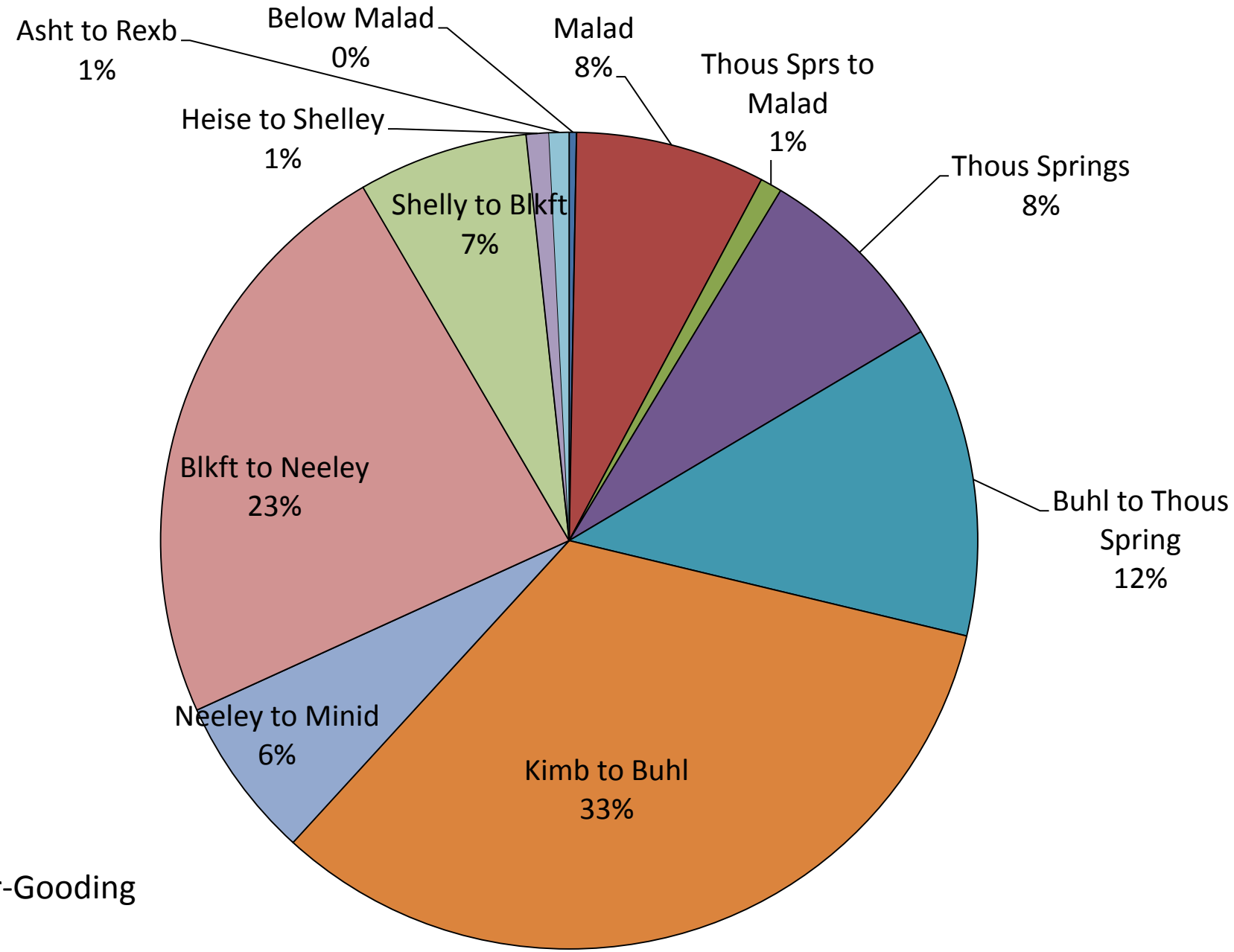
Not all sites presented

Site	Explanation
Aberdeen Springfield	Included
Egin	Included
Freemont Madison East	Included
Freemont Madison West	Similarity to nearby sites
Great Feeder	Similarity to nearby sites
Hilton Spill	Similarity to nearby sites
Idaho	Included
Jensen's Grove	Similarity to nearby sites
Lake Walcott Recharge Site	Included
Milepost 31	Included
Milner Gooding Canal	Included
New Sweden	Included
Northside Canal	Included
Peoples	Similarity to nearby sites
Riverside	Similarity to nearby sites
Shoshone Recharge Site	Included
Snake River Valley	Similarity to nearby sites
SWID	Limited recharge capacity
United	Similarity to nearby sites

	Criterion									
Canal	1A	1B	2A	2B	3	4	5	6	7A	7B
Egin Lakes	<1%	<1 %	<1%	<1%	23%	25%	41%	<0.1 ft	17%	0.4 ft
Fremont Madison East	<1%	<1%	<1%	<1%	26%	23%	16%	<0.1 ft	4%	0.2 ft
Fremont Madison West	<1%	<1%	<1%	<1%	17%	16%	23%	<0.1 ft	9%	0.3 ft
Great Feeder Area	<1%	<1%	<1%	1%	26%	24%	19%	<0.1 ft	6%	0.4 ft
New Sweden	<1%	<1%	1%	2%	23%	25%	30%	0.1 ft	10%	0.6 ft
Idaho	<1%	<1%	1%	2%	24%	26%	29%	0.1 ft	10%	0.6 ft
Snake River Valley	<1%	<1%	1%	2%	22%	24%	28%	0.1 ft	9%	0.5 ft
Peoples	<1%	<1%	2%	2%	21%	19%	20%	0.2 ft	8%	0.4 ft
Riverside	<1%	<1%	1%	2%	18%	16%	17%	0.1 ft	6%	0.4 ft
United	<1%	<1%	2%	2%	20%	18%	19%	0.2 ft	7%	0.4 ft
Jensen's Grove	<1%	<1%	1%	1%	15%	14%	13%	0.1 ft	5%	0.3 ft
Aberdeen Springfield	<1%	<1%	2%	2%	20%	19%	19%	0.2 ft	7%	0.4 ft
Hilton Spill	<1%	<1%	2%	3%	21%	20%	20%	0.3 ft	8%	0.4 ft
Lake Walcott Recharge Site	2%	<1%	26%	30%	16%	20%	47%	5.1 ft	43%	1.5 ft
Southwest Irr. District	<1%	<1%	17%	44%	4%	6%	17%	0.3 ft	96%	1.4 ft
Milner Gooding Canal	27%	8%	31%	43%	8%	11%	31%	2.5 ft	37%	1.4 ft
Shoshone Recharge Site	30%	12%	30%	37%	8%	11%	31%	2.3 ft	33%	1.3 ft
Milepost 31 Site	31%	6%	28%	45%	8%	11%	31%	2.7 ft	33%	1.3 ft
Northside Canal	28%	7%	33%	49%	7%	9%	27%	2.2 ft	40%	1.3 ft

Criterion 1A: Percent of a single, one-month recharge volume discharged in the below Milner reach within 3 years.
Criterion 1B: Percent of continuous recharge rate which appears as additional spring discharge below Milner [at the end of] one year.
Criterion 2A: Percent of a single, one-month recharge volume discharged in the below Milner reach between 3 and 30 years.
Criterion 2B: Percent of a long term continuous recharge rate that persists in springs below Milner three years after the recharge ceases.
Criterion 3: Percent of annual recharge volume for recurring March recharge that returns to the above Minidoka reach of the Snake River and Henrys Fork in July through September. The values are calculated for the 30th year of recurring recharge.
Criterion 4: Same as Criterion 3 except for returns in the months of November through February.
Criterion 5: Percent of a single, one-month recharge volume discharged above Minidoka between 3 and 30 years after the recharge activity.
Criterion 6: Average water level change in four model cells in the A&B area after 10 years of continuous recharge at 100,000 AF/yr.
Criterion 7A: Percent of single, one-month recharge volume retained in aquifer storage 10 years after the recharge activity.
Criterion 7B: Average water level change in the Snake River Plain aquifer after 10 years of continuous recharge at 100,000 AF/yr.


Thous Springs
0%
Thous Sprs to
Malad
0%
Neeley to Minid
0%
Blkft to
Neeley
1%
Kimb to Buhl
0%
Below Malad
0%
Malad
0%
Buhl to Thous
Spring
0%
Shelly to Blkft
1%
Heise to Shelley
18%
Asht to Rexb
80%
Freemont-Madison East



Milner-Gooding

The thing about recharge is…

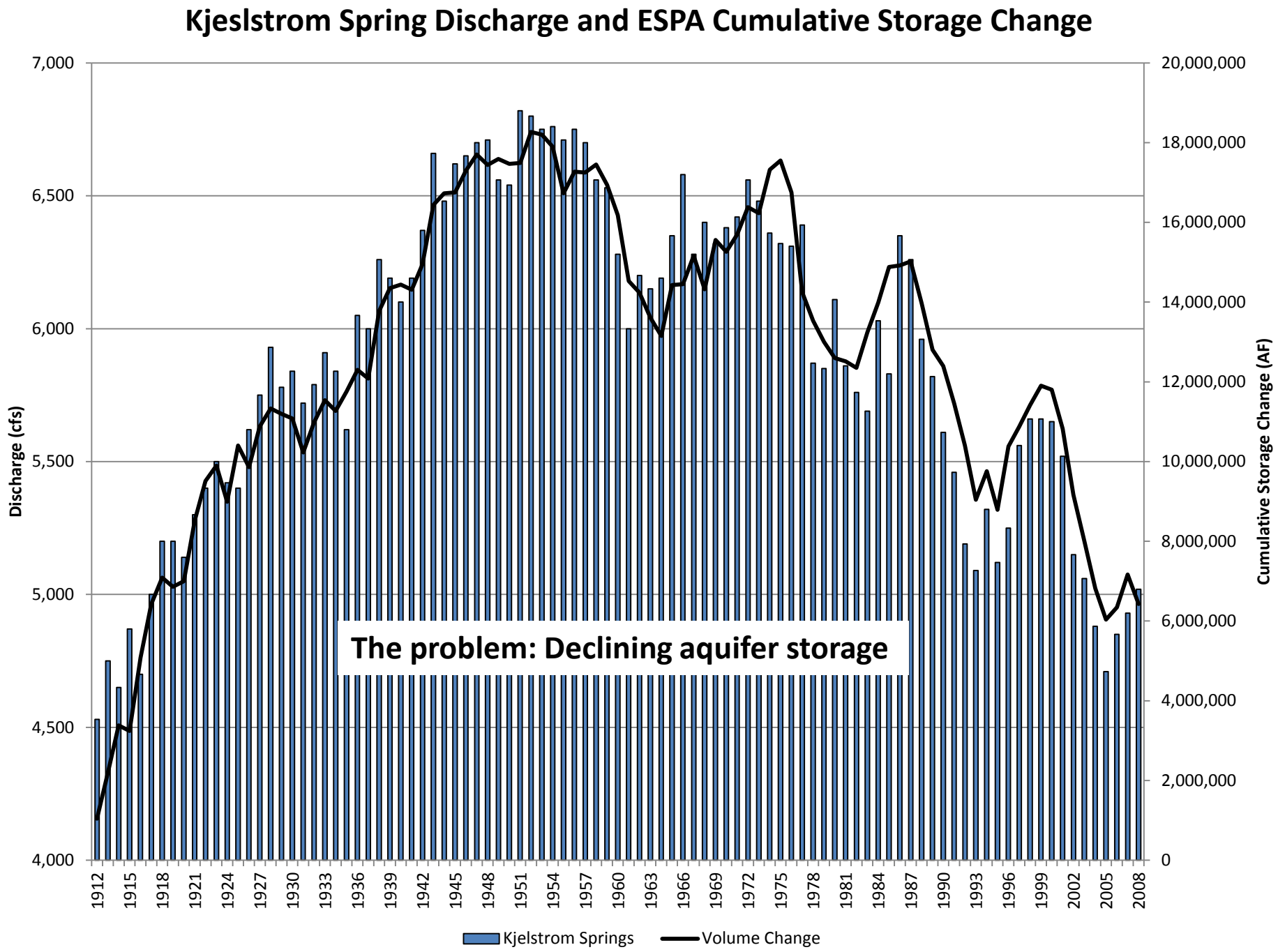
1. There are several locations where recharge can take place; however; not all recharge sites are equal.
2. Site preference is specific to the recharge goal.
3. We still need to prioritize IWRB recharge sites.

4. **What is the main objective for IWRB recharge?**

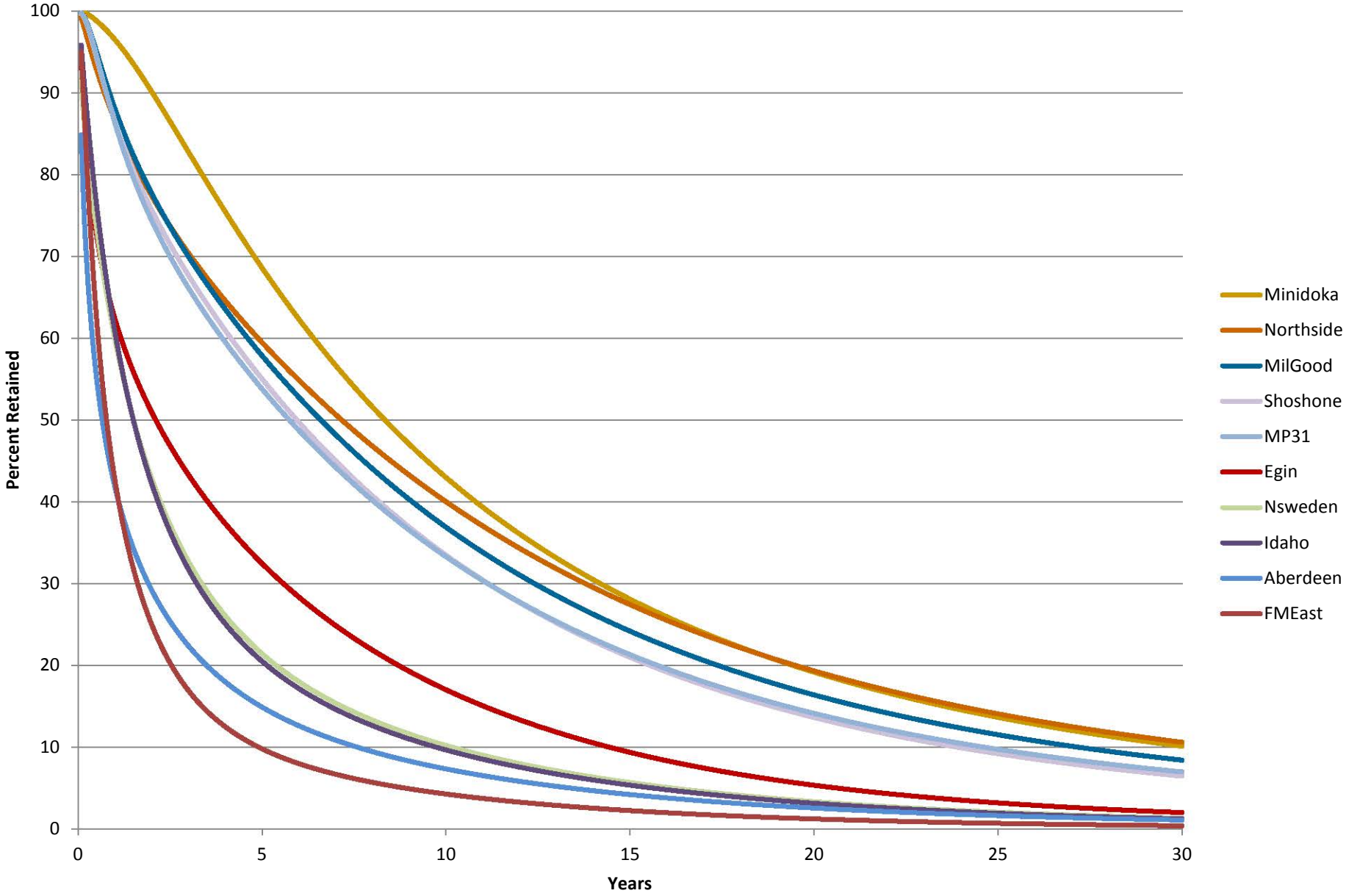
The IWRB Recharge Goal

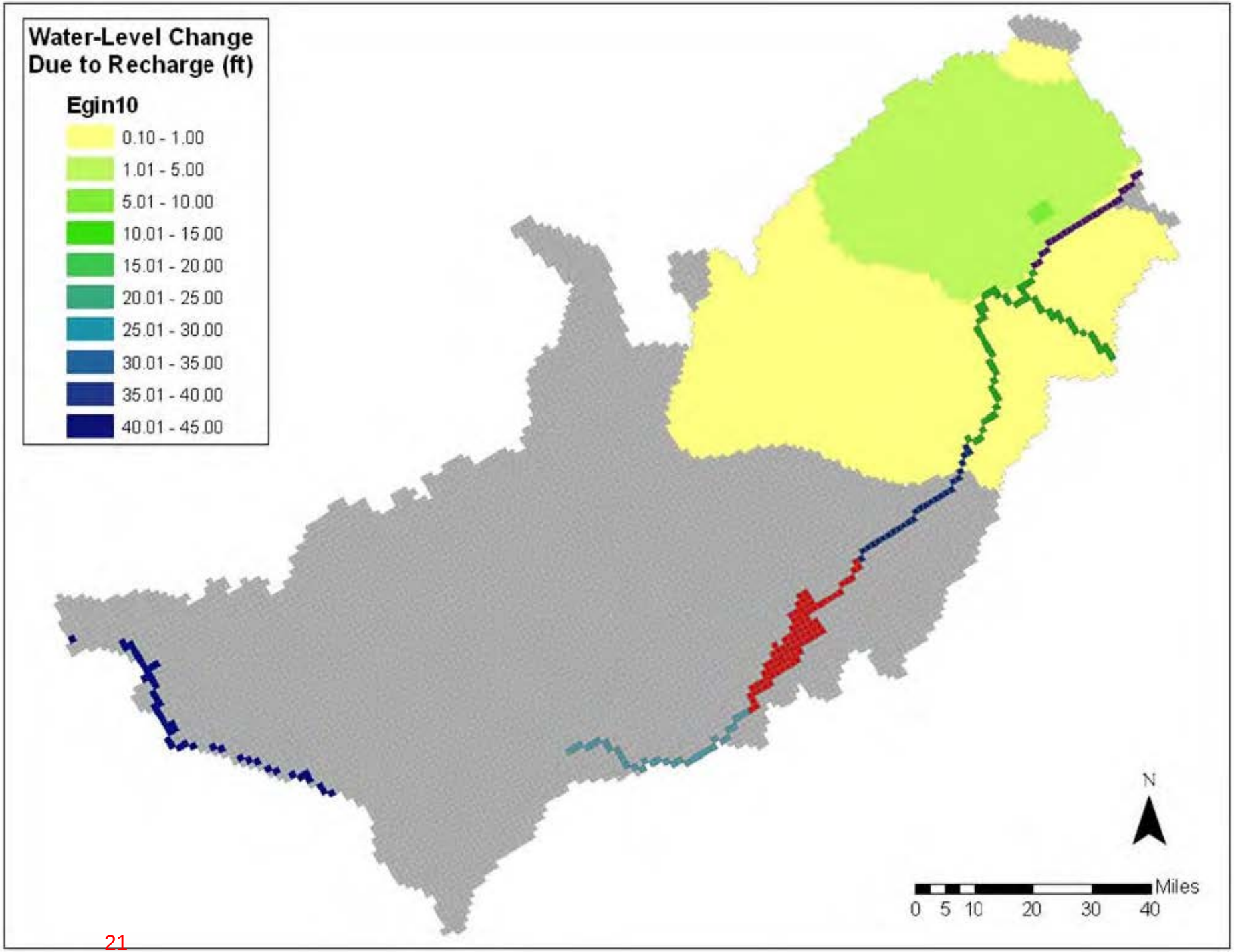
"The long-term objective of the [ESPA Comprehensive Aquifer Management] Plan is to incrementally achieve a net ESPA water budget change of 600 thousand acre-feet annually."

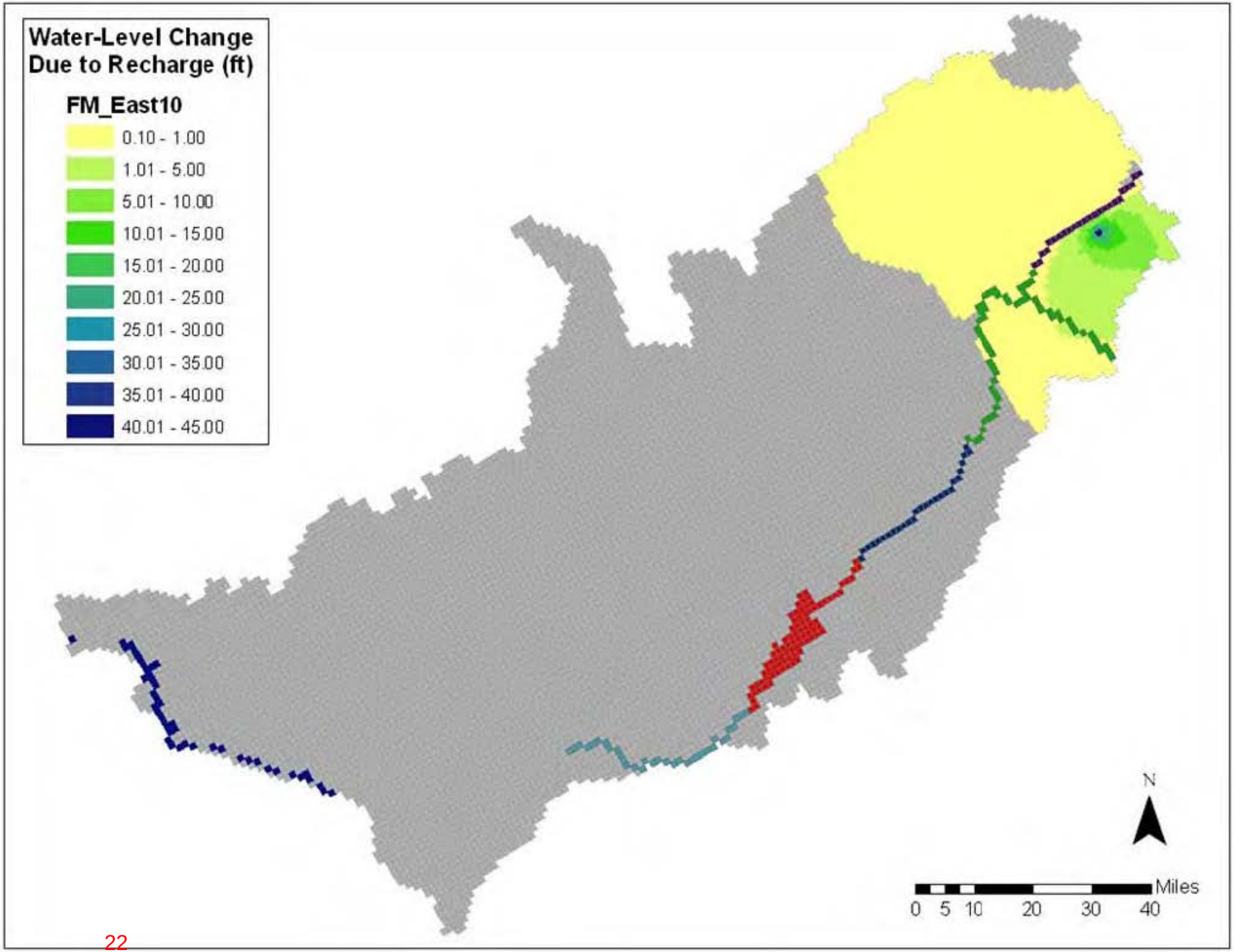
-ESPA CAMP January 2009

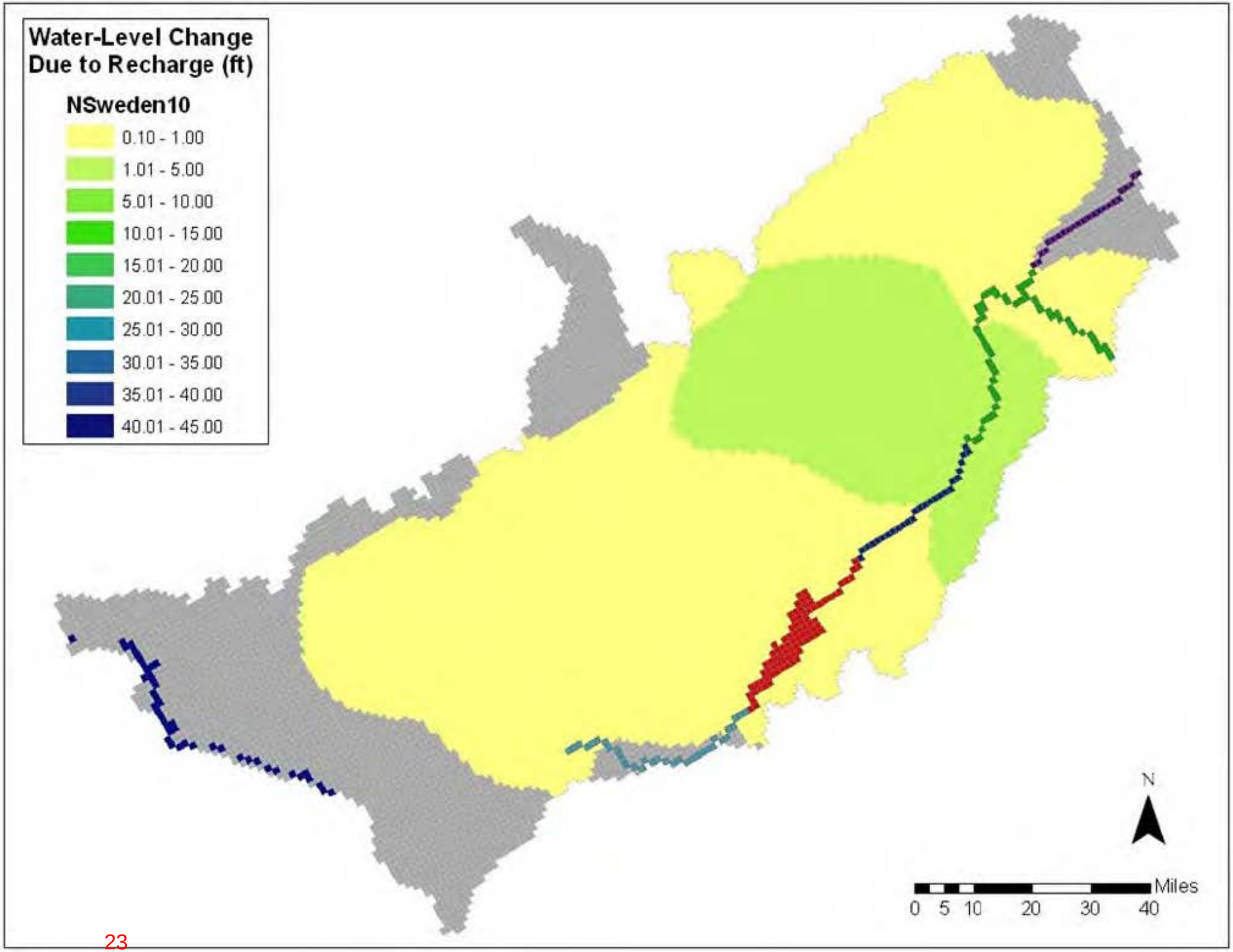

Kjeslstrom Spring Discharge and ESPA Cumulative Storage Change
Discharge (cfs)
Cumulative Storage Change (AF)
7,000
6,500
6,000
5,500
5,000
4,500
4,000
20,000,000
18,000,000
16,000,000
14,000,000
12,000,000
10,000,000
8,000,000
6,000,000
4,000,000
2,000,000
0
1912
1915
1918
1921
1924
1927
1930
1933
1936
1939
1942
1945
1948
1951
1954
1957
1960
1963
1966
1969
1972
1975
1978
1981
1984
1987
1990
1993
1996
1999
2002
2005
2008
The problem: Declining aquifer storage
Kjelstrom Springs
Volume Change

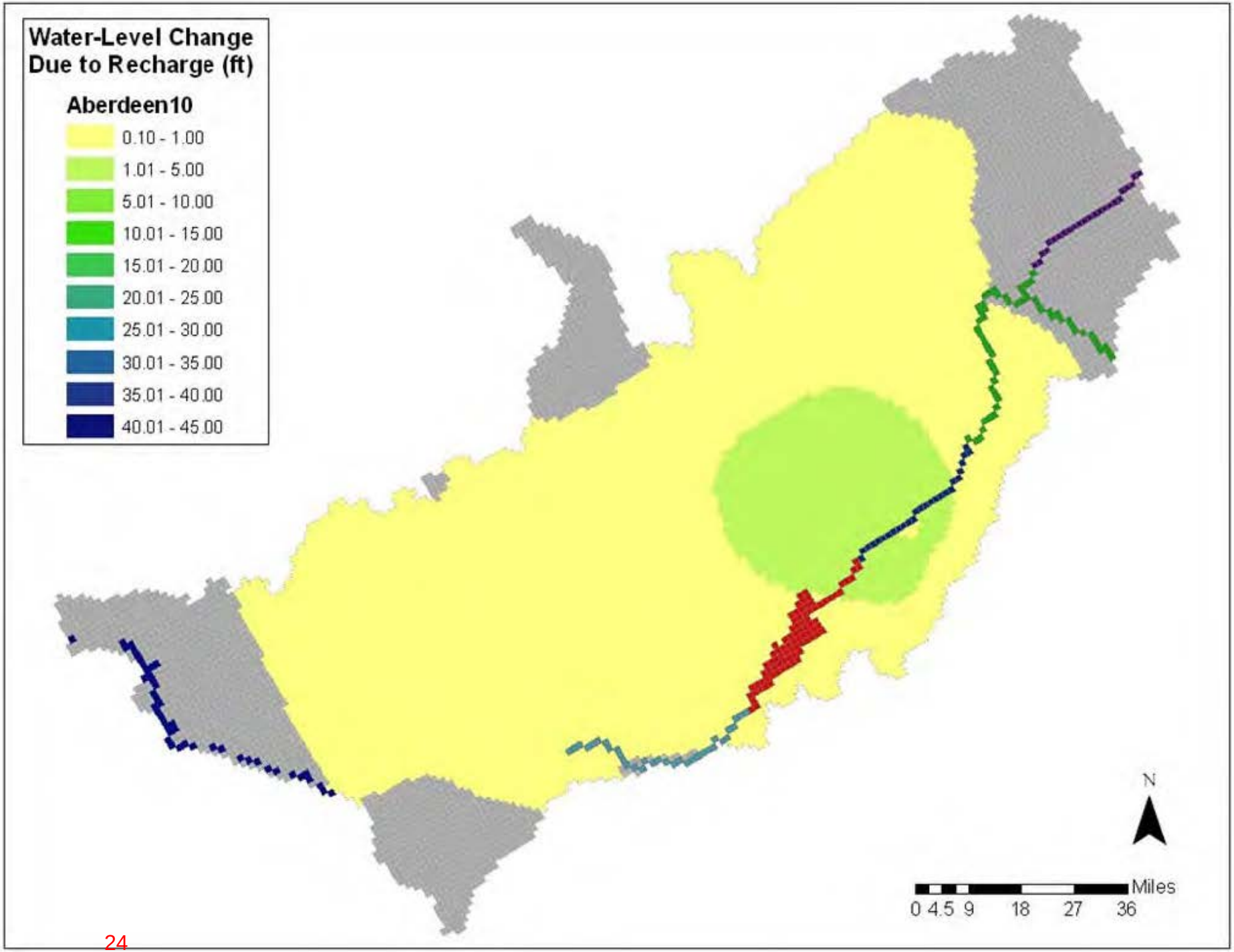
Percent of Recharge Volume Retained in Aquifer - One Month Recharge Event




Water-Level Change Due to Recharge (ft)
Egin10
0.10 - 1.00
1.01 - 5.00
5.01 - 10.00
10.01 - 15.00
15.01 - 20.00
20.01 - 25.00
25.01 - 30.00
30.01 - 35.00
35.01 - 40.00
40.01 - 45.00
N
Miles
0 5 10 20 30 40


Water-Level Change Due to Recharge (ft)
FM_East10
0.10 - 1.00
1.01 - 5.00
5.01 - 10.00
10.01 - 15.00
15.01 - 20.00
20.01 - 25.00
25.01 - 30.00
30.01 - 35.00
35.01 - 40.00
40.01 - 45.00
N
Miles
0 5 10 20 30 40


Water-Level Change Due to Recharge (ft)
NSweden10
0.10 - 1.00
1.01 - 5.00
5.01 - 10.00
10.01 - 15.00
15.01 - 20.00
20.01 - 25.00
25.01 - 30.00
30.01 - 35.00
35.01 - 40.00
40.01 - 45.00
N
Miles
0 5 10 20 30 40


Water-Level Change Due to Recharge (ft)
Aberdeen10
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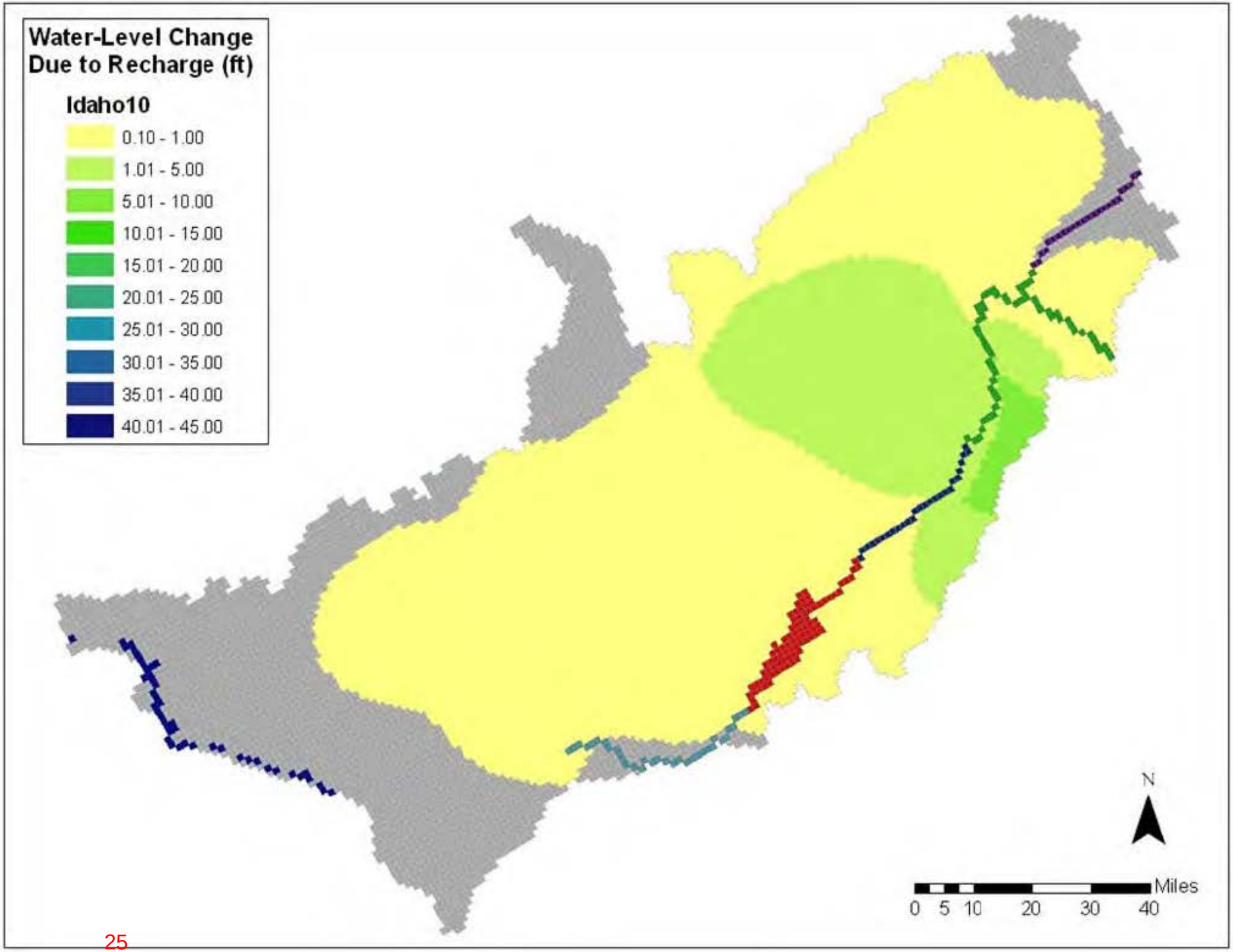
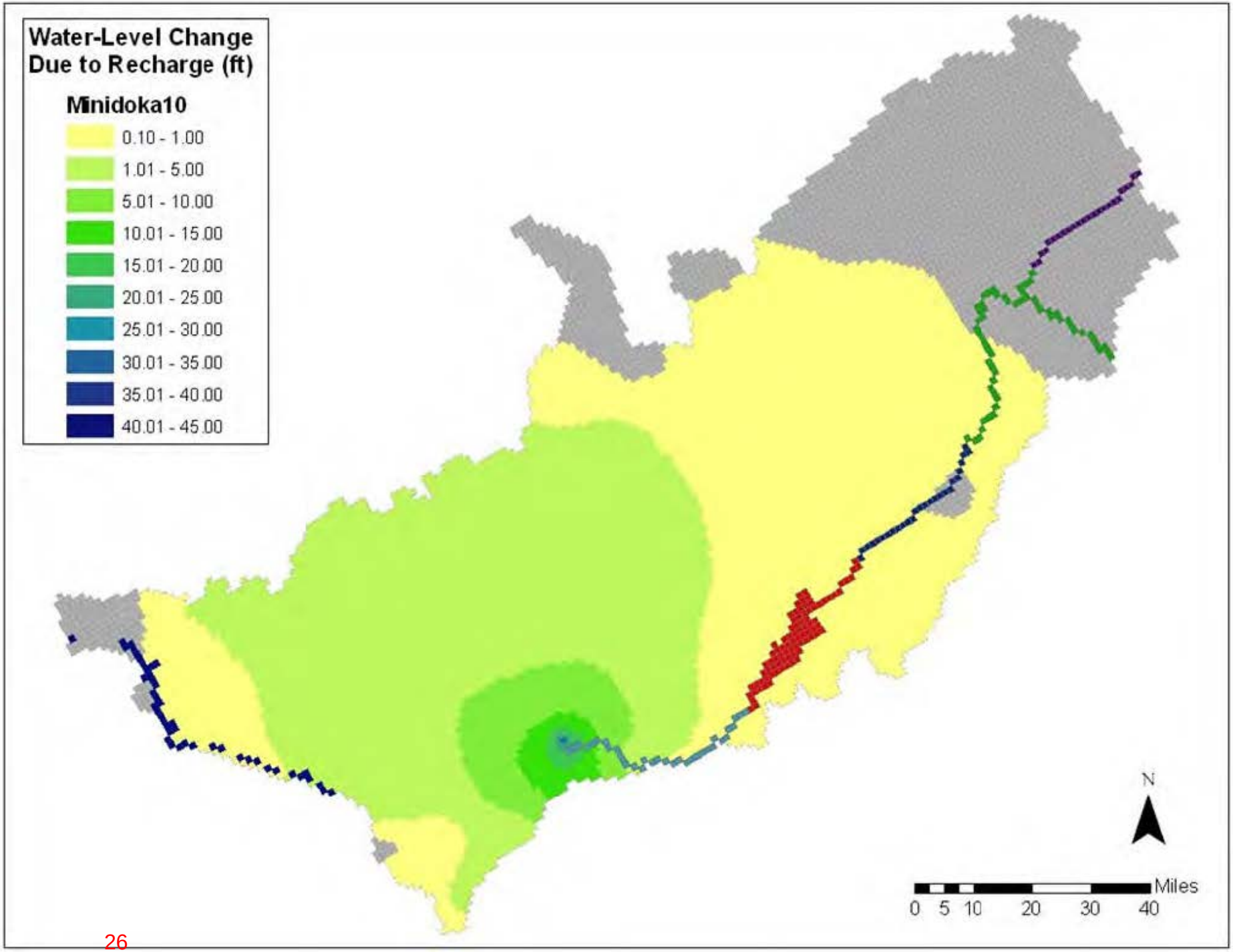
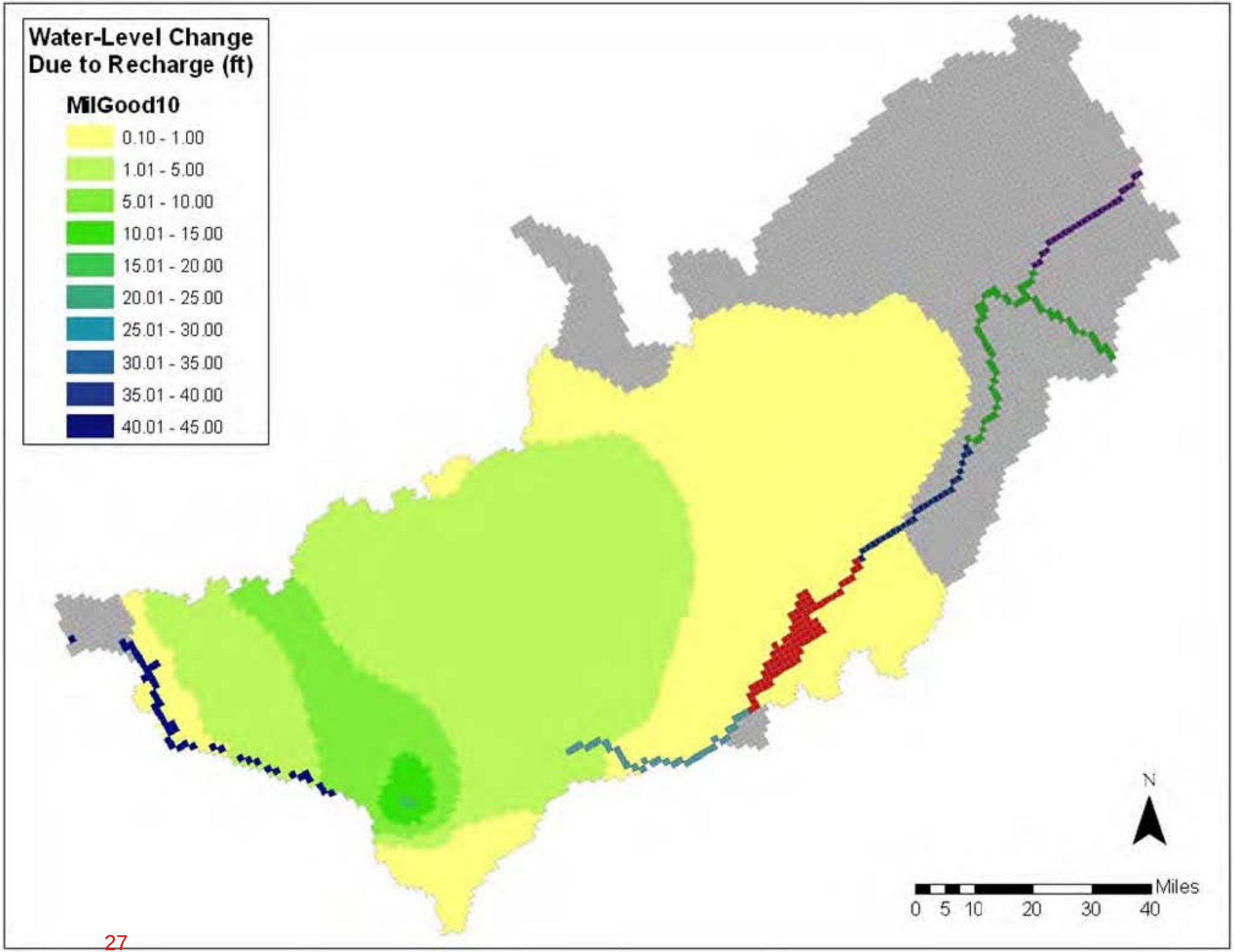
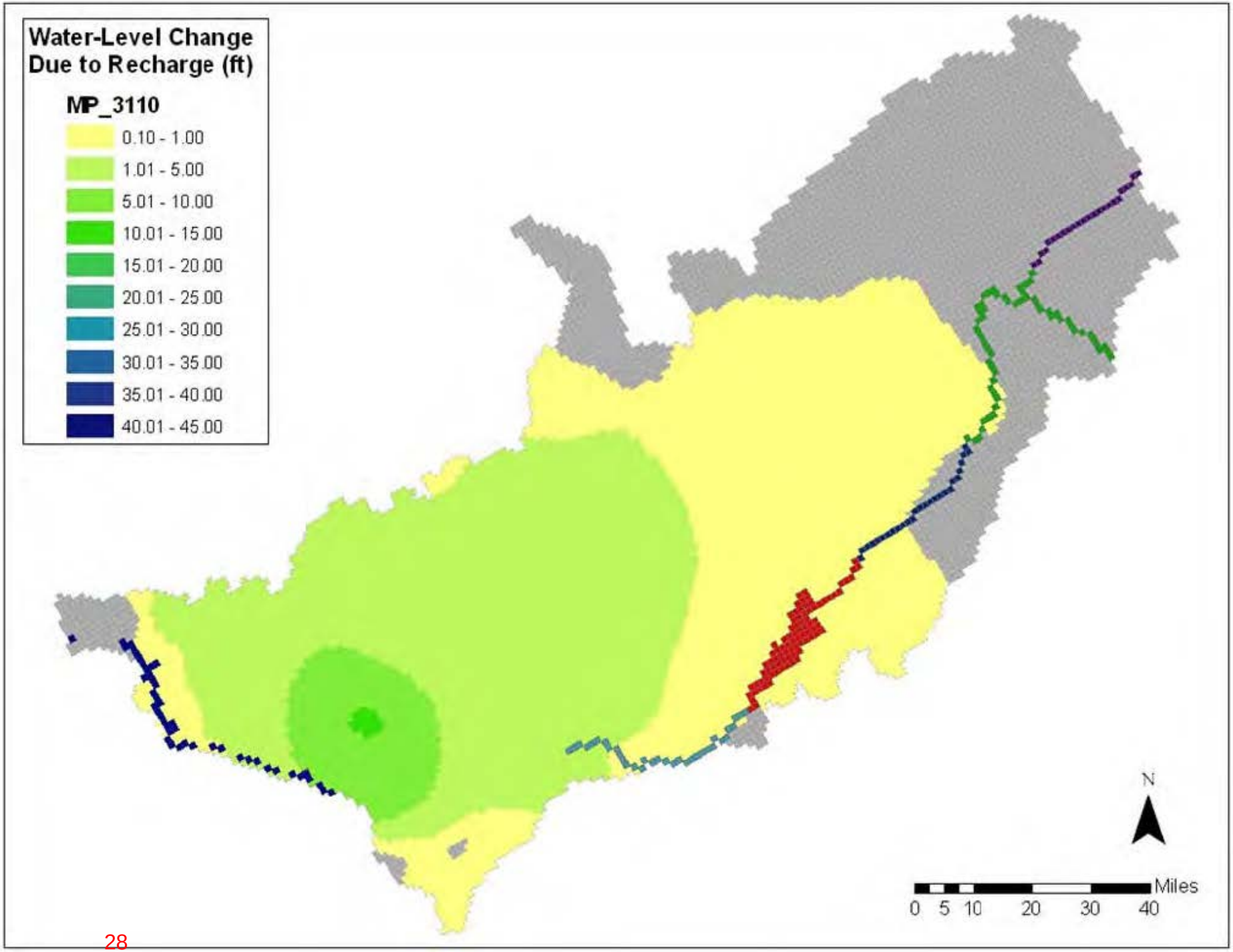
1.01 - 5.00
5.01 - 10.00
10.01 - 15.00
15.01 - 20.00
20.01 - 25.00
25.01 - 30.00
30.01 - 35.00
35.01 - 40.00
40.01 - 45.00
N
Miles
0 4.5 9 18 27 36


Water-Level Change Due to Recharge (ft)
Idaho10
0.10 - 1.00
1.01 - 5.00
5.01 - 10.00
10.01 - 15.00
15.01 - 20.00
20.01 - 25.00
25.01 - 30.00
30.01 - 35.00
35.01 - 40.00
40.01 - 45.00
N
Miles
0 5 10 20 30 40


Water-Level Change Due to Recharge (ft)
Minidoka10
0.10 - 1.00
1.01 - 5.00
5.01 - 10.00
10.01 - 15.00
15.01 - 20.00
20.01 - 25.00
25.01 - 30.00
30.01 - 35.00
35.01 - 40.00
40.01 - 45.00
N
Miles
0 5 10 20 30 40


Water-Level Change Due to Recharge (ft)
MlGood10
0.10 - 1.00
1.01 - 5.00
5.01 - 10.00
10.01 - 15.00
15.01 - 20.00
20.01 - 25.00
25.01 - 30.00
30.01 - 35.00
35.01 - 40.00
40.01 - 45.00
N
Miles
0 5 10 20 30 40


Water-Level Change Due to Recharge (ft)
MP_3110
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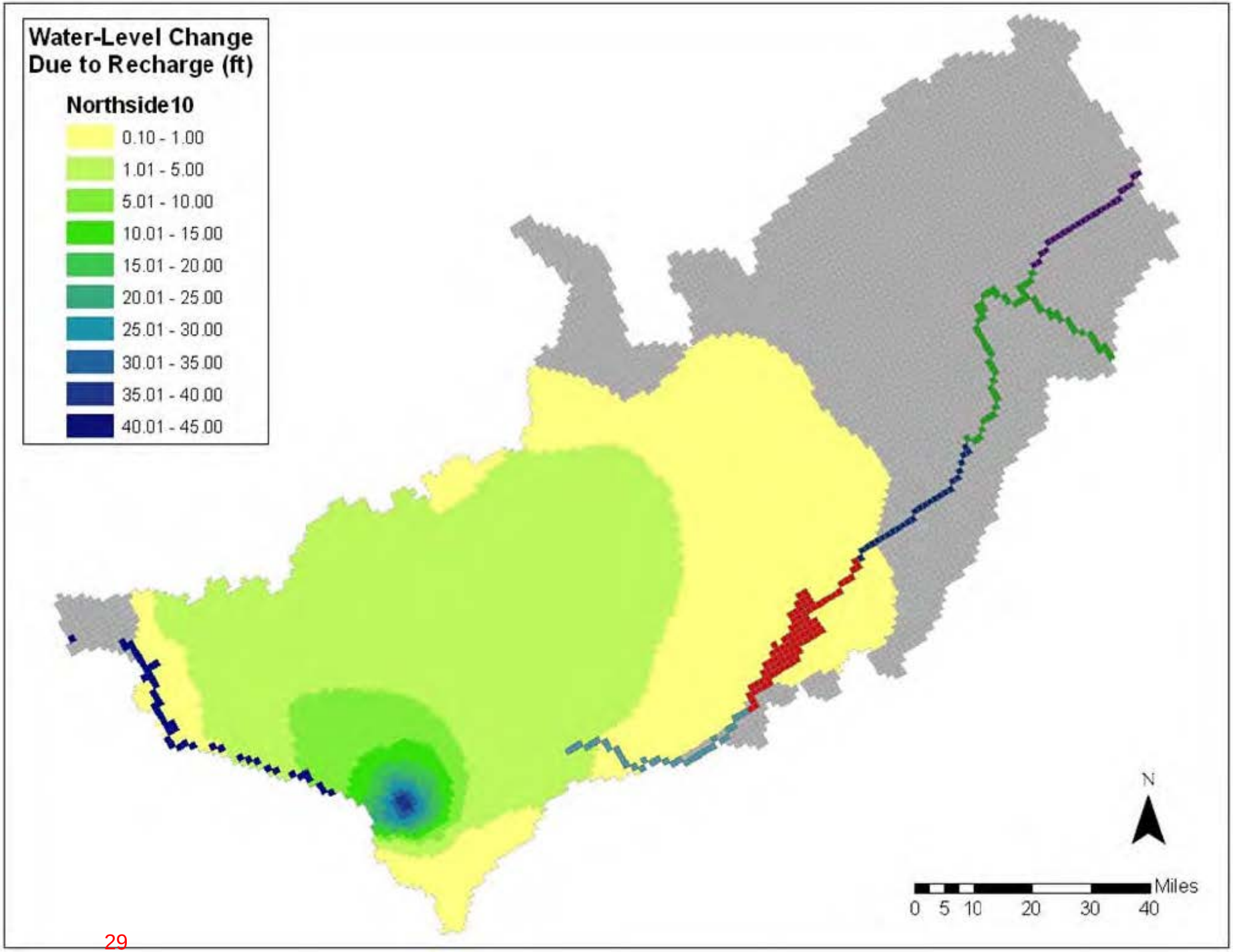
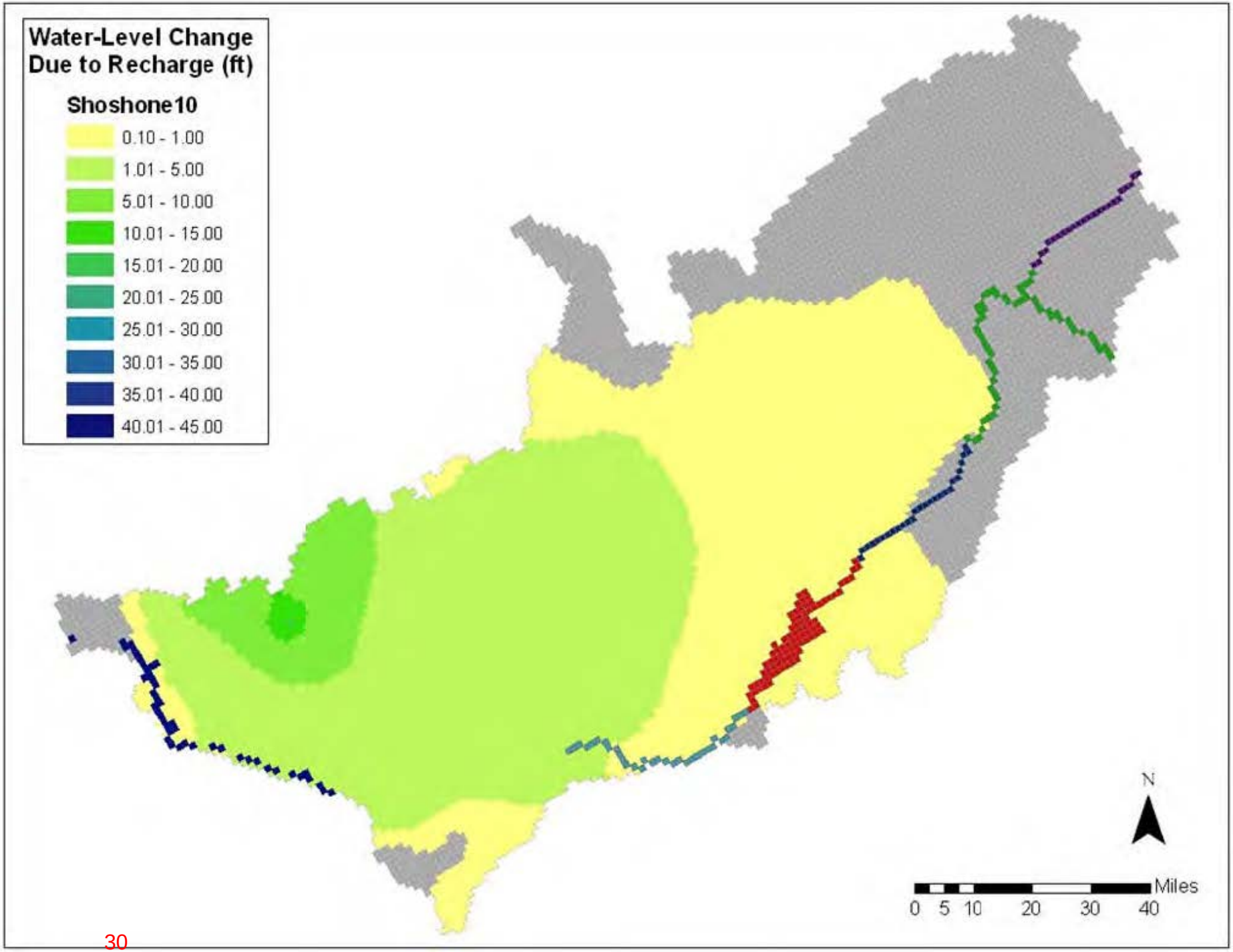
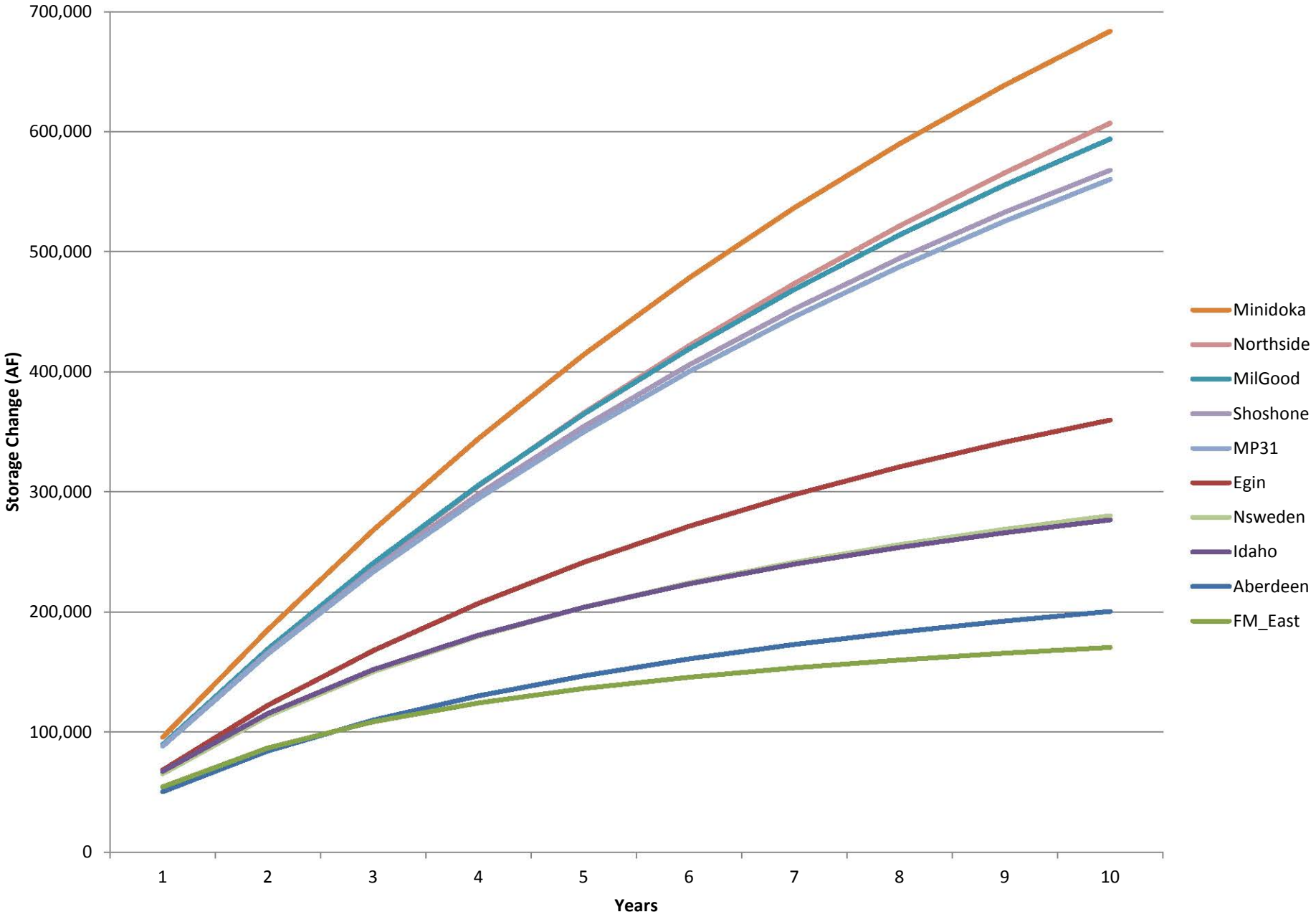
1.01 - 5.00
5.01 - 10.00
10.01 - 15.00
15.01 - 20.00
20.01 - 25.00
25.01 - 30.00
30.01 - 35.00
35.01 - 40.00
40.01 - 45.00
N
Miles
0 5 10 20 30 40

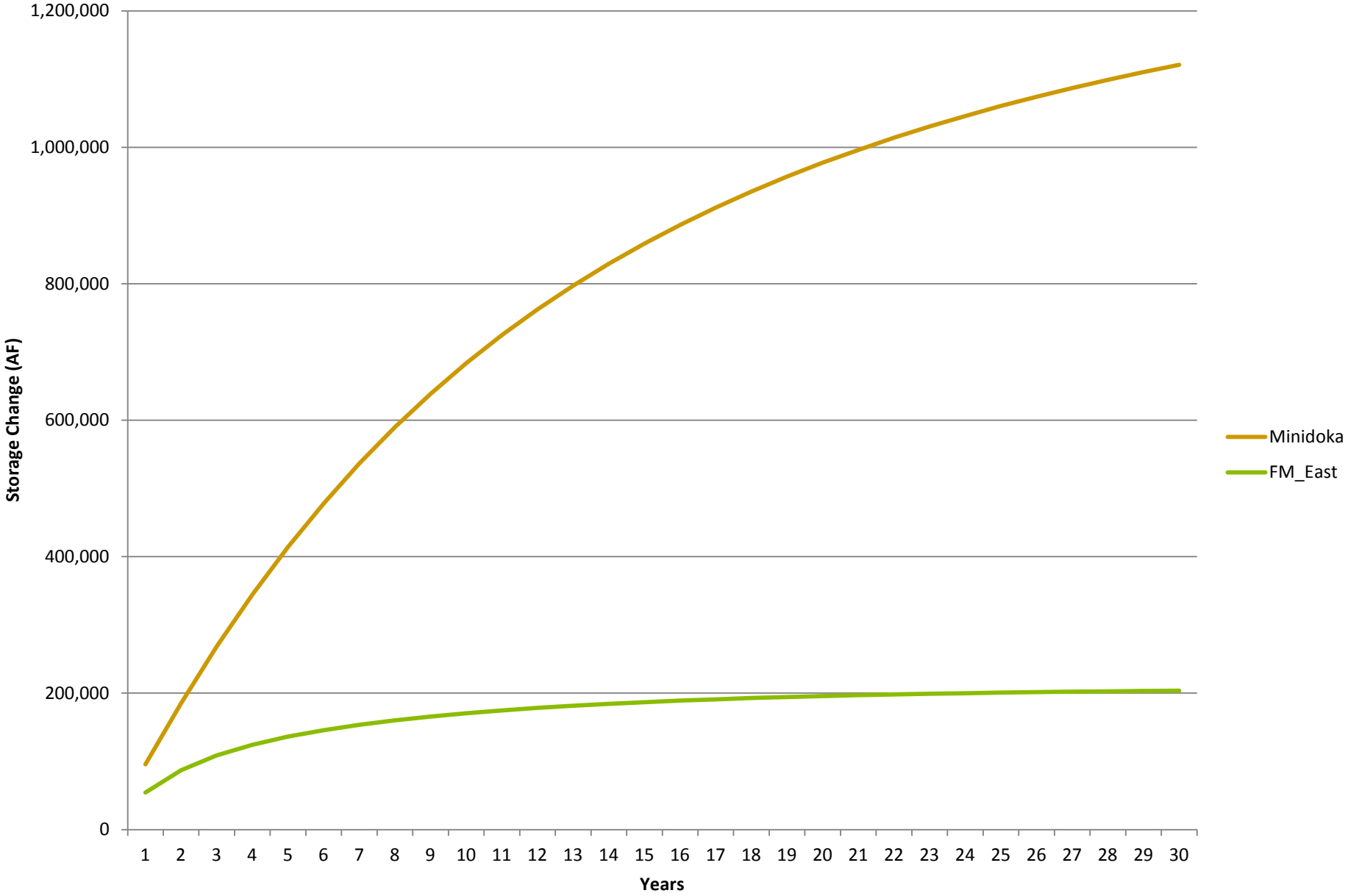

Water-Level Change Due to Recharge (ft)
Northside10
0.10 - 1.00
1.01 - 5.00
5.01 - 10.00
10.01 - 15.00
15.01 - 20.00
20.01 - 25.00
25.01 - 30.00
30.01 - 35.00
35.01 - 40.00
40.01 - 45.00
N
Miles
0 5 10 20 30 40


Water-Level Change Due to Recharge (ft)
Shoshone10
0.10 - 1.00
1.01 - 5.00
5.01 - 10.00
10.01 - 15.00
15.01 - 20.00
20.01 - 25.00
25.01 - 30.00
30.01 - 35.00
35.01 - 40.00
40.01 - 45.00
N
Miles
0 5 10 20 30 40

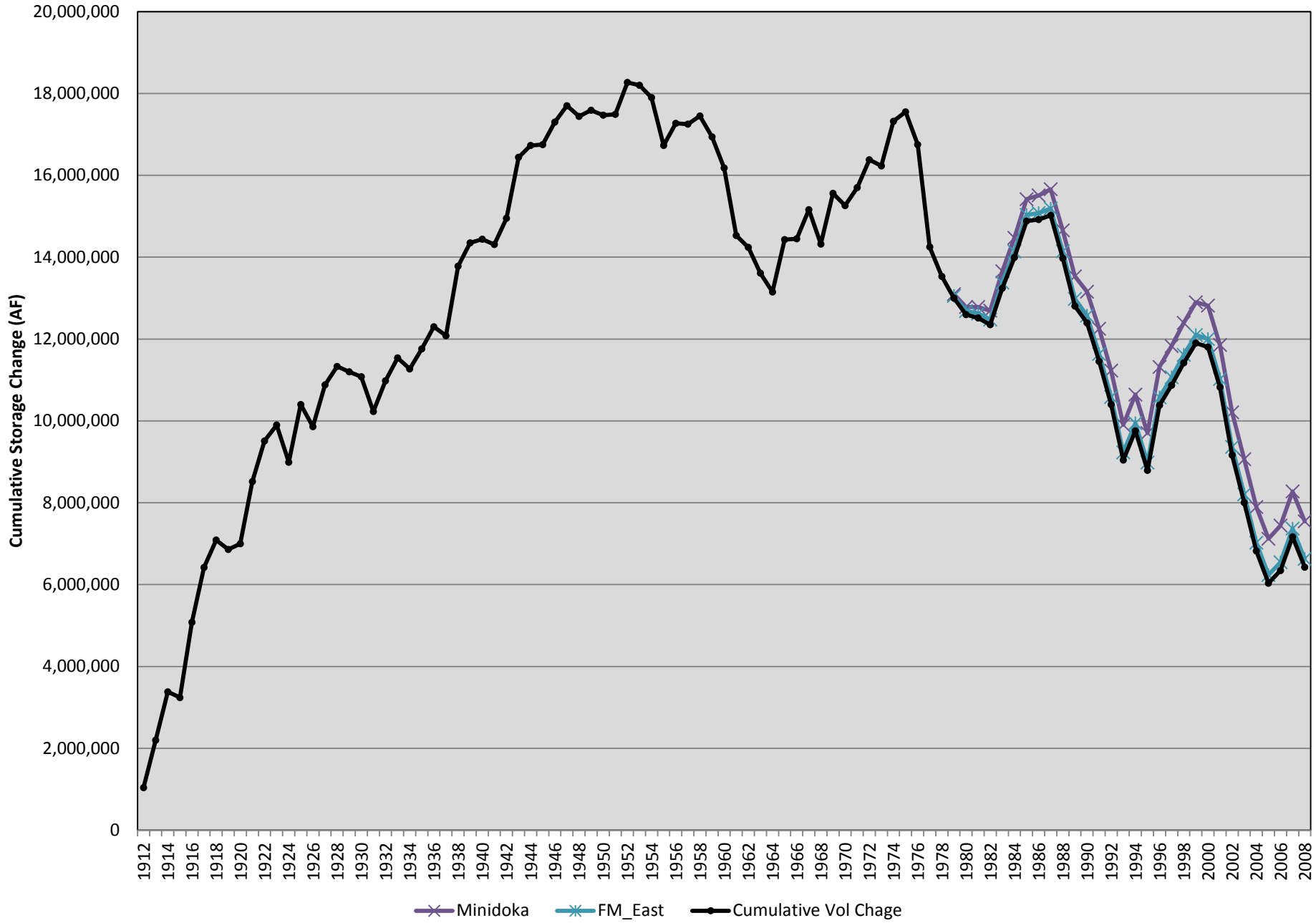
ESPA Storage Change Due to Continuous Recharge of 100,000 AF/yr



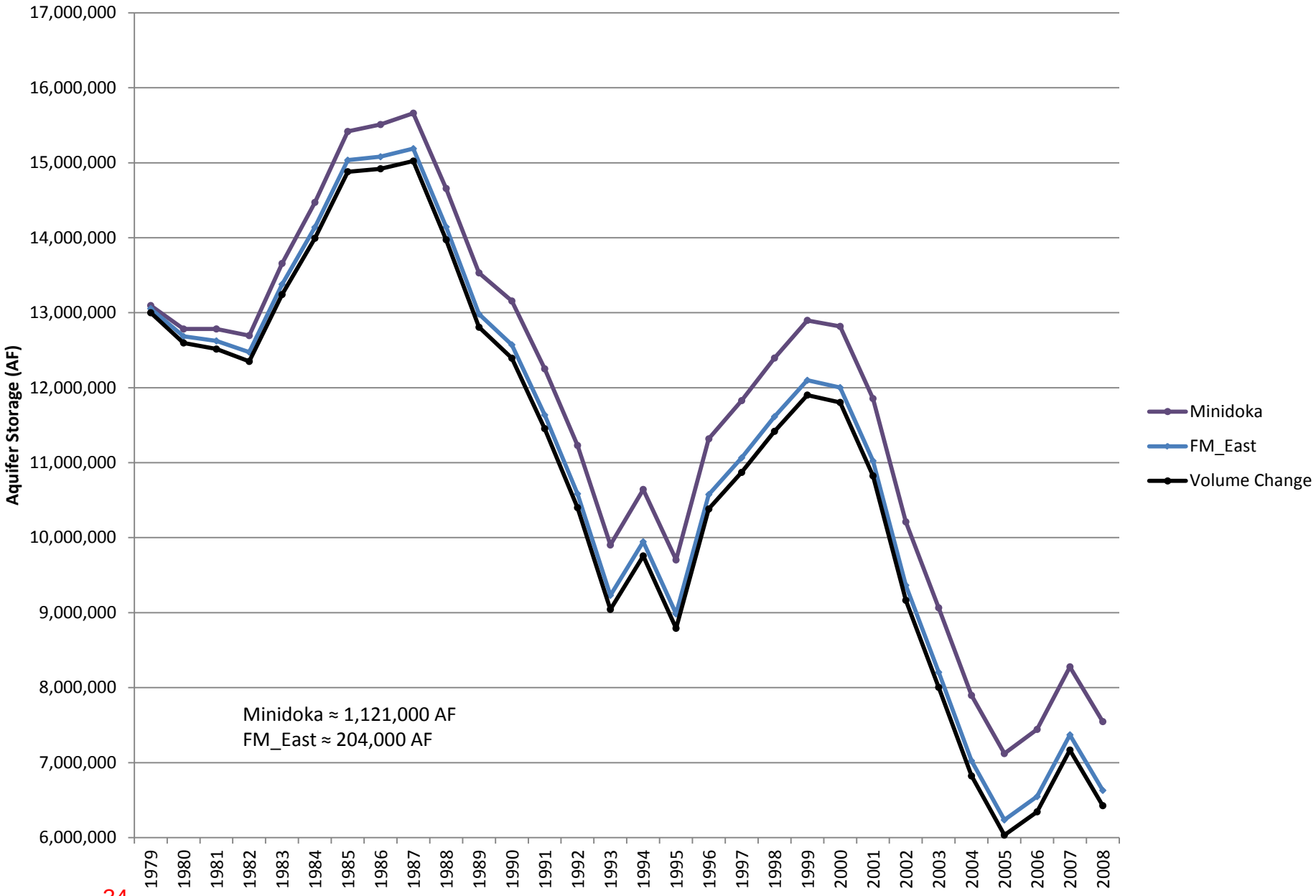
ESPA Storage Change Due to Continuous Recharge of 100,000 AF/yr: 30 Years



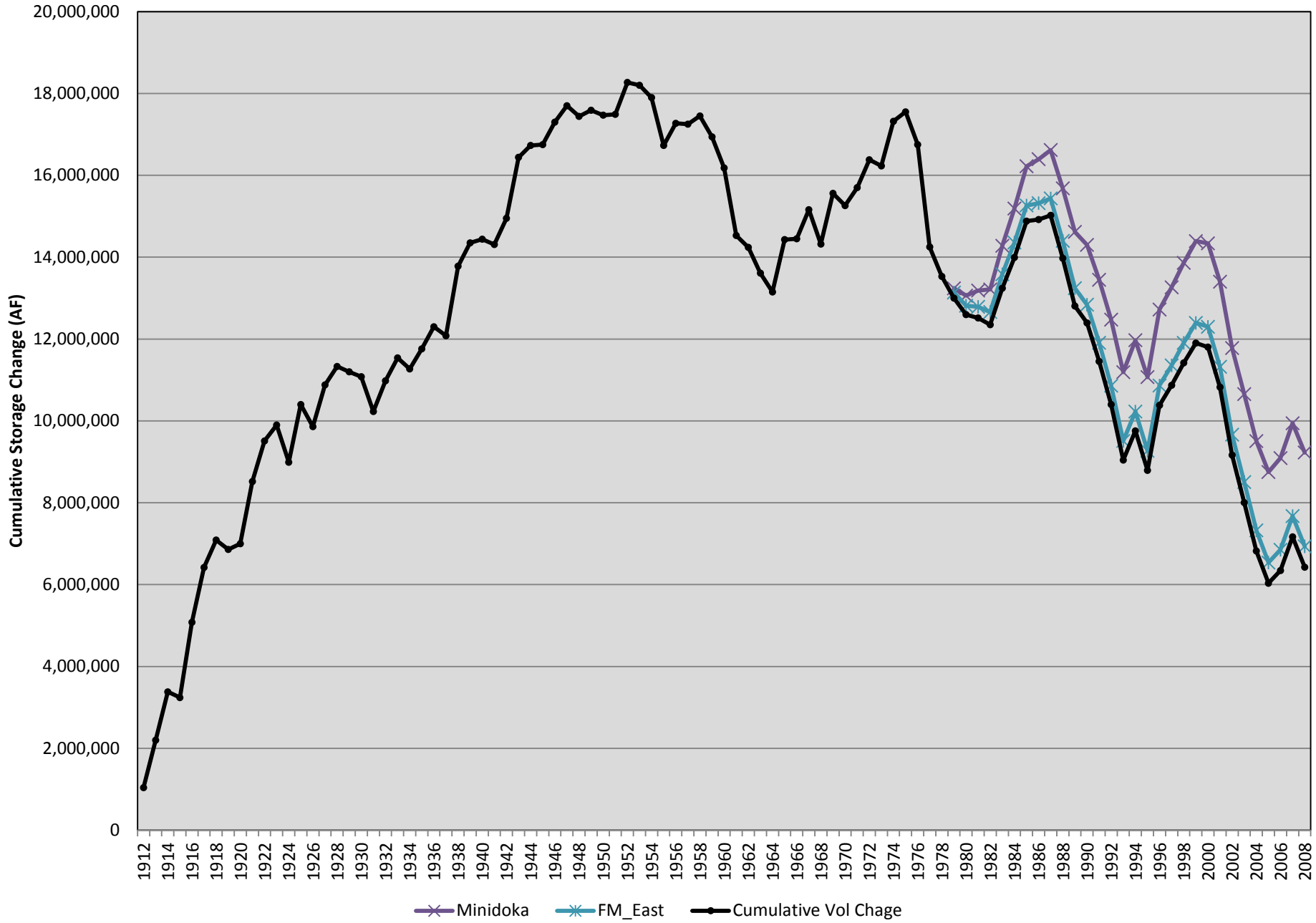
ESPA - Cumulative Change in Aquifer Storage 100,000 AF/yr



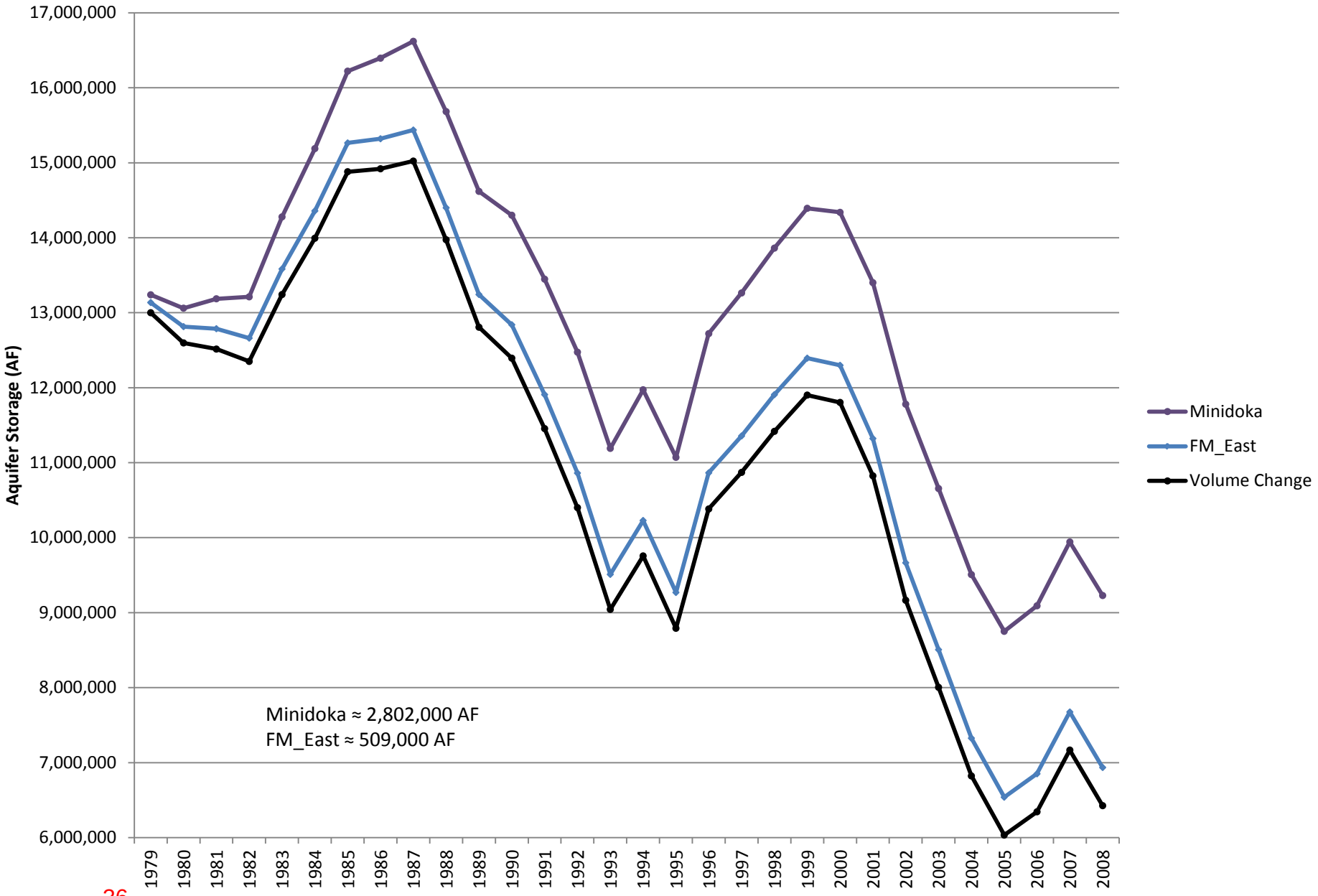
Recharge Effects on Aquifer Storage - 30-years Continuous Recharge 100,000 AF/yr



ESPA - Cumulative Change in Aquifer Storage 250,000 AF/yr



Recharge Effects on Aquifer Storage - 30-years Continuous Recharge 250,000 AF/yr



The Priority List

"The long-term objective of the [ESPA Comprehensive Aquifer Management] Plan is to incrementally achieve a net ESPA water budget change of 600 thousand acre-feet annually."

Canal	7A	7B
SWID	0.96	1.4
Lake Walcott Recharge Site	0.43	1.5
Northside Canal	0.4	1.3
Milner Gooding Canal	0.37	1.4
Shoshone Recharge Site	0.33	1.3
Milepost 31	0.33	1.3
Egin	0.17	0.4
New Sweden	0.1	0.6
Idaho	0.1	0.6
Snake River Valley	0.09	0.5
Freemont Madison West	0.09	0.3
Hilton Spill	0.08	0.4
Peoples	0.08	0.4
Aberdeen Springfield	0.07	0.4
United	0.07	0.4
Riverside	0.06	0.4
Great Feeder	0.06	0.4
Jensen's Grove	0.05	0.3
Freemont Madison East	0.04	0.2

MEMO

To: Idaho Water Resource Board
From: Brian Patton
Subject: ESPA Update - Hazelton Butte Groundwater-to Surface Water Conversion Project
Date: May 7, 2012

The Hazelton Butte Groundwater-to Surface Water Conversion project has been placed into operation. There are still a few follow-up and clean up items yet to complete. The following photo's of the pumping plants were taken on May 2nd. Each pumping station serves about half of the 5,400-acre project. The project was paid mostly with federal funds through the IWRB's AWEP partnership.

North Unit Pumping Station and Regulating Pond

South Unit Pumping Station on North Side Canal

John A. Rosholt
Albert P. Barker
John K. Simpson
Travis L. Thompson
Shelley M. Davis
Paul L. Arrington
Scott A. Magnuson
Sarah W. Higer

BARKER ROSHOLT & SIMPSON LLP

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Twin Falls, ID 83303-485
(208) 733-0700 telephone
(208) 735-2444 facsimile
jar@idahowaters.com

1010 W. Jefferson St., Suite 102
P.O. Box 2139
Boise, ID 83701-2139
(208) 336-0700 telephone
(208) 344-6034 facsimile
brs@idahowaters.com

Travis L. Thompson
tlt@idahowaters.com

April 30, 2012

VIA EMAIL & U.S. MAIL

Mr. Jerry Gregg
U.S. Bureau of Reclamation
Snake River Area Office
West – 230 Collins Road
Boise, Idaho 83702

Re: Proposed Recharge Project (State Land Near Lake Walcott)

Dear Jerry:

This letter is sent on behalf of the A&B Irrigation District Board of Directors. As you may be aware, we met with Chris Ketchum, Mike Beus, Rich Rigby, Mat Weaver, and Dean Stevenson and Orlo Maughan (board members from the Magic Valley Ground Water District) on April 19th to discuss a proposed recharge project on state land near Lake Walcott.

For your information, the project proposes to use a pumping plant to divert water directly from Lake Walcott and deliver it through a buried pipeline to injection wells located on state land. Rich Rigby has been in contact with the U.S. Fish & Wildlife Service regarding the necessary permission to cross the wildlife refuge and those discussions are continuing.

Based upon modeling completed by the Idaho Water Resources Research Institute (see Ex. A), the site has the potential to benefit both aquifer levels and the Snake River (68% recharge returned back to the river above Minidoka Dam).[1] The site also has the potential to retain water in the aquifer over an extended period and has the highest ranking of potential recharge sites for that criteria (see Ex. A – Objective 5 / Figure 11). Accordingly, the recharge project will benefit numerous entities, including A&B, private ground water users, Minidoka Project water users, the Minidoka Wildlife Refuge, as well as Reclamation.

[1] The complete report can be found on the Idaho Water Resource Board's website at http://www.idwr.idaho.gov/waterboard/PDFs/IWRRIRecharge_FINAL_4-11-12.pdf

As you are aware, A&B has experienced severe ground water declines across its project in the last 20 years. The District filed a water delivery call with IDWR (pending before the Idaho Supreme Court). The IDWR Director initially denied A&B's call in part based upon the original well siting and depths drilled by Reclamation. In addition, the District has spent millions of dollars deepening and drilling additional wells in search of water. Just last year A&B purchased its own drilling rig at a cost of over $2 million dollars. This past winter A&B drilled two new wells to depths over 500 feet that have not produced any water. Clearly, the water shortage problem on the District is not resolved.

A&B has undertaken nearly all of these measures without assistance from Reclamation. Accordingly, if there was ever a time where Reclamation could step in and work toward improving A&B's ground water supply, that time has arrived.

The recharge project proponents have identified Reclamation's senior hydropower water rights at Minidoka Dam (01-217 and 01-218) as a major issue to address.[2] According to IDWR, on average there are very few days in the winter that Reclamation's water rights for 2,700 cfs are fully satisfied (see Ex. B). We assume the project would be able to utilize the Idaho Water Resource Board's recharge permit (01-7054) in priority, which is junior to Reclamation's power water rights. Although project spaceholders enjoy the right of storing irrigation water during the winter even when the water rights are not satisfied, the lost power is made whole through the annual power loss calculation and payment. A&B recognizes the importance of Reclamation's hydropower rights and the critical role that generation plays in the Minidoka Project, particularly for A&B. To that end the District fully supports the recharge project on the condition that storage rights are not affected in any way and that any loss in Reclamation's power generation is made whole.

This recharge project will be relatively expensive to construct and operate, but the project proponents believe the potential benefits are worth the cost and effort. However, we need to know that the site can operate for extended periods most years (more than 150 days if possible, which would equate to a potential recharge near 45,000 acre-feet per year). If operation of the recharge site is limited to periods when the releases at Minidoka Dam exceed Reclamation's senior hydropower water rights, the Magic Valley Ground Water District informs us that they likely cannot justify the expenditure.

Consequently, A&B would request Reclamation to review whether or not water could be made available to divert to the recharge project (up to 100 cfs), and the conditions Reclamation might require. If Reclamation would lose generation under its senior water rights as a result of a diversion to the recharge project, perhaps an additional "power loss" arrangement could be entered into with the project proponents or the State of Idaho (through the Idaho Water Resource Board). Moreover, if 68% of the water returns to the river above the power plant, as predicted

[2] Reclamation subordinated water rights 01-4024 and 01-4025 to all junior water rights except those for hydropower purposes. Accordingly, the project proponents would have the right to divert water for recharge ahead of these water rights.

by ESPAM, then the impact would be at most 32% of the water diverted, and perhaps from a timing perspective maybe even less.

Although there are several other issues that must be addressed in order to make the recharge project feasible, we believe the exercise of the hydropower water rights is a fundamental issue that must be addressed up front, prior to expending further time and funds for feasibility studies or other engineering.

Given the potential benefits of the project, including improving ground water supplies for A&B, and increasing reach gains above Minidoka Dam, the District believes this project may be one of the best possible locations for recharge in the Upper Snake River Basin. Given the location, Reclamation is obviously a key figure in making this project a reality.

A&B hopes Reclamation, including the Regional office, gives this project immediate and careful consideration. If additional meetings with the project proponents are necessary we would be glad to arrange those either in Rupert or Boise at your convenience.

Please contact me at 733-0700 if you have any questions.

Sincerely,

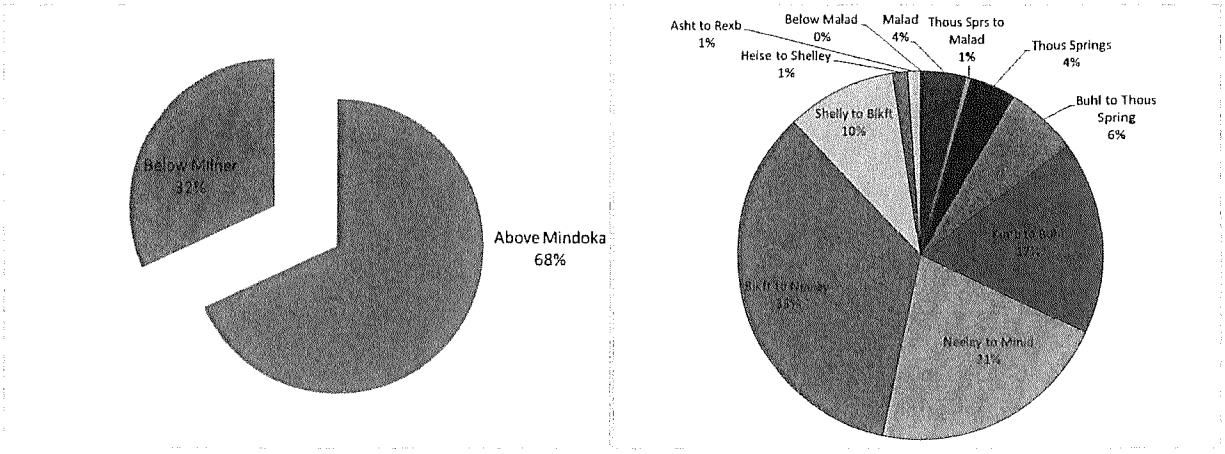
BARKER ROSHOLT & SIMPSON LLP

Travis L. Thompson

cc: Dan Temple, Manager (A&B)
Lori Lee, Regional Director (Reclamation)
Chris Ketchum (Reclamation)
Rich Rigby (IDWR)
Mat Weaver (IDWR)
Dean Stevenson, c/o Magic Valley Ground Water District
Randy C. Budge

Exhibit
A

APPENDIX O: Lake Walcott Recharge Site Results



A B

Figure O1. Pie chart showing distribution of recharge effects in Snake River A) in segments above Minidoka and below Milner and B) in individual reaches. Determined from steady state simulation of continuous stress.

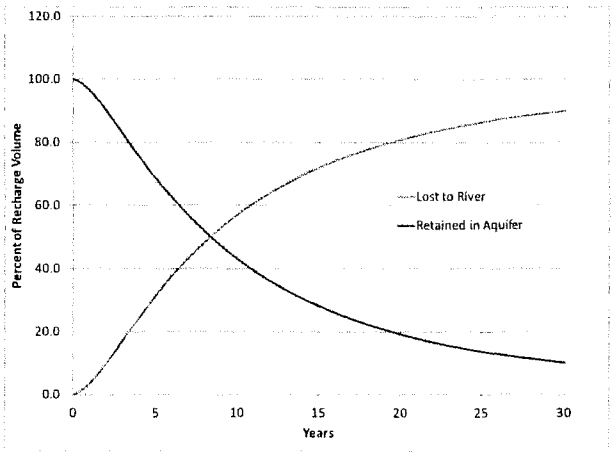


Figure O2. Change in recharge volume retained in aquifer and discharged to the Snake River over time. Determined from simulation of one month of recharge.

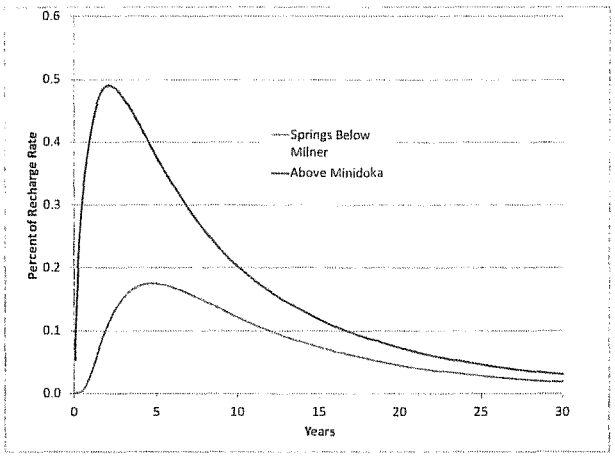
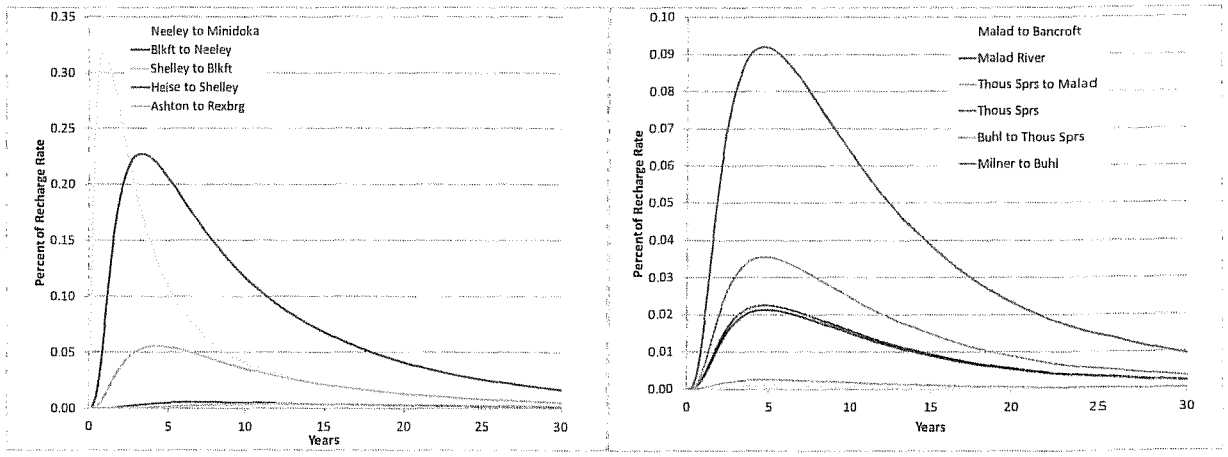


Figure O3. Change in spring discharge and river gains/losses over time in the below Milner and above Minidoka segments of the Snake River resulting from one month of recharge.



A B

Figure O4. Change in river gains/losses for A) above Minidoka and B) below Milner reaches of the Snake River resulting from one month of recharge.

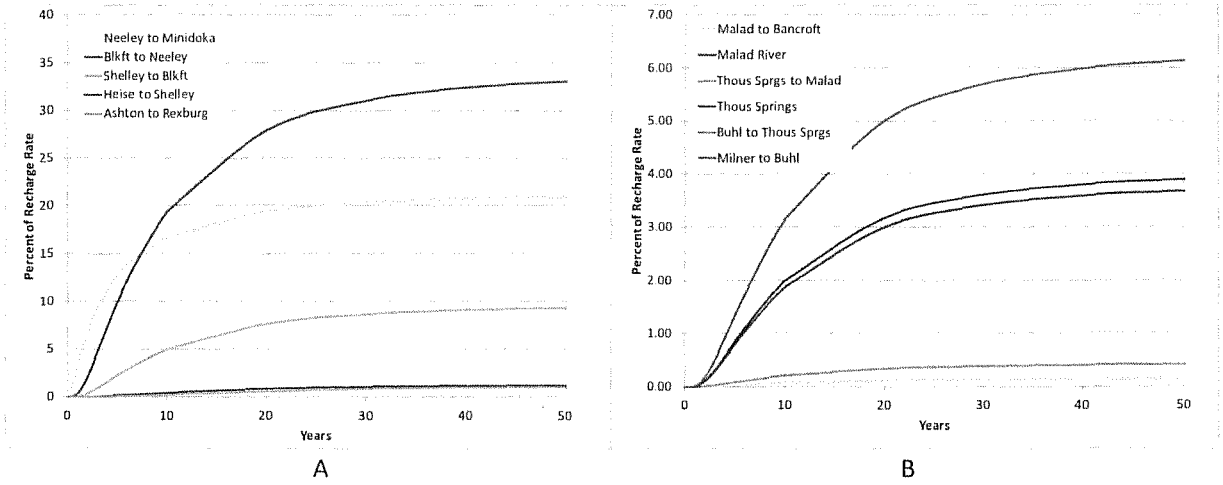


Figure O5. Change in river gains/losses and spring discharge for A) above Minidoka and B) below Milner reaches of the Snake River resulting continuous recharge.

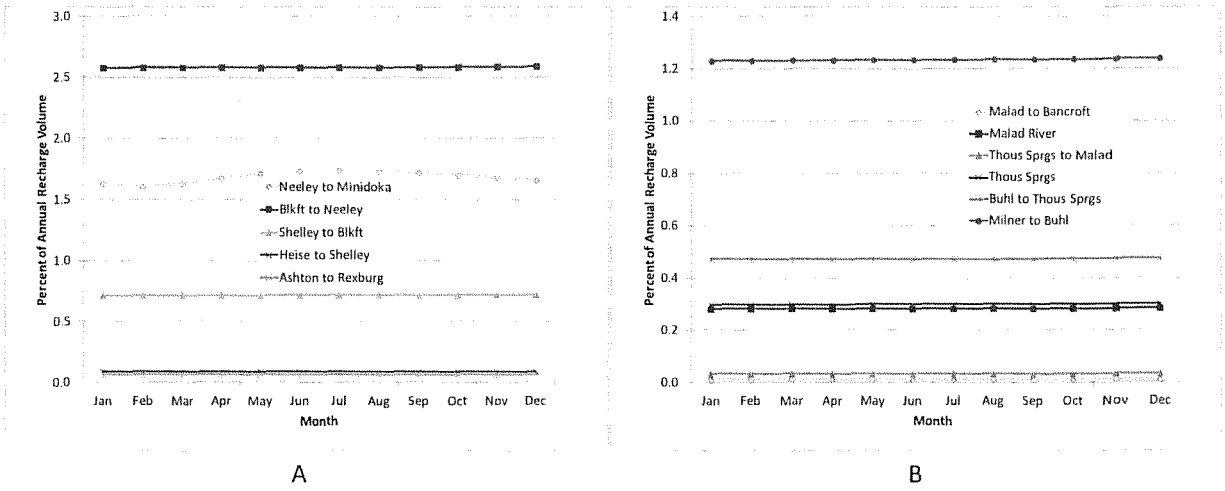


Figure O6. Change in monthly volume of river gains/losses and spring discharge for (A) above Minidoka reaches and B) below Milner reaches of the Snake River resulting from recurring spring recharge. Results represent a single year after 30 years of recurring recharge in March and are expressed as a percent (monthly volume of discharge x 100) / (annual recharge volume).

Objective 5 (Augment Flow in the Snake River Above Minidoka over Extended Periods) Evaluation

The effectiveness of recharge at the prescribed sites to enhance Snake and Henrys Fork river flows above Minidoka Dam during periods of extended drought is evaluated through use of Criterion 5. Criterion 5 is a measure of the simulated percentage of the volume of recharged water (occurring only in the first month) that returns to the river above Minidoka between 3 and 30 years (30 years is the simulation duration) after ceasing recharge. Figure 11 shows that all recharge sites are somewhat effective in achieving this objective. The Lake Walcott and Egin Lakes sites are most effective. Northside Canal, Milepost 31, Shoshone, Milner Gooding Canal, Snake River Valley, Idaho, New Sweden, and Fremont Madison West display an intermediate level of effectiveness. Some of the Southwest Irrigation District effects are delayed beyond 30 years, therefore resulting in a smaller value for that system.

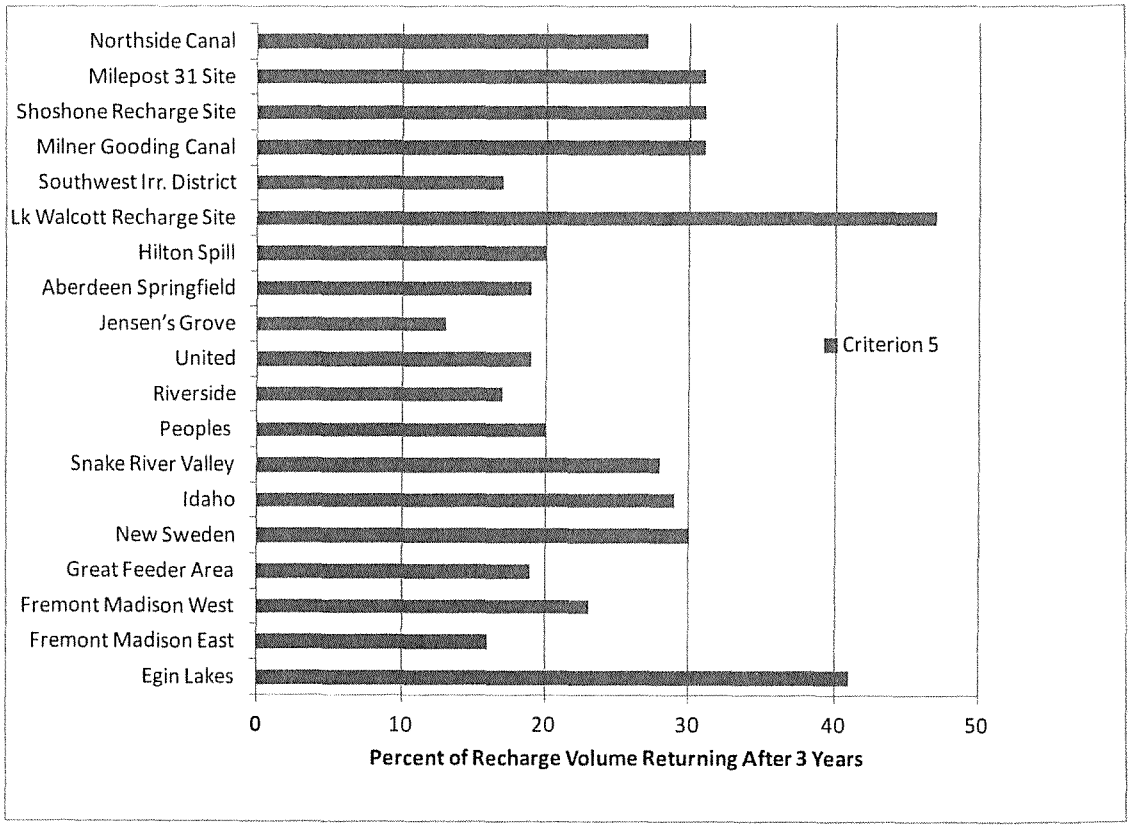


Figure 11. Objective 5 effectiveness, as measured by Criterion 5. The graph shows the percentage of one month's recharge volume returning to the Snake and Henrys Fork rivers above Minidoka Dam between 3 and 30 years after the recharge occurred.

Objective 6 (Increase Aquifer Water Levels Near A&B Irrigation District Over Extended Periods) Evaluation

The effectiveness of recharge at the prescribed sites to increase aquifer water levels in the A and B Irrigation District area is evaluated using Criterion 6. This criterion determines the average increase in aquifer water level (in feet) in four model grid cells within the A and B Irrigation District that results from 10 years of continuous recharge at a rate of 100,000 AF per year at a specified recharge site. The results are shown in Figure 12 and show three basic levels of effectiveness. The nearby Lake Walcott Recharge Site is most effective and has about double the impact of the next most effective locations. Northside Canal, Milepost 31 Site, Shoshone Site, and Milner Gooding Canal show similar levels of effect. All other recharge sites have well less than one foot of expected effect.

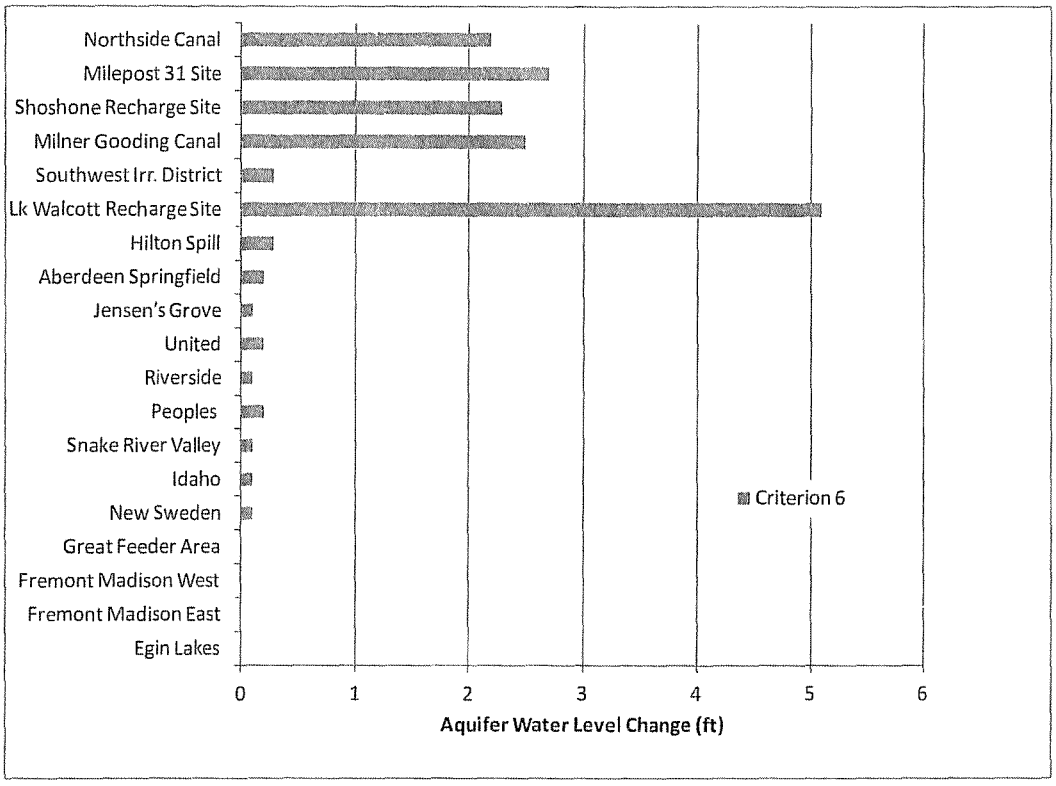


Figure 12. Objective 6 effectiveness as measured by Criterion 6. The graph shows the average water level change in four model cells within the A and B Irrigation District after 10 years of continuous recharge at a rate of 100,000 AF per year.

Exhibit
B

Number of days by Month when releases at Minidoka Dam were less than 2,700 cfs

Water Year	November	December	January	February	March	April	Total
1992	30	31	31	29	31	8	160
1993	30	31	31	28	31	29	180
1994	30	30	31	28	28	0	147
1995	30	31	31	28	31	17	168
1996	30	6	0	0	0	0	36
1997	17	12	0	0	0	0	29
1998	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0
2000	0	0	0	22	21	0	43
2001	30	28	31	28	31	13	161
2002	30	31	31	28	31	24	175
2003	30	31	31	28	31	20	171
2004	30	31	31	29	31	12	164
2005	30	31	31	28	31	29	180
2006	30	31	31	10	15	8	125
2007	30	18	3	28	31	7	117
2008	30	31	31	29	31	22	174
2009	30	31	31	28	31	7	158
2010	30	29	27	28	31	11	156
2011	30	31	5	0	8	0	74
2012	0	0	0	0	0		0
Average	23.7	22.1	19.4	19.0	21.1	10.4	115.1

IDAHO WATER RESOURCE BOARD

MEETING MINUTES 2-12

Idaho Water Center
322 E. Front Street
Boise, Idaho 83702

January 27, 2012

Chairman Terry Uhling called the meeting to order at 8:30 am. Board member Chuck Cuddy was absent. A quorum was present.

Agenda Item No. 1, Roll Call

Board Members Present

Terry Uhling, Chairman	Roger Chase, Vice-Chairman
Bob Graham, Secretary	Leonard Beck
Vince Alberdi	Jeff Raybould
Peter Van Der Meulen	Chuck Cuddy, *Absent*

Staff Members Present

Brian Patton, Planning Bureau Chief	Helen Harrington, Planning Section Manager
Gary Spackman, Interim Director	Rich Rigby, Federal Liaison
Jack Peterson, Federal Liaison	Rick Raymondi, Technical Bureau Chief
Cynthia Bridge Clark, Engineer	Neeley Miller, Planner
Dan Nelson, Hydrologist	Bill Quinn, Engineer
Diana Ball, Administrative Assistant	

Guests Present

Jim Wrigley, Wedbush Securities	Shelley Davis, Barker, Rosholt & Simpson
Candice McHugh, IGWA Counsel	Brian Olmstead, Twin Falls Canal Company
Peter Anderson, Trout Unlimited	Lynn Tominaga, IGWA
Ralph Isom, IGWA Palisades	Bill Block, J-U-B Engineers
Janet Reis, Jughandle HOA	Wayne Solomon, Jughandle HOA
Warren Drake, Jughandle HOA	Walt Poole, IDFG
Hal Anderson, Idaho Water Engineering	
Dale Swenson, Fremont Madison Irrigation District	
Keith Espley, Eastern Snake Plain Recharge Alliance	

Agenda Item No. 2. Agenda and Approval of Minutes

There were no changes to the agenda.

Mr. Roger Chase made a motion to accept Minutes 6-11, 7-11, 8-11, and 1-12 as submitted. Mr. Bob Graham seconded the motion. Voice vote. All were in favor. Motion carried.

Agenda Item No. 3. Public Comment

Chairman Uhling asked for public comment regarding any items not included on the agenda.

Mr. Keith Espley, Eastern Snake Plain Recharge Alliance (ESPRA) and Blackfoot area canals, addressed the Board about the goals of ESPRA and provided graphs showing ESPRA fall recharge efforts and Egin recharge site projections.

Mr. Ralph Isom, IGWA and president of Palisades Water Group, addressed the Board regarding mitigation solutions using aquifer recharge and recharge credits.

Mr. Brian Olmstead, Twin Falls Canal Company manager, addressed the Board concerning potential recapture of the canal system water and the desire to improve system efficiencies, possibly with the help of Board funds to assist in aquifer recharge.

Mr. Lynn Tominaga, IGWA, thanked the IWRB for allowing IGWA to partner last year for aquifer recharge and expressed their intent to partner again this year.

Mr. Dale Swenson, Fremont Madison Irrigation District, thanked the IWRB for their $20,000 contribution to the upper valley cloud seeding program. They allocated $2,000 for public relations to expand their donation base and hired a public relations individual, which has been a big help for long-term effort of the program. Chairman Uhling thanked Mr. Swenson for working with the Board on this program.

Agenda Item No. 4. IWRB Committee and Other Reports

a. Water Resource Planning (*Leonard Beck, Chair; Helen Harrington, Staff)*

The Committee held two meetings since the last Board meeting and there will be another Committee meeting immediately following this Board meeting. The Committee has reviewed all of the draft policies with exception of the Snake River basin. They are currently working with the Attorney General's office and Department staff to finalize the Snake River Basin revisions for review by the full Board and public comment. A meeting will be planned for public comment on the Snake River Basin policies. The Department received extensive public comments on the Snake River Basin policies. The Department will hold public hearings across the state after the Board accepts the proposed State Water Plan revision.

b. Stream Flow Committee (*Roger Chase, Chair; Helen Harrington, Staff)*

The Committee met on December 5 to review and make recommendations on several water transactions. The full Board will consider the recommended transactions for approval.

The Board's Cocolalla mininum lake level application was discussed. The Department held a public hearing and issued a permit for this minimum lake level during the process. Legislation was introduced in the current legislative session to approve the permit. Mr. Bob Graham commented that a hearing was held in northern Idaho for the minimum lake level application and there was no opposition. Ms. Harrington confirmed that the permit was unanimously supported at that hearing.

There are currently two pending protests that were filed by the IWRB for transfer applications in the Big Wood Basin. All these protests have been resolved either through conditions on the permit or the protests were withdrawn. The two pending protests are located in the Salmon River Basin.

c. Water Supply Bank and Rental Pools (*Vince Alberdi, Chair; Monica Van Bussum, Staff)*

The Water Supply Bank Committee met twice since the last regular Board meeting. On December 22, 2011, the Committee met and discussed an amendment to the WD65 rental pool procedures to allow Idaho Power to rent water. The IWRB held a meeting immediately after the Committee meeting to consider taking action on the Committee's recommendation for changes to the WD65 Rental Pool procedures. Another Committee meeting was held in January 2012 to update the Board on general Water Supply Bank activities.

Water Supply Bank rental activity increased last year resulting in increased funding for the Bank. The lease application fee was approved by the Legislature in April 2011, which also resulted in increased funding for the Bank. The Committee discussed lease renewal terms. The Department has been processing new leases and lease renewals for maximum 5-year terms with subsequent 5-year renewal periods. The Committee also discussed the opportunity for adding additional revenue by increasing the administrative fee for the Department, mostly through changing the rental fee structure. The Committee requested several rental fee structures be presented at a later date for assessment. The Committee is recommending the current rental rate of $14 / ac-ft be increased to be consistent with the Nez Perce Agreement for flow augmentation. That fee is due to increase to $17 / ac-ft in 2013. The Committee recommended increasing the current Water Supply Bank rental fee to $17 / ac-ft, which will likely be brought before the full Board for action at the March meeting.

d. Financial Programs (*Bob Graham, Chair; Brian Patton, Staff)*

The Financial Committee met on November 2, 2011, and reviewed current IWRB policy on grants and interest rates and loan terms. The Committee recommends that both of those remain unchanged at this time. The Committee also discussed modifying the terms of the Pristine Springs loan. Those modifications were acted on by the full IWRB at a special meeting on January 11, 2012. The Committee recommended that up to $200,000 per year from the Pristine Springs hydropower revenues and rental income and / or Dworshak hydropower income be directed to provided seed money to undertake projects related to the RP CAMP or TV CAMP or potentially future CAMPS that may be completed, with the conditions that the income balance above that amount from those two sources should be placed in a fund and be reviewed at the end of three years by the Finance Committee. The full IWRB would approve individual project expenditures. If the reserve accounts need to be drawn down for repair or replacements, the reserve funds would be built up again before money was used for the CAMP projects.

Mr. Graham commented that lowering loan interest rates was discussed, but the Committee recommended the loan interest rate remain unchanged at this time.

Mr. Patton confirmed that the CAMP funds would be placed in an interest-bearing account, likely the Revolving Development Account or the Secondary Aquifer fund. Staff will research the best mechanism for those funds.

e. Upper Snake River Advisory (Operations Forum) (*Roger Chase, Board; Rich Rigby, Senior Advisor)*

Several Operations Forum meetings have been held, and a recommendation was made that the Bureau of Reclamation could back off on releases above Milner. Another meeting is scheduled for next Wednesday, February 1. There has been a 20 percent increase in snowpack in the past week in the Boise area. As of Monday, January 23, the upper Snake has been in the 80s. As of January 26, approximately 1,054,000 ac-ft of space remained unfilled in the reservoirs, with about 100,000 ac-ft in Ririe and Lake Walcott for operational and flood control reasons to comply with requirements. Jackson is about 9,000 ac-ft down more than needed for flood control. Between American Falls, Jackson, and Palisades, there is about 930,000 ac-ft available; Palisades is only 163,000 ac-ft from full at 86%; American Fall is at 67%.

Mr. Jeff Raybould asked when the Bureau of Reclamation will make releases out of Palisades for flood control. Mr. Rigby replied that space requirements must be met by March / April.

Mr. Roger Chase commented on mild winter conditions in eastern Idaho and asked if there would be an opportunity to recharge the aquifer sooner this year. Mr. Rigby replied that if there is a low snowpack, the reservoirs should fill. The Board's recharge right will likely be on in March / April.

Mr. Raybould stated that technically the Board's right would be on now. Mr. Patton confirmed that it is, but there's no way to deliver it.

Agenda Item No. 5. IWRB Financial Program (*Brian Patton, Staff)*

The Ground Water Districts Bond update was moved to the front of the order to accommodate Mr. Jim Wrigley's schedule.

Mr. Bob Graham made a recommendation on behalf of the Financial Committee to move $200,000 into the Revolving Development Account when Pristine and Dworshak reserve funds exceed the reserve limit to be allocated to the Rathdrum Prairie and Treasure Valley CAMPs and future CAMPs. Mr. Chase made a motion to move an amount up to $200,000 subject to the recommended conditions. Mr. Jeff Raybould seconded the motion. Chairman Uhling called for a voice vote. All were in favor. Motion carried.

a. Status Report (*Brian Patton, Staff*)

Photos were provided showing progress on the Lardo Dam Upgrade Project. The IWRB loaned approximately $700,000 for this project.

There is currently approximately $16 million committed but not yet disbursed, approximately $17.7 million in loan principle outstanding, and a total uncommitted balance of approximately $4.3 million.

Packsaddle HOA paid their Board loan in full.

b. 2011 Annual Report (*Brian Patton, Staff*)

A draft report was provided for review. The final report will be sent to Board members prior to distribution to the Legislature.

c. Ground Water Districts Bonds Update (*Jim Wrigley, Advisor)*

The Series 2012A and 2012B Ground Water Districts Bonds sold on January 18. This was the first time that a rated irrigation bond is in the market in Idaho. The 2012 Series A is tax-exempt for years 2024-2032, with a total amount of $17,960,000; the 2012 Series B is taxable for years 2012-2024. Idaho entities purchased approximately $9.8 million, with the possibility of another Idaho institution purchasing an additional $500,000.

Mr. Wrigley distributed pages from the closing numbers set, along with a breakdown of the impact to the ground water districts. He also discussed bond insurance options that were considered but not pursued.

d. Jughandle HOA Estates Loan (*Dan Nelson, Staff*)

A loan request in the amount of $907,552 for Valley County LID #1, aka Jughandle Estates HOA, for new well and delivery system was presented for consideration. At March 26, 2010, IWRB meeting, Jughandle Estates HOA requested a loan for $881,000 for this project. The IWRB requested that Jughandle form an LID to provide additional security for this loan. Staff recommended a loan in the amount of $907,552 at 6% interest for a 20-year term with the conditions listed in the resolution.

Warren Drake, Jughandle HOA president, addressed the Board and answered questions from the Board regarding the number and values of the homes and loan terms and rates.

Janet Reis, Jughandle HOA, addressed the Board to thank them for their consideration of the loan and emphasized the importance of the project for the value of their properties.

Mr. Leonard Beck made a motion to approve the loan with the conditions of the resolution for 20 years at 6%. Mr. Vince Alberdi seconded the motion.

Roll Call Vote: Mr. Alberdi: Aye; Mr. Chase: Aye; Mr. Beck: Aye; Mr. Raybould: Aye; Mr. Van Der Meulen: Aye; Mr. Graham: Aye; Mr. Uhling: Aye; Mr. Cuddy: Absent. 7 Ayes; 1 Absent. Motion carried.

e. Water Transactions Program (*Helen Harrington, Staff)*

Six separate water transaction projects were presented to the Board for consideration.

Lower Lemhi Cerise

The State of Idaho has committed to maintaining flows between 25 and 35 cfs at the L-6 diversion. The 35 cfs flows provide for out-migration in the spring and 25 cfs provides for in-migrating adults in the mid- to late-summer. Staff proposes purchasing the easement using CBWTP and Accord funding, at a price of $86,000 per cfs and $11,500 per cfs for permanent administration. The total cost would be $371,500 for the water and $49,680 for the administration. The administration funding would be placed into the Board's Revolving Development Water Transactions sub-account for contracting with WD74.

Mr. Jeff Raybould made a motion to approve the Lower Lemhi Cerise resolution as presented. Mr. Peter Van Der Meulen seconded the motion.

Roll Call Vote: Mr. Alberdi: Aye; Mr. Chase: Aye; Mr. Beck: Aye; Mr. Raybould: Aye; Mr. Van Der Meulen: Aye; Mr. Graham: Aye; Mr. Uhling: Aye; Mr. Cuddy: Absent. 7 Ayes; 1 Absent. Motion carried.

Lower Lemhi Annual

This annual agreement proposes to meet the flow target of 35 cfs at the L6 diversion. Staff proposes another set of one-year agreements not to divert 11.9 cfs to meet the target. Payment is based on the number of days the irrigators are turned off. Compensation is $80.65/24-hour cfs. Funds are provided to the Board from the Idaho Fish Accord (Accord) Water Transactions Fund. Funding for administration by the WD 74 Watermaster will come from the Accord and funds placed in the Board's Revolving Development Water Transactions sub-account, in proportion to the flows secured by each method ($4,077 for the annual and $8,723 from the Revolving Development Account). The agreements not to divert contracts will not exceed $47,583.50 with no more than $12,800 in administration costs.

Mr. Roger Chase made a motion to approve the Lower Lemhi Annual resolution not to exceed $47,583.50 with no more than $12,800 in administration costs. Mr. Vince Alberdi seconded the motion.

Roll Call Vote: Mr. Alberdi: Aye; Mr. Chase: Aye; Mr. Beck: Aye; Mr. Raybould: Aye; Mr. Van Der Meulen: Aye; Mr. Graham: Aye; Mr. Uhling: Aye; Mr. Cuddy: Absent. 7 Ayes; 1 Absent. Motion carried.

Sulphur Creek

Sulphur Creek is a tributary in the Pahsimeroi Basin currently occupied by sculpin and rainbow/steelhead. The Nature Conservancy will purchase an easement that permanently commits the new owners to protect and restore habitat on the ranch. One component of the restoration plan includes the permanent retirement of a portion of the Sulphur Creek water rights. Approximately 100 acres of irrigated ground (1.07 cfs) will be retired with the purpose of removing pivot crossings, making ranch operations more efficient, and restoring stream flow in Sulphur Creek.

In order to protect the flow instream, the water right owners intend to donate the rights to the IWRB to put into the Water Supply Bank. If approved, the IWRB can then rent the water rights out for delivery to the Pahsimeroi River minimum stream flow right. While the rights are a donation, the Deputy Attorney General has advised that the IWRB will need to purchase the rights for a nominal fee of $10.00 to make the contract legal. The IWRB will also need funding to pay for permanent administration of the rented water.

Staff proposes that the Board accept the water right donation (purchase the right) and seek $12,305 ($11,500 per cfs as in similar transactions) in funding through the Idaho Fish Accords for permanent administration of the rental. Those funds can be used to pay the annual assessment to WD73 or for a one-time payment to the District for permanent administration.

Mr. Roger Chase made a motion to approve the resolution to pay the nominal fee of $10.00 for the water right with the conditions of the resolution. Mr. Jeff Raybould seconded the motion.

Roll Call Vote: Mr. Alberdi: Aye; Mr. Chase: Aye; Mr. Beck: Aye; Mr. Raybould: Aye; Mr. Van Der Meulen: Aye; Mr. Graham: Aye; Mr. Uhling: Aye; Mr. Cuddy: Absent. 7 Ayes; 1 Absent. Motion carried.

Mr. Jeff Raybould made a motion to approve the resolution to expend $12,305 for permanent administration of the rental of this water right. Mr. Peter Van Der Meulen seconded the motion.

Roll Call Vote: Mr. Alberdi: Aye; Mr. Chase: Aye; Mr. Beck: Aye; Mr. Raybould: Aye; Mr. Van Der Meulen: Aye; Mr. Graham: Aye; Mr. Uhling: Aye; Mr. Cuddy: Absent. 7 Ayes; 1 Absent. Motion carried.

Bayhorse

Bayhorse Creek is a Salmon River tributary upstream of Challis, Idaho, which supplies cold-water refugia for juvenile salmonids and cold water plume into the Salmon River. Bayhorse Creek also provides habitat for spawning and rearing summer steelhead and resident westslope cutthroat trout.

In order to protect the flows instream and minimize the financial impact of pumping ground water on the Ranch, staff proposes entering into a 20-year agreement not to divert. The cost of the agreement is based on pumping cost estimates over 20 years – $38,410.20. Funds would be requested from CBWTP to be placed into the Board's Revolving Development Water Transactions sub-account to be paid out annually.

Mr. Roger Chase made a motion to approve the Bayhorse Creek resolution to enter into a 20-year agreement to pay pumping costs for $38,410.20. Mr. Vince Alberdi seconded the motion.

Roll Call Vote: Mr. Alberdi: Aye; Mr. Chase: Aye; Mr. Beck: Aye; Mr. Raybould: Aye; Mr. Van Der Meulen: Aye; Mr. Graham: Aye; Mr. Uhling: Aye; Mr. Cuddy: Absent. 7 Ayes; 1 Absent. Motion carried.

Alturas Lake Creek

Staff requests the Board consider entering into an agreement to expend up to $18,000 in interest funds from the Revolving Development Account – Water Transaction subaccount to complete an appraisal on the purchase of a portion of two water rights owned by Katie Breckenridge and Rob Struthers. The Board has had contracts on these water rights since 2006. The water right owners are considering selling the water rights appurtenant to 45 acres, approximately 2.66 cfs. There were initial discussions to try to come to an agreement on the value of the water rights to determine if the Board wanted to pursue purchasing the water rights. The estimated cost of the appraisal is between $13,000 and $18,000.

There was discussion on the current diversion, the appraisal cost, and the value of the water rights to the Board's water transaction program.

Mr. Roger Chase made a motion to not approve the resolution to expend funds for an appraisal of the Alturas Lake Creek water rights at this time pending further information on this matter. Chairman Uhling deferred the matter to the Stream Flow Committee for further discussion.

Pole Creek

Staff is requesting the Board approve an extension of the 2011 contract to allow the water right owner, Salmon Falls Land & Livestock, time to complete development of a flow and habitat restoration plan for consideration. No funds were expended last year and the funds are still available to fund another one-year transaction.

Mr. Peter Van Der Meulen made a motion to approve the resolution to extend the 2011 Pole Creek transaction for $50,000. Mr. Roger Chase seconded the motion.

Roll Call Vote: Mr. Alberdi: Aye; Mr. Chase: Aye; Mr. Beck: Aye; Mr. Raybould: Aye; Mr. Van Der Meulen: Aye; Mr. Graham: Aye; Mr. Uhling: Aye; Mr. Cuddy: Absent. 7 Ayes; 1 Absent. Motion carried.

Agenda Item No. 6. RP CAMP Update (*Helen Harrington, Staff)*

The Board approved the RP CAMP in July 2011. The Plan was submitted to the 2012 Legislature and introduced as HB 396. Mr. Patton gave a brief overview of the RP CAMP and process to the House Resource Committee prior to the bill being introduced.

Mr. Bob Graham commented that in the first paragraph, last sentence, the phrase "is required" implies the Legislature must be adopted. Staff agreed that the language should be changed to reflect that the plan should be "considered" by the Legislature.

There is an H2O Breakfast meeting scheduled to be held in Coeur d'Alene on February 9 at the Coeur d'Alene Resort. This is a locally driven effort to bring together the two states and have a keynote talk about regional cooperation and collaboration. This event is planned by members from both Idaho and Washington. There are several members of the RP CAMP Advisory Committee participating, and Interim Director Gary Spackman will also be participating.

Chairman Uhling requested that any materials provided at the meeting be shared with the Board.

Agenda Item No. 7. TV CAMP Update (*Helen Harrington, Staff)*

The TV CAMP Advisory Committee has been meeting since 2010. At the last Advisory Committee meeting on January 5 resulted in a review of the entire draft TV CAMP document with consensus on the entire plan with the exception of the portion related to the Municipal Water Rights Act 1996 also known as RAFN (Reasonably Anticipated Future Needs). Two actions were presented to the Board for consideration.

Staff requested the Board appoint Vern Case to the Advisory Committee as a permanent replacement for Gayle Batt who was permanently appointed to the Idaho Legislature.

Staff requested the Board appoint Ben Kennedy to the Advisory Committee as a permanent replacement for Michelle Atkinson. Ben replaced Michelle in her position at Micron Technology and the request was made for Ben to replace Michelle on the TV CAMP Advisory Committee.

Mr. Leonard Beck made a motion to appoint Vern Case and Ben Kennedy as permanent members of the TV CAMP Advisory Committee. Mr. Bob Graham seconded the motion. Voice vote. All in favor. Motion passed.

Agenda Item No. 8. ESPA CAMP and Aquifer Management Efforts Update (*Rich Rigby, Senior Advisor)*

At the work session on January 27, staff proposed identification and reservation of funds for managed recharge. Deputy Attorney General Clive Strong suggested that $3.00 / ac-ft is not an absolute; the resolution states $300,000 / year, not $3.00 / ac-ft. There was a discussion on historical and future recharge fees. Chairman Uhling emphasized that the goals of the Board are to try to make it as reasonable as possible to fund the cost of wheeling water. He also stated that the Board's goal is to help the communities and the ESPA have a long-term, generational, sustainable water supply. He emphasized the need to work together to solve as many problems as possible as efficiently as possible, and the Board will help to the extent that it makes sense in the Board's fiduciary capacity. The Board is working to be constructive on the ESPA program and long-term, sustainable projects and it requires the help of the participants. Mr. Rigby emphasized that they need active participation from the water users.

Mr. Van Der Meulen asked about a cost plus basis for wheeling fees. Mr. Rigby stated they would be looking at that option. The resolution identifies implementation of the CAMP goal of 100,000 ac-ft on average for 5 years, the pilot program, and IWRRI's role to advise where to recharge to create the best benefits for the ESPA. IWRRI was selected because they are independent scientists that can provide unbiased recommendations. This program only involves natural flow water not stored water and does not compete with the rental pool program. Nothing in this decision precludes independently funded recharge efforts consistent with Idaho state law.

There is a need to emphasize the AWEP program on the ESPA. There is $2 to $4 million in funds for projects this year, and they need to be identified by March. Chairman Uhling emphasized the benefit of the 75 / 25 split to the state and encouraged identifying those projects.

The Board is signaling to the water user community that the Board is trying to meet the target of 100,000 ac-ft of recharge, allocating dollars over a 5-year period for a pilot project, measure, monitor, and select good sites using a scientific based process that will help the Board make good decisions. Future recharge conversations

should focus on good projects providing good benefits on the ESPA that the Board can take up in a timely manner.

When the IWRRI report is complete, the full Board will make a final decision after considering a number of factors. The funding allocation is $300,000 per year for a 5-year period and the Board will decide the best way to utilize the dollars to provide the best benefit to the state on the ESPA.

Mr. Peter Van Der Meulen made a motion to approve the ESPA pilot program resolution. Mr. Vince Alberdi seconded the motion.

Roll Call Vote: Mr. Alberdi: Aye; Mr. Chase: Aye; Mr. Beck: Aye; Mr. Raybould: Aye; Mr. Van Der Meulen: Aye; Mr. Graham: Aye; Mr. Uhling: Aye; Mr. Cuddy: Absent. 7 Ayes; 1 Absent. Motion carried.

Chairman Uhling stated that in the second bullet point of the resolution there should be a period after the 100,000 ac-ft per year. The resolution was changed.

Staff developed a matrix and identified four projects: A&B Irrigation District ground water to surface water partial conversion, two Magic Valley Storage Conservation Projects, and an Upper Valley Cloud Seeding project. The chart should be changed to show Box # 16 as red to identify that the project does not have a stakeholder champion. Box 17 should be green.

Agenda Item No. 9. Water Storage Studies Update (*Cynthia Bridge Clark, Staff)*

Lower Boise Interim Feasibility Study

Results of the proposed Arrowrock Dam site concept, ranked #1 in the Water Storage Screening Analysis completed in August 2010. The Corps performed the new technical analysis to identify any fatal flaws in response to a minimal amount of federal funding received to continue progress on the project. There were no geologic or engineering constraints identified that would discount one concept over another, but the Corps did recommend that further study of raising the existing Arrowrock Dam would be a reasonable approach if only one of the concepts is pursued. Additional federal funding would fund evaluation of construction material survey and hydrologic and hydraulic analysis. Results of the analysis are reflected in the *Lower Boise River Interim Feasibility Study, Preliminary Evaluation of Arrowrock Site, October 2011* (report). The report is available on the Corps' website: http://www.nww.usace.army.mil/boise/brifs/reports.asp . Staff provided a project status fact sheet.

Weiser Galloway

Staff discussed two new technical studies to address questions raised by the data gaps identified by previous reports: 1) the Weiser River Geologic Investigation and Analysis Project, and 2) the Snake River Operational Analysis Project. The studies are expected to be complete by fall 2013.

Geologic investigation activities are ongoing and include: site visits by members of the project technical team to develop a drilling plan, contract development between the Corps and the U.S. Bureau of Reclamation's regional drill crew, coordination with land owners to identify access routes and agreements, and initiation of an Environmental Assessment in the areas impacted by drilling activities in coordination with the BLM.

The bulk of the Operational Analysis will be delayed until results of the Geologic Analysis are available. Preliminary tasks were initiated, including updating of basin hydrology; identification of appropriate system optimization models; and identification of operational constraints. Coordination with Idaho Power Company and Reclamation has also been initiated.

Under a contract with the IWRB, airborne LiDAR and orthophotgraphy were collected for the project area. This data will support both of the studies and provide data for future flood mapping and other potential activities in the basin. High-resolution data was also collected at the potential dam site using a Terrestrial Laser Scanner (a powerful survey instrument designed to capture 3-D images of the earth's surface). This data was collected as part of an federal grant received by Idaho State University's Department of Geosciences and the Idaho National Laboratory to help develop and process remote-sensing technologies and to make that technology available to the public.

Henrys Fork Basin Study

Reclamation is currently performing a "reconnaissance level" evaluation and technical analysis of alternatives identified for further study. These include new or existing surface water storage projects, as well as managed ground water recharge, agricultural conservation and management, municipal and industrial conservation, and market based alternatives. Staff expects this evaluation will be complete and published by the end of July 2012.

Agenda Item No. 10. Water Supply Update (*Rick Raymondi, Staff)*

Current water levels for the state as of January 23 indicate a La Nina winter pattern, which normally brings wet, cool conditions in the Northwest. Most basins are less than 100% but conditions significantly improved since January 16. As of January 1, the stream flow forecast was at a range of 70 to 89% of normal for most of the state. Reservoir capacity in the Boise and Payette systems are at approximately 68%; most reservoirs are above normal for the year. If La Nina patterns continue, peak capacity should reach 800,000 ac-ft of storage in the Boise system and 700,000 ac-ft in the Payette system. The upper Snake is currently at 74% capacity and the releases below Milner is approximately 3,400 cfs.

Projections for the one-month outlook are for equal chances for above or below normal temperatures and above or below normal precipitation. The three-month outlook indicates above normal precipitation.

The Water Supply Committee meets monthly. The next meeting will be February 9 at 10:00 am at the Idaho Water Center. Presentations from the meetings are available on the website: http://www.idwr.idaho.gov/WaterInformation/WaterSupply/supply.htm

Agenda Item No. 11. Director's Report (*Gary Spackman, Interim Director)*

Mr. Spackman recently presented Department accomplishments to the House Resources Committee and to the Idaho Water Users Association, emphasizing the accomplishments of the IWRB. The JFAC budget presentation will be January 31 and Board member Roger Chase will be presenting with Mr. Spackman. Mr. Chase also gave a presentation with Mr. Spackman to the co-chairs of JFAC on January 25.

There was a discussion on the $1.2 million transfer from the Revolving Development Account to the Secondary Aquifer Management fund. Payment of fees for the Board's minimum flow rights will be paid from general funds designated for the North Idaho Adjudication. No additional funds will be allocated for the filing fees for these minimum flow rights. Federal stimulus program for the Board and the Department has come in the form of Jack Peterson, BLM, and Rich Rigby, BOR. Jack has retired from the BLM, but the Governor designated money in the Department budget for FY2012 and FY2013 to fund Jack's position as a temporary state employee. Jack will continue to support the Weiser-Galloway project and the Mountain Home water supply project. Rich's contract with the Department will expire the end of July 2012.

Current legislation from the Idaho Petroleum Council is proposing new language for redefining water, specifically ground water, and exemptions from permitting for activities in low temperature geothermal or geothermal waters. The Department is currently negotiating these issues.

There was a brief discussion on future CAMP activities, including the Wood River Basin and the Pullman-Moscow area.

Agenda Item No. 12. Other Items Board Members May Wish to Present

Chairman Uhling asked about tracking of water conservation measures by the Department. Mr. Patton stated that there are no current efforts directed to track these numbers, but staff will look at tracking possibilities and provide a report back to the Board.

Agenda Item No. 13. Next Meeting and Adjourn

The next regular IWRB Meeting is scheduled for March 16 at the Water Center in Boise, Idaho, with a work session scheduled for March 15 at the same location. The following meeting is scheduled for May 17 and 18 with a place not yet determined. A Water Resource Planning Committee will immediately follow the Board meeting. Three Board members are scheduled to be confirmed by the Senate: Bob Graham, Jeff Raybould, and Peter Van Der Meulen. The IWRB Meeting 2-12 was adjourned at 12:10 pm.

Respectfully submitted this _____ day of _____, 2012.

_____
Bob Graham, Secretary

_____
Diana Ball, Administrative Assistant

Board Actions:

1. Mr. Roger Chase made a motion to accept Minutes 6-11, 7-11, 8-11, and 1 12 as submitted. Mr. Bob Graham seconded the motion. Chairman Uhling called for a voice vote. All were in favor. Motion carried.

2. Mr. Roger Chase made a motion to move an amount up to $200,000 subject to the recommended conditions. Mr. Jeff Raybould seconded the motion. Chairman Uhling called for a voice vote. All were in favor. Motion carried.

3. Mr. Leonard Beck made a motion to approve the Jughandle Estates HOA loan with the conditions of the resolution for 20 years at 6%. Mr. Vince Alberdi seconded the motion.

   Roll Call Vote: Mr. Alberdi: Aye; Mr. Chase: Aye; Mr. Beck: Aye; Mr. Raybould: Aye; Mr. Van Der Meulen: Aye; Mr. Graham: Aye; Mr. Uhling: Aye; Mr. Cuddy: Absent. 7 Ayes; 1 Absent. Motion carried.

4. Mr. Jeff Raybould made a motion to approve the Lower Lemhi Cerise resolution as presented. Mr. Peter Van Der Meulen seconded the motion.

   Roll Call Vote: Mr. Alberdi: Aye; Mr. Chase: Aye; Mr. Beck: Aye; Mr. Raybould: Aye; Mr. Van Der Meulen: Aye; Mr. Graham: Aye; Mr. Uhling: Aye; Mr. Cuddy: Absent. 7 Ayes; 1 Absent. Motion carried.

5. Mr. Roger Chase made a motion to approve the Lower Lemhi Annual resolution as presented. Mr. Vince Alberdi seconded the motion.

   Roll Call Vote: Mr. Alberdi: Aye; Mr. Chase: Aye; Mr. Beck: Aye; Mr. Raybould: Aye; Mr. Van Der Meulen: Aye; Mr. Graham: Aye; Mr. Uhling: Aye; Mr. Cuddy: Absent. 7 Ayes; 1 Absent. Motion carried.

6. Mr. Roger Chase made a motion to approve the Sulphur Creek resolution to pay a nominal fee of $10.00 for the water right with the conditions of the resolution. Mr. Jeff Raybould seconded the motion.

   Roll Call Vote: Mr. Alberdi: Aye; Mr. Chase: Aye; Mr. Beck: Aye; Mr. Raybould: Aye; Mr. Van Der Meulen: Aye; Mr. Graham: Aye; Mr. Uhling: Aye; Mr. Cuddy: Absent. 7 Ayes; 1 Absent. Motion carried.

7. Mr. Jeff Raybould made a motion to approve the Sulphur Creek resolution to expend $12,305 for permanent administration of the rental of this water right. Mr. Peter Van Der Meulen seconded the motion.

   Roll Call Vote: Mr. Alberdi: Aye; Mr. Chase: Aye; Mr. Beck: Aye; Mr. Raybould: Aye; Mr. Van Der Meulen: Aye; Mr. Graham: Aye; Mr. Uhling: Aye; Mr. Cuddy: Absent. 7 Ayes; 1 Absent. Motion carried.

8. Mr. Roger Chase made a motion to approve the Bayhorse Creek resolution to enter into a 20-year agreement to pay pumping costs for $38,410.20. Mr. Vince Alberdi seconded the motion.

   Roll Call Vote: Mr. Alberdi: Aye; Mr. Chase: Aye; Mr. Beck: Aye; Mr. Raybould: Aye; Mr. Van Der Meulen: Aye; Mr. Graham: Aye; Mr. Uhling: Aye; Mr. Cuddy: Absent. 7 Ayes; 1 Absent. Motion carried.

9. Mr. Roger Chase made a motion to not approve the resolution to expend funds for an appraisal of the Alturas Lake Creek water rights at this time pending further information on this matter. Chairman Uhling deferred the matter to the Stream Flow Committee for further discussion.

10. Mr. Peter Van Der Meulen made a motion to approve the resolution to extend the 2011 Pole Creek transaction for $50,000. Mr. Roger Chase seconded the motion.

    Roll Call Vote: Mr. Alberdi: Aye; Mr. Chase: Aye; Mr. Beck: Aye; Mr. Raybould: Aye; Mr. Van Der Meulen: Aye; Mr. Graham: Aye; Mr. Uhling: Aye; Mr. Cuddy: Absent. 7 Ayes; 1 Absent. Motion carried.

11. Mr. Leonard Beck made a motion to appoint Vern Case and Ben Kennedy as permanent members of the TV CAMP Advisory Committee. Mr. Bob Graham seconded the motion. Voice vote. All in favor. Motion passed.

12. Mr. Peter Van Der Meulen made a motion to approve the ESPA pilot program resolution. Mr. Vince Alberdi seconded the motion.

    Roll Call Vote: Mr. Alberdi: Aye; Mr. Chase: Aye; Mr. Beck: Aye; Mr. Raybould: Aye; Mr. Van Der Meulen: Aye; Mr. Graham: Aye; Mr. Uhling: Aye; Mr. Cuddy: Absent. 7 Ayes; 1 Absent. Motion carried.

IDAHO WATER RESOURCE BOARD

MEETING MINUTES 3-12

Idaho Water Center
322 E. Front Street
Boise, Idaho 83702

March 16, 2012

Chairman Terry Uhling called the meeting to order at 8:40 am. There were 7 Board members present. Mr. Graham was absent.

Agenda Item No. 1, Executive Session

At 7:55 am the Board resolved into Executive Session by unanimous consent pursuant to Idaho Code Section 67-2345(1)(c) and (f) to communicate with legal counsel regarding pending litigation in the SRBA and acquisition of real property not owned by the State. No action was taken by the Board during the Executive Session. The Board resolved out of Executive Session and into Regular Session at approximately 8:30 am.

Agenda Item No. 2, Roll Call

Board Members Present

Terry Uhling, Chairman	Roger Chase, Vice-Chairman
Vince Alberdi	Jeff Raybould
Peter Van Der Meulen	Leonard Beck
Chuck Cuddy	Bob Graham, *Absent*

Staff Members Present

Brian Patton, Planning Bureau Chief	Helen Harrington, Planning Section Manager
Rich Rigby, Federal Liaison	Jack Peterson, Federal Liaison
Cynthia Bridge Clark, Engineer	Diana Ball, Administrative Assistant

Guests Present

Peter Anderson, Trout Unlimited	Shelley Davis, Barker, Rosholt & Simpson
Candice McHugh, IGWA Counsel	Jim Wrigley, Wedbush Securities
Lynn Tominaga, IGWA	Hal Anderson, Idaho Water Engineering
Peter Anderson, Trout Unlimited	Jon Bowling, Idaho Power

Agenda Item No. 3, Agenda and Approval of Minutes 3-12

There were no changes to the agenda.

Minutes 2-12 were not complete and Chairman Uhling recommended they be considered at the next regular Board meeting in May.

Agenda Item No. 4, Public Comment

Chairman Uhling asked for public comment regarding any items not included on the agenda. There were no comments.

Agenda Item No. 5, IWRB Committee and Other Reports

a. **Water Resource Planning Committee** (*Leonard Beck, Chair*; *Helen Harrington, Staff)*

The Committee held a meeting on March 14 and another meeting is scheduled for March 28 in Boise. The purpose of the meetings is to have the Committee review the Snake River Policy revisions to the State Water Plan. The Committee has completed their review of the remaining sections. An initial presentation of the proposed Snake River section was conducted at the March 14 meeting. At the March 28 meeting, a more in-depth discussion is anticipated as is public comment. The entire draft section for the Snake River, along with the entire State Water Plan revision, will be presented to the full Board for review and consideration at a future Board work session. Future planning and CAMP activities were also discussed by the Committee. Ms. Harrington reiterated that Interim Director Gary Spackman directed that no new planning initiatives be started without certain conditions specific to funding.

Chairman Uhling asked about the timing of a Board work session to discuss the Snake River Policy revisions. There is no particular date scheduled at this time. Mr. Leonard Beck extended his thanks to Ms. Harrington, Mr. Patton, Mr. Clive Strong, and others who have assisted in the revision process.

b. **Stream Flow Enhancement and Minimum Stream Flow Committee** (*Roger Chase, Chair ; Helen Harrington, Staff*)

The Committee held a meeting on March 14. The Alturas Lake Creek water right transaction was discussed, and Katie Breckenridge, the water right owner, presented additional information on the water rights and potential use of that water. At the January 27 regular Board meeting, the Alturas Lake Creek transaction was discussed and the Board declined to fund an appraisal for that water right at that time. The Committee is recommending that the Board consider entering into an agreement with the water right owner to fund an appraisal of the Alturas Lake Creek water right. Details regarding payment for the appraisal will be drafted by staff and presented to the Board formally at the May 17 regular Board meeting.

Chairman Uhling confirmed that at this point there is no action required by the Board other than consent to pursue negotiations for an appraisal of the water rights. He wanted to clarify that the full Board has not approved any action in this matter and any future actions would be subject to Board approval. He stated that the decision still needs to be made as to whether purchase of the water right itself would be a good decision for the State and future discussion regarding the parameters and benefits will be necessary. Board members supported future discussion on this transaction to determine if there is a reason to pursue the water right prior to entering into an agreement for an appraisal of the water rights.

The Committee also discussed the 2012 Lower Lemhi River Annual contracts and will present a funding resolution to the Board under Agenda Item 6c. The Committee reviewed the resolution and is recommending it for approval by the Board.

The Committee discussed the Cocolalla Lake minimum lake level permit. The Board originally applied for a permit for a minimum lake level and the Department permitted it. Legislature approval is required for minimum lake level and minimum stream flow permits. If no action is taken by the Legislature, the permits are considered approved. Following the introduction of the Cocolalla Lake permit in the 2012 Legislature, opposition arose. An alternative resolution to disapprove the minimum lake level permit was submitted to the Legislature and has been passed by the Senate. The legislation is currently in the House. It came out of the House Resource Committee with a due pass recommendation for disapproval, and is currently on the third reading on the House agenda. Mr. Patton spoke to several of the Legislative committees and at the Senate committee meeting indicated that the Board would cancel the permit based on recent local opposition. It was emphasized that a public meeting and public hearing was held during the permitting process, and there was no opposition at that time.

There was discussion about canceling the permit prior to the Legislature disapproving it. The Senate Committee elected to disaffirm through active submission of an alternative resolution as recommended by Legislative services.

c. **Upper Snake River Advisory (Operations Forum)** (*Rich Rigby, Senior Advisor; Roger Chase, IWRB*)

A copy of the BOR teacup diagram was provided showing current reservoir levels for the eastern part of the state. The Advisory group has met monthly since October. Meetings have been productive and beneficial among water users. A meeting was held on March 5, and the next meeting is planned for April 6. This Forum was initiated through an IWRB resolution and is supported by Water District 1.

As of March 5, BOR reported that they need 400,000 additional acre-feet of space in Palisades by May 1. The releases from Palisades are expected to be approx 8,000 to 9,000 cfs. The peak flood control period for Palisades Reservoir is approximately April 25 to May 10. The BOR is targeting American Falls to be near full by April 1.

Agenda Item No. 6, IWRB Financial Program

a. Status Report (*Brian Patton, Staff*)

As of February 1, the Board has approximately $18.2 million committed but not yet disbursed, approximately $18 million in loan principle outstanding, and a total uncommitted balance of approximately $2.5 million.

Conant Creek Canal Company, located near Ashton, borrowed approximately $240,000 from the Board to match federal grant funds from the NRCS to convert the open canal to a gravity-pressure pipeline system. The loan has been paid in full a few years ahead of schedule.

The Board has received the surcharge proceeds from the Upper Snake, Boise, and Payette Rental Pools, totaling $435,341. Water District 65K has not reported but historically the amount remitted is very small. Approximately 525,127 acre-feet was rented in 2011 with $3,813,871 returned to the spaceholders and $592,212 held for Water District fees.

Potential loan applications coming to the Board total approximately $4.3 million from Marysville Canal Company, Cub River Irrigation Company, and Preston-Whitney Irrigation District. Mr. Patton also noted that there are usually several dozen loan applications being considered at any one time, but these three will likely to be addressed in the near future, with the Marysville loan application scheduled to be reviewed by the Board at the regular May Board meeting.

Mr. Beck requested that staff compile a list showing original startup loan dates on outstanding Board loans and scheduled completion dates.

There was a brief discussion on the expenditure of Board AWEP program funds and pending applications.

b. Ground Water Districts Bonds Update (*Brian Patton, Staff*)

Mr. Wrigley, Wedbush Securities, addressed the Board at the work session held on March 15. Southwest Irrigation District will be entering into the bond process with a 100% approval from their members. Mr. Dean Stevenson, representing the four ground water bond districts, Southwest Irrigation District, and IGWA addressed the Board and publicly thanked the Board for their assistance and partnership with the Board.

Mr. Stevenson also provided a brief update to the Board on the recharge site being developed near Minidoka Dam and extended his appreciation for Mr. Rich Rigby's assistance in working through the process with them. This project requires crossing 800 acres of bird refuge, which will add cost and regulatory issues to the process. He stated that the project will entail approximately a half mile of buried pipe and a lot of rock work. Mr. Stevenson invited the Board members to visit the site. There was discussion about visiting the site in conjunction with a future Board meeting to be held in the Magic Valley area.

c. Water Transactions Program – Lower Lemhi (*Helen Harrington, Staff*)

A correction to the briefing memo on the first line in the first paragraph of the memo to read Lower Lemhi "2012" agreement was noted. A resolution was presented to the Board to consider approval of an expenditure commitment in the amount of $29,860.15 in addition to the $52,483.50 approved by the Board on January 27, 2012, for a total commitment of $88,343.65. This funding is requested in an effort to meet the target flow of 35 cfs at the Lower Lemhi River L-6 diversion. The resolution in January was intended to meet the unmet target of 11.9 cfs. Because one planned project will not be completed this year, an additional annual rental of 4.32 cfs is needed to meet the state's flow target.

Mr. Raybould made a motion to accept the resolution to make a funding commitment for the Lower Lemhi 2012 Annual contracts. Mr. Alberdi seconded the motion.

Roll Call Vote: Mr. Cuddy: Aye; Mr. Alberdi: Aye; Mr. Chase: Aye; Mr. Beck: Aye; Mr. Raybould: Aye; Mr. Van Der Meulen: Aye; Mr. Uhling: Aye; Mr. Graham: Absent. Motion carried.

Agenda Item No. 7, Water Supply Bank Rental Rate (*Brian Patton, Staff*)

The Water Supply Bank Committee met on January 10, 2012, and discussed increasing the current rental rate to be consistent with the Nez Perce flow augmentation rate, which will increase from $14 per acre foot per year to $17 per acre foot per year in 2013. The Nez Perce Agreement also increases the rate to $20 per acre foot from 2018 – 2022 and $23 per acre foot from 2023 – 2030. The Committee recommended that the Board support these increases by the approval of the resolution presented to them.

Mr. Alberdi made a motion to accept the resolution to establish the rental rate to be consistent with the Nez Perce Agreement. Mr. Raybould seconded the motion.

Roll Call Vote: Mr. Cuddy: Aye; Mr. Alberdi: Aye; Mr. Chase: Aye; Mr. Beck: Aye; Mr. Raybould: Aye; Mr. Van Der Meulen: Aye; Mr. Uhling: Aye; Mr. Graham: Absent. Motion carried.

Agenda Item No. 8, Rathdrum Prairie CAMP Update (*Helen Harrington, Staff*)

The Board adopted the Rathdrum Prairie Plan last July and it was submitted to the 2012 Legislature for approval. The House Resource Committee and the House passed it with some opposition. The Senate passed the legislation with no opposition on March 15. The RP CAMP Plan is currently awaiting the Governor's signature.

The H2O Breakfast Meeting, a regional water coordination meeting, was held on February 9 in Coeur d'Alene. Interim Director Spackman, along with Pat Mulroy, General Manager of the Southern Nevada Water Authority, and Ted Sturdevant, Director of the Washington Department of Ecology, were speakers at this meeting. Ms. Harrington was also in attendance. The Board had requested that any materials from the meeting be distributed at this Board meeting; there were no materials from the meeting. A copy of an article discussing the forum was attached to the Board's briefing memo.

Interim Director Spackman commented that following the adoption and approval of the RP Plan it might be beneficial to the Board for Deputy Attorney General Clive Strong to address the Board regarding the processes for addressing an interstate water dispute and the legal process involved in dispute resolution. Chairman Uhling asked staff to include this as a Board work session agenda item at a future meeting.

Agenda Item No. 9, ESPA CAMP and Aquifer Management Efforts Update (*Rich Rigby, Senior Advisor)*

There was a brief discussion about the high water condition that BPA is dealing with and concerns with high water, recharge, and reduced flows in the river. BPA decided to curtail wind generators and give them power to offset their lost production. Mr. Rigby drafted a letter to BPA encouraging recharge as an option and sent it on behalf of the Board. Instead, BPA proposed to reimburse wind generators for their lost tax credit revenue, which is based on megawatts generated.

a. Managed Recharge

The Board adopted a resolution on January 27 establishing a five-year pilot program to undertake managed aquifer recharge on the Easter Snake Plain Aquifer. The current resolution before the Board requests that for the first year of the 5-year pilot recharge program, the delivery contracts will cover a period of one year and that recharge will be divided 50/50 above and below American Falls Dam to the extent practical. For 2012, the pilot managed recharge project will be limited to recharging natural flow to avoid placing additional pressure on storage supplies above Milner Dam, and the Board will limit its recharge efforts to implementation of the ESPA CAMP managed recharge goal.

Mr. Chase made a motion to accept the resolution to change conditions associated with allocated funds for the ESPA managed recharge pilot program. Mr. Raybould seconded the motion. Voice vote. All in favor. To ensure the vote covered allocation of Board funds a roll call vote was also taken.

Roll Call Vote: Mr. Cuddy: Aye; Mr. Alberdi: Aye; Mr. Chase: Aye; Mr. Beck: Aye; Mr. Raybould: Aye; Mr. Van Der Meulen: Aye; Mr. Uhling: Aye; Mr. Graham: Absent. Motion carried.

b. MP31 Recharge Site

There was discussion on the proposal to expand the capacity of the MP31 recharge site. A correction was made to the information in the briefing memo on the first line of the second paragraph; the reference to "a six inch turnout" was corrected to "an 18-inch turnout" at the site. The total current cost estimate is $25,580 for materials, engineering would be $5,450, and in-kind labor from American Falls Reservoir District #2 would be $5,550, with a total estimated cost of $36,580. The resolution before the Board would authorize funds to cover the engineering work associated with this project. A cost share proposal will be presented to the Board at a future meeting. Chairman Uhling recommended "an amount not to exceed $6,000" in the resolution to ensure the engineering costs would be covered.

Mr. Chase made a motion to accept the resolution authorizing the expenditure of funds not to exceed $6,000 to cover the engineering costs associated with this project. Mr. Raybould seconded the motion.

Roll Call Vote: Mr. Cuddy: Aye; Mr. Alberdi: Aye; Mr. Chase: Aye; Mr. Beck: Aye; Mr. Raybould: Aye; Mr. Van Der Meulen: Aye; Mr. Uhling: Aye; Mr. Graham: Absent. Motion carried.

Agenda Item No. 10, TV CAMP Update (*Helen Harrington, Staff)*

A resolution was presented to the Board to accept the Recommended Treasure Valley Comprehensive Aquifer Management Plan submitted by the Treasure Valley CAMP Advisory Committee. The Committee found consensus on all elements of the submitted Recommended Plan with the exception of the language specific to the Municipal Water Rights Act of 1996. At the March 15 work session, the Board received a detailed presentation on the Plan, and a number of Advisory Committee members addressed the Board regarding this unresolved language. Ms. Harrington suggested that staff will be able to resolve this issue and find language that everyone can work with before it is approved for public comment. The Board does not have the option of putting out alternative sets of language for public comment according to the Attorney General staff. Moving forward, the final language will need to be included in the Plan that the Board adopts for public comment. The Draft Plan will then be taken out to the Board for a 60-day comment period and several public hearings will be held to cover the expansive area of the Treasure Valley.

Chairman Uhling recommended removing language from the resolution under the fourth paragraph "and public comment" until the final language has been determined. Ms. Harrington agreed and made the change and prepared the corrected resolution for signature.

Mr. Cuddy made a motion to accept the resolution as corrected to accept the Recommended Treasure Valley Comprehensive Aquifer Management Plan for consideration by the Board. Mr. Beck seconded the motion. Voice vote. All in favor.

Agenda Item No. 11, Water Storage Studies Update (*Cynthia Bridge Clark, Staff)*

Weiser-Galloway Project

Progress is being made on both the Geologic and Operations Studies, with the primary focus on the Geologic Study, which is intended to supplement drilling performed in the 1980s. The Corp has completed the basic drilling and exploration plan and is coordinating with the BOR and their regional drill crew located in Boise to drill up to 7 holes on the abutments approximately 150 to 300 feet deep. Cost estimates, scope of work, and agreements between the Corp, the BOR, and the IWRB should be completed by next week. Primary focus is also on the completion of the Environmental Assessment with the objective of moving forward by June 1. Chairman Uhling asked for clarification on when drilling would occur and how long it would take to get the analysis back. Ms. Clark stated the drillers expect to complete drilling within 4 months from the start date and preliminary results may be available while coring is being undertaken. The final report is expected to be complete by December 2012.

The Operational Analysis is being delayed until more progress has been made on the Geologic Analysis and the results are available. The Corp has updated basic basin hydrology, identification of modeling, and clarification of restraints and scenarios. The airborne LiDAR has also been received and is being reviewed.

Lower Boise River Interim Feasibility Study

The Corp completed an analysis for the potential for a raise or rebuild of the Arrowrock site in October 2011 and presented those results to the Board at that time. The Corp is continuing to seek out additional funding to continue study activities. Department staff are also actively coordinating with the Corp to participate in outreach activities related to the storage study with particular efforts to educate the public on flood risk in the valley. A series of public meetings will be initiated by the Corp and a presentation is planned for the Board at the May Board meeting.

Chairman Uhling asked for clarity on federal funding opportunities and asked if the Board can provide assistance. Ms. Clark stated that the next proposed step would be to look at source material issues or other major critical issues related to construction of the dam at the Arrowrock site. Mr. Patton clarified that the Board has allocated approximately $350,000 dollars in cash in addition to $500,000 in credit for prior work in planning efforts on the Boise River project. That credit was awarded through Congress through the passage of the Water Resource Development Act that authorized the Corp to move forward with this study. There is still credit available as well as a certain amount of cash available. The Department has been reluctant to spend this money until the Federal money is made available to ensure study activities will be ongoing. Chairman Uhling expressed concern over the timing of this project related to long-term planning for the state. He also commented that this project seems to be a potentially good proposal that meets a number of needs and more information is needed. Chairman Uhling suggested that the reallocation of money allocated by the Board be revisited to assist in future project efforts. Mr. Raybould asked how much in specific funding would be needed to move forward with study efforts. Ms. Clark stated that depends on how they decide to move forward with the scope of the project. At this stage, the Corp has an obligation to complete a review of the top three sites identified in the screening analysis. She commented that a funding estimate could be obtained from the Corp for the top site choice if the Board was interested in pursuing more information.

Henrys Fork Basin Study

The BOR is making good progress and completed a water needs assessment in the basin to help clarify and rank the water supply alternatives. That report has been distributed to the public for review. The BOR is also completing drafts of the reconnaissance level technical analysis for all the alternatives identified, including new and existing storage projects, managed ground water recharge, agricultural conservation and management, municipal and industrial conservation, and market based alternatives. Technical memorandums are being developed for each of the alternatives. The ranking process is also being worked on so a comparison of the alternatives can be made, with a short-list of alternatives to be recommended to the Board. The draft memorandums for the new surface water concepts are being finalized and will be distributed to stakeholders next week for review. The BOR expects to complete this reconnaissance phase by fall 2012 with the recommendations to find and then move forward with the appraisal level analysis. Several Board presentations are expected once the reviews are complete and Board guidance will be needed moving into the appraisal level phase.

Chairman Uhling requested that staff share any information made available from other regional studies or projects. Mr. Patton suggested that a current Yakima area study may be of interest from a planning perspective and is being considered for a future Board presentation.

Agenda Item No. 12, Director's Report (*Gary Spackman, Interim Director)*

At the March 15 work session, Interim Director Spackman presented the Department's JFAC presentation that he co-presented with Board member Roger Chase at the JFAC hearing in January. He highlighted the Swan Falls Agreement and all the accomplishments resulting from that agreement including: protection of minimum flows at Murphy Gage, subordination of Idaho Power Company's water rights to existing upstream water uses, giving water users certainty about future use, requirement for a general adjudication of water rights in the Snake River basin, recognition of the hydraulic connection between ground water and surface water, and establishment and regulation of Snake River water rights above and below Milner Dam as separate river systems. Mr. Spackman also extended his appreciation for Board member Chase's participation and the Board's support at the JFAC hearing.

He discussed the progress of the Snake River Basin Adjudication (SRBA) and the significant progress made over the last year by the courts and the Department. There are currently 764 unresolved claims and approximately 300 of those are high-flow claims at Lemhi that are pending settlement. The courts are working for a 2014 unified decree deadline. The Department has been creating water districts in coordination with the SRBA project. Staff are currently working on the creation of Water District 02 from Milner Creek to approximately the Oregon state line.

The first round service is complete in the North Idaho Adjudication. Approximately 11,000 claims were received as of December 2011. Staff continues to be in budget and on time for this project.

Mr. Spackman also discussed the effects on Department staffing resulting from reduction in general funds and development of the ESPA Ground Water Model 2.0. He recognized the Department's award for efficiency in government with respect to the GIS efforts and ability to determine consumptive use from remote sensing data and imagery.

Department staff has improved the efficiency of processing transfer applications, reducing the backlog from 500 to 100. Ownership changes were reduced from approximately 900 to 300. The licensing backlog grew from 2010 to mid-2011 to approximately 3,500. As a result, an additional 4 to 8 Department staff, including Planning staff that supports the Board activities, will be reallocated for the next 3 to 5 years to address and prioritize this backlog. Mr. Spackman asked that no new planning efforts be initiated without an identifiable source of funds. All new initiatives will be evaluated to determine their immediate value to the Department's core responsibilities. With the possibility of a delivery call in the Big Wood, it may qualify as a modeling effort rather than a planning effort in the near future.

Agenda Item No. 13, Other Items IWRB Members May Wish to Present

Chairman Uhling challenged the Board and the Department to look strategically at the top 3 to 5 projects that should be considered to benefit the state. Mr. Patton requested that Board members direct any ideas directly to him so he can compile them, along with the Director's ideas for the Department.

Agenda Item No. 14, Next Meeting and Adjourn

The next regular IWRB Meeting is scheduled for May 17 & 18 in Boise, Idaho, at the Idaho Water Center. There was discussion about future Board meetings and possible locations. A suggestion was made to tentatively hold the July 26 & 27 meeting in the Magic Valley area. A suggestion was made to tentatively hold the September 6 & 7 meeting in the Rexburg, north Idaho, or Bear Lake area.

The IWRB Meeting 3-12 adjourned at approximately 10:30 am.

Respectfully submitted this _____ day of _____, 2012.

_____
Bob Graham, Secretary

_____
Diana Ball, Administrative Assistant

Board Actions:

1. Mr. Raybould made a motion to accept the resolution to make a funding commitment for the Lower Lemhi 2012 Annual contracts. Mr. Alberdi seconded the motion.

   Roll Call Vote: Mr. Cuddy: Aye; Mr. Alberdi: Aye; Mr. Chase: Aye; Mr. Beck: Aye; Mr. Raybould: Aye; Mr. Van Der Meulen: Aye; Mr. Uhling: Aye; Mr. Graham: Absent. Motion carried.

2. Mr. Alberdi made a motion to accept the resolution to establish the Water Supply Bank rental rate to be consistent with the Nez Perce Agreement. Mr. Raybould seconded the motion.

   Roll Call Vote: Mr. Cuddy: Aye; Mr. Alberdi: Aye; Mr. Chase: Aye; Mr. Beck: Aye; Mr. Raybould: Aye; Mr. Van Der Meulen: Aye; Mr. Uhling: Aye; Mr. Graham: Absent. Motion carried.

3. Mr. Chase made a motion to accept the resolution to change conditions associated with allocated funds for the ESPA managed recharge pilot program. Mr. Raybould seconded the motion.

   Roll Call Vote: Mr. Cuddy: Aye; Mr. Alberdi: Aye; Mr. Chase: Aye; Mr. Beck: Aye; Mr. Raybould: Aye; Mr. Van Der Meulen: Aye; Mr. Uhling: Aye; Mr. Graham: Absent. Motion carried.

4. Mr. Chase made a motion to accept the resolution authorizing the expenditure of funds not to exceed $6,000 to cover the engineering costs associated with the MP31 recharge project. Mr. Raybould seconded the motion.

   Roll Call Vote: Mr. Cuddy: Aye; Mr. Alberdi: Aye; Mr. Chase: Aye; Mr. Beck: Aye; Mr. Raybould: Aye; Mr. Van Der Meulen: Aye; Mr. Uhling: Aye; Mr. Graham: Absent. Motion carried.

5. Mr. Cuddy made a motion to accept the resolution as corrected to accept the Recommended Treasure Valley Comprehensive Aquifer Management Plan for consideration by the Board. Mr. Beck seconded the motion. Voice vote. All in favor.

Memorandum

To: Idaho Water Resource Board

From: Helen Harrington

Date: April 26, 2012

Re: Water Resource Planning ("Planning") Committee

The Planning Committee held a series of three meetings in March and April to finish their review of the proposed revision to the Idaho State Water Plan. The Committee has recommended the Proposed Idaho State Water Plan (Tab 8) for acceptance by the IWRB. This issue will be discussed in more detail separately at the meeting; materials can be found at Tab 8 in the meeting binder.

The Planning Committee also reviewed final changes to the draft Treasure Valley Comprehensive Aquifer Management Plan. A Proposed TV CAMP has been recommended to the IWRB for acceptance to distribution for public comment and hearings. This issue will be discussed in more detail separately at the meeting; materials can be found at Tab 8 in the meeting binder.

Memorandum

To: Idaho Water Resource Board

From: Helen Harrington

Date: May 7, 2012

Re: Stream Flow Enhancement and Minimum Stream Flow ("Stream Flow") Committee

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Cocolalla Lake Minimum Lake Level Update

Under the provisions of Idaho Code Section 42-1503, minimum lake level and stream flow permits must be approved by the legislature. If the legislature fails to act prior to the end of the session, the permit is considered approved. The Idaho Legislature set a precedent in the recent 2012 legislative session with their disapproval of the Cocolalla Lake minimum lake level permit.

Senate Concurrent Resolution No. 120 was introduced as an alternative to the proposed resolution to approve the permit. SRC 120 rejected the application; IDWR has cancelled the permit.

Although the IWRB held a public meeting and IDWR held a hearing prior to application and no opposition was expressed during those meetings, opposition to the permit arose early in the legislation session. Local residents and developers were concerned that the minimum lake level would injury their future use of water. Board Member Bob Graham and several staff members attended a meeting hosted by the Bonner County Commission and participated in the discussion to answer questions and address concerns. Ultimately, the Bonner County Commission submitted a letter to a number of local legislators opposing the permit.

Local supporters of the minimum lake level have approached staff and board members regarding renewing the effort to establish a minimum lake level. Because of local opposition to the effort, staff has informed the supporters that they would need to demonstrate that the opposition has been resolved before the Board would consider further action.

Alturas Lake Creek Water Rights Update

As directed by the IWRB at the March 2012 Board meeting, staff has prepared materials for consideration of expenditures for an appraisal of the water rights that Ms. Katie Breckenridge has offered for sale. Under a separate agenda item (Work Session Item 4 and Meeting Item 6b), additional details will be provided. The committee has recommended proceeding with funding for the appraisal as a 50-50 cost share with Ms. Breckenridge. pa

Abbreviated Meeting Notes
Water District 01
Operations Forum Meeting, April 12, 2012

Item 1 – Introductions were made and an attendance list was circulated. The following people were in attendance:

Lyle Swank (WD01)
Dale Swenson (FMID)
Randy Bingham (BID)
Rich Rigby (IDWR)
Mike Beus (USBR)
Matt Howard (USBR)
Jon Bowling (Idaho Power)
Lynn Harmon (AFRD2)
Tony Olenichak (WD01)
Ted Diehl (NSCC)
Julie Seivers (Milner ID)
Bill Thompson (MID)
Alan Hansten (NSCC)
Mat Weaver (IDWR)
Brian Olmstead (TFCC)
Kent Fletcher (MID)
John Simpson (Idaho Power)
Ron Carlson
Clive Strong (OotAG)
Lynn Tominaga (IGWA)
Roger Chase (IWRB)
Walt Mullans (Milner)
Dan Shewmaker (Co9)
Tebbin Johnson (Co9)
Steve Campbell (Enterprise)

Item 2 – Mike Beus gave a presentation on the state of the reservoirs and the water supply. His presentation touched on climate forecasts, NRCS snowpack data, existing fill and discharge rates of reservoirs, likelihood of fill, and differences between the various water supply forecasts. The theme of his presentation was *"abnormally close to average"*.

Item 3 - Rich Rigby introduced the topic of Fall 2011 operations in American Falls Reservoir in which ~560K ac-feet of water was lost from storage accounts do to USBR operations, and left some of the storage space holders confused and frustrated by the process resulting in a letter from the Surface Water Coalition (Travis Thompson, 3/26/12) to the Watermaster. Rich opened the topic for discussion.

1. Clive Strong initiated the discussion by emphasizing that the discussion of this issue was exactly why the Operations Forum was created.
2. Lyle Swank discussed the matter from his perspective as Watermaster, pointing out that it was unlikely that the releases from American Falls during 2011 caused any injury or impact to 2012 allocation.
3. Mike Beus discussed the matter from USBR's perspective, in which water was evacuated to facilitate the installation of erosion protection measures. The USBR did not want ice on rip rap material immediately after the placement and installation of the rip rap.
4. Kent Fletcher expressed MID's concern that the storage releases from AF reservoir violated the prior appropriation doctrine in that senior storage accounts were penalized by the loss of water and junior natural flow diversion water rights were allowed to divert with no penalty.
5. John Simpson advocated for adopting new accounting procedures or modifying existing accounting procedures to accommodate changing operations practices and said that more transparency is needed. He also indicated that everyone agrees that water should not be lost past Milner if possible, but a process must be created that appropriately reflects operations and obeys the prior appropriations doctrine.
6. Tony Olenichak indicated that the water right accounting program did exactly what it is supposed to do. Any out-of-priority diversions were charged with diverting storage.

7. Rich Rigby indicated that IDWB staff misspoke last year by characterizing the diversions as natural flow, and that more accurate language was needed in the future.
8. Randy Bingham advocated tracking reservoir releases such as occurred last fall according to spaceholder accounts from which the water is provided with the potential to compensate spaceholders in the event the next year's storage allocation is impacted. He invoked the analogy of a bank account in his description.
9. Rich Rigby said the storage water accounting is in the water right program as a benefit to the USBR and water users to provide efficiency and simplicity to the water right accounting in WD01.
10. Tony Olenichak said regarding Randy Bingham's suggestion, changing the water-right accounting to identify the individual storage accounts from where the storage passing Milner originates is possible, but would be a very difficult and impractical thing to do.
11. Randy Bingham indicated that he did not think his 'bank account model' should be incorporated into the water right accounting program, but that a separate program/procedure should be implemented.
12. John Simpson reiterated that it is important to identify and utilize water to recharge as opposed to losing it past Milner, but water rights accounting needs to accommodate it and actions must follow the prior appropriation doctrine. Future accounting of this type needs transparency that was lacking in the Fall of 2011.
13. Ron Carlson said there is one key question: which spaceholders' accounts are impacted from operational releases? There is a perception that junior users were benefitted last fall at the expense of spaceholders who lost storage from their accounts and therefore the affected spaceholders took all the risk. However, all storage accounts have filled and spaceholders will benefit from the water that recharged into the aquifer.
14. Mike Beus reiterated that more transparency is important.
15. Clive Strong introduced the idea of a "but for" test. "But for" recharge the water would have been lost from the Upper Snake River. Therefore it is not an issue of priority, but an issue of fairness.
16. Ron Carlson suggested a possible solution where reserve funds in WD01 could be used to compensate spaceholders through the rental pool if junior diversions cause reductions in their storage on the day of allocation.
17. Clive Strong reminded the room that recharge is not a goal in it of itself—it should not drive operational decisions.
18. Clive Strong also called for some tangible action to come out of the Operations Forum following the discussion. It is not enough to discuss the matter, but a "procedure" or "process" should be developed that addresses the issue.
19. Lynn Tominaga questioned what the goal of the "procedure" or "process" would be.
20. Ron Carlson reiterated that the "procedure" currently in place is inadequate and requires change.
21. Matt Howard suggested that the issue is too complicated to boil down to a step by step procedure. Rather we should take the opportunity to consider this matter a learning moment for future operations.
22. Rich Rigby summarized two takeaways: (1) language is critical; and (2) we need to understand and respect everyone's authority.
23. Roger Chase challenged the room to go away from the meeting and think about how to develop transparency and come back to the next meeting ready to discuss the matter further and provide detailed suggestions.

Item 4 – The next Operations Forum meeting was scheduled for May 22, 2012 at 10 AM in Burley, ID.

Item 5 – Brian Olmstead wanted to open a discussion on the feasibility of lowering Lake Walcott by 1 foot to capture gains or minimize losses from the river in July and August. This issue was tabled for the next meeting.

John A. Rosholt
Albert P. Barker
John K. Simpson
Travis L. Thompson
Shelley M. Davis
Paul L. Arrington
Scott A. Magnuson
Sarah W. Higer

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Travis L. Thompson
tlt@idahowaters.com

March 26, 2012

VIA EMAIL & U.S. MAIL

Mr. Lyle Swank
Watermaster – Water District 1
900 N. Skyline Dr., Suite A
Idaho Falls, Idaho 83401-1218

Re: 2011 Irrigation Storage Report (3/12/12)

Dear Lyle:

We are writing on behalf of A&B Irrigation District, American Falls Reservoir District #2, Burley Irrigation District, Milner Irrigation District, Minidoka Irrigation District, North Side Canal Company, and Twin Falls Canal Company with respect to the above-referenced matter.[1]

We have reviewed a copy of the 2011 storage report dated 3/12/12. We presume this is the final storage report for last year's storage use and carryover. Based upon that report, it is our understanding that approximately 560,000 acre-feet flowed past Milner Dam last fall. It is also our understanding that American Falls spaceholders received a reduction in their storage carryover to cover the water flowing past Milner. In addition, it is our understanding that our clients were charged for storage use during that time when water was flowing past Milner Dam (even though other junior natural flow water rights below American Falls were allowed to divert).

Although the reduction in carryover may be a result of the existing limitations in the current accounting program, our clients would like to discuss the report with you and the U.S. Bureau of Reclamation to address this issue. Our hope is that the Water District's accounting can be adjusted to ensure carryover storage is not reduced in a manner that could impair a spaceholder's future storage fill. It may be that the present method provides that protection.

[1] Tom Arkoosh represents AFRD #2 and Kent Fletcher represents Minidoka Irrigation District. We are submitting this letter on their behalf as well.

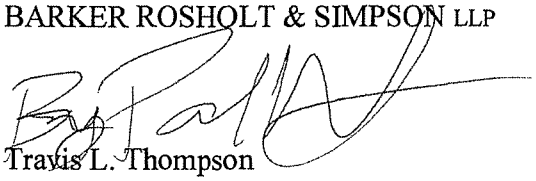
Further, we would like to discuss whether storage diversions can or should be charged at anytime water is flowing past Milner Dam, even after the storage allocation is made for the year, except for those instances in which the rental pool rules authorize storage to flow past Milner, such as flow augmentation or storage rented to Idaho Power for power generation. Again, adjustments to the accounting program may be necessary to address this issue as well.

We are confident these issues can be properly addressed informally with the Water District and Reclamation and would request an opportunity to discuss these matters with you. However, in order to protect our clients' rights, this letter may also be considered as a petition for hearing under I.C. § 42-1701A(3). As required by that statute we are filing this letter with the Interim Director as well.

Please contact me at 733-0700 to set up a meeting at your earliest convenience. Thank you for your attention to this matter.

Sincerely,

BARKER ROSHOLT & SIMPSON LLP



Travis L. Thompson

cc: Gary Spackman, Interim Director (IDWR)
Jerry Gregg, (U.S. Bureau of Reclamation)
Mike Beus, (U.S. Bureau of Reclamation)
Kent Fletcher
Tom Arkoosh
Jerry Rigby

LYLE SWANK
WATERMASTER
Phone (208) 525-7172
Fax (208) 525 7177

State of Idaho
Water District 1
900 N Skyline Dr., Suite A
Idaho Falls, Idaho 83402-1718

IDWR INTERIM DIRECTOR
GARY SPACKMAN

April 5, 2012

Travis Thompson
PO Box 485
Twin Falls, ID 83301

Dear Travis:

On March 26, 2012, you sent a letter to me regarding the 2011 storage report, dated March 12, 2012. While I do not anticipate any changes to the March 12, 2012 storage report, changes can still be made prior to the day of allocation. Those changes can be made by the Bureau of Reclamation ("Bureau") and Water District 01 staff. The storage report will be made final by the day of allocation.

As I understand your letter, you also question a reduction to your clients' American Falls storage carryover in connection with the spilling of approximately 560,000 acre-feet of storage water past Milner Dam last fall. The storage spill was due to operational decisions made by the Bureau. The junior diversions below American Falls to which you refer were from storage.

The decision to reduce American Falls spaceholder accounts was made by the Bureau. In accordance with established practice, the Watermaster reconciles storage releases with physical reservoir contents as of October 31. The vacating of approximately 560,000 acre-feet from the reservoirs by the Bureau reduces the amount of stored water available under the Bureau's water rights. Operational storage release decisions and decisions about which reservoir(s) the storage reductions should be accounted in are made by the Bureau and should be addressed with the Bureau, to the extent you have questions. Water District 01 shows spaceholder accounts in the storage report as information useful to the Bureau, its spaceholders, and water managers.

You state, "this letter may also be considered as a petition for hearing under I.C. § 42-1701A(3)." Operational decisions of the Bureau, which were communicated to Water District 01, and storage releases past Milner which are unrelated to water right delivery, are not "actions" of Water District 01 or the Idaho Department of Water Resources. I would be pleased to meet with your clients and the Bureau next week as indicated in a prior email.

Sincerely,

Lyle Swank

Lyle Swank
Watermaster

cc:Gary Spackman, Jerry Gregg, Mike Beus, Kent Fletcher, Tom Arkoosh, Jerry Rigby

Memorandum

To: Idaho Water Resource Board

From: Helen Harrington

Date: April 27, 2012

Re: Rathdrum Prairie Comprehensive Aquifer Management Plan (RP CAMP)

Action: Consider appointing replacement Laura Laumatia as replacement for Phil Cernera on the RP CAMP Advisory Committee

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Discussion

The Rathdrum Prairie Comprehensive Aquifer Management Plan (RP CAMP), adopted by the IWRB in July, was approved by the Idaho Legislature and signed by Governor Otter on March 26, 2012.

An advisory committee meeting is scheduled for May 23. The agenda for that meeting includes a discussion about the current hydrologic monitoring program (Ken Neely); Municipal Water Rights Act of 1996 (Mat Weaver); and RP CAMP Implementation (Helen and others). Interim Director Gary Spackman is planning to attend and participate in the discussions.

Several ideas have been mentioned as potential ideas for RP CAMP implementation funding. There appear to be several opportunities for leveraging funding with other sources to support activities which complement existing programs. The proposals include supporting locally driven regional coordination among water purveyors and expanding ground water monitoring with a new monitoring well and including an outreach and education component for local schools.

Action to Consider:

Advisory Committee member Phil Cernera, representing the Coeur d'Alene Tribe, has submitted a request to appoint a replacement. He has proposed Laura Laumatia, Tribal Environmental Specialist, to replace him on the RP CAMP Advisory Committee, effective immediately. The IWRB has appointed advisory committee members through a motion in the past.

MEMO

To: Idaho Water Resource Board

From: Bill Quinn, Recharge Coordinator

Subjects: 2012 Early Season Eastern Snake Plain Aquifer Managed Recharge Summary

Date: May 17, 2012

This memorandum summarizes the Board's Early Season ESPA Managed Recharge Program. Ten canal companies or irrigation districts have participated in the program this season. Recharge began on March 2nd and prevailing warm and dry conditions have accounted for a short early season program. If weather conditions become wet and cool, it is possible there may be additional recharge in late May or early June.

Through May 4th , 2012 approximately 85,083 acre-feet have been recharged through the Board's managed recharge program. Conveyance fees paid for this recharge are approximately $229,180. 62.5% of the recharge occurred above American falls, 30.4% below and 7.1% was from the Wood River. Details are summarized in the Table 1, below.

$300,000 has been budgeted for managed ESPA recharge in calendar year 2012. To keep within budget and to reserve funding for late season recharge, "not to exceed" recharge limits have been included in 2012 recharge conveyance contracts. Figure 1 indicates early season participants and recharged volumes by each.

Table 1 -2012 ESPA Managed Recharge Results through May 4th (Early Season)

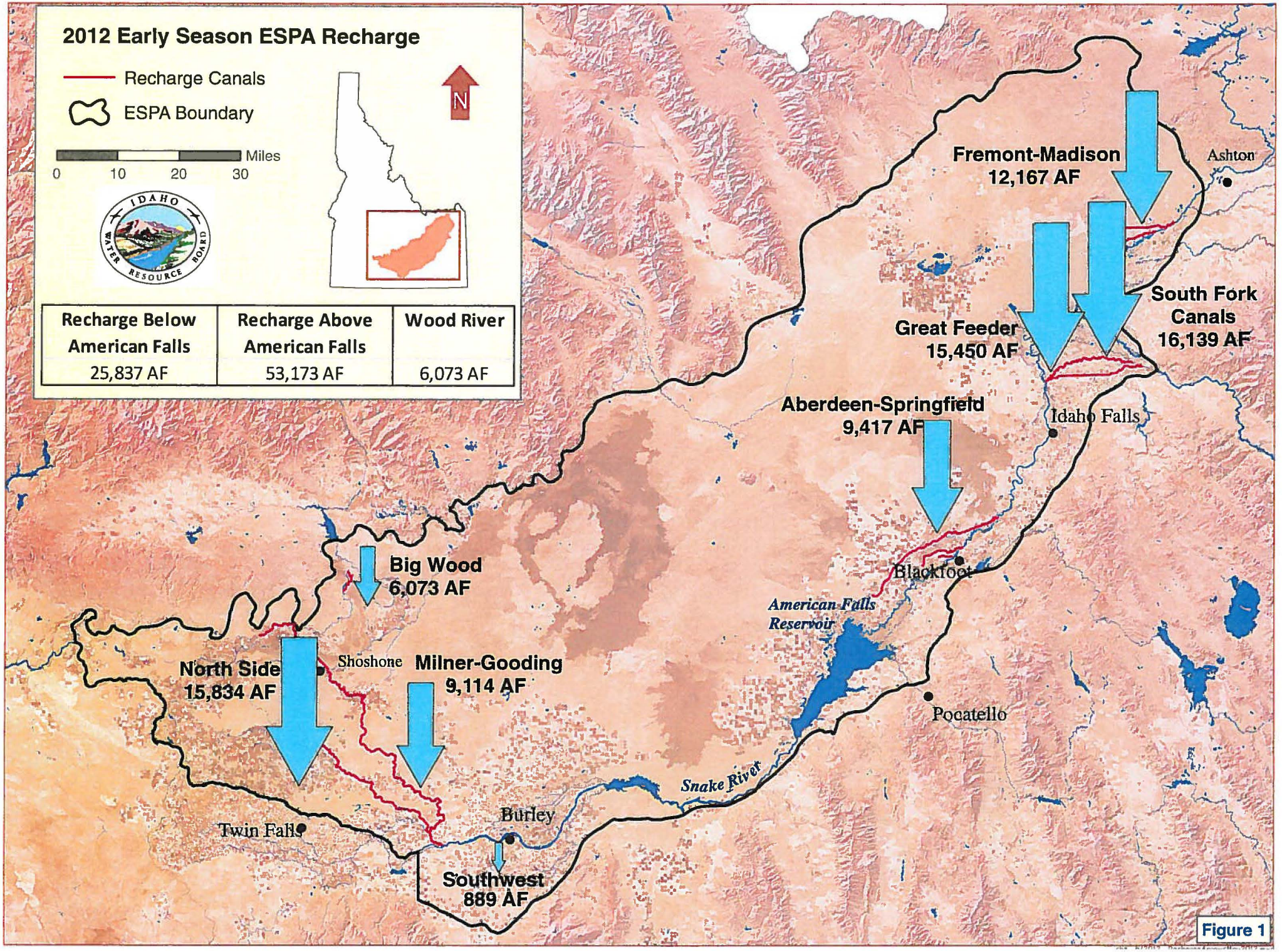
Snake River Canal	Acre-Feet	cost $	Comments
ASCC	9,417	28,251	Start 4/12, end 5/4
AFRD2	9,114	27,342	Most recharge at Shoshone Site. Start 4/9, end 5/4
FMID	12,167	36,500	Contract limit reached 4/7/12
GFCC	15,450	36,500	Start 4/23, end 5/4. Contract limit reached 5/1
NSCC	15,834	47,502	Start 3/29, end 5/1
SFAC	16,139	32,199	Start 4/14, end 5/4. Contract limit A-F reached on 4/30
SWID	889	2,667	Start 3/2, end 4/16
TOTAL Snake River	79,010	210,961	
Big Wood River	Acre-Feet	cost $	Comments
BWCC	6,073	18,219	Releases from Magic Res. To Devil's Headgate started on 4/11
TOTAL Snake+Wood	**85,083**	**229,180**	62.5% above Am Fls, 30.4% below Am Fls, 7.1% Big Wood

All recharge volumes are preliminary and subject to verification

ASCC	Aberdeen-Springfield Canal Co.	BWCC	Big Wood Canal Co.	SFAC	South Fork Area Canals
AFRD2	American Falls Reservoir Dist. No. 2 (Milner-Gooding Canal)	GFCC	Great Feeder Canals	SWID	Southwest I.D.
		NSCC	North Side Canal Co.		

Some canals exceeded their contracted limit. After proper notification that the contracted limit was about to be reached, some canals continued conveying recharge water. In these cases the extra recharged water was credited to the overall total, but payment was limited to the contracted amount. Accordingly, not every cost indicated in Table 1 corresponds to the Board's conveyance payment basis of $3 per acre-foot. Through May 4th, the cost per acre-foot is approximately $2.69.

Figure 2 graphically represents 2012 early season recharge.


2012 Early Season ESPA Recharge
Recharge Canals
ESPA Boundary
Miles
0 10 20 30
N
IDAHO WATER RESOURCE BOARD
Recharge Below American Falls
25,837 AF
Recharge Above American Falls
53,173 AF
Wood River
6,073 AF
Fremont-Madison
12,167 AF
Ashton
South Fork Canals
16,139 AF
Great Feeder
15,450 AF
Aberdeen-Springfield
9,417 AF
Idaho Falls
Big Wood
6,073 AF
Blackfoot
American Falls Reservoir
North Side
15,834 AF
Shoshone
Milner-Gooding
9,114 AF
Pocatello
Snake River
Twin Falls
Burley
Southwest
889 AF
Figure 1

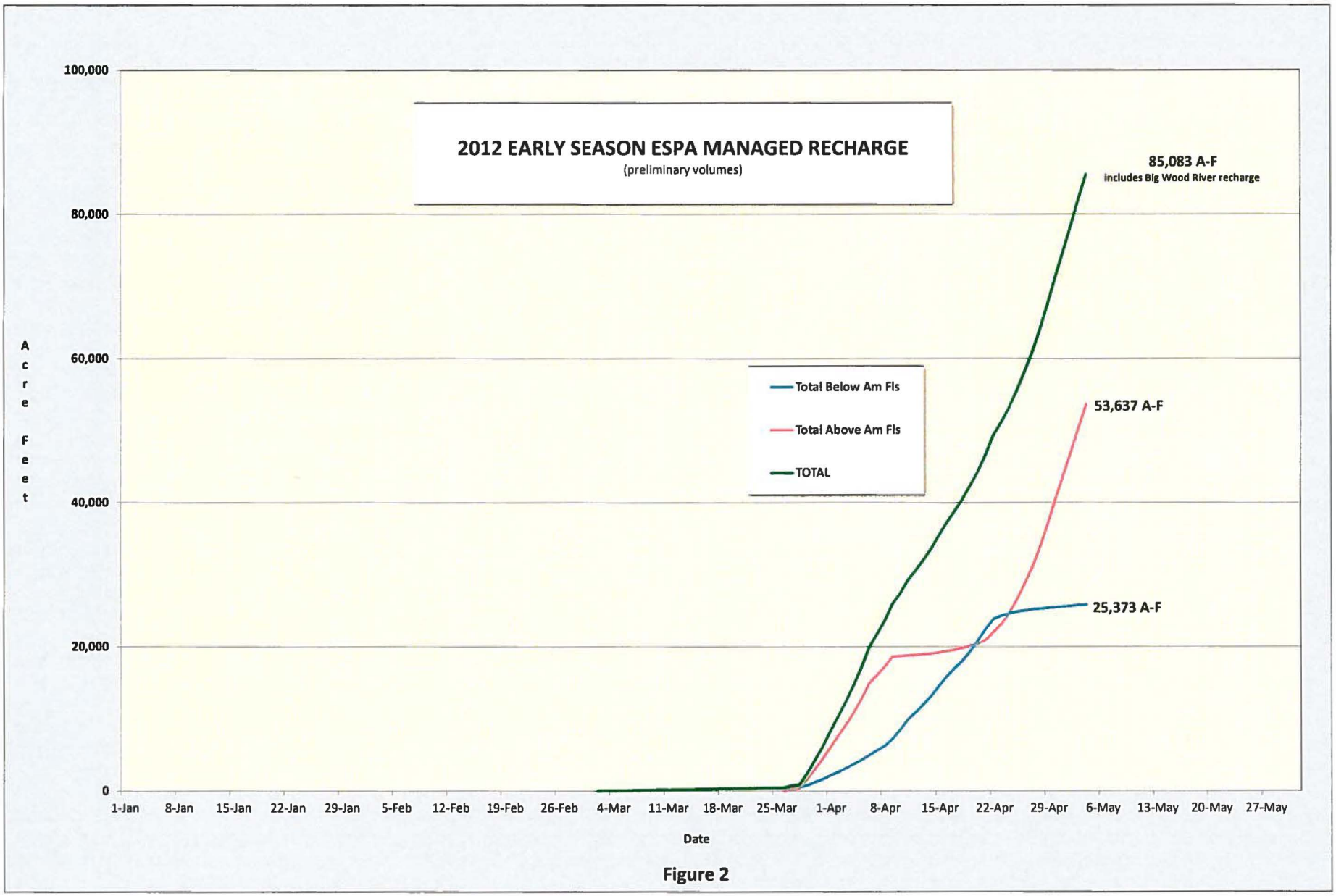

2012 EARLY SEASON ESPA MANAGED RECHARGE
(preliminary volumes)
85,083 A-F
includes Big Wood River recharge
53,637 A-F
25,373 A-F
Total Below Am Fls
Total Above Am Fls
TOTAL
Acre Feet
100,000
80,000
60,000
40,000
20,000
0
1-Jan
8-Jan
15-Jan
22-Jan
29-Jan
5-Feb
12-Feb
19-Feb
26-Feb
4-Mar
11-Mar
18-Mar
25-Mar
1-Apr
8-Apr
15-Apr
22-Apr
29-Apr
6-May
13-May
20-May
27-May
Date

Figure 2

Memorandum

To: Idaho Water Resource Board

From: Cynthia Bridge Clark

Date: May 7, 2012

Re: Status of Ongoing Storage Water Studies

Weiser-Galloway Project

BACKGROUND: A series of studies have been initiated to determine whether to move forward with comprehensive feasibility, environmental and engineering studies of the previously proposed Galloway Dam and Reservoir project on the Weiser River. The first study, the *Weiser-Galloway Gap Analysis, Economic Evaluation and Risk-Based Cost Analysis Project, March 2011* (Gap Analysis), was a reexamination of the U.S. Army Corps of Engineers (Corps) studies (1987-1994) of the dam site based on current conditions and new information. Based on the results of the gap analysis, two additional studies were initiated: 1) The *Weiser River Geologic Investigation and Analysis Project* (Geologic Investigation) is intended to determine the safety, suitability and integrity of geologic structures at the potential dam and reservoir site; and 2) the *Snake River Operational Analysis Project* (Operational Analysis) will evaluate whether benefits would be realized from the Weiser-Galloway project by analyzing a series of operating scenarios (potential benefits include flood control, hydropower, water storage, pump back, irrigation, recreation and flow augmentation requirements for anadromous fish recovery). Both studies are being completed through a cost-sharing partnership with the Corps.

PROJECT STATUS:

Geologic Investigation

- Drilling/Exploration: An exploration plan has been developed by the Corps which includes drilling up to seven holes on the abutments at depths of approximately 150 to 300 feet. The locally based U.S. Bureau of Reclamation drill crew will perform drilling and testing activities in cooperation with the Corps.
- An Environmental Assessment for areas impacted by drilling activities and a Right of Way permit to perform the drilling on land owned by the U.S. Bureau of Land Management (BLM) is being finalized in coordination with the Corps and BLM.
- To coordinate access agreements and provide project information, IWRB staff has been meeting with associated land owners and entities.
- Estimated timeline: Mobilization is on schedule to begin by mid-June; approximately 4 months is scheduled to complete drilling activities; results of core tests are scheduled for completion by December 2012 (interpretation of samples may be possible prior to completion of testing).

Operational Analysis

- The bulk of the Operational Analysis will be delayed until results of the Geologic Analysis are available.
- In the interim, the Corps is performing preliminary tasks on a limited basis including updating basin hydrology; basic hydraulic modeling; identification of appropriate system optimization models; and identification of operational constraints.
- Estimated timeline: Completion scheduled for fall 2013.

REQUIRED ACTIONS: No action is required by the IWRB at this time.

Lower Boise River Interim Feasibility Study

BACKGROUND: The *Water Storage Screening Analysis* was completed in August 2010 by the U.S. Army Corps of Engineers (Corps) in partnership with the IWRB. The top three ranked storage sites identified through the analysis were a raise or new dam at the existing Arrowrock Dam site, the Alexander Flats site, and the Twin Springs site. The IWRB recommended the top three ranked sites be carried forward for more in-depth analysis as called for in the Interim Feasibility Study agreement.

The Corps performed additional engineering analysis of the Arrowrock storage concept, the top ranked site in the screening analysis, to identify 1) the most appropriate storage concept (a raise of the existing structure or construction of a new facility downstream); 2) whether there were any major engineering or geological constraints that would make either concept unfeasible; and 3) issues for future study. Results of the analysis are reflected in the *Lower Boise River Interim Feasibility Study, Preliminary Evaluation of Arrowrock Site, October 2011.*

Based on available information, the analysis did not identify any geologic or engineering constraints that could discount one concept over the other, but recommended further study of raising the existing Arrowrock Dam if only one concept is pursued. The report also identifies additional issues that should be evaluated in order to better understand the viability of Arrowrock site.

PROJECT STATUS: The Corps recently secured a limited amount of funding to support additional work on the study, similar to the scale of the October 2011 preliminary evaluation of Arrowrock. The Corps and IWRB staff, in coordination with the U.S. Bureau of Reclamation (owner of the Arrowrock Dam), are currently discussing the best use of the funds to advance the study of the Arrowrock site.

In a separate effort related to flood risk reduction on the Boise River, the Corps, in partnership with the Ada-City County Emergency Management (ACCEM), the City of Boise and Garden City, developed a series of Boise River inundation maps based on water surface profiles modeled at 15 different flow rates. Funding from the Interim Feasibility Study was used for data collection development of the floodplain model. The modeled reach includes the main Boise River from Diversion Dam down to just upstream of the head of Eagle Island. The purpose of the maps is to provide information about flood risk and a tool for emergency response planning during flood events. The NOAA National Weather Service will use the data to create an Advanced Hydrologic Prediction Services (AHPS) Inundation Mapping Location webpage which will make the data easily accessible to the public. The Corps is also developing estimates of potential flood damages. A presentation of the results of the floodplain modeling and a discussion of advancing the Interim Feasibility Study is scheduled for the May 17, 2012 IWRB meeting work session.

REQUIRED ACTIONS: No action is required by the IWRB at this time.

Henrys Fork Basin Study

BACKGROUND: The IWRB and the Bureau of Reclamation (Reclamation) are conducting a study of water resources in the Henrys Fork River basin to develop alternatives to improve water supply conditions in the Eastern Snake Plain aquifer and Upper Snake River basin. The study is intended to identify opportunities for development of water supplies and improvement of water management while sustaining environmental quality.

PROJECT STATUS: Reclamation is currently performing a "reconnaissance level" evaluation and technical analysis of alternatives identified for further study. These include new or existing surface water storage projects, as well as managed ground water recharge, agricultural conservation and management, municipal and industrial conservation, and market based alternatives.

Reclamation has developed technical reports for each of the alternatives and has distributed draft reports for most of the alternatives to stakeholders for comment. Reclamation has been providing updates on the progress of the technical analysis at the Henry's Fork Watershed Council monthly meetings. It plans to approach smaller stakeholder groups for feedback over the summer, and to complete the reconnaissance phase and provide recommendations for a short-list of alternatives to move forward for appraisal level analysis by fall 2012. Results of the technical analyses will be presented at a future IWRB meeting.

REQUIRED ACTIONS: No action is required by the IWRB at this time.