AGENDA

WATER RESOURCE PLANNING COMMITTEE
MEETING NO. 3-14

April 15, 2014 at 10:00 am

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

1. Welcome and Introductions
2. Water Sustainability Panel Discussion
    a. Paul Kjellander, Idaho Public Utilities Commission
    b. Barry Burnell, Idaho Dept of Environmental Quality
    c. Alan Prouty, J. R. Simplot Company
    d. Greg Wyatt, United Water
    e. John Bernardo, Idaho Power
3. Idaho State Water Plan Policy Revision
    a. 2B Federally Listed and Other Aquatic Species
    b. 2C Minimum Stream Flow
    c. 2E Riparian Habitat and Wetlands
    d. 3G Climate Variability
    e. 6A Salmon/Clearwater River Basins Conservation Plans
    f. 6B Salmon/Clearwater River Basins Instream Flow Program
4. Next Meeting

Committee Members – Jeff Raybould (Chairman), Albert Barker, Chuck Cuddy, Bert Stevenson, Pete Van Der Meulen

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 Mandi.Pearson@idwr.idaho.gov or by phone at (208) 287-4800.

Overview

Green Project Reserve is a portion of SRF Loan Funds that are specifically designated for communities that include green, sustainable, energy-efficient, water-efficient, or environmentally innovative components in their proposed drinking water and/or wastewater loan projects.

The State Revolving Fund (SRF) Loan Program reserves at least 20 percent of Drinking Water SRF and Clean Water SRF funds for *Green Project Reserve* projects.

FY 2013 Allocations

DEQ's federal grants require a minimum *Green Project Reserve* commitment of

- Clean Water: $690,800
- Drinking Water: discretionary

For More Information

Idaho Department of Environmental Quality

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Water Quality Division
1410 N. Hilton
Boise, ID 83706
(208) 373-0502

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Lewiston, ID 83501
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Coeur d'Alene, ID 83814
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toll-free: (877) 370-0017

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Pocatello, ID 83201
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toll-free: (888) 655-6160

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Idaho Falls, ID 83402
(208) 528-2650
toll-free: (800) 232-4635

Twin Falls
650 Addison Ave. W,
Suite 110
Twin Falls, ID 83301
(208) 736-2190
toll-free: (800) 270-1663

DEQ Web Resources

Green Project Reserve
www.deq.idaho.gov/green-project-reserve

Water Quality Grants, Loans, and Other Resources
www.deq.idaho.gov/water-grants-loans

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Green Project Reserve Loan Funds

Idaho Department of Environmental Quality
www.deq.idaho.gov

Green Project Reserve Eligible Project Areas

Green Infrastructure: Technologies and practices that use natural systems or engineered systems that mimic natural processes to enhance overall environmental quality and provide utility services such as green roofs and rain gardens.

- *Project Examples:* Implementation of wet weather management systems for utility buildings and parking areas that include porous pavement, bioretention, trees, and green roofs.

Energy Efficiency: Use of improved technologies and practices to deliver equal or better services using less energy.

- *Project Examples:* Energy-efficient retrofits and upgrades to pumps and treatment processes (requires business case), installation of leak detection equipment, production of clean power for treatment systems on-site (wind, solar, hydro, geothermal, biogas powered combined heat and power).

Water Efficiency: Reuse or conservation projects that deliver equal or better services using less water.

- *Project Examples:* Installation of water meters or automated meter reading systems, retrofit or replacement of water using fixtures, fittings, equipment or appliances (can include rebate programs), installation of distribution system leak detection equipment, replacement or rehabilitation of distribution lines.

Innovative Environmental Projects: Projects that manage water resources to prevent or remove pollution in an economically sustainable way.

- *Project Examples:* Streambank improvements to help temperature or turbidity issues that a discharging wastewater facility is facing.

Sustainable Infrastructure: Management, technology, and construction-based SI initiatives.

- *Project Example:* Asset management systems (such as EPA's CUPSS).

Drinking Water System Eligibility

Community water systems and non-profit, non-community water systems are eligible to participate in the Drinking Water State Revolving Loan Fund Program. Community water systems have at least 15 service connections used by year-round residents or regularly serve at least 25 year-round residents. Non-community water systems regularly serve at least 25 of the same persons during six months of the year.

Wastewater System Eligibility

Counties, cities, special service districts, nonprofit corporations, or other governmental entities with authority to address nonpoint source issues and collect, treat, or dispose of sewage or industrial wastewater are eligible to participate in the Clean Water State Revolving Loan Program.

Interest Rate

The interest rate is established annually. The interest rate for loans issued during the state's fiscal year (FY) 2013 is 2.25%. These loans must be fully repaid within 20 years of project completion. Loan applicants may qualify as "disadvantaged" and be eligible for an interest rate as low as 0% and a 30-year repayment schedule.

Sources of Revenue

Congress appropriates funds to the U.S. Environmental Agency (EPA), which then allots those funds to the states based upon set formulas. Each state is required to provide a 20% match.

How to Apply

DEQ queries drinking water and wastewater systems regularly to obtain information on projects for which loan funds could be used. Potential projects must first be listed on the State's annual priority list, which is developed through a rating and ranking process primarily based upon public health and water quality concerns. Fundable projects on the priority list are then placed on the Intended Use Plan.

Once funding is secured from EPA and the state match is provided, communities with projects on the Intended Use Plan are invited to submit applications. After an application has been reviewed and all environmental and legal requirements have been met, a loan may be offered.

Sustainability and Water Quality

Idaho DEQ
Barry Burnell
Water Quality Division Administrator

State Revolving Fund (SRF) Sustainability

- Drinking Water SRF Program
  - Prioritization for Drinking Water Loan Projects
  - Prioritization for Drinking Water Planning Grants
- Clean Water SRF Program
  - Prioritization for Wastewater Loan Projects
  - Prioritization for Wastewater Planning Grants

SRF Sustainability

- Grant and Loan applicants improve their competitive position for limited funds by adopting sustainability efforts into their facility plans and construction designs
  - IDAPA 58.01:
    - 04.020 – Wastewater Planning Grants
    - 12.020 – Wastewater Construction Loans
    - 20.020 – Drinking Water Construction Loans
    - 22.020 – Drinking Water Planning Grants

SRF Sustainability

- 04.020 – Wastewater Planning Grants Priority Rating System:

- **f.** Sustainability efforts (e.g., prospective efforts at energy conservation, water conservation, extending the life of capital assets, green building practices, and other environmentally innovative approaches to infrastructure repair, replacement and improvement).

SRF Sustainability

- Idaho's SRF program has been a Pacific Northwest (i.e. EPA Region 10) leader in administering sustainability efforts into its loan program. The Idaho SRF template for documenting the gains made from adopting sustainability is used as a model by neighboring states.
  - http://www.deq.idaho.gov/water-quality/grants-loans/green-project-reserve.aspx (*see bottom of the page*)

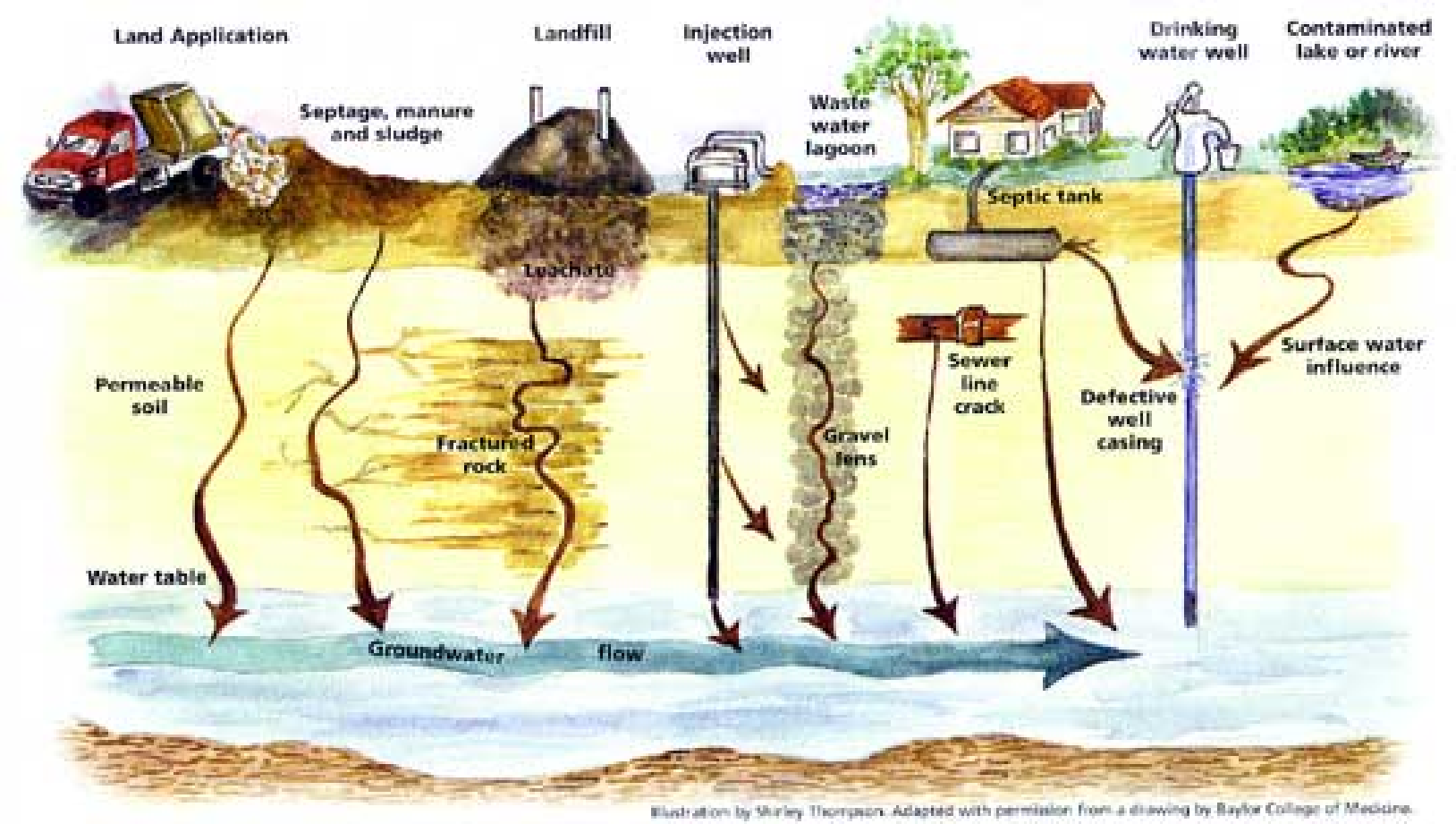
Drinking Water Program

- Sustainability for new Public Water Supplies
- 58.01.08.510.06 – Siting and Construction of Wells

  - e. Where aquifer yield, sustainability, or water quality are questionable, the Department, at its discretion, may require additional site specific investigations that could include test well construction, long-term pumping tests or other means to demonstrate that aquifer yield is sufficient to meet the long-term water requirements of the project.

Ground Water Quality

- Pathogenic Bacteria are generally not present in ground water

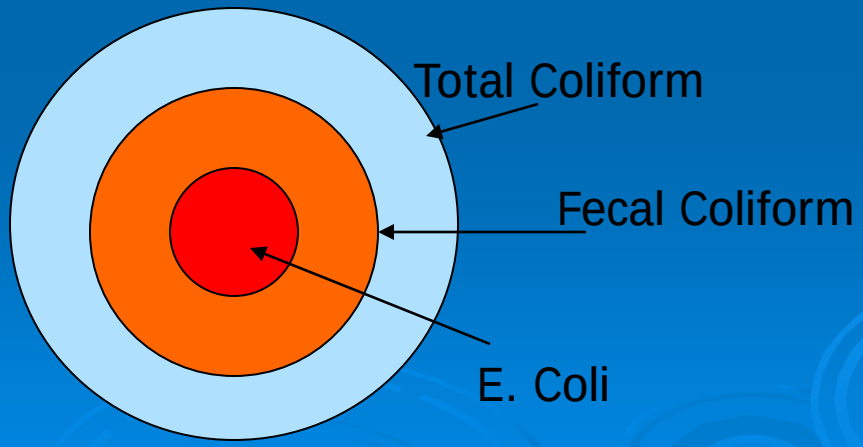


Ground Water Quality

- Ground Water Standard for Fecal Coliform and E. Coli is <1 colony forming uunit/100 ml
- Total Coliform – Indicator Organism

Fecal Coliform and E. Coli are subsets of Total Coliform

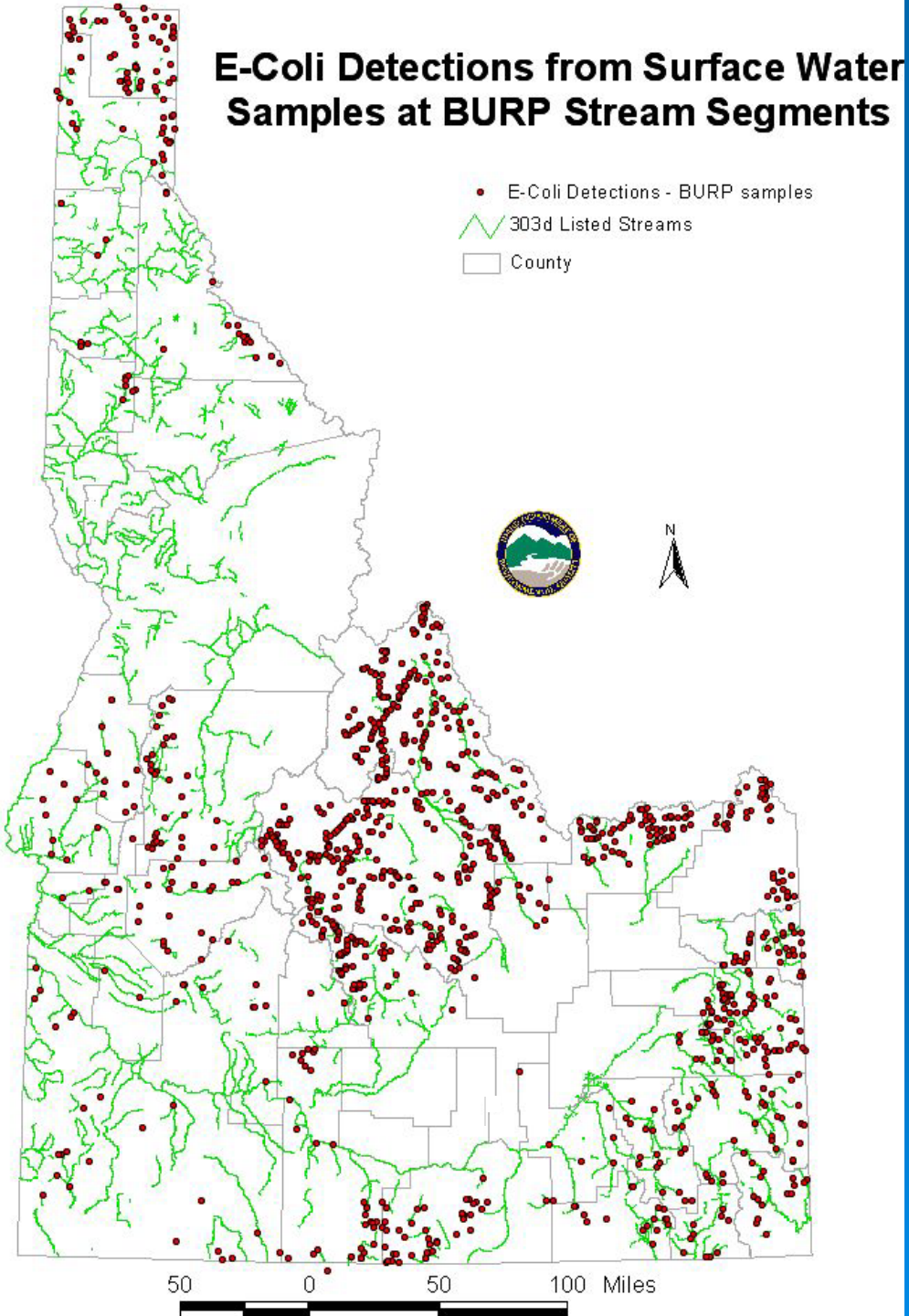
- Better indicators of organisms harmful to humans



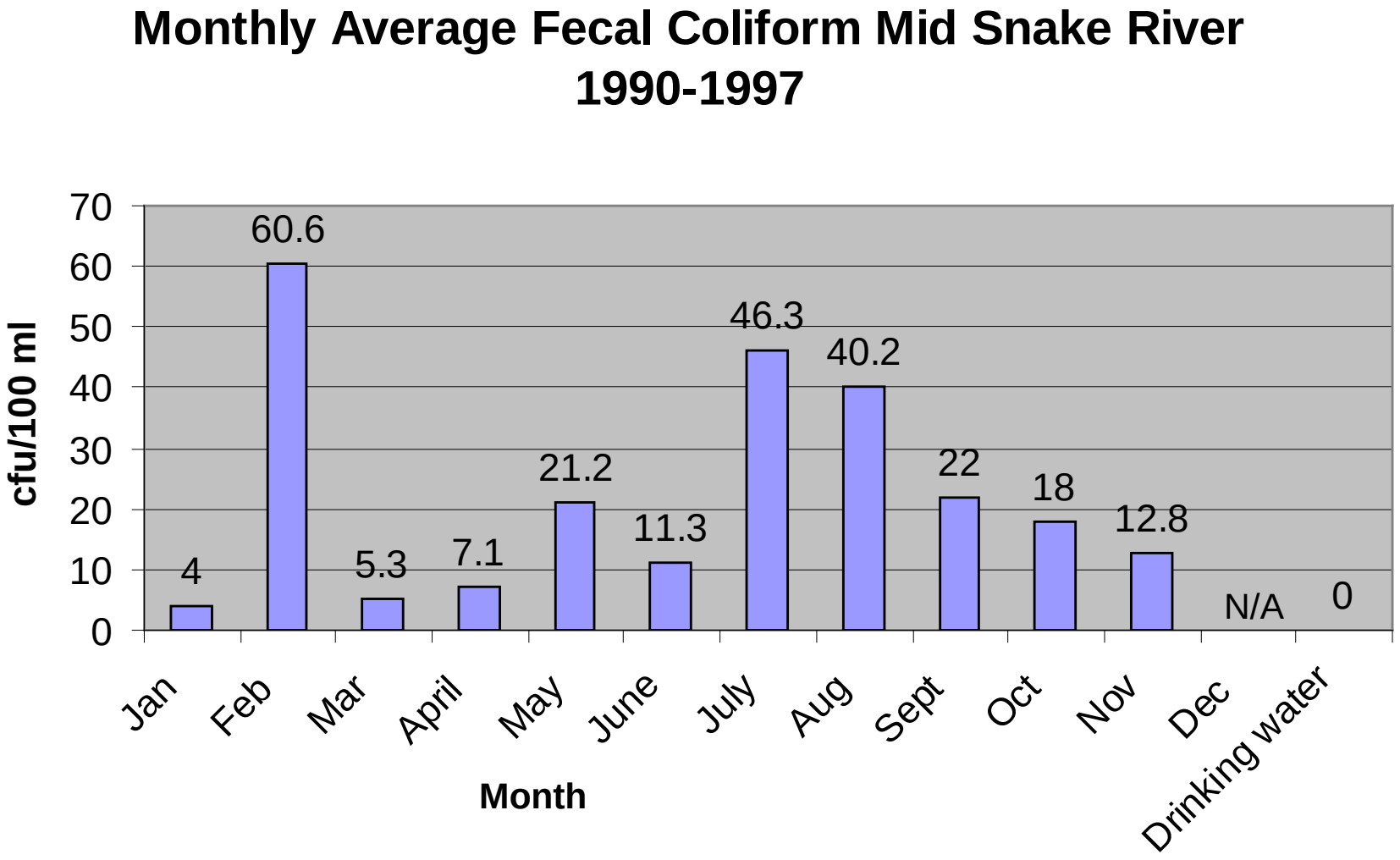
Bacteria in Wadable Streams
-Beneficial Use Reconnaissance Program Monitoring

Where we sample, bacteria are present in surface waters.

<u>Water Quality Stds</u>
Beaches 235/100 ml
All others 406/100 ml
Secondary 576/100 ml
30 day ave = 126/100 ml

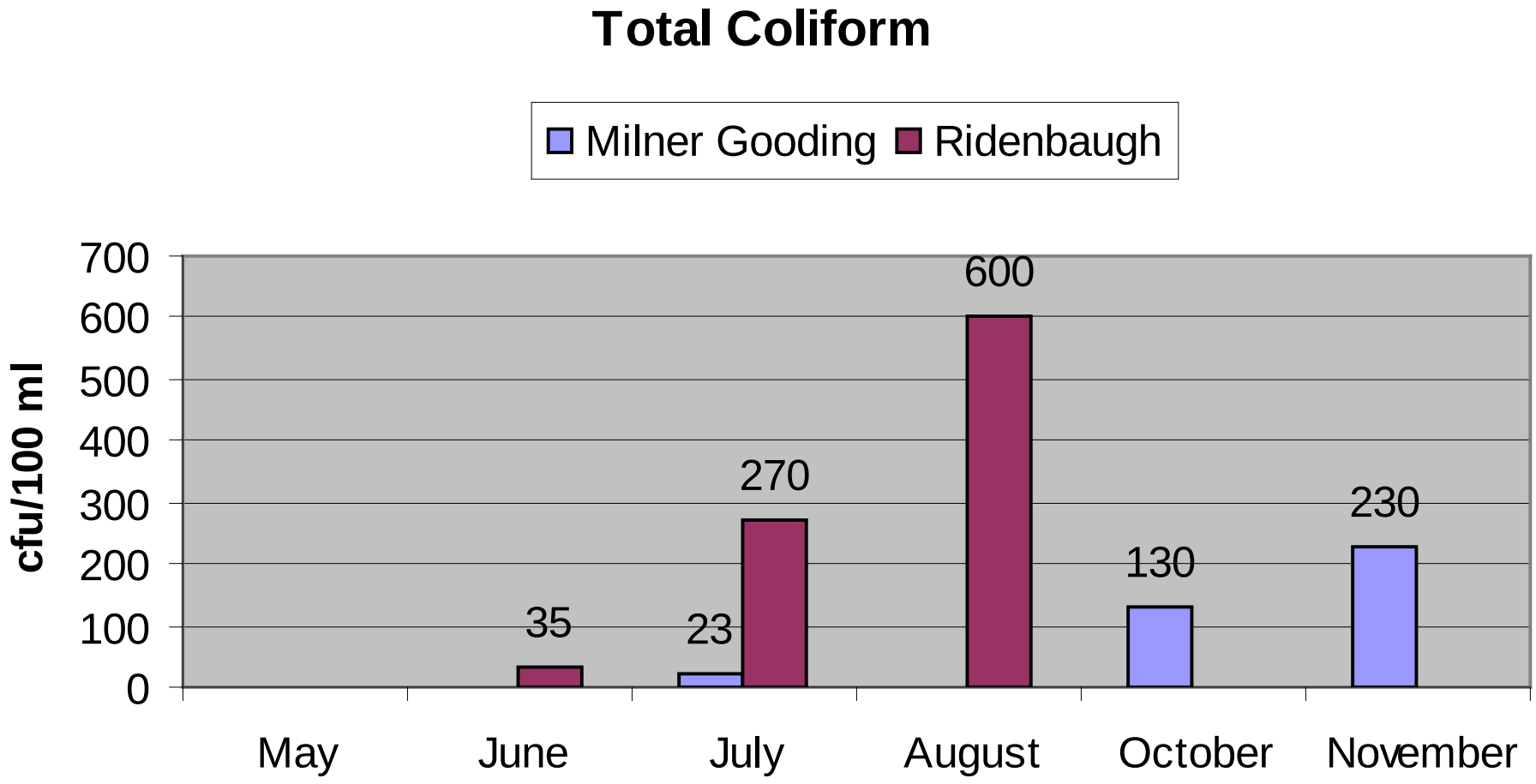


Surface Water Quality



IDWR, 1999 Feasibility of Large Scale Managed Recharge of the Eastern Snake River Plain Aquifer System

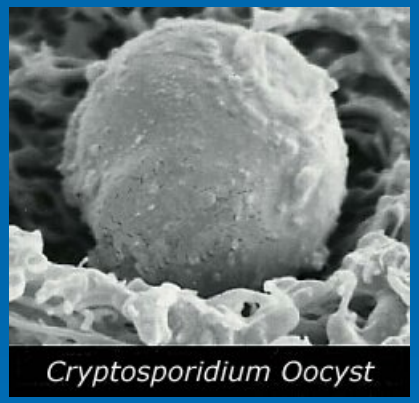
Surface Water Quality

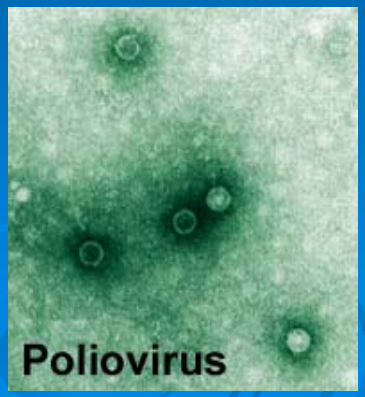


IDWR, 1999 Feasibility of Large Scale Managed Recharge of the Eastern Snake River Plain Aquifer System

Water Transmitted Pathogens

- Bacteria
  - E. Coli, Shigella sp
- Protozoa
  - Giardia
  - Cryptosporidium
- Enteroviruses
  - Poliovirus
  - Hepatitis A

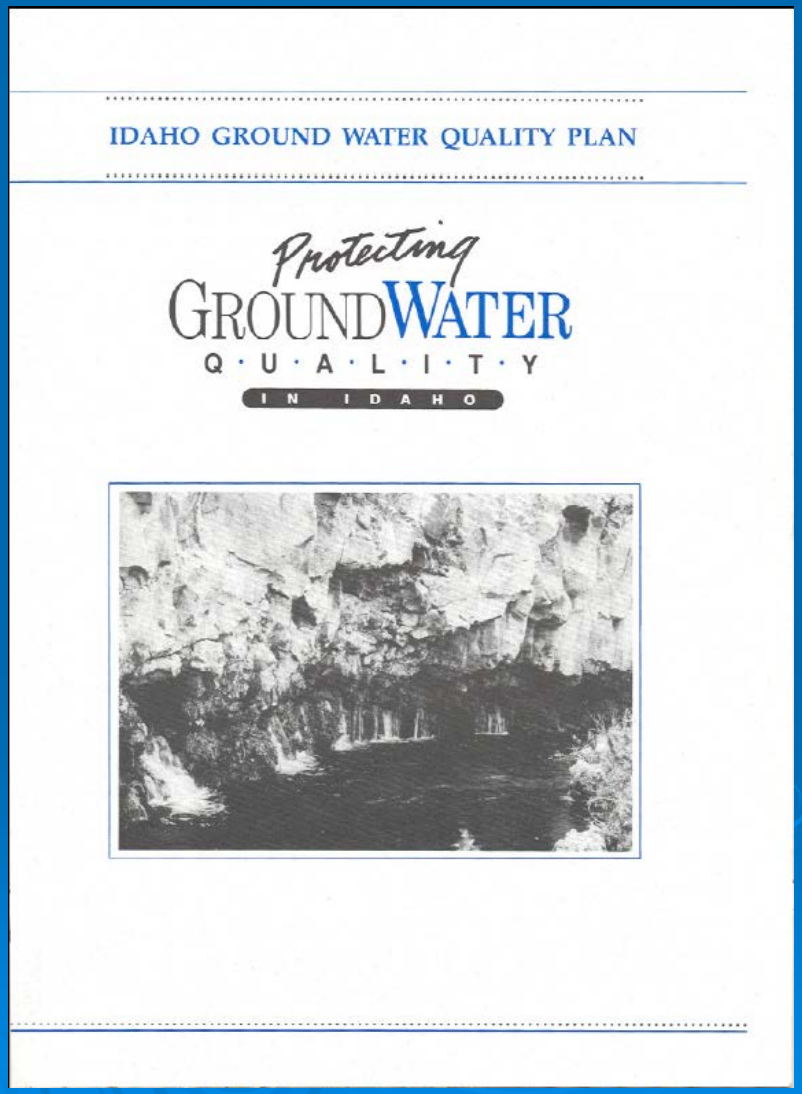




Wells are not generally sampled for Protozoa or Viruses

Ground Water Quality Plan

- Adopted in 1992
- Purpose is to protect ground water quality for use by the public
- Guides ground water protection activities in Idaho
- Ground water is source of drinking water for 95% of Idahoans



Managed Recharge

- Monitoring Policy V-C:

  “the policy of the state of Idaho is that any program designed specifically for the artificial recharge of ground water, existing or proposed, be consistent with the policies and management objectives for water quality and quantity.”

Managed Recharge

- Policy V-C was adopted because “artificial recharge has the potential to significantly impact the quality of ground water.”
- DEQ is directed to work cooperatively with other state agencies, to develop:
  - guidelines,
  - management practices, and
  - rules to insure that artificial ground water recharge projects comply with the Ground Water Quality Plan (1992).

Managed Recharge

- Ground Water Quality Rule (58.01.11)

  "*Activities with the potential to degrade General Resource Aquifers shall be managed in a manner which maintains or improves existing ground water quality through the use of best management practices and best practical methods to the maximum extent practical.*"

Managed Recharge Guidance

- "Guidance For Developing a Ground Water Quality Monitoring Program For Managed Recharge Projects by Land Application"

- **No DEQ Permits**

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Generational Sustainability

J.R. Simplot Company




Sustainable Simplot

Generational Sustainability

C.A.R.E. About Safety

Generational Sustainability

- Feeding the World in a *Sustainable* Way
- Energy/Greenhouse Gases
- Water
- Landscapes
- Communities

Feeding the World in a *Sustainable* Way

Feeding the World in a *Sustainable* Way

- Precision agriculture is a combination of activities
  - Satellite based auto guidance
  - Yield monitoring and mapping
  - Site specific management of soil
  - Variable rate application
  - Controlling an irrigation pivot with an iPad from across the world

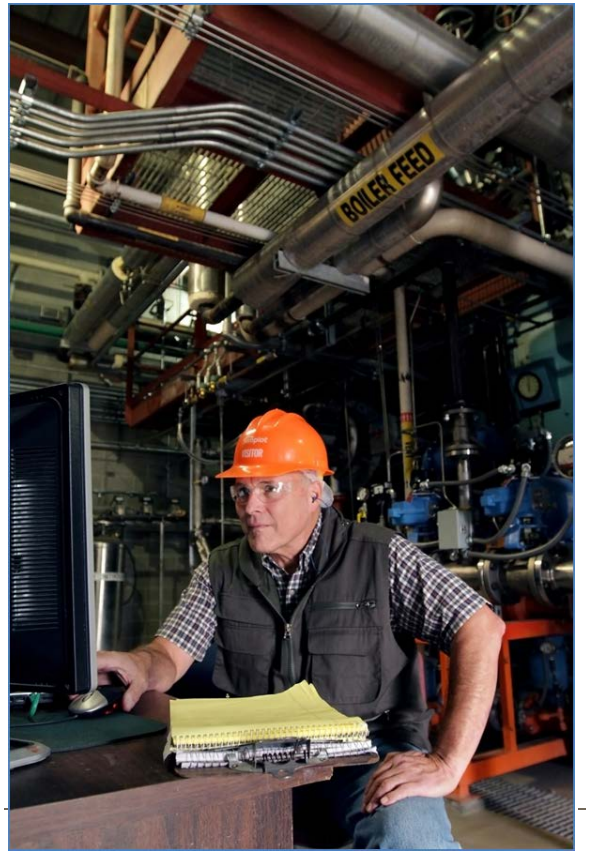
reduce water use.
lower ghg emissions.
nutrients focused on crop growth (not resulting in run-off).
pesticide reduction potential.

Energy/GHG

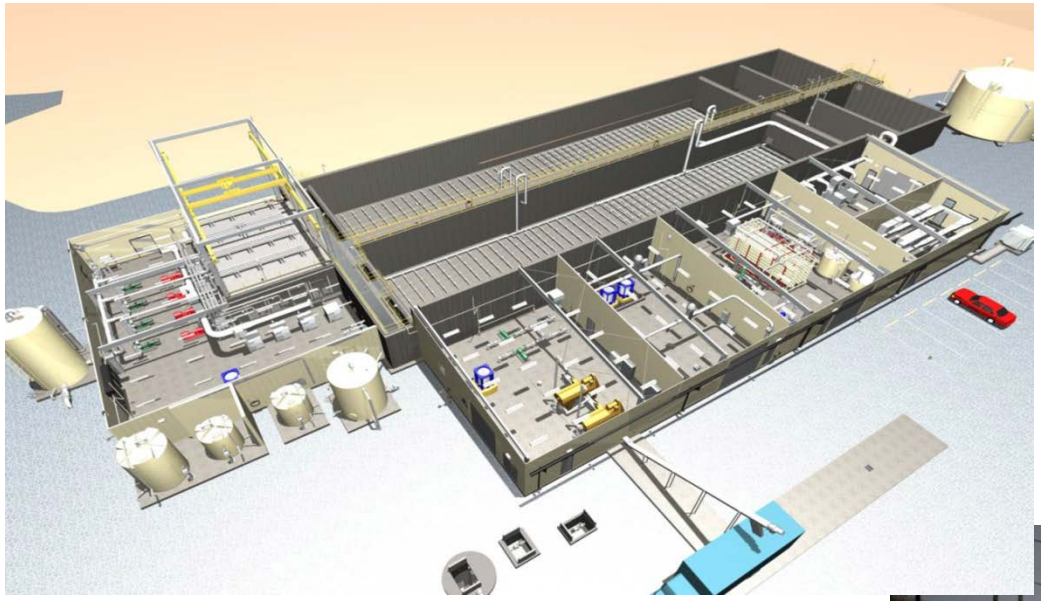
Energy intensity reduction goal of 25% in 10 years.

Moses Lake Project

Wastewater treatment improvements.
Generated verifiable ghg credits.
Provide bio-fuel for boiler.



Water



New potato processing plant in Caldwell employs state of the art wastewater treatment; significant quantities of water will be treated to exceed drinking water standards so can be re-used.

Land application is used at many facilities to take treated wastewater and utilize for irrigation.

Land base for such systems is designed to match water and nutrient loading

Landscapes

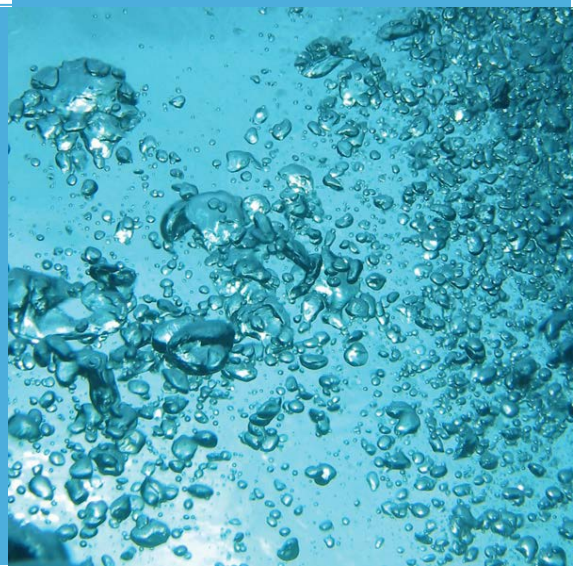
UPPER BLACKFOOT CONFLUENCE
A CONSERVATION PARTNERSHIP

WWF
WORKING WITH JOHN WEST TO SAFEGUARD OUR OCEANS

People & Communities

C.A.R.E.
About Safety

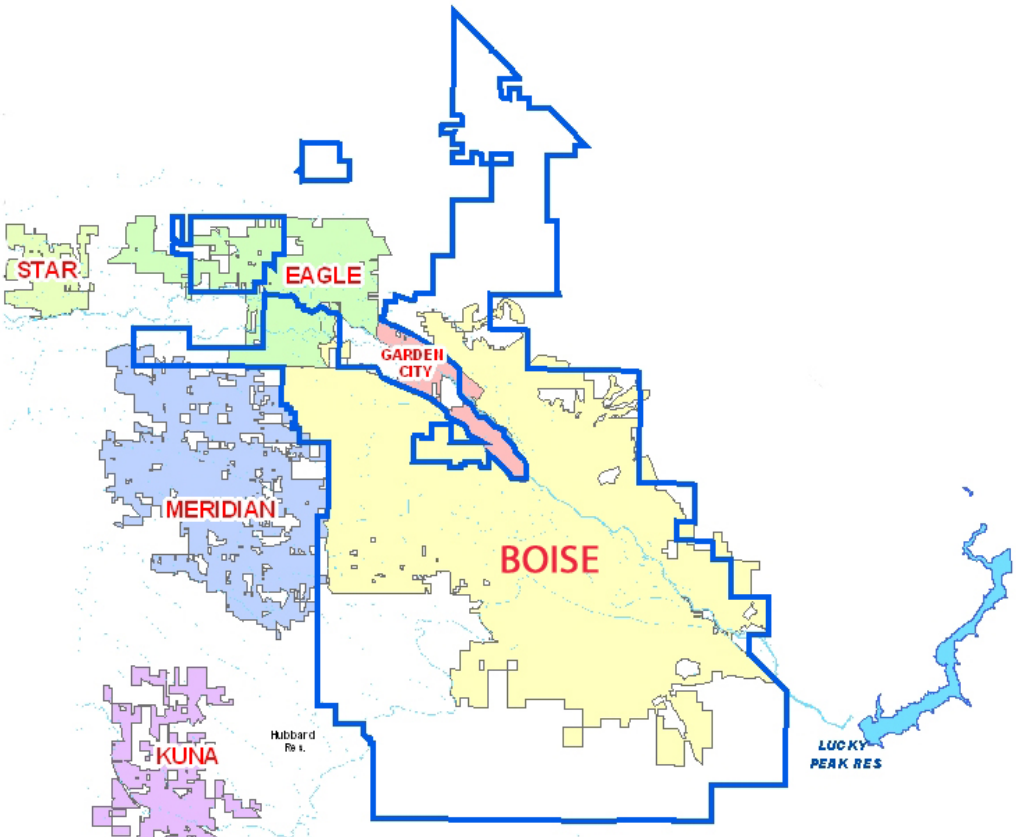

Sustainable Simplot
Leadership in Respect for Resources
"Environmental Performance Today Affects Our Business Tomorrow"



United Water Idaho and Sustainability

Greg Wyatt, Vice President/General Manager
Idaho Water Resources Board
April 15, 2014

United Water Idaho - Overview



Private company since 1890

98 employees

87,000 customer connections

242,400 population served

2 surface water plants

81 wells

15.4 B gallons produced (2013)

70% Ground Water

30% Surface Water

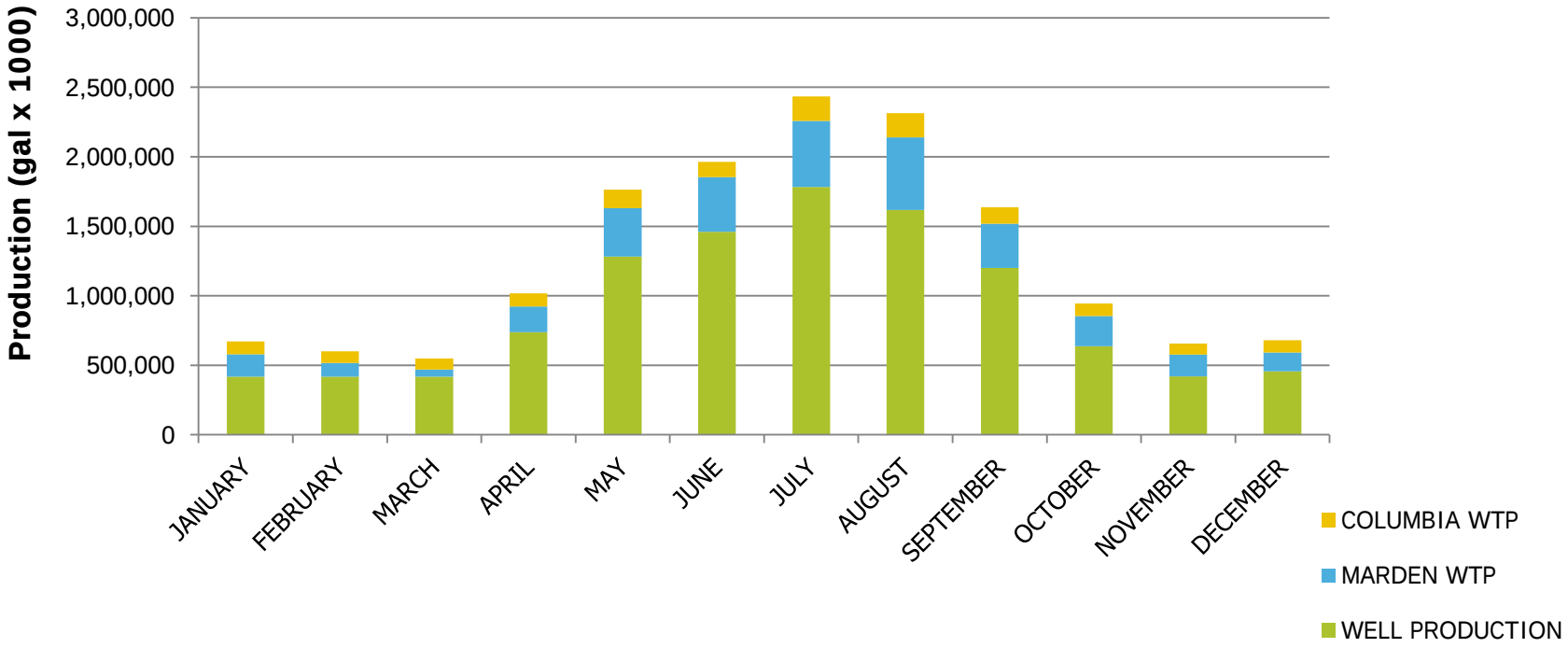
1,222 miles of mains (2013)

<6% Water loss (2013)

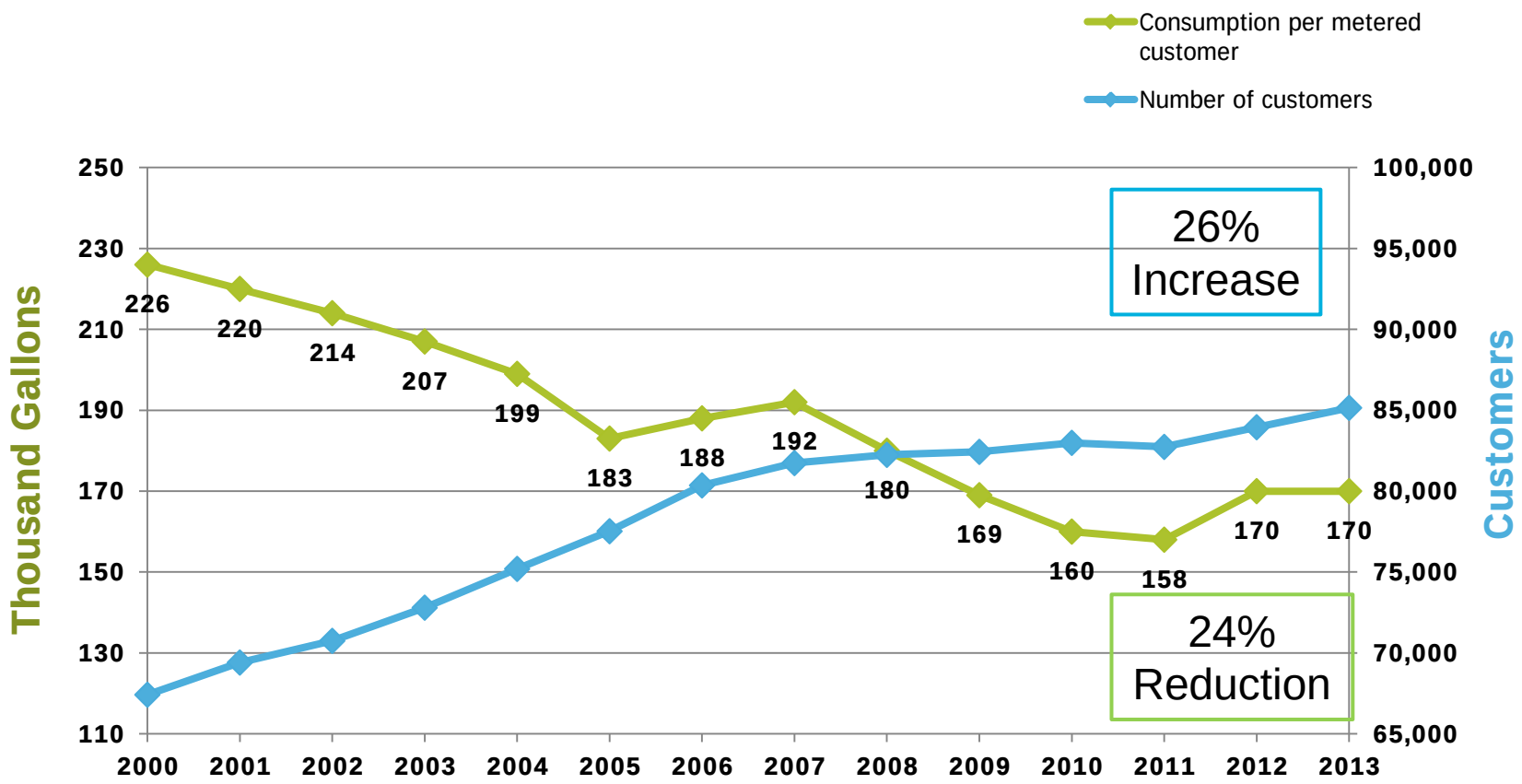
United Water Idaho
2009 Sustainability Charter

“Meeting the needs of the present without compromising the ability of future generations to meet their own needs. To that end, United Water Idaho will seek to provide safe, proper and adequate water service to customers while looking for ways to reduce, reuse, and recycle the various resources required to provide this service.”

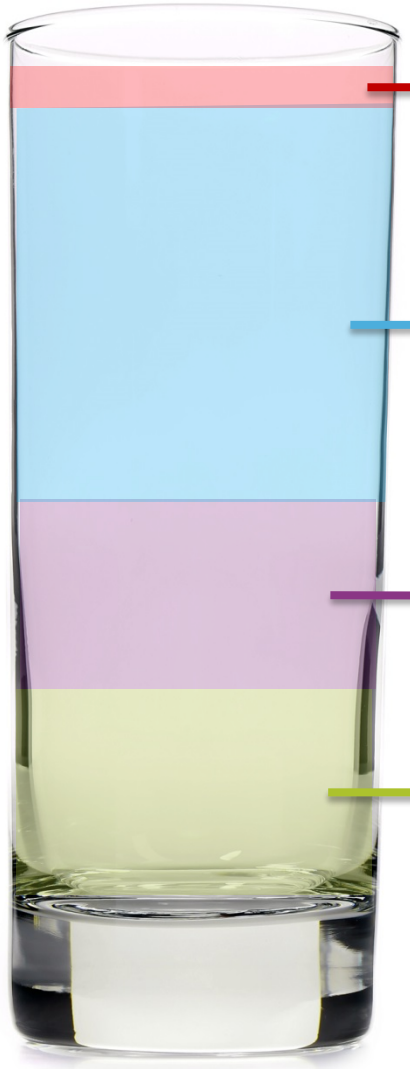
United Water Idaho Water Production - 2013



Annual Metered Customer Consumption Trend



TYPICAL YEAR SURFACE WATER USE: ~9,000 AF



Exchange Rights 6%

Natural and Flood Flow 44%

Contracted Storage Space 23%

Rental Pool 27%

Water Supply Sustainability in Action

- **Conservation Programming/Education**
  - Media campaign – TV, website, inserts
  - Student education – in/out classroom
  - Water-wise landscaping classes
  - Free conservation kits
- **Partnering in the Valley**
  - S.E. Boise Groundwater Management Area
  - Treasure Valley Hydrologic Project
  - Negotiated rule making on well construction standards
  - Treasure Valley CAMP
  - N. Ada Co. Technical Working Group
- **Aquifer Storage and Recovery (ASR)**
- **Aquifer measurement**

Conservation bill insert

Swift ASR well house

Planning for the Future

- **Integrated Municipal Application Package (IMAP)**
  - 50-year Planning Horizon/Master Water Plan
  - Long-term supply plan under 1996 Municipal Water Rights Act
- **Master Facilities Plan – focuses on water facilities planning**
- **Economic Sustainability**
  - Balance between future needs and costs (for water & to customers)
- **Conjunctive Management**

Thank You!

Questions?

2/7/2014WRP Committee Recommendations

Proposed Legislative Revisions to the State Water Plan

Policy	Reviewed/ Rejected	Reviewed/ Accepted	Reviewed/ Moved for further work	Comments
Policy 1I Aquifer Recharge	X			
Policy 1K Comprehensive Aquifer Management Plans	X			
Policy 2B Federally listed and Other Aquatic Species			X	
Policy 2C Minimum Stream Flows			X	
Policy 2D State Protected River System	X			
Policy 2E Riparian Habitat and wetlands			X	Proposed for elimination
Policy 2F Stream Channel Rehabilitation		X		
Policy 2G Safety Measures Program	X			
Policy 3D Funding Program	X			
Policy 3E Water Resource Planning Program	X			
Policy 3G Climate Variability			X	Proposed for elimination
Policy 4E Snake River Basin New Storage	X			
Policy 6A Conservation Plans in the Salmon/Clearwater River Basins			X	
Policy 6B Minimum Stream Flow Water Rights and Other Innovative Measures to Address Aquatic Species Concerns			X	

2012
IDAHO STATE WATER PLAN

Policies with proposed revised based on discussion with legislators during 2013 session

Policies with proposed revisions are highlighted on the Table of Contents

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Table of Contents

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Table of Contents (cont.)

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LIST OF TABLES

LIST OF FIGURES

Comment [A1]: Reviewed/No revisions recommended

1I - AQUIFER RECHARGE

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

Discussion:

Managed aquifer recharge: Managed recharge projects can~~may~~ be an appropriate means for enhancing ground and surface water supplies, providing mitigation to senior water right holders 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.~~ Idaho Code § 42-234(4) requires that managed recharge projects do not injure existing water rights and gives the Director authority to approve, disapprove, or require alterations in the methods employed to achieve ground water recharge. The effects on ground water and surface water budgets from managed recharge projects should ~~must~~ be monitored to determine the effectiveness of such projects after implementation.~~.~~

The Board supports and assists in the development of managed recharge projects that further water conservation and increase water supplies available for beneficial use. 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 is~~may be~~ an important component of some aquifer water budgets~~.~~, and should be maintained and encouraged consistent with state law.

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 managed recharge projects to document effects. ~~on water supply and water quality.~~
- ~~Measure, quantify, and assess the benefits of~~Monitor and evaluate incidental recharge to document effects.. ~~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.
- Benefits of incidental recharge documented. ~~Aquifer Storage and Recovery Task Force recommendations submitted.~~

Comment [A2]: Reviewed/No revisions recommended

1K - COMPREHENSIVE AQUIFER MANAGEMENT PLANS

The Idaho Water Resource Board will complete and implement comprehensive aquifer management plans ~~as required by the legislature. to address the changing 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 Board and the Department with the necessary information to develop comprehensive aquifer management plans, ("CAMPs") 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 CAMPs to obtain sustainable water supplies and provide for the optimum use of a region's water resources.

Idaho's first CAMP 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 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 and~~.~~ t~~T~~he 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 CAMPs 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 CAMPs completed.
- Number of CAMPs implemented.

2B - FEDERALLY LISTED AND OTHER AQUATIC SPECIES

Comment [A3]: Reviewed/revisions recommended (see yellow highlights)

The state asserts primacy over the management of its fish and wildlife and water resources. Accordingly, any reintroduction or introduction of federally listed species or other aquatic species without state consultation and approval is against the policy of the State of Idaho because it would impair or impede the state's primacy over its water resources. Idaho Code § 67-818(5).

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Discussion:

The intersection between state water rights and the Endangered Species Act ("ESA") requires development of integrated solutions to water allocation conflicts. Pursuant to Idaho Code § 36-103, the Idaho Fish and Game Commission, through the IDFG, is responsible for the preservation, protection, perpetuation, and management of all wildlife, including aquatic species, within Idaho. ~~IDFG also maintains a list of Species of Greatest Conservation Need, species that are low in numbers, limited in distribution, or have suffered significant habitat losses.~~ The OSC is responsible for the coordination of all state activities affecting endangered, threatened, and candidate species, and species petitioned to be listed under the ESA, and rare and declining species. Idaho Code § 67-818. OSC coordinates state implementation and response to federal recovery plans and participates in regional efforts with state and federal agencies and tribes on issues related to such species. Idaho Code § 67-818. Pursuant to Chapter 19, Title 22, Idaho Code, the ISDA is responsible for the regulation of aquatic invasive species. All activities related to the introduction or reintroduction of aquatic species that would affect Idaho's fish and wildlife and water resources should be coordinated through these agencies, including species listed under the ESA. In addition, Idaho Code § 67-6302 states that no action may be taken by any federal agency to introduce or reintroduce any species into the state of Idaho without first securing the approval of the Idaho legislature.

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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 can be 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, maintain local economies, and assure state primacy over water resources while, at the same time, providing natural resource protection.

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In 2005, ~~T~~the legislature ~~The Idaho Water Resource Board holds~~ established 205 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 Snake River Water Rights Agreement"). The minimum stream flow water rights are held by the Idaho Water Resource Board and, provide significant protection for ~~ESA-listed~~aquatic 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

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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.~~ These programs also assist in the implementation of the Columbia Basin Fish Accords in which the state, the Bonneville Power Administration, and the U.S. Army Corps of Engineers ("USACE") agreed to address issues associated with the direct and indirect effects of the Federal Columbia River Power System and U.S. Bureau of Reclamation's ("USBOR") Upper Snake River Project on the fish and wildlife resources in the Columbia River Basin. ~~As discussed in Policy 6B, these projects target flow-related limiting factors in the Lemhi and Pashimeroi rivers.~~

The 2004 Snake River Water Rights Agreement also provides for the development of agreements 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. The Board, in collaboration with other state agencies and local units of government, develops local and regional conservation strategies that contribute to the protection and recovery of aquatic species.~~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 agreements.
- ~~Collaborate with OSC, IDFG, other state and federal agencies, affected Indian tribes, local units of government and local stakeholders to develop and implement conservation programs that preclude the need for listing of species and contribute to listed species' recovery.~~
- Coordinate with OSC, ~~and~~ IDFG and local stakeholders on species conservation issues.~~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.~~

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- Number of strategies implemented in coordination with OSC, ~~and~~ IDFG, and local stakeholders that preclude the need for listing under the ESA and result in listed species' recovery.

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2C – MINIMUM STREAM FLOWS

Comment [A4]: Reviewed/revisions recommended (see yellow highlights)

The Idaho Water Resource Board will ~~exercise its authority to~~ establish and to protect minimum stream flow water rights in accordance with Chapter 15, Title 42, Idaho Code, on those water bodies where it is in the public interest to protect and support instream uses.

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Discussion:

Minimum stream 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 1925 and 1927, the legislature declared that the preservation of certain lakes for scenic beauty, health, and recreation was a beneficial use of water. 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. Chapter 15, Title 42, Idaho Code, 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 2004 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 ESA.~~ Similarly, the legislature has authorized the 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 satisfy~~maintainfor~~ minimum stream flow water rights ~~to maintain or enhance instream flow~~ in a manner that respects water use practices, and addresses community concerns.

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The Water Supply Bank and local rental pools are tools that can be used to satisfy ~~maintain to improve instream flowsfor~~ minimum stream flow water rights through voluntary willing buyer willing seller transactions.~~cooperation and to meet local needs~~. It is important to monitor existing mechanisms for establishing local rental pools to determine whether additional strategies are required to meet local needs. It is also important to monitor whether existing mechanisms for satisfying ~~meeting~~ minimum stream flow water rights ~~instream flow needs~~ are adequate.

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Implementation Strategies:

- Monitor whether existing mechanisms for satisfying~~meeting instream flow~~minimum stream flow water rights needs are adequate.

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- 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~~in accordance with ~~pursuant to~~ Chapter 15, Title 42, Idaho Code.
- Monitor existing mechanisms for establishing local rental pools to determine whether additional strategies are required to meet local needs.
- Establish local rental pools to meet ~~instream flow needs as requested~~minimum stream flow water rights.

Milestones:

- Annual inventories of minimum stream flow water rights completed.
- Minimum stream flow water rights established.
- ~~Instream flow needs~~Minimum stream flow water rights satisfied~~met~~.

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 Board to protect highly valued waterways as state protected rivers subject to legislative approval. 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 Board works with 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.

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Comment [A5]: Reviewed/No revisions recommended

- Establish agency policy and procedures to ensure requirements of the protected rivers program are addressed when the Department 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 to determine 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.

Comment [A6]: See next page for suggested revision of entire policy

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 provide support to numerous species across much of the state. Riparian zones and wetlands should be protected to preserve their ecological values and functions. The Board supports voluntary efforts to restore riparian zones and wetlands.

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 regulates the alteration of stream channels and stream beds below the mean high watermark. Idaho Code §§ 42-3801 – 42-3812. Local governments are authorized to regulate land use and development. The DEQ 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 Board supports voluntary watershed-based conservation strategies for the protection of riparian and wetland areas above the mean high water mark 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 – 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.~~

2E - RIPARIAN HABITAT AND WETLANDS

Voluntary efforts to protect and develop riparian habitat and wetlands within the state is in the public interest.

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. Wetlands help to maintain and enhance water quality by filtering out sediments and associated non-point source pollutants from adjacent land uses. Wetland areas also store water and stabilize dry weather stream flows and flood hazards. Urban wetlands help to enhance water quality by removing pollutants from storm water and providing temporary storage of runoff water that can lessen the impacts of localized flooding.

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 regulates the alteration of stream channels and stream beds below the mean high watermark. Idaho Code §§ 42-3801 - 42-3812. Local governments are authorized to regulate land use and development. The DEQ 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 March 2013 the Joint Legislative Oversight Committee of the Idaho Legislature directed the Office of Performance Evaluations to evaluate opportunities to optimize water quality programs, including the challenges in implementing a program for the trading of pollutant reductions in Idaho. Protection and enhancement of riparian areas and wetland development is a key component of water quality trading programs. Water quality trading is a market-based approach that pairs buyers of water quality credits with people generating those credits. Water quality trading is a voluntary effort in which farmers and ranchers have full freedom
to participate or not and provides an additional source of funding for implementing and maintaining conservation practices for agronomic, economic, and environmental and health benefits. Purchasing water credits allows municipalities and industries more flexibility in meeting their regulatory requirements.

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 Board supports voluntary watershed-based conservation strategies for the protection of riparian and wetland areas above the mean high water mark developed and implemented through collaboration with water users, land managers, local governments, and state and federal agencies.

Implementation Strategies:

- Support the implementation of voluntary strategies to protect Idaho's wetlands and riparian areas.
- Support the implementation of water quality trading programs.
- Evaluate whether the effectiveness of the Stream Channel Protection Act, [Idaho Code §§ 42-3801 - 42-3812], adequately assists in the protection of wetlands and riparian areas.
-

Milestones:

- Voluntary projects implemented.

2E~~F~~ - 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.

Comment [A7]: Reviewed/recommend revisions as proposed by legislators and "of" in policy deleted

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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. In addition, it is in the state's interest to ensure that the stream channels of the state and their environments are protected and restored through the implementation of voluntary restoration projects. The Department also regulates the stream channels and stream beds below the mean high watermark. Idaho Code § 42-3801 – 42-3819(a).

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.

2FG - SAFETY MEASURES PROGRAM

Owners of water distribution and storage facilities are encouraged to establish or continue voluntary 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 sometimes occur in waterways at or near water distribution and storage facilities in Idaho because of the inherent dangers of these facilitiesmoving water. 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 reduce such occurrences. The Idaho Water Resource Board supports these voluntary initiatives.

Implementation Strategies:

- Secure and provide funding for the Encourage the continued 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.

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Milestones:

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

Comment [A8]: Reviewed/recommend revisions as proposed by legislators plus additional revisions

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Comment [A9]: Reviewed/No revisions recommended

3D - FUNDING PROGRAM

Various fFunding mechanisms exist 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 may 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 Board's Revolving Development Fund and Water Management Account are supported by appropriations 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 or the Idaho Water Resource Board.

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

~~The ESPA CAMP provides 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. As discussed in Policy 4E, the Board has entered into agreements with the USACE and the USBOR 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~~voluntary private funding partnerships and projects.

Milestones:

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

3E - WATER RESOURCE PLANNING PROGRAM

Comment [A10]: Reviewed/No revisions recommended

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.

As demands for water increase, the need for water-related planning escalates. The planning process provides opportunities for involving all affected parties – water users, resource managers, and policymakers, identifies problems, alternatives, and solutions, and allows for continuous updating and revisions in light of new problems and opportunities.

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~~ 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 CAMPs.~~
- ~~Completion and adoption~~ Adoption of CAMPs for remaining priority aquifers.

3G - CLIMATE VARIABILITY

Comment [A11]: See next page for suggested revision of entire policy

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 management 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.~~

Climate Variability Policy

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

Climate parameters, including temperature and precipitation, vary on all time scales, from year to year, as well as from one decade or century to the next. The complex nature of this variability requires flexible management tools and planning strategies to ensure the sustainability of Idaho's water supplies into the future. For example, most areas of the state rely on snowpack in the mountains as a major component of their annual water supply. Traditionally, the snow melts gradually during the spring months, and runoff is then stored in man-made reservoirs and ground water basins for use by communities, farms, and businesses. The Department's review of snowpack accumulation, snowmelt, stream flow timing, and temperature trends over the past few decades indicates that since the 1950s, there has been an increase in the annual variability of temperature and precipitation resulting in changes in the timing and distribution of seasonal stream flows.

Effective water management requires (1) knowledge of future water supply and demand; (2) infrastructure to maximize available supplies; (3) flexible strategies to resolve water supply imbalances; and (4) planning for uncertainty. Increased monitoring and data collection will help managers develop adaptive approaches to changes in water supply patterns and conditions. Water management strategies may include increasing water supplies through ground water and surface water storage facilities; voluntary transactions resulting in demand reduction, conservation; improved operational efficiency, and weather modification. Water needs and water supply characteristics in different regions will determine which strategies are most effective. Water planning studies can help water users prepare for anticipated conflicts over supply and competing water needs.

Implementation Strategies

1. Increase data collection and technical analysis to improve understanding of variable water supply patterns and conditions.

2. Investigate feasibility of surface and ground water storage projects that optimize the existing water supply.
3. Evaluate voluntary strategies for increasing flexibility to adapt to changes in the water supply cycle.
4. Develop and update flood control rule curves and risk assessments.

Milestones

1. Construction or expansion of water supply projects.
2. Voluntary strategies for adapting to changes in the water supply cycle implemented.
3. Flood control rule curves updated and risk assessments completed.

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4E - SNAKE RIVER BASIN NEW STORAGE

Comment [A12]: Reviewed/recommend no revision

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 for impacts on hydropower generation.

Discussion:

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.

Surface Water Projects

New Snake River surface storage projects should be investigated and constructed if determined to be feasible. 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.

Diversion of water from the main stem of the Snake River between Milner and the Murphy Gaging station for storage during the period November 1 to March 31 will have a significant impact on hydropower generation. Thus, any new storage projects in this reach should be coupled with provisions that mitigate for the impact of such storage 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 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 moving forward:

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.
- Evaluate the economic, social and environmental benefits and costs of the proposed surface projects.

Milestones:

- Aquifer recharge program implemented.
- Actions taken to determine feasibility of identified storage projects.

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6. SALMON/CLEARWATER RIVER BASINS

Comment [A13]: Draft Revisions pending

6A - CONSERVATION PLANS IN THE SALMON/CLEARWATER RIVER BASINS

Voluntary, community-based conservation plans and strategies for the benefit of ~~ESA listed~~aquatic species ~~and other species of concern are key~~ are a component~~s~~ 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~~aquatic species 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~~address instream ~~flow conditions pursuant to state law~~uses through state minimum stream flow water rights and other provisions of state law.

- **2004 Snake River Water Rights Agreement**

The 2004 Snake River Water Rights Agreement resolved all of the issues related to the Nez Perce Tribe's water right claims in the SRBA. In the Salmon and Clearwater basins, a ~~the primary~~ goal of the settlement agreement provisions is to ~~conserve and enhance fish habitat in order to~~ address aquatic species ~~ESA~~ concerns. There are three cornerstones to such efforts: the establishment of state minimum stream flow~~s~~ water rights, 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~~address aquatic species concerns.

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 OSC, the state has begun early implementation of voluntary conservation measures that provide

immediate benefits to ~~ESA-listed fish~~aquatic species and provide the foundation for implementation of long-range plans.

As a result of the 2004 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~~ existing and certain future water right uses.

Implementation Strategies

- ~~Ensure that the water right application~~ and transfer 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 applications and ~~water right~~ transfers address ~~limiting factors for ESA-listed fish.~~conservation plans.
- ~~Water right permits address limiting factors for ESA-listed fish.~~
- ~~Flow-limited reach GIS maps completed and in use.~~

6B - ~~INSTREAM FLOW PROGRAM IN THE SALMON/CLEARWATER RIVER BASINS~~MINIMUM STREAM FLOW WATER RIGHTS AND OTHER INNOVATIVE MEASURES TO ADDRESS AQUATIC SPECIES CONCERNS IN THE SALMON AND CLEARWATER RIVER BASINS

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

Discussion:

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The Idaho Water Resource Board administers and participates in a variety of programs to address aquatic species concerns ~~improve instream flows~~ throughout the Salmon and Clearwater River basins. This programmatic approach to addressing the needs of ~~ESA-listed and other sensitive species~~ aquatic 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 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~~aquatic 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. Continued implementation of the Columbia Basin Water Transactions Program in the Salmon and Clearwater basins will keep agriculture productive and improve instream flows for ESA-listed and other sensitive fish species.~~

- ~~**Section 6 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 2004 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 Board's instream flow programs are central to the development and implementation of Section 6 Conservation Plans.~~

- ~~**Pacific Coast Salmon Restoration Fund**~~

~~The Pacific Coast Salmon Restoration 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 Restoration 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 USACE, and the USBOR addresses issues associated with the direct and indirect effects of construction, inundation, operation and maintenance of the Federal Columbia River Power System, and USBOR'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~~address aquatic species concerns 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~~address aquatic species concerns and support local economies.

Milestones:

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

7. PANHANDLE RIVER BASINS

7C - NAVIGATION, FISHERIES, AND RECREATION IN THE PANHANDLE RIVER BASINS

Comment [A14]: Reviewed/No revisions recommended

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 FERC 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 IDFG 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~~Coeur 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 USACE 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 Lakes 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.

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SUSTAINABILITY IN THE STATE WATER PLAN

Discussion Paper by Helen Harrington 4/15/14

On September 5, 2012, Governor Otter sent a letter to the Idaho Water Resource Board requesting that the Board develop "visionary procedures and policies that will sustain the reliability of water supplies in the future". Additionally, the Governor directed that the Board "define water sustainability in a way that ensures that our values are respected and the unique qualities of our resources are protected".

The Idaho State Water Plan adopted by the Board in 2012 contains 49 policies which are intended to guide water management, development, conservation and optimum use of Idaho's water. Although there is no specific policy titled "sustainability", the theme of sustainability is woven throughout the SWP. The policies provide support and identify actions which will lead to reliability for water supplies to meet current and future demands and changing conditions.

The concept of sustainability is often described as having three components: economic, environmental and social. Focusing on water sustainability, the guidance from the Governor clearly characterizes sustainability as providing reliable water supply for current needs and water availability for future economic development and job creation. Underlying all aspects of the SWP and sustainability is the commitment to Idaho values of property rights and state water law.

I propose that rather than a "standalone" policy on sustainability, the Board include a *Vision on Water Sustainability* in the introductory section of the SWP. Numerous policies in the SWP address sustainability and reliability; it would make sense to lay out a vision which encompasses the entire SWP. Sustainability is a fundamental concept which is described throughout the SWP in both the language of the policies and discussion as well as the actions listed in the implementation strategies.

Selected Examples:

Policy 1E: Conjunctive Management: Where a hydraulic connection exists between ground and surface waters, they should be conjunctively managed to maintain a **sustainability water supply**.

Policy 1K: CAMP (Narrative): Board will be responsible for implementing the CAMPs to obtain **sustainable water supplies** and provide for the optimum use of a region's water resources.

Policy 1L: surface Water Supply Enhancement: Surface water development will continue to play an important role in **meeting Idaho's future water needs**.

Policy 3E: Water Resource Planning Program: Comprehensive water planning will help ensure **sufficient water supplies to satisfy Idaho's future water needs**.

Policy 4B: Snake River Milner Zero Minimum Flow (Implementation Strategies): Develop and maintain a **reliable supply of water for existing sues and future beneficial uses** above Milner Dam, and (2) Implement **a sustainable aquife**r recharge program.

Policy 4D: Conjunctive Management of the ESPA and Snake River: The ESPA and the Snake River below Milner Dam should be conjunctively management to provide a **sustainable water supply for all existing and future beneficial uses** within and downstream of the ESPA.

Policy 4F: Snake River Basin Agriculture: Development of supplemental water supplies **to sustain existing agriculture development** is in the public interest.

These are just a few examples of how sustainability and reliability is incorporated throughout the SWP. Because the concept of sustainability is pervasive throughout the plan, a Vision for Sustainability would allow for the Board to describe sustainability as a goal of the plan. I propose that a draft Vision for Water Sustainability in Idaho be developed for the IWRB Water Resource Planning Committee to work on. A very initial first draft might include:

Vision Statement:

A sustainable and reliable water supply is fundamental to Idaho's economic future and quality of life.

Water is the cornerstone of Idaho's economic vitality and culture. The history of Idaho is steeped in developing the water resources to enhance growth, open new lands for agricultural development, and support populations. Idaho's values are reflected in the many uses of water which flow through our lives: irrigation, power, drinking, mining, recreation, industrial, wildlife, heating and more.

The challenge for water managers today is balancing competing needs, providing protection for property rights, and developing reliability and flexibility to ensure water is available to meet both present and future needs. The theme of sustainability is woven throughout the Idaho State Water Plan. The policies provide support and identify actions which will lead to reliability for water supplies to meet current and future demands and changing conditions.

The following are the guiding principles on which a sustainable water supply will be integrated:

- Idaho's sovereignty and state law will determine the use of the water resources of Idaho.
- Water management should accommodate sustainable economic growth.
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