AGENDA

IDAHO WATER RESOURCE BOARD
Work Session for MEETING NO. 3-16
May 19, 2016 at 8:30 am

Idaho Water Center
Conference Rooms 602 B,C,D
322 East Front Street, Boise, Idaho 83720

1. Roll Call
2. FY 2017 Secondary Aquifer Fund Budget
3. Treasure Valley Ground Water Model
4. Wood River Ground Water Model
5. Priest Lake Water Management Study
6. Weiser Basin Sustainability Projects
7. MHAFB Water Supply/Pipeline Project Update
8. Proposed West Ada Area of Drilling Concern
9. Producers Canal Company Loan
10. Water District #01 Rental Pool Procedures
11. ESPA Recharge
12. ESPA Recharge Availability Scenarios
13. Adjourn

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 jennifer.strange@idwr.idaho.gov or by phone at (208) 287-4800.

MEMO

To: Idaho Water Resource Board
From: Brian Patton
Subject: Secondary Aquifer Planning, Management, & Implementation Fund
Date: May 9, 2016

On May 6, 2016 the IWRB Finance Committee and the IWRB Aquifer Stabilization Committee met in a joint meeting in Jerome, Idaho to consider a draft Fiscal Year 2017 Budget for the available funds in the Secondary Aquifer Planning, Management, and Implementation Fund.

The Committees reviewed progress on ESPA Managed Recharge, reviewed Fiscal Year 2016 spending, and developed a recommended FY2017 Budget based on prioritizing needs and available funds.

A resolution is attached that would approve the recommended Fiscal Year 2017 Budget for the Secondary Aquifer Planning, Management, and Implementation Fund. The recommended budget is included in the resolution as "Attachment A". The Committees reviewed the resolution, and with some amendments, provided a "do pass" recommendation to the full IWRB.

BEFORE THE IDAHO WATER RESOURCE BOARD

IN THE MATTER OF STATEWIDE WATER SUSTAIBILITY AND AQUIFER STABILIZATION, AND THE SECONDARY AQUIFER PLANNING, MANAGEMENT, AND IMPLEMENTATION FUND FISCAL YEAR 2017 BUDGET	A RESOLUTION

WHEREAS, House Bill 547 passed and approved by the 2014 Legislature allocates $5 million annually through 2019 from the Cigarette Tax to the Idaho Water Resource Board's (IWRB) Secondary Aquifer Planning, Management, and Implementation Fund (Secondary Aquifer Fund) for statewide aquifer stabilization; and

WHEREAS, Senate Bill 1402 passed and approved by the 2016 Legislature allocated $5 million in ongoing General Fund dollars and $2.5 million in Economic Recovery Reserve Funds to the IWRB's Secondary Aquifer Fund for statewide water sustainability and aquifer stabilization; and

WHEREAS, un-allocated funds already in the Secondary Aquifer Fund will be carried forward into the Fiscal Year 2017 budget; and

WHEREAS, many aquifers across Idaho are declining or have existing or potential conjunctive administration water use conflicts, including the Eastern Snake Plain Aquifer, the Mountain Home Aquifer, the Wood River Valley Aquifer, the Big Lost Aquifer, the Raft River Aquifer, the Malad Valley Aquifer, the Treasure Valley Aquifer, the Rathdrum Prairie Aquifer, the Palouse Basin Aquifer, the Lewiston Plateau Aquifer, and others; and

WHEREAS, the State of Idaho relies on spring discharge from the Eastern Snake Plain Aquifer (ESPA) through the Thousand Springs to assist in meeting the minimum streamflow water rights at the Murphy Gage established under the Swan Falls Agreement; and

WHEREAS, the ESPA has been losing approximately 216,000 acre-feet annually from aquifer storage since the 1950's resulting in declining ground water levels in the aquifer and declining spring flows from the aquifer; and

WHEREAS, during parts of 2013 and 2014 flows at the Murphy Gage approached the minimum flow, and in 2015 flows at the Murphy Gage went below minimum flows; and

WHEREAS, the ESPA has also been experiencing conjunctive administration water use conflicts over the past two decades that have the potential to significantly impact Idaho's economy; and

WHEREAS, on June 30, 2015 members of the Idaho Ground Water Appropriations entered into an agreement with the Surface Water Coalition whereby the ground water users agreed to reduce their consumptive use from the ESPA by 240,000 acre-feet annually and take other actions, and

WHEREAS, the 2016 Idaho Legislature passed and approved Senate Concurrent Resolution 138 supporting this agreement; and

WHEREAS, the State Water Plan includes a goal to accomplish managed recharge in the ESPA averaging 250,000 acre-feet annually; and

WHEREAS, the 2016 Idaho Legislature passed and approved Senate Concurrent Resolution 136 directing the IWRB to develop the capacity to achieve 250,000 acre-feet of annual average managed recharge to the ESPA by December 31, 2024; and

WHEREAS, the ground water use reduction and managed recharge are together designed to stabilize and then recover the ESPA; and

WHEREAS, a recent study commissioned by the IWRB predicts that approximately 160,000 to 283,000 new acre-feet of water supply may be needed to meet the DCMI needs of the growing Treasure Valley population over the next 50 years; and

WHEREAS, conjunctive administration water delivery calls have been made in the Big and Little Wood River Basins against junior-priority upstream ground water uses; and

WHEREAS, the Mountain Home aquifer is being over-drafted by about 30,000 acre-feet annually;

WHEREAS, the deep aquifer in the Palouse Basin has been declining for decades despite aggressive conservation measures; and

WHEREAS, the Department of Water Resources recently enacted Ground Water Management Areas in the Malad Valley Aquifer and the Lewiston Plateau Aquifer in response to declining ground water levels in those aquifers; and

WHEREAS, ground water levels in many aquifers are inadequate to sustain a supply of water for surface and ground water irrigation, hydropower, municipal, industrial, and other uses, the curtailment of which would cause severe economic harm to Idaho's economy; and

WHEREAS, the 2016 Idaho Legislature passed and approved Senate Concurrent Resolution 137 which recognized that stabilizing and enhancing aquifer levels is in the public interest, and directs the IWRB to take actions in aquifers across the state to stabilize and enhance aquifer levels thereby maintaining water supply for consumptive and non-consumptive uses and minimizing harm to Idaho's economy arising from water supply shortages; and

WHEREAS, on May 6, 2016 the IWRB Finance and Aquifer Stabilization Committees met in a joint meeting in Jerome, Idaho, and recommended the approval of a Fiscal Year 2017 Budget for the use of available funds in the Secondary Aquifer Fund for statewide water sustainability and aquifer stabilization purposes; and

NOW THEREFORE BE IT RESOLVED that the IWRB adopts the Fiscal Year 2017 Budget for the continuously-appropriated Secondary Aquifer Planning, Management, and Implementation Fund as shown in Attachment A to this resolution.

BE IT FURTHER RESOLVED that the budget may be adjusted if necessary based on the actual amount of Cigarette Tax funds received, interest income received, or the actual amount of carry-over from Fiscal Year 2016.

BE IT FURTHER RESOLVED that funds for budgeted ESPA managed recharge infrastructure shall be approved by the IWRB by resolution for each individual project in excess of $20,000, detailing the terms and conditions of approval, and must include conditions maintaining long-term access for recharge by the IWRB in any facilities owned by others.

BE IT FURTHER RESOLVED that expenditures for ESPA managed recharge operations, investigations and engineering for further ESPA managed recharge capacity development may proceed with no further approvals, however, the IWRB shall be kept appraised of such expenditures.

BE IT FURTHER RESOLVED that expenditures for the Treasure Valley Ground Water Model, the Wood River Ground Water Model Enhancements, and for Aquifer Monitoring Network Enhancements in Priority Aquifers, and Administrative Expenses may proceed with no further approvals, however, the IWRB shall be kept appraised of such expenditures.

BE IT FURTHER RESOLVED that expenditures for the Cooperative Cloud Seeding Program may proceed with no further approvals, however, the IWRB shall be kept appraised of such expenditures. Further, it is the IWRB's stated goal that both the state and the water users financially participate with Idaho Power in the Cooperative Cloud Seeding Program.

BE IT FURTHER RESOLVED that all other expenditures from the Secondary Aquifer Fund shall require an additional approval by the IWRB by resolution.

BE IT FURTHER RESOLVED that the IWRB may modify this budget during Fiscal Year 2017 at a properly noticed meeting of the IWRB.

_____

ROGER CHASE, Chairman

_____

VINCE ALBERDI, Secretary

ATTACHMENT A – Fiscal Year 2017 Secondary Aquifer Planning, Management, and Implementation Fund Budget

FY17 BUDGET AVAILABLE FUNDS

Projected Carry-Over From FY16		$	1,815,000
SB 1402 funds:	General Fund (ongoing)	$	5,000,000
	Economic Recovery Reserve Fund (one-time)	$	2,500,000
HB547 funds - receipt of Cigarette Tax proceeds (through 2019)		$	5,000,000
HB479 funds - remainder of North Idaho Aquifers earmark		$	109,273
Estimated interest		$	20,000
TOTAL PROJECTED TO BE AVAILABLE		**$**	**14,444,273**

BUDGET

Category	Sub-Category	FY17 Budget
ESPA MANAGED RECHARGE		
ESPA Recharge Operations	Conveyance Cost	$1,500,000
	Equipment & Supplies	$87,000
	Site Monitoring	$114,000
	Regional Monitoring	$200,000
	TOTAL	**$1,901,000**
ESPA Managed Recharge Infrastructure Projects – **Budgeted Projects**	Northside Canal recharge improvements	$4,000,000
	SWID Recharge Project	$1,000,000
	MP31 Check Dam	$1,000,000
	Egin Lakes Phase II	$500,000
Reserved for additional recharge infrastructure projects		$1,000,000
	TOTAL	**$7,500,000**
Managed Recharge Investigations – **Budgeted Investigations**	ASCC Recharge Feasibility	$300,000
	South Fork Engineering & Site Evaluation	$200,000
	NSID Recharge Feasibility	$200,000
Reserved for additional investigations and engineering		$300,000
	TOTAL	**$1,000,000**
ESPA MANAGED RECHARGE TOTAL		**$10,401,000**

(Continued)

Continued - Fiscal Year 2017 Secondary Aquifer Planning, Management, and Implementation Fund Budget

TREASURE VALLEY

Treasure Valley Aquifer Ground Water Model	$500,000
Treasure Valley Aquifer Managed Recharge Study	$200,000
Anderson Ranch Reservoir Enlargement Study	$100,000
Treasure Valley DCMI Water Conservation Study	$200,000
TREASURE VALLEY TOTAL	**$1,000,000**

WOOD RIVER VALLEY

Wood River Valley Aquifer Ground Water Model Enhancement	$200,000
WOOD RIVER VALLEY TOTAL	**$200,000**

WEISER BASIN

Weiser Basin Project	$200,000
WEISER BASIN TOTAL	**$200,000**

NORTHERN IDAHO AQUIFERS

Reserve for additional investigations related to Northern Idaho Aquifers	$109,273
NORTHERN IDAHO AQUIFERS TOTAL	**$109,273**

STATE-WIDE

Aquifer monitoring network enhancement in priority aquifers	$100,000
NRCS Snow Survey contribution	$200,000
Cooperative Cloud Seeding Program (1/3 of operations costs)	$600,000
Ground water conservation grants in priority aquifers	$200,000
Administrative expenses (public information, staff training, etc)	$75,000
STATE-WIDE TOTAL	**$1,175,000**

RESERVE FOR OTHER WORK IN PRIORITY AQUIFERS OR CARRY-FORWARD INTO FUTURE YEARS	**$1,359,000**

GRAND TOTAL	**$14,444,273**

Treasure Valley Groundwater Flow Model

Presented to the Idaho Water Resource Board by Sean Vincent
May 19, 2016

Talking Points

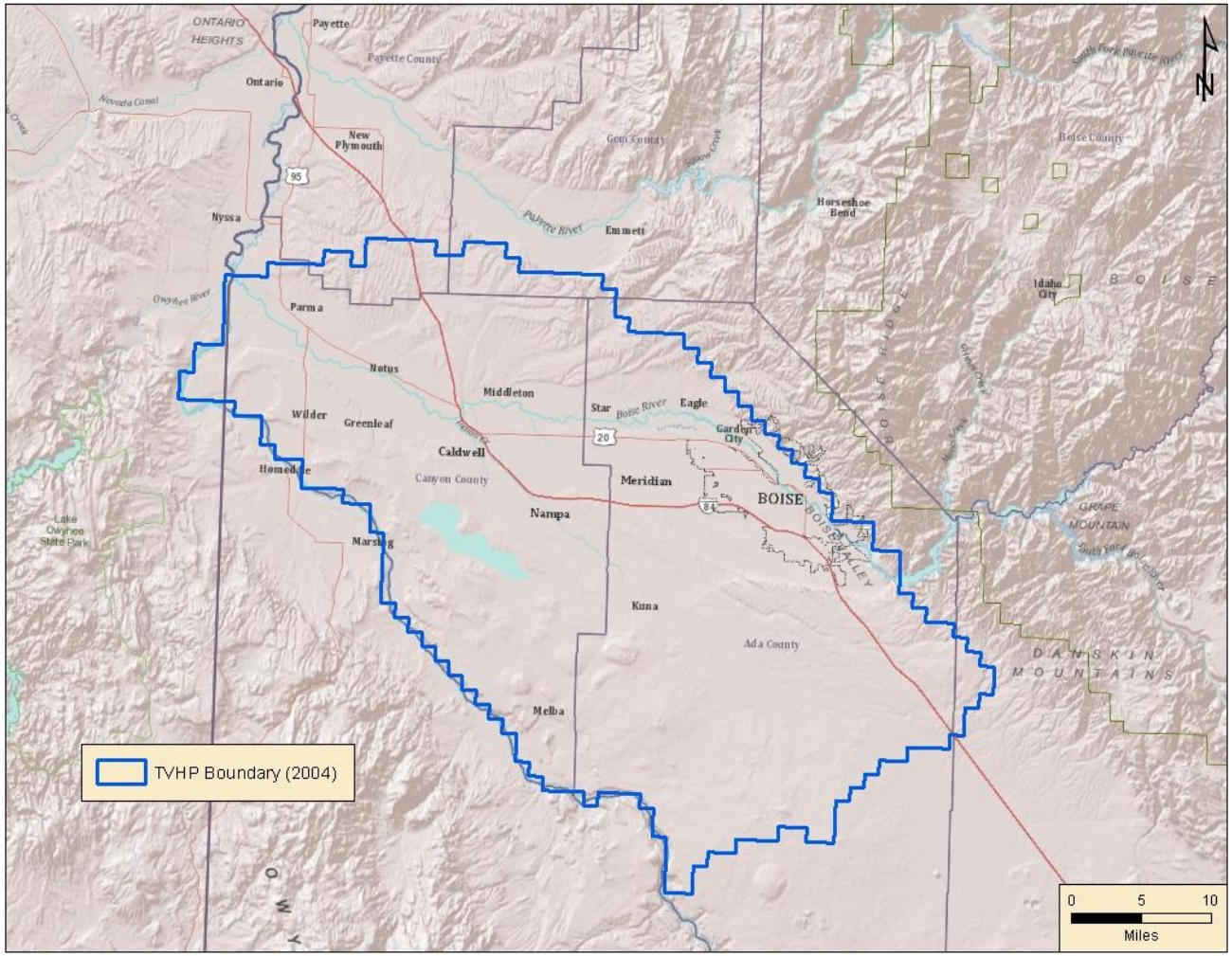
- Background
- Recent developments
  - Legislation directing model development enacted
  - Staff completed review of USBR model
    - Key findings
    - Recommendations
- Preliminary scope of work, timeline, and budget

Background

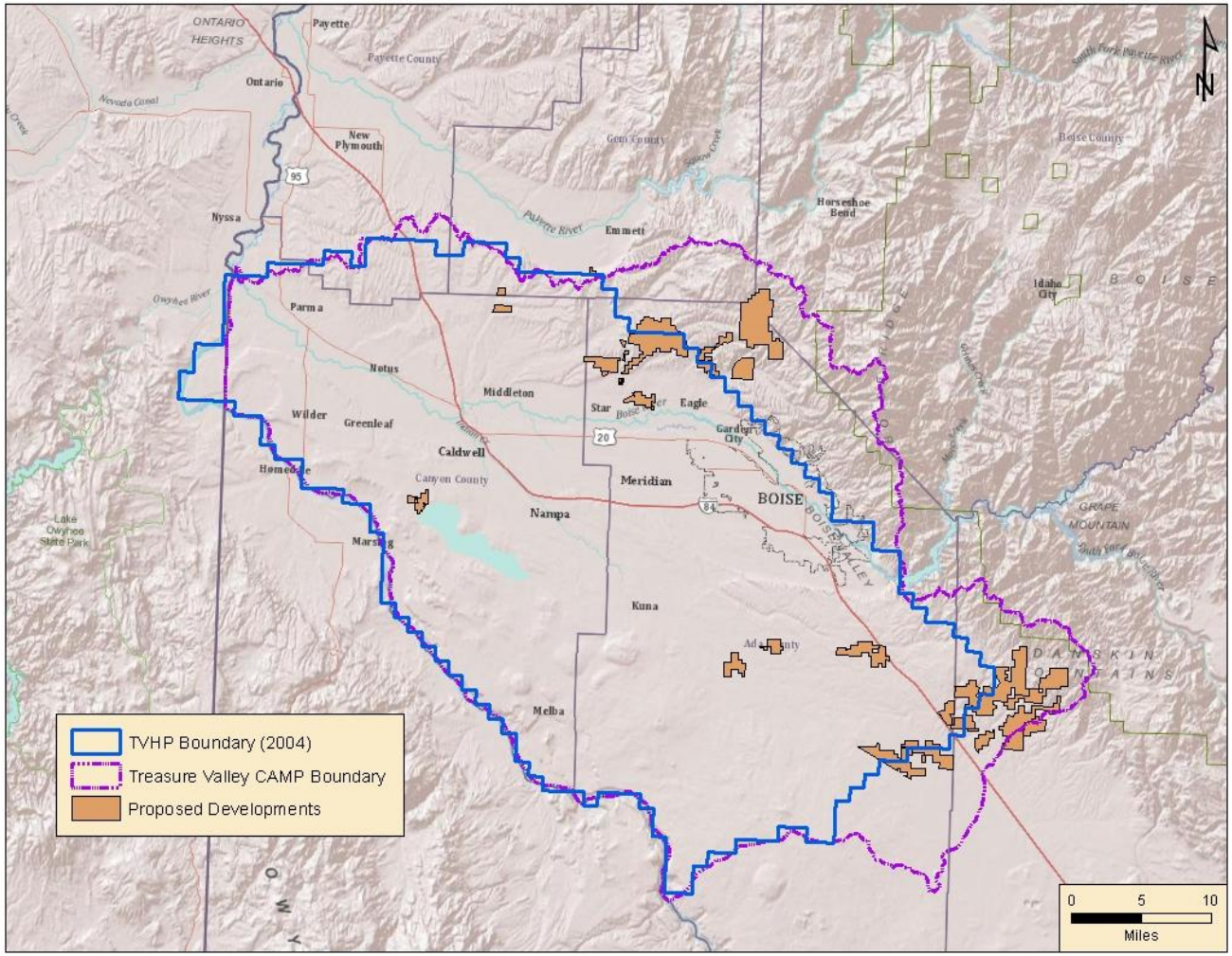
- Cosgrove review of 7 models for the TV CAMP (2010)
  - Recommended using TVHP model (Petrich, 2004) and making modifications
    - Attempt transient calibration
    - Extend model boundaries to include areas of proposed development

- USBR update of TVHP model (2013) → psuedo-transient w/ expanded model domain

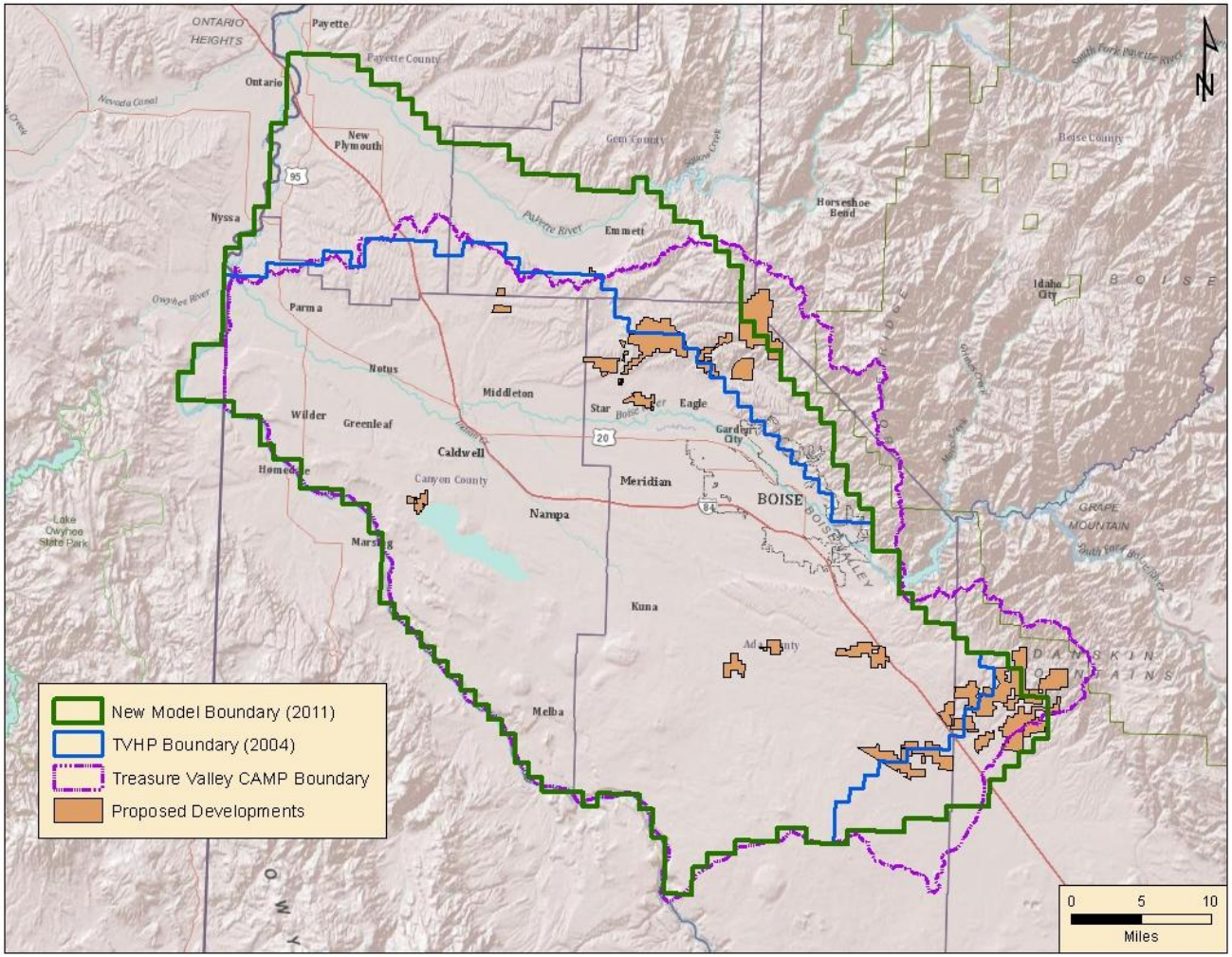
TVHP Model Boundary



TV CAMP Boundary



USBR Model Boundary



Background (cont'd)

- Senate Concurrent Resolution 137 adopted by Senate on 2/16/2016

Senate Concurrent Resolution 137

"A CONCURRENT RESOLUTION STATING FINDINGS OF THE LEGISLATURE AND REQUESTING THAT THE IDAHO WATER RESOURCE BOARD ADDRESS STATEWIDE AQUIFER STABILIZATION AND SUSTAINABILITY STUDIES…"

"BE IT FURTHER RESOLVED that the Idaho Water Resource Board conduct aquifer recharge studies and develop a ground water model, with all necessary measurement networks, for the Treasure Valley Aquifer." (emphasis added)

Background (cont'd)

- Senate Concurrent Resolution 137 adopted by Senate on 2/16/2016

- Presentation at IWRB Work Session on 3/17/2016
  - Technical factors may impede progress
    - Data gaps
    - Geologic complexity
  - Non-technical factors also
    - Uncertain modeling objectives
    - Need to involve stakeholders in model development

Recent Developments

- SCR 137 adopted by House on 3/17/2016 and signed by Speaker of the House on 3/22/2016
- Staff completed review of USBR model on 5/12/2016
- Developed scope of work, timeline, and budget
  - Field trips to drain returns in lower valley

Staff Review – Key Findings

- TVHP model layering (4 layers w/ uniform thicknesses) should be revisited and possibly revised based upon review of geology and water level data

- USBR model calibration not rigorous enough for planning and water management purposes
  - Different modeling objectives
  - Calibration focused on the upper model layer
  - Only 38 wells total used for calibration

- Inadequate measurement data available to define spatial and temporal distributions of aquifer discharge
  - Mostly unmonitored drain discharge comprises ~50% of total aquifer discharge

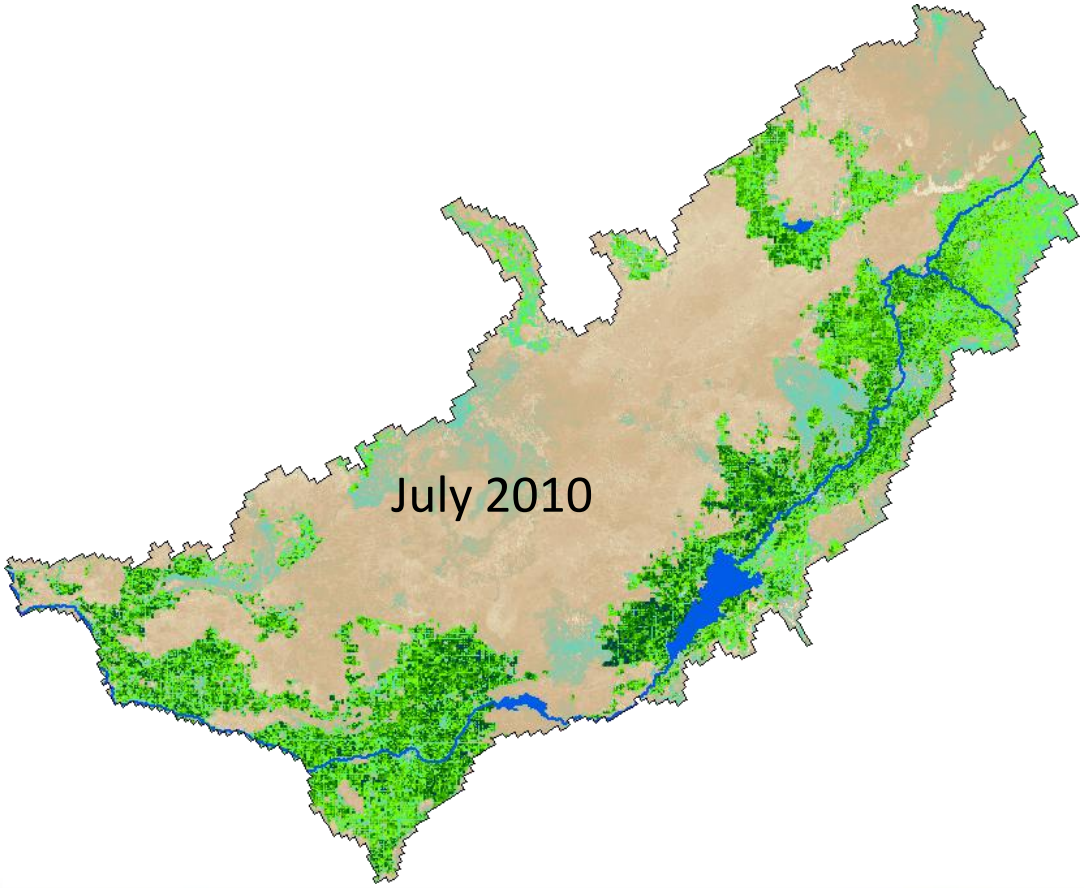
Drains

Staff Review - Recommendations

- Transient calibration period = 1986-2015
- 2-phased approach necessary
- Phase 1 data gathering/processing
  - Compile and review geology and water level data
    - Contact municipal water providers for data from deep aquifers
  - Develop layer-specific well log and water level databases
  - Establish drain monitoring stations at minimum of 12 locations
  - Survey drain, wellhead, and ground surface elevations
  - Correlate well water levels with drain discharge
  - Quantify ET using METRIC for 8 years and interpolate ET for intervening years using ET Idaho
  - Develop land use classifications for METRIC years

METRIC ET

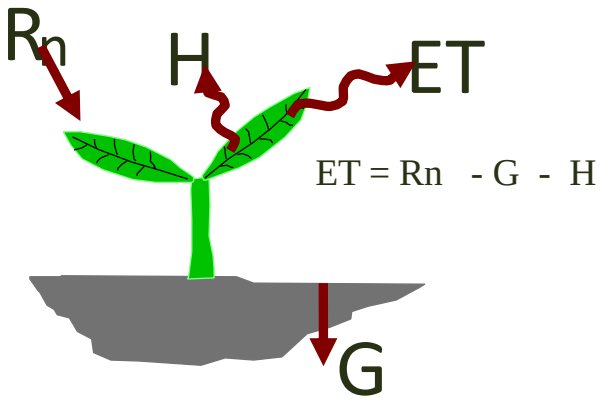
Mapping Evapotranspiration at High Resolution w/ Internalized Calibration



METRIC ET is derived from remote sensing (satellite) data.

ET is calculated as a "residual" of the energy balance

The energy balance includes all major sources (R_n) and consumers (ET, G, H) of energy



Landsat 8

IDWR and U of I receive Harvard award for innovation

Quotes from the Harvard Report

- "Remarkably, METRIC **enables Idaho DWR** analysts and administrators **to measure ET across large expanses of both space and time**."
- "METRIC… is **measurably more accurate, fast, and cost-effective** than the traditional, cumbersome, slow and expensive methods that were commonly used in the last century."
- "…it would be **practically impossible to adjudicate water rights disputes in the future** without [TIRS]."

Staff Recommendations (cont'd)

- Phase 2 modeling
  - Develop monthly water budgets for the 30-yr calibration period
  - Evaluate boundary conditions and remove unnecessary drain cells
  - Reevaluate/revise TVHP/USBR model layering
  - Reevaluate uniform 2-month lag time for recharge
  - Compile head change calibration targets in addition to elevation targets
  - Convert model to MODFLOW-USG
  - Calibrate w/ PEST

Scope of Work

- Preliminary scope = subject to revision w/ input from MTAC

- Model development primarily by USGS w/ task-specific support from U of I Kimberly and IWRRI
  - Independent, unbiased 3rd parties w/ histories of successful, collaborative model development projects w/ IDWR
  - Staff involvement assumed/required but limited relative to previous modeling efforts

Other IDWR Aquifer Models

ESPA

ENHANCED SNAKE PLAIN
AQUIFER MODEL
VERSION 2.1

Final Report

January 2013

Idaho Department of Water Resources

with guidance from the

Eastern Snake Hydrologic Modeling Committee

SVRP

USGS

Prepared in cooperation with the
IDAHO DEPARTMENT OF WATER RESOURCES
WASHINGTON STATE DEPARTMENT OF ECOLOGY
UNIVERSITY OF IDAHO
WASHINGTON STATE UNIVERSITY

Ground-Water Flow Model for the Spokane Valley-Rathdrum Prairie Aquifer, Spokane County, Washington, and Bonner and Kootenai Counties, Idaho

Scientific Investigations Report 2007–5044

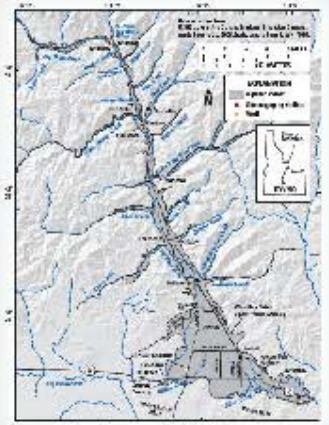
U.S. Department of the Interior
U.S. Geological Survey

WRV

USGS

Groundwater Resources of the Wood River Valley, Idaho: A Groundwater-Flow Model for Resource Management

The U.S. Geological Survey (USGS), in collaboration with the Idaho Department of Water Resources (IDWR), will use the current understanding of the Wood River Valley aquifer system to construct a MODFLOW numerical groundwater-flow model to simulate potential anthropogenic and climate effects on groundwater and surface-water resources. This model will serve as a tool for water rights administration and water-resource management and planning. The study will be conducted over a 4-year period from late 2012 until model and report completion in 2016.



Scope of Work (cont'd)

- Phase 1 work elements
  - Fact sheet preparation (USGS/IDWR)
  - Process METRIC ET data for 8 years (U of I)
    - Interpolate for intervening years using ET Idaho
  - Develop land use classifications for METRIC years (IWRRI/IDWR)
  - Install and monitor drain gages (budgeted for 12 during first year)
  - Hydrogeologic framework report (USGS)

- Phase 2 work elements
  - Monthly water budgets for period 1986-2015
  - Model construction/revision in MODFLOW USG
  - Calibration w/ PEST
  - Water management scenarios
  - Final report

Project Timeline

- 5 years to complete project w/ MTAC
- Phase 1 = first 2.5 years
- Phase 2 = begins during Phase 1 through end of project

Budget

- Cost estimates from USGS, U of I Kimberly, and IWRRI
- USGS cost estimates reflect 50/50 federal match
- $500K budgeted for FY 2017
- Total cost to State for 5-year project ~ $2.5 million
- >60% of total cost = data collection/processing

Deliverables

- Project fact sheet (USGS/IDWR) – project onset/year 1
  - Concise description of project motivation, scope, and schedule for the public
- Phase 1 report (USGS) – year 2.5
  - Hydrogeologic framework w/ conceptual model and preliminary water budget
- Drain gage data (via Internet) – ongoing, real-time
- ET trend analysis report (IDWR) – year 3
  - Assess impacts of land use changes
- Version 1.0 of model and Phase 2 final report (USGS) – project conclusion/year 5
  - Scientific Investigations Report


END

Aquifer Planning and Management Fund Expenditures for Monitoring and Model Development (Non-Personnel)

	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015*	TOTAL
Eastern Snake Plain	$334,595	$453,634	$455,326	$388,514	$316,011	$367,074	$98,696	$2,413,850
Treasure Valley	$44,125	$190,765	$539,985	$468,837	$17,850	$11,011	$1,636	$1,274,209
Wood River Valley	$0	$0	$0	$0	$166,849	$10,158	$126,458	$303,465
Rathdrum Prairie	$4,660	$10,360	$3,409	$2,465	$915	$8,353	$5,000	$35,162
TOTAL	**$383,380**	**$654,759**	**$998,720**	**$859,816**	**$501,625**	**$396,596**	**$231,790**	**$4,026,686**

Personnel, Planning, and Contracted Facilitation = $3,393,040

TOTAL = $7,419,726

*through March 31, 2015

WRV

- ~$1 Million + ~$1 Million federal match
  - $400K (modeling JFA)+ $250K (gages) + $313K (9 cooperators) = $963K + transducers + travel & per diem

May 18, 2016

Director Gary Spackman
Idaho Department of Water Resources
P.O. Box 83720
Boise, ID 83702-0098

Subject: City of Meridian Groundwater Modeling Efforts

Dear Mr. Spackman:

Beginning with the March 17, 2016 Idaho Water Resource Board (IWRB) meeting, and in recent informal discussions with IWRB members since, the City of Meridian is aware that the Idaho Legislature is proposing to fund IDWR to commence a numerical groundwater modeling project for the Treasure Valley. Meridian staff will be attending the upcoming April 19, 2016 IWRB meeting in Boise where this Treasure Valley ground water model is on the agenda. The City is supportive of any such effort by IDWR and can contribute data and information we have developed, and are continuing to develop, for our own computer model of the basin.

As represented in the 2012 meeting at IDWR (the initial Treasure Valley modeling project start up), the City has developed a computer model of the basin as part of our Source Water Protection Plan (SWPP). We continue to refine that model through the development of additional hydrogeologic information in order to monitor and predict the sustainability for the aquifers we rely upon for municipal supply. This effort is spearheaded by the City's long term hydrogeologist Hydro Logic, Inc., in collaboration with one of the Northwest's preeminent ground water modeling firms, Pacific Groundwater Group of Seattle, WA. The City applauds the Department developing a separate independent computer model of the basin and looks forward to collaborative comparison of findings. The City's groundwater model construction was first envisioned as a result of our SWPP in 2003, but also benefitted from Meridian's concerted effort to characterize our aquifer system beginning in 1992. While we consider the model a continual work in process, it has already proven to be a useful tool for us and we have been able to effectively model vertical hydraulic interconnection and to evaluate the potential for contaminant migration. Our strategy is to merge the City's detailed portion of this basin-wide model with those currently being developed in other areas of the Valley such as Caldwell, Kuna, and Eagle to be able to simulate regional aquifer conditions as well as localized evaluations to the individual well scale.

Meridian has spent considerable funds developing its groundwater model and we are very proud of our progress and results. The City stands ready to facilitate a meeting with its hydrogeologists and modelers with whoever the IDWR ultimately chooses to develop its model if the Department thought that it would benefit from such an exchange.

The City views multiple modeling efforts, including one currently underway by Boise State University, as extremely beneficial to our collective goal of being able to predict the sustainable yield of the aquifer system long before that level of development is reached. Please do not hesitate to reach out to me if I or my staff can be of any further assistance on this important endeavor.

Sincerely,

Thomas H. Barry, PE
Director of Public Works

MATERIALS MAY BE PROVIDED AT THE

IWRB MEETING

Memorandum

To: Idaho Water Resource Board

From: Cynthia Bridge Clark

Date: May 10, 2016

Re: Priest Lake Water Management Study

Background:

Priest Lake is located on the Priest River in the Idaho Panhandle north of Coeur d' Alene. It is a significant draw for tourism and recreation in the area and is known for the pristine variety of wildlife. Priest Lake is approximately 18 miles long with a maximum depth greater than 300 feet and active storage space of approximately 76,000 acre-feet. It is connected to Upper Priest Lake by a 2.5-mile-long channel, known as the "Thorofare", which is actively used by the public for recreation and access to the upper lake.

A 1,400-foot-long Breakwater structure at the north end of Priest Lake is intended to manage sediment transported from Upper Priest Lake and to provide protection to landowners at the north end of the lower lake. The Breakwater is in serious need of replacement, a project that has been considered for some time by Bonner County, the State of Idaho, and lake users.

At the mouth of the lower lake, Priest Lake Dam was constructed (1951) as an outlet control structure to manage lake levels and downstream flows in the Priest River. The dam is owned by the Idaho Department of Water Resources (IDWR). In accordance with Idaho Code § 70-507, it is operated to maintain lake levels at 3 feet on the USGS outlet gage after spring run-off for recreation purposes. Efforts are also made to maintain a minimum of 60 cubic feet per second in the Priest River downstream of the dam. The dam is approximately twelve feet high with eleven radial gates to regulate discharge and does not have an emergency spillway. The dam is operated by a contractor on behalf of IDWR, does not have automation, and has some maintenance needs.

In 2015, limited water supply and drought conditions in Northern Idaho resulted in difficulty maintaining required summer lake levels and downstream flows. On March 18, 2016, the IWRB passed a resolution authorizing expenditure of up to $300,000 to evaluate options for management of the system and necessary improvements to the Priest Lake outlet dam and breakwater structure at the Thorofare.

Project Status:

IDWR/IWRB staff has been coordinating closely with representatives from Bonner County and Lake Pend Oreille, Pend Oreille River, Priest Lake and Priest River Commission (Lakes Commission) to identify and prioritize the study objectives, and to move forward with a solicitation process to hire a consultant to complete the study.

A small group of stakeholders convened on April 26, 2016 to provide initial comments on the project scope prior to issuing a solicitation. The group included representatives from residential and commercial interests, as well as various agencies. Additional and more detailed input will be sought from the public and a broader set of stakeholders once the study has been initiated.

The project scope of work and contract solicitation is currently being finalized. The study is expected to identify of long-term management objectives and evaluate how the lake and river system can be operated to achieve those objectives under a range of water supply conditions (e.g. wet to dry-year conditions). General elements of the study include the following:

- Analysis are of hydrologic conditions;
- Identification of necessary improvements for water supply forecasting and monitoring (gaging);
- Identification of potential impacts or benefits to shoreline property owners, water quality, and fish and wildlife;
- Engineering analysis of potential improvements to the Priest Lake outlet structure; and
- Engineering analysis of potential improvements to the breakwater structure to promote sustainability of the Thorofare channel.

Efforts are being made to initiate the study this summer and to complete the project by the end of 2016 or early 2017. A more defined schedule will be provided once a consultant has been obtained.

REQUIRED ACTIONS: Action is not required by the IWRB at this time.

Memorandum

To: Idaho Water Resource Board

From: Cynthia Bridge Clark

Date: May 10, 2016

Re: Weiser River Basin Water Sustainability Projects

Water users and legislators from the Weiser River Basin have expressed interest in pursuing funding from the Idaho Water Resource Board (IWRB) to complete projects that support long-term water sustainability within the basin. At the March IWRB meeting, water users from the Weiser basin described a couple of potential projects to enhance measurement and monitoring of water use including automation and measurement improvements to the Lost Valley Reservoir (9,500 acre-foot reservoir west of Tamarack, Idaho) and the Crane Creek Reservoir (57,000 acre-foot reservoir northeast of Weiser, Idaho). Both projects are expected to provide for more accurate and timely delivery of water, thereby improving the management of limited water supplies within the basin.

Staff is coordinating with water users in the basin to identify projects and develop funding proposals for consideration by the IWRB. This topic will be discussed at the IWRB work session. Staff will brief the IWRB on the status of coordination efforts and water users from the Lost Valley Reservoir Board will present details of proposed project at the Lost Valley Reservoir.

REQUIRED ACTIONS: Action is not required at this time.

Memorandum

To: Idaho Water Resource Board

From: Randy Broesch

Date: May 10, 2016

Re: Mountain Home Air Force Base Water Supply /Pipeline Project

The following is a status report on the Mountain Home Air Force Base (MHAFB) Water Supply/Pipeline Project (Project). The Project involves efforts by the State of Idaho to assist the MHAFB in developing a sustainable water supply for their use.

Project Concept

The MHAFB currently relies on groundwater for its water supply, but diverts its water from a critical declining aquifer. The Idaho Water Resource Board (IWRB) intends to develop a pipeline and water treatment facility to deliver water from the Snake River to the MHAFB as an alternate water supply to existing use of groundwater. In 2014, with support from the Governor and Idaho State Legislature, the IWRB purchased senior Snake River water rights from the Simplot Corporation to provide water supply to the base. The surface water will be diverted out of the C.J. Strike Reservoir and delivered to the MHAFB where it will be treated and used for Domestic Commercial Municipal Industrial (DCMI) purposes on the base. The IWRB is expected to retain the senior water rights and enter into a water utility service agreement with the MHAFB for the delivery of the DCMI water. The IWRB will undertake the financing, design, construction, and maintenance methods to bring the project to fruition. The Governor's office, Legislature, and the IWRB recognize and are committed to supporting the MHFAB as a $1 Billion annual economic generator in the local Idaho economy.

Project Status

Technical Planning Report - In April the technical planning report was revised to include comments from the MHAFB and will be submitted in final form on May 13th.

Coordination with Stakeholders- Since the last Board meeting staff and the Board's Consultant completed the stakeholder outreach effort with the City of Mountain Home, Mountain Home Irrigation District, and Elmore County to identify the level of interest in a potential enlargement of the pipeline. Staff also initiated contact with the Idaho Department of Environmental Quality (IDEQ) to provide an update on the project. Staff will continue to reach out to these interested parties throughout the planning phase of this project.

Core Action Group Meetings with MHAFB-Staff continues to coordinate with the MHAFB on a regular basis to keep each other apprised of the status of each other's respective processes.

Project Delivery- Staff has been researching available project delivery types that can accommodate a complex project with a sensitive time constraint. Project delivery models we are currently researching can be categorized into 2 types: 1. Conventional design-bid-build and 2. Collaborative project delivery types (methods under this category include an array of design-build delivery types). To better understand the benefits and constraints of the two categories, staff is seeking professional services for an Owner's Representative/Consultant to assist the IWRB through the phases of project delivery selection/procurement, contracting, and commissioning of the project. The professional services for an Owner's Representative/Consultant will be procured through a qualifications based selection process consisting of a request for qualifications (RFQ) followed by a request for proposals (RFP) from the top 3

qualified candidates. Staff is continuing to work with internal contracting staff and the Attorney Generals Office to develop the RFQ and RFP processes.

Financial Delivery Model-Staff has been coordinating with bond counsel to begin identifying the needs for procuring the appropriate financing for the project.

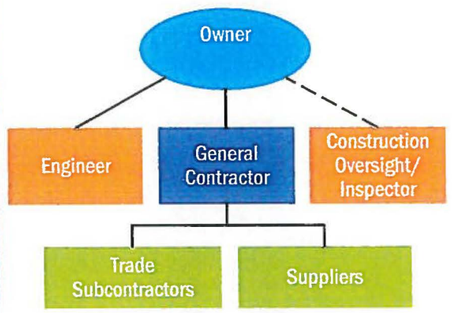
Schedule -The following is an estimated timeline for procuring an Owners Representative/Consultant:

Milestone	**Date**
Completed Technical Planning Report	May 2016
Professional Services Solicitation and Selection of Owner's Representative/Consultant	June 2016 -November 2016
Initiate project delivery/procurement phase	January 2017

REQUIRED ACTIONS: In the coming months, Staff will be seeking guidance and authorization from the IWRB to procure an Owner's Representative/Consultant. The Owner's Representative/Consultant will provide professional services to advise staff during the procurement, contracting phase, and commissioning of the project.

Brown AND Caldwell

Design-Bid-Build (DBB)



Features/Process:

- Owner selects Engineer
- Engineer designs project, develops plans/specs, and evaluates bids
- Construction awarded to lowest responsive, responsible bidder
- Construction monitored by Engineer or CM

PROS

- Owner retains control of design
- More bidders for construction contracts
- Independent oversight of construction contractor
- Traditional/well understood

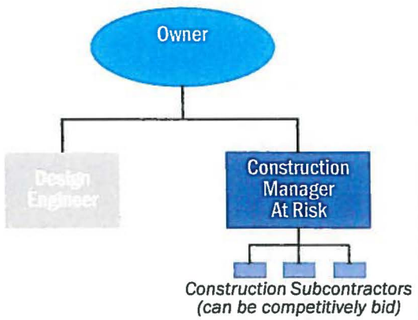
CONS

- Owner maintains majority of risk
- Finger-pointing between designer and contractor
- Longer schedule
- Potential for claims and change orders
- Later certainty of construction $$
- More Owner staff resources required

WORKS BEST WHEN...

- Project requires high degree of public oversight
- Owner desires extensive involvement in design
- Schedule is not a priority

Construction Manager at Risk (CMAR)



Features/Process:

- Owner selects Engineer and CMAR based on quals and other factors
- Engineer designs project
- CMAR involved during design (constructability, value engineering, cost estimates)
- Owner and CMAR negotiate GMP at some point in design
- Subcontractors can be competitively bid

PROS

- Avoids low bid
- Contractor involved during design
- Owner retains some involvement in design
- Earlier certainty of construction $$ than DBB

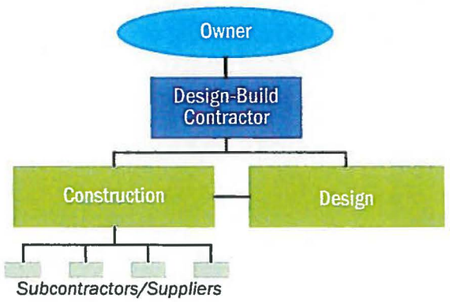
CONS

- Does not eliminate designer- contractor conflicts
- No significant schedule benefits
- Later certainty of construction $$ than DB
- Owner retains most of performance risk
- More Owner staff resources required

WORKS BEST WHEN...

- Complex construction project
- Construction at an existing facility that must continue to operate
- Contractor input to design is critical
- Low-bid contractor selection is risky

Design-Build (DB)



Features/Process:

- Owner procures a design-build team (one contract)
- D/B contractor designs and constructs project
- Price is either negotiated or competitively bid
- Variations of DB
  - **Progressive**
  - **Prescriptive**
  - **Performance-Based**

Progressive (negotiated price)

- Select D/B primarily on qualifications
- D/B prepares 30% design then negotiate GMP
- GMP negotiations are "open book"

PROS

- Relatively easy procurement process
- DB selection is primarily quals-based
- Owner retains involvement in design
- Price is open book and transparent
- "Off ramp" if GMP can't be negotiated

CONS

- Price is not known or guaranteed at initial contract signing
- Price is only partially competitive

WORKS BEST WHEN...

- DB qualifications are more important than best price
- Complicated design elements
- Design details are a priority for the Owner

Prescriptive (competitive)

- Select Designer to prepare preliminary (10-30%) design
- Competitive procurement of D/B with GMP
- D/B performs final design and constructs project

PROS

- One contract
- Competitive pricing
- Owner retains some involvement in design
- Fairly early price certainty

CONS

- Does not foster design innovation
- Less choice in selection of final designer

WORKS BEST WHEN...

- Project elements can be well defined at prelim. design
- Predominantly a construction project

Performance-Based (competitive)

- Designer (or Owner) prepares a performance spec
- D/B teams bid on performance spec
- Promotes design innovation and best value

PROS

- One contract
- Competitive pricing
- Fosters design innovation
- Earliest price certainty
- Schedule acceleration
- Least Owner staff resources required

CONS

- Minimal Owner design involvement
- Decision-making relinquished to D/B
- Less choice in selection of designer

WORKS BEST WHEN...

- Owner has limited staff resources
- Owner does not need to be involved in design
- Schedule and early price certainty are high priorities to Owner

Mountain Home Air Force Base Water Supply and Aquifer Stabilization Project

Presented by Randall A. Broesch P.E. Staff Engineer

May19, 2016

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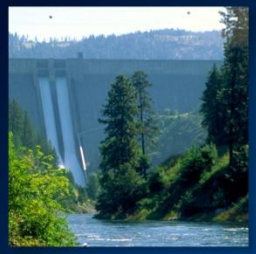
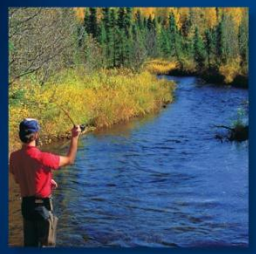
Water Resource Board

Project Status

Water Rights were purchased and Reserved for the Purposes of this project

Technical Planning Report Completed May 16, 2016

Outreach Effort to Consider Additional Users

Contacted IDEQ

Coordination with Core Action Group (CAG) with MHAFB

Contacted the IWRB Bond Advisor

Contacted DBIA and the WDBC

DBIA-Water/Wastewater Design Build Institute of America
WDBC- Water Design Build Council

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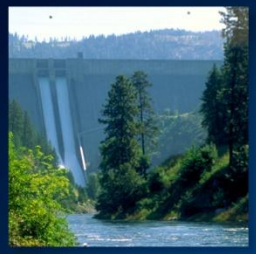

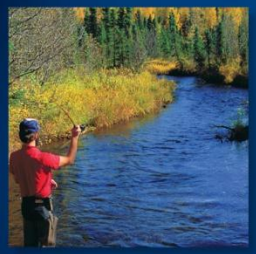

Technical Planning Report

- Existing and Future Water Uses

- Identifies Water Right Strategy

- Detailed Planning Costs:
  - Total Capital Costs
  - Conventional
  - Membrane Treatment
  - Operations and Maintenance

- Identifies Raw Water Quality Characteristics for the C.J Strike Reservoir

- Introduces Project Delivery Methods

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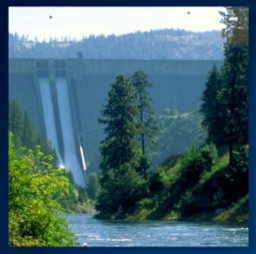

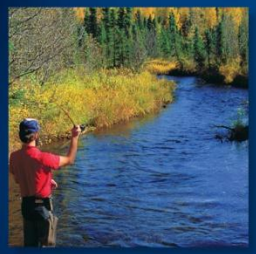

1St Purpose-Identify the Need for an Owner's Agent/Representative

IWRB's Project Experience and Roles:

- Planning and Development of Projects
- Financing Sizable Projects
- Agreement Administration
- Project Delivery
- Operation and Maintenance of Hydro Facilities
- Permitting with Agencies to Deliver Projects
- Engaging Stakeholders

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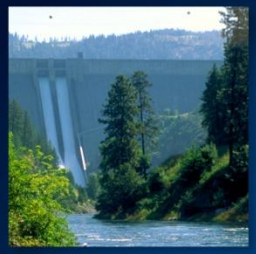

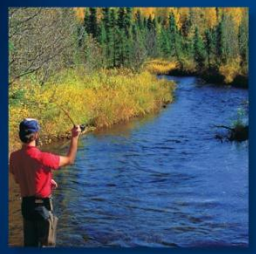

1St Purpose-Identify the Need for an Owner's Agent/Representative

Project Complexities:

- Defined Timeline for Completion
- Development of a Water Utility Service Agreement
- Familiarity with Drinking Water Standards
- Designing and Commissioning of a Water Treatment Facility
- Long Term Operation and Maintenance of Facilities and Changing Water Quality Standards
- Exploring and Selecting a Project Delivery Type

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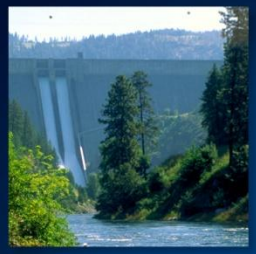
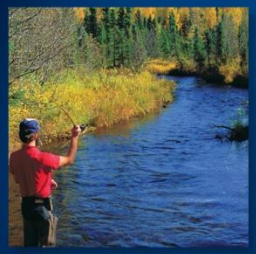
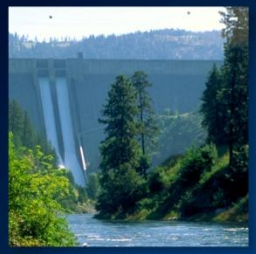
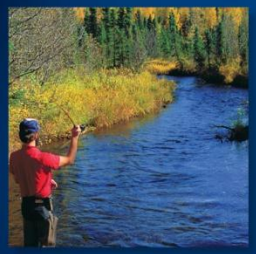



1St Purpose-Identify the Need for an Owner's Agent/Representative

Experience and Expertise of the Owner's Agent:

- Planning, Design, and Commissioning of Water Treatment Facilities
- Knowledge about both Conventional and Collaborative Project Delivery Methods
- Expertise about Project Financing
- Experience with Operations and Maintenance Procedures

1St Purpose-Identify the Need for an Owner's Agent/Representative

Owner's Agent/Representative Role

- Assist with Exploring and Selecting Project Delivery Type
- Assist with Procuring Services of the Selected Delivery Type
- Assist with the Design, Construction, and Commissioning of the Water Treatment Facility

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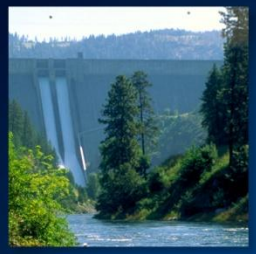
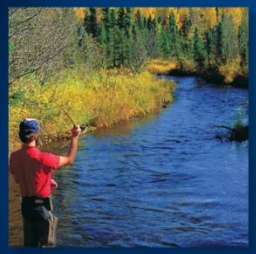

2nd Purpose-Exploring Project Delivery Types

Conventional Design-Bid-Build

-A project delivery method in which an owner first contracts with a designer to prepare detailed design plans and specifications for a project, and then enters into a separate agreement with a contractor on low bid basis to construct the project based on designer's plans and specifications.

Collaborative Project Deliveries

-Comprehensive term encompassing various forms of design-build project delivery methods that foster a cooperative relationship among the owner, the designer, and builder in an integrated design and construction process.

*Definitions from the Municipal Water and Wastewater Design-Build Handbook, Third Edition

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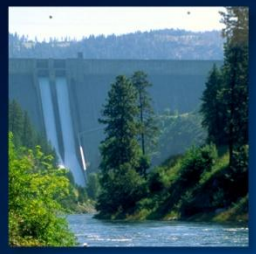
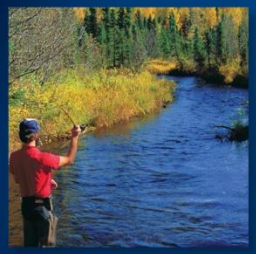

2nd Purpose-Exploring Project Delivery Types

Collaborative Project Delivery Types

- Construction Management at Risk
- Fixed Price Design-Build
- Progressive Design-Build
- Design-Build Operate

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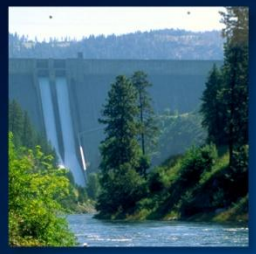
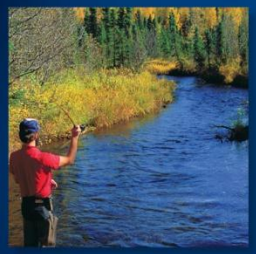

2nd Purpose-Exploring Project Delivery Types

Project Delivery Considerations for IWRB

- Identify Level of Control Over the Design
- Establish a Schedule
- Cost Certainties
- Consider Best Price vs. Qualifications Based Selection
- Identify Risk Level
- Consideration to Include Innovation
- Availability of Staff Resources

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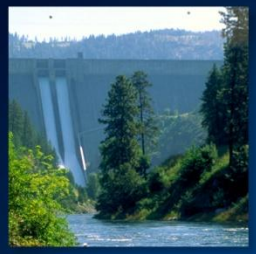
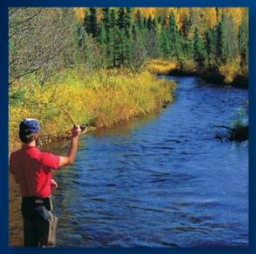

2nd Purpose-Exploring Project Delivery Types

Collaborative Project Delivery Best Management Practices (BMP)

- An Owner Should Conduct an Objective Assessment of the Unique Characteristics of the Project and its Organization before deciding to use a Collaborative Project Delivery Type

- Opportunity to Assess Characteristics with the Water Design Build Council
  - Workshop: June 6th or 7th

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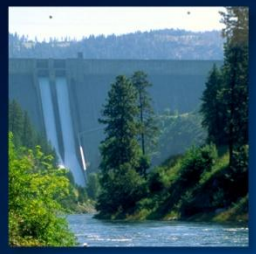
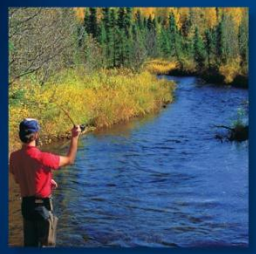




Next Steps

1. Solicit a Request for Qualifications for Owner's Agent
2. Assignment of Board Members to the Project
3. Attend Project Delivery Workshop

BEFORE THE DEPARTMENT OF WATER RESOURCES

OF THE STATE OF IDAHO

IN THE MATTER OF THE PROPOSED CREATION OF A WEST ADA AREA OF DRILLING CONCERN	)	NOTICE OF PUBLIC HEARING

The Director ("Director") of the Idaho Department of Water Resources ("Department") may designate, as he determines necessary, Areas of Drilling Concern ("ADC") on an aquifer-by-aquifer basis to protect public health and to prevent waste or contamination of ground or surface water. Idaho Code § 42-238(15) authorizes the Director to designate an ADC.

NOTICE IS HEREBY GIVEN, pursuant to Idaho Code § 42-238, that the Department will conduct a public hearing regarding the proposed designation of the West Ada Area of Drilling Concern ("WAADC"):

PUBLIC HEARING FOR PROPOSED CREATION OF THE WAADC

Wednesday, June 1, 2016
6:30 PM
Mountain View High School Auditorium
2000 South Millennium Way
Meridian, Idaho

The Department is considering designation of the WAADC based on a petition it received from the City of Meridian ("Meridian"). Meridian has completed a detailed ground investigation resulting in the following conclusions:

1. Some aquifers underlying the Meridian area are contaminated by naturally occurring arsenic and uranium, as well as anthropogenic contamination including nitrate, pesticides, herbicides, chlorinated solvents, bacteria and other pathogens.
2. Current well industry practices are insufficient to protect the ground water quality. Specific drilling and well construction methods and well sealing requirements are necessary to protect ground water resources.
3. The designation of the ADC is necessary to protect the deeper aquifers used for municipal water supplies.

Wells drilled or modified in a designated ADC may be subject to specific bonding and well construction requirements.

The Department will present information at the hearing regarding statutory authority for designation of an ADC and requirements for drilling or modifying wells within an ADC. The City of Meridian will present information concerning the proposed boundaries of the WAADC, existing contamination, potential for spreading contamination between aquifers and recommendations for constructing wells to prevent spreading contaminants to the deeper aquifers. The hearing will be held in accordance with the Department's Rules of Procedures (IDAPA 37.01.01). These rules may be viewed at the Idaho Department of Administration's website as follows: http://adminrules.idaho.gov/rules/current/37/0101.pdf

Information regarding the proposed WAADC, including a map showing the boundaries, the City of Meridian petition for the WAADC and the Department Staff Memorandum evaluation of the petition can be viewed on the Department's website at: (http://idwr.idaho.gov/wells/areas-of-drilling-concern.html)

Information and testimony presented at the hearing on June 1, 2016, will create a record upon which the Director will rely to determine whether designation of the WAADC is appropriate. It is important that well drillers, realtors, well owners and the general public understand the proposed action and participate in the hearing process. Jeff Peppersack, Department Water Allocation Bureau Chief, will serve as the hearing officer. Persons attending the hearing will be provided an opportunity to make an oral presentation regarding the proposed action. Written comments may be submitted to the hearing officer at the hearing or at any time prior to the close of the written comment period on June 15, 2016. Written comments not presented at the hearing should be sent to the Director, Department of Water Resources, PO Box 83720, Boise, Idaho, 83720-0098.

The hearing will be conducted in a facility that meets the accessibility requirements of the Americans with Disabilities Act. Should you require special accommodations in order to attend, participate in or understand the hearing, please contact the Department at least five days prior to the hearing.

Questions concerning this notice may be directed to the Department's state office at (208) 287-4800 or Regional office at (208) 334-2190.

DATED this 9th day of May, 2016

Gary Spackman
Director

Proposed West Ada Area of Drilling Concern

Presented by Thomas Neace, P.G.

Manager, Ground Water Protection Section

Regulatory Authority

- Idaho Code 42-238 (15)
  - Authorizes the Director to designate, “Areas of Drilling Concern” (ADC) to protect the ground water resources
  - ADC provides for additional requirements to protect public health and prevent waste of water
  - ADC defines how wells are completed and can include specific drilling methods
  - Applies to both new wells and wells deepened or modified within the ADC

Regulatory Authority

- Specific Requirements in Idaho Code Include:
  - Additional Bonding Requirements - the driller must have at least a $10,000 bond posted with their drilling company license.
  - Additional Experience and Knowledge in drilling wells encountering warm water or pressurized aquifers as required by the rules.
  - Document that any specialized equipment needed or required is available to the driller.

Regulatory Authority

- Long form permit only – NO START CARDS
- Requires a notice of intent to drill, deepen or modify a well.
- Submit plans and specifications
- Submit drilling methods that will be used
- Receive written approval of the Director before commencing to drill, deepen or modify any well in a designated ADC.

Regulatory Authority

- Prior to designating an ADC, the Director must
  - Conduct a Public Hearing in the area to determine public interest
  - Publish notice in two consecutive weekly issues of a newspaper of general circulation in the area prior to the hearing.
  - In addition to the above requirements, the Department has posted the notice and related documents on the Department Website.

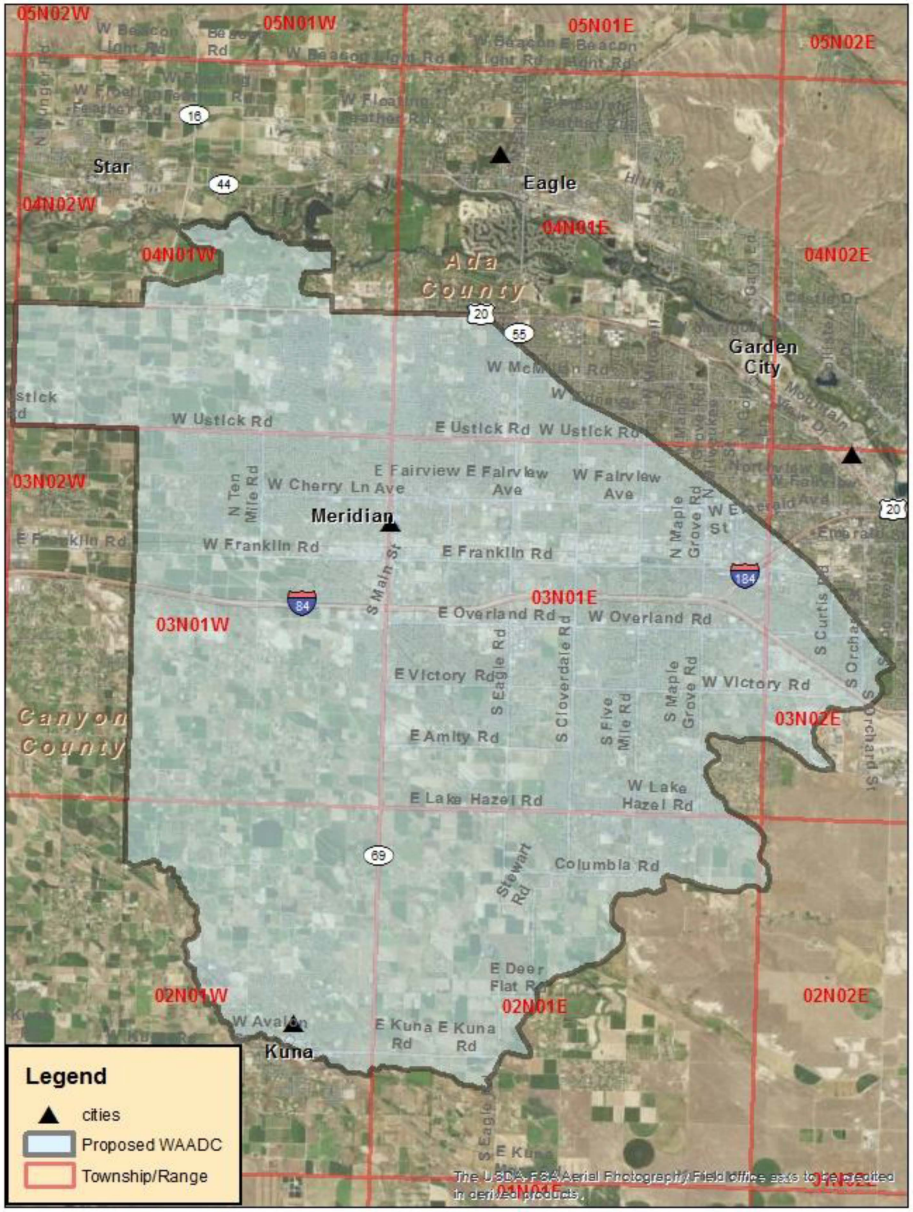
Areas of Drilling Concern

- Currently Idaho has two (2) designated areas of drilling concern:
  - Bunker Hill Superfund Site near Kellogg, Idaho. Ground water is contaminated with Heavy Metals
  - West Boise Area of Drilling Concern. Ground water contamination from a perchlorethylene (Perc) plume

City of Meridian Request

- Meridian has proposed a West Ada Area of Drilling Concern to protect ground water quality
- Meridian has conducted a detailed hydrogeologic study regarding the aquifers beneath and near Meridian
- The study has identified both naturally occurring and human caused ground water contamination and poor well construction

Proposed West Ada Area of Drilling Concern



Contamination in the Aquifers

- Anthropogenic contamination is present generally in the upper aquifers.
  - DEQ has designated a Nitrate Priority Area in portions of the proposed WAADC
  - A perchlorethylene (PERC) plume as a result of a leaking chemical tank is present on the eastern portion of the WAADC. (Boise Mall)
  - Shallow ground water generally is susceptible to surface contamination including bacteria, septic tanks, leaking underground storage tanks, fertilizers, pesticides and other chemicals

Contamination in the Aquifers

- Meridian hydrogeologic study has identified naturally occurring contamination in the subsurface.
- Arsenic and uranium were detected in certain aquifers or production zones
- Depth discrete sampling has shown that different aquifers have different pressures
- Sampling also defined a zone between approximately 200 and 300 feet that is contaminated with uranium above drinking water standards.

Contamination in the Aquifers

- The deeper aquifer (below 500 feet) generally has better water quality
- The City of Meridian wants to protect the deeper aquifer where their municipal wells are constructed to obtain water
- An ADC in the Meridian area helps provide source water protection for current and future water needs

Drilling Methods

- Most wells in the area are drilled with either air rotary or cable-tool drilling methods
- Both of these methods can cause large voids to form around the well casing during drilling
- These voids allow for comingling of aquifers of different pressures and chemistries to be mixed
- Contaminated water from one aquifer can contaminate other aquifers and production zones

Proposed Management Practices

- Require a long form drilling permit, eliminate the use of start-cards
- Require a drilling prospectus with each permit application
- Require approved drilling contractors
- Require mud-rotary drilling methods
- Require additional documentation and reporting forms

Proposed Management Practices

- Require full depth casing seals to the production zone
- Require pumped grout annual seals
- Require PVC plastic or high-strength/low-alloy steel well casing
- Require installation of stainless steel well screens
- Require water quality sampling of new wells
- Require special well decommissioning procedures

Proposed Management Practices

- Recommend borehole geophysical logging of new wells
- Recommend hydraulic testing of all new wells
- Recommended camera inspection of all new wells
- Recommended installation of monitoring tubes on each new well
- Recommended well head security

Public Hearing

- Department prepared a staff memorandum which found sufficient technical data to consider an ADC in the Meridian area
- Public hearing is scheduled June 1, 2016 at the Mountain View High School in Meridian, 6:30 pm to 9:00 pm.
- The hearing is being advertised in the Idaho Statesman on Thursday May 19th and Thursday May 26th.

Public Outreach

Department is in the process of notifying

- Building Contractors Association
- Association of Idaho Realtors
- Idaho Association of Commerce and Industry
- Local elected officials
- Idaho Ground Water Association. Presentation to the IGWA Board on May 25, 2016
- Department Website provides all of the documents including the staff memorandum, and the full Meridian report.

Public Outreach

- IGWA has agreed to send the public notice to all email addresses they have for the drilling industry
- Meridian is also providing public outreach through social media including Facebook, Twitter and Neighborhood platforms
- Meridian has also notified other major water providers, Suez (formerly United Water) and City of Kuna.

Questions?

MEMO

To: Idaho Water Resource Board

From: Rick Collingwood

Date: May 20, 2016

Subject: Producers Irrigation Company

Action Item: $173,000.00 loan

1.0 INTRODUCTION

The Producers Irrigation Company (PIC) is requesting a $173,000 loan from the Idaho Water Resource Board (Board) at 3.5% interest with a 15-year term to drill a new well to meet and maintain the irrigation requirements of the PIC's shareholders. The new well will replace two (2) existing wells, which nearly run dry during the latter portion of the irrigation season. Due to these low producing wells, and substantial seepage losses in the canal, the PIC has difficulty in meeting the irrigation needs of the shareholders. In September, 2015, the Department approved a water right transfer application to change the point of diversion from the two low producing wells, Well Nos. 1 and 4, to the new well site. An easement from a PIC shareholder has been obtained by the PIC for the new well

2.0 BACKGROUND

The PIC is located in Jefferson County near Monteview Idaho. The PIC irrigation system is currently comprised of nine wells which provide ground water for irrigation of 2,170 acres of agricultural land. Ground water is conveyed through approximately 6 - 7 miles of canals and laterals for flood and sprinkler irrigation. A significant amount of water is lost through seepage in conveying the ground water through the canal system - (See Site Map, pg 4).

The new well will be designed to supply water to two or three existing pivot irrigation systems, and will be drilled near the associated ground or place of use. It will also be connected to the existing PIC canal conveyance system to allow delivery of water to other ground within the delivery area. Currently, water is delivered to this designated place of use by pumping directly from the canal. This place of use is located near the end of the canal system, and does not receive an adequate water supply in the later part of the irrigation season due to lack of production from Well Nos. 1 and 4 and seepage losses in the canal. Delivering water directly from the new well to the place of use for sprinkler irrigation will improve water supply reliability to the designated place of use.

3.0 PROPOSED PROJECT

The project includes the following:

- Drilling of a new 395-foot deep well
- Installation of pumping equipment and controls
- Construction of a pump pad and meter base

The project cost estimate is $173,000. The project cost estimates are listed below:

- Drilling and equipment for 16" well to 395 foot depth (+/-) $75,000.00
- Pump, motor, VFD, control panel, pump pad, meter base $98,000.00

$173,000.00

Construction is scheduled to begin at the end of the 2016 irrigation season, and be completed prior to the 2017 irrigation season.

PIC proposes to finance the project using funds from a Board loan. The PIC is comprised of a total of eight (8) shareholders and a total of 2,170 shares issued at one share per acre within the PIC service area. The shareholders are currently assessed $100 per share. In September, 2015, to provide funds for repayment of the loan, the shareholders approved an additional assessment of $10 per share for the 15-year term of the loan.

4.0 BENEFITS

There are a number of anticipated benefits from the project for PIC. This project will reduce water loss in the main canal and laterals resulting in a water savings for the company that is critical during dry years, and avoid excessive pumping costs associated with the two non-productive wells.

5.0 FINANCIAL ANALYSIS

PIC is requesting a loan of $173,000.00 at 3.5% interest for a 15-year term. The following analysis reflects the Board's current interest rate of 3.5% for this type of project.

Payment Analysis

Term (Years)	Estimated Annual Payment-Revolving Account Loan	Current Assessment Cost/Share/Year	After Assessment Cost/Share/Year	Current Assessment Cost/Acre/Year	After Assessment Cost/Acre/Year
10	$20,801.76	$109.59	$119.59	$109.59	$119.59
15	$15,020.74	$106.92	$116.92	$106.92	$116.92
20	$12,172.47	$105.61	$115.61	$105.61	$115.61
25	$10,496.61	$104.84	$114.84	$104.84	$114.84

Note: PIC issues one share per acre. Therefore, the cost per share and cost per acre are the same. Payments based on the "current assessment" cost per share are calculated based on the estimated annual loan payment divided by a total of 2,170 shares plus the current assessment of $100 per share. Payments based on the increase assessment, or "after assessment" cost per share, are calculated based on the estimated annual loan payment divided by the total number of acres, 2,170, plus the increased assessment of $110 per share. The same calculation was performed to determine the cost per acre payments.

Loan History:

In March, 2006, the Board approved a 10-year term loan for PIC for $185,000.00. The remaining balance of the loan is $21,036.39. The final loan payment for this loan is scheduled for November 23, 2017.

6.0 WATER RIGHTS

PIC water rights are as follows:

WATER RIGHT	SOURCE	FLOW (cfs)	WATER USE	BASIS	PRIORITY DATE
31-10669	Ground Water	17.27	Irrigation	Decreed	8/7/1962
31-12253	Ground Water	7.06	Irrigation	Decreed	7/25/1955
31-12255	Ground Water	4.48	Irrigation	Decreed	7/26/1961
31-12257	Ground Water	31.21	Irrigation	Decreed	6/22/1953

7.0 SECURITY

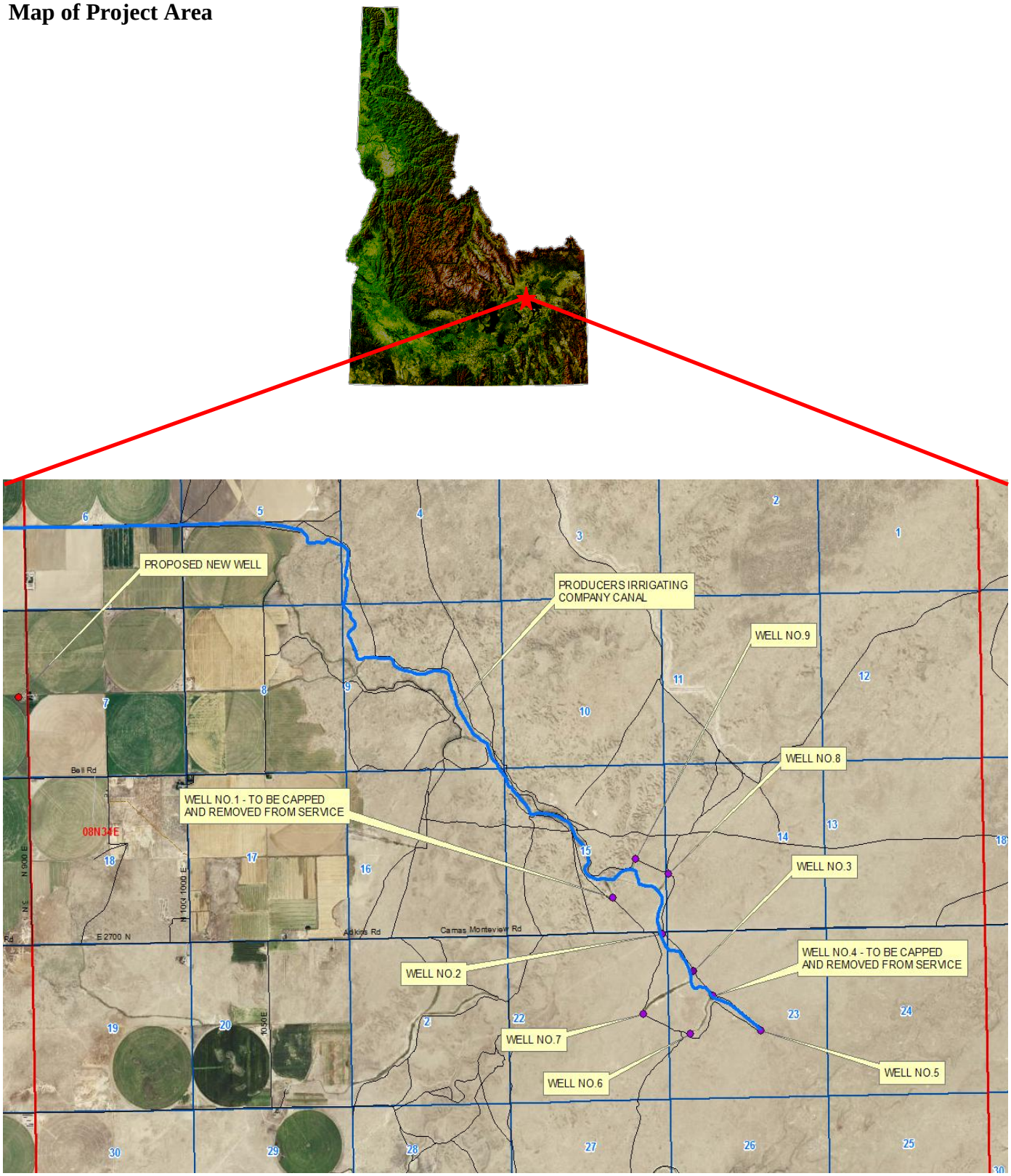
The IWRB is authorized to hold PIC's water rights, wells, pumps and motors (100-hp and larger), associated equipment, weir, diversion gates, and all materials associated with this project as collateral for the loan.

8.0 CONCLUSION AND RECOMMENDATION

This loan will be used to drill a new well to replace two (2) low production wells, the installation of the well pump and motor, control panel and equipment, power meter base, and construction of a concrete pump pad.

The project will benefit PCI's shareholders by providing water savings, reduce pumping costs, and provide a more reliable and efficient irrigation system. Staff recommends approval of the requested loan.

Map of Project Area



BEFORE THE IDAHO WATER RESOURCE BOARD

IN THE MATTER OF THE	)	A RESOLUTION TO MAKE
PRODUCERS IRRIGATION COMPANY	)	A FUNDING COMMITMENT
_____	)	

WHEREAS, the Producers Irrigation Company (Company) submitted a loan application to the Idaho Water Resource Board (IWRB) in the amount of $173,000.00; and

WHEREAS, the Company currently operates nine ground water wells for flood and sprinkler irrigation of 2,170 acres in Jefferson County; and

WHEREAS, due to steadily declining ground water levels in the Eastern Snake Plain Aquifer, water production from the existing wells has been significantly reduced; and

WHEREAS, the Company proposes to drill a new well to replace the two low production wells to improve the Company's ability to meet the irrigation needs of the shareholders; and

WHEREAS, the Company will use the funds to drill a new well, install a pump and motor, control panel, and variable speed drive; and

WHEREAS, the Company is a qualified applicant and the proposed project qualifies for a loan from the Revolving Development Account; and

WHEREAS, the proposed project is in the public interest and is in compliance with the State Water Plan.

NOW THEREFORE BE IT RESOLVED that the IWRB approves a loan not to exceed $173,000 from the Revolving Development Account at 3.5% interest with a 15-year repayment term and provides authority to the Chairman of the Idaho Water Resource Board, or his designee, to enter into contracts with the Company on behalf of the IWRB.

BE IT FURTHER RESOLVED that this resolution and the approval of the loan is subject to the following conditions:

1) The Company shall comply with all applicable rules and regulations that apply to the proposed project.

2) The Company shall provide acceptable security for the loan to the IWRB including but not limited to the Company's water rights and irrigation facilities.

3) The Company shall establish a reserve account in an amount equal to one annual payment.

DATED this 20th day of May, 2016.

_____
ROGER W. CHASE, Chairman
Idaho Water Resource Board

ATTEST _____
VINCE ALBERDI, Secretary

Appendix D

IDAHO WATER RESOURCE BOARD
322 East Front Street, Statehouse Mail
Boise, Idaho 83720
Tel: (208) 287-4800
FAX: (208) 287-6700

APPLICATION FOR FINANCIAL ASSISTANCE FOR NON-POTABLE WATER SYSTEM CONSTRUCTION PROJECT

Answer the following questions and provide the requested material as directed. All pertinent information provided. Additional information may be requested by the Idaho Water Resource Board (IWRB) depending on the scope of the project and amount of funding requested. For larger funding amounts an L.I.D. may be required.

Incomplete documents will be returned and no further action taken will be taken by IWRB staff. All paperwork must be in twenty eight (28) working days prior to the next bi-monthly Board meeting.

Board meeting agendas can be found at: http://www.idwr.idaho.gov/waterboard/

I. Prepare and attach a "Loan Application Document".

The Loan Application Document requirements are outlined in the Water Project Loan Program Guidelines. The guidelines can be found at: http://www.idwr.idaho.gov/waterboard/Financial%20program/financial.htm. You can also obtain a copy by contacting IWRB staff.

II. General Information:

A. Type of organization: (Check box)

- ☐ Irrigation District
- ☒ Canal/Irrigation Company
- ☐ Lateral Association
- ☐ Flood Control District
- ☐ Homeowners Association
- ☐ Water User's Association
- ☐ Municipality
- ☐ Reservoir Company
- ☐ Other

Explain: _____

Producers Irrigation Company
Organization name

Michael D. Overton / President
Name and title of Contact Person

2886 N. 800 E. Montpelier, Id. 83435
PO Box/Street Address

(208) 657-2529
Contact telephone number

City, County, State, Zip Code

e-mail address

Project location legal description NESE, Sec 12, T 08N, R 33 E

B. Is your organization registered with the Idaho Secretary of State's office? Yes ☒ No ☐

C. Purpose of this loan application.

- [x] New Project
- [ ] Rehabilitation or replacement of existing facility
- [ ] DEQ requirement
- [ ] Other: _____

D. Briefly describe the project:

A new well to replace well or wells that are nearly dry.

III. WATER SYSTEM:

A. Source of water:

- [ ] Stream
- [ ] Reservoir
- [x] Groundwater
- [ ] Other

B. Water Right Numbers:

Water Right	Stage	Priority Date	Source	Amount
31-10669	Decreed	8/7/62	Ground Water	17.270 cfs
31-12253	D	7/25/55	G	7.060 cfs
31-12255	D	7/26/61	G	4.480 cfs
31-12257	D	6/22/53	G	32.210 cfs

Note: Stage refers to how the water right was issued (License, Decree, or Permit)

C. If irrigation/lateral system:

Number of acres served: 2169.5
Number of shareholders served 8
Water provided annually (acre-feet) 7593.3

D. If flood control system, drainage system, groundwater recharge, or other type of system:

Number of acres within District or service area: _____
Number of people within District or service area: _____

E. If an Association/Municipality the number of residences served by the system:

Number of residences served: _____
Number of hookups possible: _____

IV. USER RATES:

A. How des your organization charge users rates?

- [ ] Per acre
- [ ] Per hook up
- [x] Per share
- [ ] Tax assessment

Explain what a share is: 160 shares per qtr sec, current rate # 100/share

- [ ] Other, explain _____

B. Current rate? $ 100 per share
(Share, hook-up, month, year, etc)

C. When was the last rate change? May 2013 (month/year)

D. Does your organization measure water use? Yes ☒ No ☐
If yes, explain how: 20 ft weir, calibrated staff guage

E. Does you organization have a regular assessment for a reserve fund? Yes ☐ No ☒
If yes, explain how it is assessed:

F. Does your organization have an assessment for some future special need? Yes ☐ No ☒
If yes, explain for what purpose and how it is assessed:

V. PROPOSED METHOD FOR REVENUE FOR REPAYMENT OF LOAN

How will you plan to assess for the annual loan payments?

Check revenue sources below:

☐ Tax Levies
☐ Capital Improvement Reserve Account or Sinking Fund
☐ User Fees and Tap/Hookup Fees
☐ Other (explain) Increase water share rate

Will an increase in assessment be required? Yes ☒ No ☐
When will new assessments start and how long will they last?
2016 until loan is repayed

VI. SECUREMENT OF LOAN

List all land, buildings, waterworks, reserve funds, and equipment with estimated value that will be used as collateral for the loan:

Property	Estimated Value
10 wells, weir, 9 diversion gates	750,000
11 100hp or bigger pumps, motors, etc.	750,000

For property Securement, attach a legal description of the property being offered along with a map referencing the property.

VII. FINANCIAL INFORMATION:

A. Attach a copy of each of the last 3 year's financial statement. **(Copies must be attached)**

B. Reserve fund (current) NA

C. Cash on hand $37,000.00

For explanation, see Financial Analysis section of application.

D. Outstanding indebtedness:

To Whom	Annual Payment	Amt. Outstanding	Years Left
IWRB	# 12000.00	# 21036.39	2

E. What other sources of funding have been explored to fund the project? (example: NRCS, USDA Rural Development, Banks, Local Government, etc.)

Banks

VIII. ORGANIZATION APPROVAL:

Is a vote of the shareholders, members, etc. required for loan acquisition? Yes ☐ No ☒
If yes, a record of the vote must be attached.

Amount of funds requested: # 173,000.00

By signing this document you verify that all information provided is correct and the document is filled out to the best of your ability.

Authorized signature& date: Michael D. Quist 2/15/16

President
Producers Irr. Co.

PRODUCERS IRRIGATION COMPANY

PRESIDENT

Michael Overton

Vice President

Robert McCulloch

Secretary

Darcy Overton

ADDRESS

Producers Irrigation Company
2886 N. 800 E.
Monteview, Idaho 83435
Phone: (208) 657-2529

Engineering and Technical Support

IDWR

Golden West Irrigation--Rexburg, Idaho

Denning Well Drilling--Idaho Falls, Idaho

List of Appendices

LOAN DOCUMENT OF NEW WELL

PRODUCERS IRRIGATION COMPANY

INTRODUCTION

Producers Irrigation Company, located in Jefferson county, operates a water system that supplies irrigation water for 2200 acres of farmland. In the last ten or so years, the water table where nine of our wells are sited has steadily declined. This drop in water level has caused our wells to steadily decline in output. Two wells nearly run dry later in the irrigation season. For this reason, we are proposing to drill a new well to recoup our water output.

PROJECT SPONSOR

Producers Irrigation Company is a non-profit corporation registered with the State of Idaho. Our sole purpose is to deliver irrigation water to our shareholders. The Board of Directors of Producers Irr. Co. has the power to assess a yearly fee to cover operation costs. Each quarter-section of land has 160 shares of Producers Irr. Co. stock. Each share is assessed the same yearly fee, regardless of the actual acres irrigated within the quarter-section. A copy of the incorporation and by-laws are included Appendix A.

PROJECT SERVICE AREA AND FACILITIES

The service area of Producers Irr. Co. is located in Monte-view, Idaho. A map of the service area and a map of the existing wells will be provided in the back pocket of the report.

HYDROLOGY AND WATER RIGHTS

The sources of water that supply our irrigation company are nine groundwater wells.The proposed new well will also be a groundwater well.A summary of Producers Irr. Co. water rights will be found in Appendix B.

PROJECT DESCRIPTION AND ALTERNATIVES

The purpose of the new project is an attempt to maintain the amount of irrigation water needed for proper irrigation of our 2200 acres. A steadily declining aquifer for the last 12-15 years has diminished our water supply. Three alternatives were considered:

ALTERNATIVES

!. A non-action alternative,

2. Drilling a new well at a different location.

3. Drilling a new well or wells in the same area as our present-day wells.

Alternative 1. was considered unacceptable because, sooner or later,more drilling will be necessary untill the aquifer level stabilizes.

Alternative 2. was selected because the new well will be located at the site of actual use. This will help prevent water loss due to the 3-5 mile delivery system in use now.

Alternative 3. was not selected for the reason dicussed in Alternative 2. There is also doubt as to whether more water could be found at reasonable pumping depth or found at all.

a. The selected alternative, Alternative 2, involves drilling a new well at the source of actual use, and tying it into the existing system. This well will be designed to supply water to two or three pivots. The well will also be able to deliver water into the existing canal system.

b. Design considerations and cost estimates are supplied by Denning Well Drilling and Golden West Irrigation. If the project is undertaken, other bids may be considered.

IMPLEMENTATION SCHEDULE

If suficient financing becomes available, construction could start in the Fall of 2016 and hopefully completed for use in the 2017 irrigation season. Preliminary design report and cost estimates will be found in Appendix C.

PERMITTING

An easement for the location of the project has been granted by Producers Irr. Co. shareholder Robert McCulloch. This easement has been submitted to the IDWR. All permits for the change of Point of Diversion have been approved.

INSTITUTIONAL CONSIDERATIONS

Producers Irr. Co. will be the entity involved in design and construction of this project We will make sure all phases of this project complies with all IDWR rules and regulations.

FINANCIAL ANALYSIS

Two entities will be involved in financing the estimated total cost of $173000.00 for the project. Producers Irr. Co. would like to request a 10-15 year loan from the IWRB. Producers Irr. Co. would raise our annual assessment to cover the yearly cost of servicing this loan. The current water assessment for Producers Irr. Co. is $100.00 per share of company stock. Each 160-acre of ground has 160 shares of stock. We intend to raise our assessment to $110.00 per share to meet our IWRB loan obligation.

Technically, Producers has no existing debt. In 2007, Producers got a loan from IWRB. It was a 10-year loan with a current balance of $21077.27. This balance is the responsibility of a shareholder who will be transfered off the canal when the debt is paid off. For collateral, will pledge the assessment income, water rights, and the project itself.

We have no alternative financing considerations. IWRB terms are the most favorable.

CONCLUSION

1. Producers Irr. Co. is registered with the State of Idaho and has taken a vote of its sharehoders to allow it to proceed with loan contract with the IWRB for the purpose of obtaining funding for the consruction of a new well, piping, pump and controls.

2. Right-of-way easements are in place for the project.

3. This project will provide irrigation water at the point of use. There will be significant transmission loss of water savings. It will also replace two wells that no longer produce the water they should.

4. The total estimated cost of the project is $173000.00. Producers Irr. Co. is applying for a loan from the IWRB in the amount of $173000.00.

5. This project meets with the requirements of the State of Idaho Water Plan and is necessary to avoid water shortages and excess pumping costs. It should also help our company to meet the new use-reduction plan we are now mandated to do.

6. This project is technically and financially feasible.

Appendix B.

State of Idaho
DEPARTMENT OF WATER RESOURCES
900 N Skyline Dr., Ste A, Idaho Falls, Idaho 83402-1718
Phone: (208) 525-7161 FAX: (208) 525-7177 www.idwr.idaho.gov

C.L. "BUTCH" OTTER
Governor

GARY SPACKMAN
Director

September 25, 2015

PRODUCERS IRRIGATION CO
C/O MIKE OVERTON
800 E 2886 N
MONTEVIEW, ID 83435

Re: Transfer No: 80260
Water Right No(s).: 31-10669, 31-12253, 31-12255, 31-12257
Transfer Approval Notice

Dear Water Right Holder:

The Department of Water Resources has issued the enclosed approved Transfer of Water Right(s). Please be sure to thoroughly review the conditions of approval and remarks listed on the approval document.

The Transfer of Water Right(s) is a PRELIMINARY ORDER issued by the Department pursuant to section 67-5243, Idaho Code. It can and will become a final order without further action by the Department unless the APPLICANT petitions for reconsideration or files an exception and/or brief within fourteen (14) days of the service date as described in the enclosed information sheet.

ANY PERSON aggrieved by any decision, determination, order or action of the Department and who has not previously been afforded an opportunity for a hearing on the matter may request a hearing pursuant to section 42-1701A(3), Idaho Code. A written petition contesting the action of the Department and requesting a hearing shall be filed within fifteen (15) days after receipt of the denial or conditional approval.

If the transfer approval includes a condition requiring measuring and recording devices, such devices shall comply with specifications established by the Department Detailed specifications are available on the Department's home page on the Internet, or you can request a copy by contacting any office of the Department. Please be sure to thoroughly review the specifications to avoid unnecessary costs for reinstallation or modification due to non-conforming or improperly installed devices.

Please note that water right owners are required to report any change of water right ownership and/or mailing address to the Department within 120 days of the change. Failure to report these changes could result in a $100 late filing fee. Contact any office of the Department or visit the Department's homepage on the Internet to obtain the proper forms and instructions.

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

TRANSFER OF WATER RIGHT
TRANSFER NO. 80260

This is to certify that: PRODUCERS IRRIGATION CO
C/O MIKE OVERTON
800 E 2886 N
MONTEVIEW, ID 83435

has requested a change to the water right(s) listed below. This change in water right(s) is authorized pursuant to the provisions of Section 42-222, Idaho Code. A summary of the changes is also listed below. The authorized change for each affected water right, including conditions of approval, is shown on the following pages of this document.

Summary of Water Rights Before the Proposed Changes

Water Right	Origin/Basis	Priority Date	Diversion Rate	Diversion Volume	Acre Limit	Total Acres	Source
31-10669	WR/DECREED	8/7/1962	17.270 cfs	N/A	N/A	2169.5	GROUND WATER
31-12253	WR/DECREED	7/25/1955	7.060 cfs	2996.8 af	2095.6	2169.5	GROUND WATER
31-12255	WR/DECREED	7/26/1961	4.480 cfs	1901.6 af	N/A	2169.5	GROUND WATER
31-12257	WR/DECREED	6/22/1953	32.210 cfs	6649.3 af	1899.8	2169.5	GROUND WATER

Purpose of Transfer (Changes Proposed)

Current Number	Split	POD	POU	Add POD	Period of Use	Nature of Use
31-10669	NO	NO	NO	YES	NO	NO
31-12253	NO	NO	NO	YES	NO	NO
31-12255	NO	NO	NO	YES	NO	NO
31-12257	NO	NO	NO	YES	NO	NO

Summary Of Water Rights After the Approved Change

Existing Right	New No. (Changed Portion)	Transfer Rate	Transfer Volume	Acre Limit	Total Acres	New No. (remaining portion)	Remaining Rate	Remaining Volume	Remaining Acre Limit	Remaining Total Acres
31-10669	31-10669	17.270 cfs	7330.6 af	N/A	2169.5	N/A	N/A	N/A	N/A	N/A
31-12253	31-12253	7.060 cfs	2996.8 af	2095.6	2169.5	N/A	N/A	N/A	N/A	N/A
31-12255	31-12255	4.480 cfs	1901.6 af	N/A	2169.5	N/A	N/A	N/A	N/A	N/A
31-12257	31-12257	32.210 cfs	6649.3 af	1899.8	2169.5	N/A	N/A	N/A	N/A	N/A
COMBINED TOTALS		**61.020 cfs**	**7593.3 af**	**2169.5**	**2169.5**		**N/A**	**N/A**	**N/A**	**N/A**

This water right(s) is subject to all prior water rights and shall be administered in accordance with Idaho law and applicable rules of the Department of Water Resources. Detailed Water Right Description(s) attached.

Dated this 25th day of September, 2015.

for Chief, Water Allocation Bureau

Transfer No. 80260

Appendix C

Total Project Cost

Well —— $ 75,000
Pump / Panel / Motor —— 63,000
Variable Speed Drive —— 35,000
$ 173,000.00

2

Mike Overton							
589-2529							
2846 North 900 East, Monteview, ID							
Irrigation Well							
	Our Estimate						
	Unit Price Written in Word			**Quantity**		**Price**	**Total Amount**
1	Mobilization/Demobilization			1	LS	$ 500.00	$ 500.00
2	Casing, 16 inch .375			158	LF	55	$ 8,690.00
3	Drilling, 16 inch			205	LF	125	25,625.00
4	Well Casing, 14 inch .375			348	LF	45	15,660.00
5	Drive Shoes, 16 and 14 inch			2	LS	500	1,000.00
6	Drilling, 14 inch			190	LF	95	18,050.00
7	Bentonite Seal			38	LF	75	2,850.00
8	Development			4	HR	400	1,600.00
9	Permit, Irrigation Well			1	LS	200	200.00
	Total						**$ 74,175.00**

↑

Denning Well Drilling
Idaho Falls, Id.

Golden West IRRIGATION

Estimate and Agreement

Customer: Mike Overton
Description:

Job#:

Date: 01/28/16
Salesman: Trent Angell
Terms: *10% down, 85% on delivery, Balance upon completion*

Pivot Quote

Qty	Description	Price

If we put a variable sped drive on this pump, the estimated cost would be $32000 to $35000 installed.

0.00

Ancillary Quote

	Description	Price
1	deep well pump	
1	14" bowl to do 2000gpm @ 370' TDH	
300'	10x 2-1/2 x1-11/16" column tube & shaft	
1	200hp motor	
1	cone strainer & oil can	43,100.00
1	concrete pump pad	
310'	set pump	3,900.00
1	200hp pump panel with safeties & motor saver	
1	install & wire panel	
1	power company meter base	15,930.00
*	**does not include any mainline or welding**	
		62,930.00
		62,930.00

10% down payment	6,293.00
85% upon delivery	53,491.00
5% upon completion	3,146.00
	62,930.00

NOTICE: SEE TERMS, CONDITIONS, AND PROVISIONS ON PAGES 2 AND 3 OF THIS CONTRACT.

Sales Representative's Initials: _____ Buyer's Initials: _____ Seller's Authorized Officer Initials: _____

Golden West Irrigation

By: _____ Purchaser _____ Date _____

Appendix E

Annual Statement

Producers Irrigation Company

2012

Cash on hand - 1 Jan 13	17,664
Water Assessments	138,614
Power Rebate (Enernoc)	22 850
Total Funds Available	$ 179,128.00

Expenses

Rocky Mtn Power	164,317
Pump/Panel Repair	17,775
Supplies (oil, etc.)	564
Jefferson/Clark Groundwater Dist. - Dues	4101
Total Expenses	$ 186757.00
2012 Deficit	- $ 7629.00

Annual Statement

Producers Irrigation Company

2013

Cash on hand 1 Jan 14	0
Water Assessments	150576
Funds available	$ 150576.00

Expenses

Rocky Mtn Power	143015
Pump / Panel Repair	3987
Jeff/Clark Ewdwtr Dist.	4101
Total Expenses	$ 151,103.00

Deficit	$ 527.00

Annual Statement

Producers Irrigation Company

2014

Cash on hand 1 Jan 15	0
Water Assessments	140500
Power Rebate - Enernoc (2013)	9408
Power Rebate - Enernoc (2014)	7741
Total Funds Available	$ 157,649.00

Expenses

Rocky Mtn Power	122,320
Supplies (oil, etc.)	580
Pump / Panel Repair	785
Jeff/Clark Cnductr Dist. Dues	4126
Total Expenses	$ 127,811.00

Cash on hand 12/31/14 $ 29838.00

Annual Statement

Producers Irrigation Company

2015

Cash on hand 1 Jan 15	$ 29838.00
Water Assessments	140500.00
Power Rebate - Enernuc (2015)	2275.00
Total Funds Available	$ 172613

Expenses

Rocky Mtn Power	$ 138055
Supplies (oil, etc.)	580
Panel/Pump Repair	465
Idaho Irr Pumpers Assn	100
Jeff/Clark Gdwtr Dist.	19762
Transfer Fee (IDWR)	980
Total Expenses	$ 159,942.00

Cash on hand 12/31/15	$ 12671.00

Appendix C.

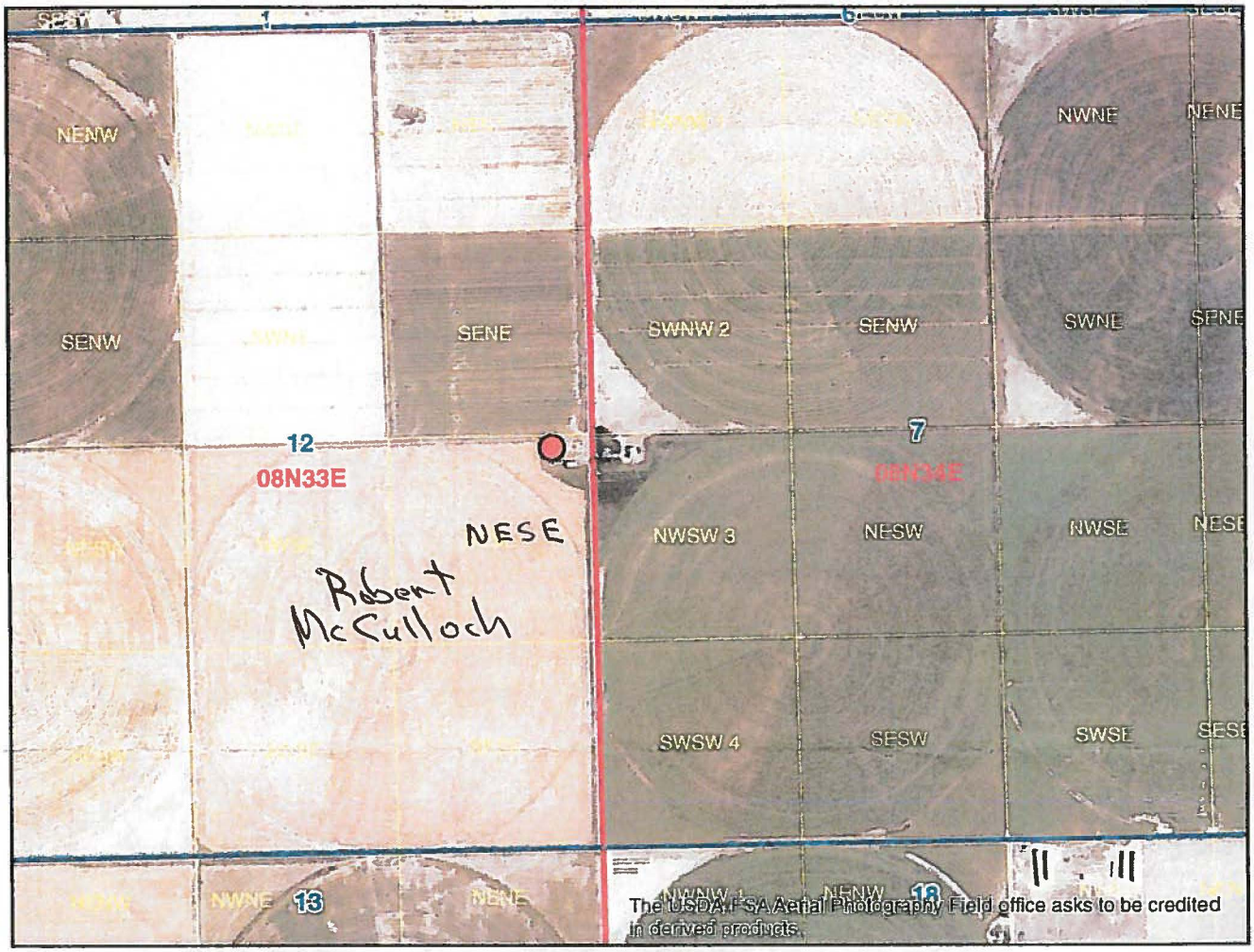
PRODUCERS IRRIGATION COMPANY

Robert McCulloch, a shareholder of Producers Irrigation Company, has agreed to provide an easement to Producers Irr. Co. for the purpose of drilling a new well. The proposed P.O.D. is noted on map provided.

Robert McCulloch

Robt McCulloch

WR 31-10669, 31-12253, 31-12255, 31-12257



Miles

0 0.1 0.2 0.4 0.6 0.8

Legend

- Producers Proposed POD
- Township/Range
- Sections
- QQ
- Wells

N
W E
S

Imagery: 2013 NAIP
Idaho Department of Water Resources, Eastern Region
Prepared by Allison Torres, July 9, 2015

Financial Ratios

Entity Name: Producers Irrigation Company

Loan amount requested: $173,000

The following information is required for the loan application with the Idaho Water Resource Board. Please fill out as completely as possible in the spaces provided. The sheet will do the calculations based on your input. This sheet will not save so you must print it out and attach it to the Loan Document. If you have any questions please contact the loan staff.

Number of units serviced (acres or residences) 2170

Interest rate 3.5%
(use 6% for residential and 5.5% for agriculture)

Total Debt $21,036.39

Current Assessment $100.00

Assessment Charged by Share
(How is current assessment charged? By share, acre, residence, etc.)

Is the assessment 1
(use 1 for yearly and 12 for monthly)

Yearly Expenditures, Revenues, and Cash - last 3 years required

Year	Revenue	Expenditures	Cash
2013	$150,576.00	$151,103.00	-$527.00
2014	$157,649.00	$127,811.00	$29,838.00
2015	$172,613.00	$159,942.00	$12,671.00
Average:	$160,279.33	$146,285.33	$13,994.00

Loan Term	Assessment after loan	Estimated Payment
5 years	$117.66	$38,316.28
10 years	$109.59	$20,801.76
15 years	$106.92	$15,020.74
20 years	$105.61	$12,172.47
25 years	$104.84	$10,496.61
30 years	$104.33	$9,406.24

Indicator	5 year	10 year	15 year	20 year	25 year	30 year
Revenue/Expenses	1.08	1.08	1.09	1.09	1.09	1.09
Debt Service ratio	1.37	1.67	1.93	2.15	2.33	2.49
Cash /Expenses	0.28	0.21	0.18	0.17	0.16	0.15
Debt/Unit	$17.66	$9.59	$6.92	$5.61	$4.84	$4.33

Financial Ratios

Entity Name: Producers Irrigation Company

Loan amount requested: $173,000

The following information is required for the loan application with the Idaho Water Resource Board. Please fill out as completely as possible in the spaces provided. The sheet will do the calculations based on your input. This sheet will not save so you must print it out and attach it to the Loan Document. If you have any questions please contact the loan staff.

Number of units serviced (acres or residences) 2170

Interest rate 3.5%
(use 6% for residential and 5.5% for agriculture)

Total Debt $21,036.39

Current Assessment $110.00

Assessment Charged by Share
(How is current assessment charged? By share, acre, residence, etc.)

Is the assessment 1
(use 1 for yearly and 12 for monthly)

Yearly Expenditures, Revenues, and Cash - last 3 years required

Year	Revenue	Expenditures	Cash
2013	$150,576.00	$151,103.00	-$527.00
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Loan Term	Assessment after loan	Estimated Payment
5 years	$127.66	$38,316.28
10 years	$119.59	$20,801.76
15 years	$116.92	$15,020.74
20 years	$115.61	$12,172.47
25 years	$114.84	$10,496.61
30 years	$114.33	$9,406.24

Indicator	5 year	10 year	15 year	20 year	25 year	30 year
Revenue/Expenses	1.08	1.08	1.09	1.09	1.09	1.09
Debt Service ratio	1.37	1.67	1.93	2.15	2.33	2.49
Cash /Expenses	0.28	0.21	0.18	0.17	0.16	0.15
Debt/Unit	$17.66	$9.59	$6.92	$5.61	$4.84	$4.33

Memorandum

To: Idaho Water Resource Board

From: Remington Buyer

Date: May 10, 2016

Re: Water District 01, 2016 Rental Pool Procedures

Action Items: The IWRB may by resolution approve the Water District 01, 2016 Rental Pool Procedures

During the 2016 annual meeting of the water users of Water District 01, the water users approved amendments to the Water District 01 Rental Pool Procedures. The following documents are provided for reference: 1) WD01 Rental Pool Procedures, Amendments; and 2) WD01 2016 Rental Pool Procedures. The first document highlights changes proposed to the rental pool procedures for 2016 while the second document reflects the amended procedures, accepted by the Water Users of Water District 01.

During the IWRB work session on May 19, 2016, Water District 01 Program Manager Tony Olenichak will brief the Board on the 2016 amendments. Additional comments pertaining to the amendments of the rental pool procedures will be delivered to the Board by representatives of the Shoshone Bannock Tribes.

Pursuant to Water Supply Bank Rule 40.05 (IDAPA 37.02.03), the Water Resource Board may by resolution approve the Water District 01, 2016 rental pool procedures. A draft resolution approving amendments to the Water District 01 Rental Pool Procedures is provided for the consideration of the Board.

BEFORE THE IDAHO WATER RESOURCE BOARD

IN THE MATTER OF APPROVAL OF THE WATER DISTRICT 01, 2016 RENTAL POOL PROCEDURES	))))))	A RESOLUTION

WHEREAS, section 42-1761, Idaho Code provides that the Idaho Water Resource Board shall have the duty of operating a Water Supply Bank; and

WHEREAS, section 42-1762, Idaho Code provides that the Idaho Water Resource Board shall adopt rules and regulations governing the management, control, delivery and use and distribution of water to and from the Water Supply Bank; and

WHEREAS, Water Supply Bank Rule 40.05 authorizes the Idaho Water Resource Board to approve amendments to local rental pool procedures; and

WHEREAS, the water users of Water District 01 have proposed amendments to the Water District 01, Rental Pool Procedures, for use during calendar year 2016;

NOW THEREFORE BE IT RESOLVED that the Idaho Water Resource Board approves the amendments to the Water District 01 Rental Pool Procedures.

Dated this _____ day of May, 2016.

_____
ROGER W. CHASE
Idaho Water Resource Board Chairman

Attest: _____
VINCE ALBERDI
Secretary

COMPARISON OF 2014 & 2016 RENTAL POOL PROCEDURES
Tony Olenichak, Water District #1 Program Manager – May 11, 2016

The previously approved 2014 rental pool procedures for Water District #1 have been used during the past two irrigation seasons to administer storage rentals because the proposed 2015 rental pool procedures were not approved by the IWRB in 2015. New 2016 procedures have been proposed for usage during the 2016 irrigation season to replace the approved 2014 procedures. The following summary shows the differences between the 2014 and 2016 procedures. Additions (underlined) and deletions (strike-through) are shown for the changed rules.

Rules added in 2016: 1.5, 3.4, 4.3.107, 5.6, 6.7, 7.3.101, 7.7, and 7.8
Rules modified in 2016: 5.2.104, 5.2.106, 5.2.107, 5.5.107, 5.5.108, and 7.3.102
Rules deleted in 2016: 5.4.101(e)
Rules re-numbered in 2016: 7.3.101 re-numbered to 7.3.102, and 7.3.102 re-numbered to 7.3.103
The word "computed" was added in front of the word "impact" in Rules: 2.18, 2.29, 2.32, 5.1, 5.2.101, 5.4.101(a), 5.5.107, 7.1, 7.2, 7.3, 7.3.101, 7.3.102, 7.4, 7.5, 7.6, 7.8, 8.1, 8.5.102, and 8.7.

Rule 1.5 was added to the four existing rules under LEGAL AUTHORITY (Rule 1) of the procedures.

> ***Rule 1.5*** *These procedures shall not be interpreted in any manner that is inconsistent with or would adversely impact or effect the rights of the Shoshone-Bannock Tribes as set out in the Fort Hall Agreement, the Blackfoot River Equitable Adjustment Settlement Agreement, and the 2015 Settlement Agreement between the Tribes and the Committee of Nine.*

Rule 3.4 added to the three existing rules under PURPOSES (Rule 3) of the procedures.

> ***Rule 3.4*** *To provide storage water at no cost under Rule 5.5 for the benefit of the Tribes consistent with the terms of the Blackfoot River Equitable Adjustment Settlement Agreement and the 2015 Settlement Agreement. Discussions are ongoing to identify the party responsible for mitigating impacts to the Tribes. Nothing in these Procedures should be construed as an admission of liability by Water District 1 or the Committee of Nine.*

Rule 4.3.107 added to set a deadline for rental storage usage.

> ***Rule 4.3.107 Deadline to Use Rental or Lease Storage.*** *Approved applications pursuant to Rule 4.3 or water leased through a private lease, must be used and diverted on or before December 1 of the same year.*

Rule 5.2.104 modified to require approval of delivery system operator and to clarify quantity available per each point of diversion for small rentals.

> ***Rule 5.2.104 Small Rentals.*** *The common pool will make available from participant contributions 5,000 acre-feet for rentals of ~~less than~~ 100 acre-feet or less per point of diversion, subject to the priorities and limitations set forth in Rule 5. Rentals from the small pool shall only be considered for approval following submittal of written consent from the operator of the delivery system. The Committee may approve on a case-by-case basis the additional rental of storage under this provision to exceed the 100-acre-feet limitation. The 100 acre-feet limitation per point of diversion does not apply if the rental is supplied pursuant to Rule 5.2.103.*

Rule 5.2.106 modified to clarify the participation status of the Shoshone-Bannock Tribes and to add a reference to the 2015 Settlement Agreement **(in part b)** in addition to the Blackfoot Equitable Adjustment **(in part a)** previously included in the 2014 procedure's Rule 5.2.106:

> ***Rule 5.2.106 Shoshone-Bannock Tribes.*** *The Tribes shall be treated as non-participants unless written notice is provided under 5.2.101.*
>
> a) ***Blackfoot River Equitable Adjustment Settlement Agreement Water.*** *Storage water not to exceed 20,000 acre-feet shall be made available in accordance with the terms of the Blackfoot River Equitable Adjustment Settlement Agreement. The source and funding of the storage water shall be determined by the Committee at its June meeting. Administrative fees shall be paid by Water District 1.*
>
> b) ***2015 Settlement Agreement.*** *Storage water not to exceed 10,000 acre-feet (except with the approval of the Committee of Nine) shall be made available in accordance with the terms of the 2015 Settlement Agreement from the current year's Common Pool prior to providing any rental under the priorities of Rule 5.4.101. Administrative fees shall be paid by Water District 1. Discussions are ongoing to identify the party responsible for mitigating impacts to the Tribes. Nothing in these Procedures should be construed as an admission of liability by Water District 1 or the Committee of Nine.*

Rule 5.2.107 modified to remove the 60,000 acre-feet volume limitation from the large rental supply.

> ***Rule 5.2.107 Additional Quantities.*** *~~For the 2014 season, i~~In the event rental requests from participants impacted from the prior year's rentals exceed 50,000 acre-feet and insufficient storage has been assigned to the common pool to meet such additional requests, the maximum amount of storage that will be available through the common pool will be ~~60,000 acre-feet~~ equivalent to the amount necessary to meet the demand of those shown to have been impacted from the prior year's rentals.*
>
> a) ~~***Distribution of Storage.*** *If, following the deadline for receipt of request from participants impacted from the prior year's rentals, the Watermaster determines that the total quantity of storage sought to be rented through the common pool exceeds the quantity limitation established under this Rule, then the Watermaster shall reduce the quantity of each impacted common pool rental contract to a pro rata share of 60,000 acre-feet limitation based on the amount of storage sought to be rented by each impacted spaceholder. The Watermaster shall amend the impacted common pool rental contract(s) to reflect any reduced quantity required by this provision.~~

Rule 5.4.101(e) - The fifth of five priorities for renting storage from the Common Pool supply was deleted from the proposed 2016 procedures. This eliminates the availability of rentals for hydropower below Milner from the 50,000 acre-feet large rental supply. Rentals for hydropower below Milner can only be supplied by the IWRB (Rule 6.7) or through the Supplemental Pool (Rule 8.0) in the 2016 procedures.

> ~~***Rule 5.5.101(e) Fifth Priority.*** *Rentals for purposes below Milner, excluding flow augmentation; provided, however, such rentals are limited to 50,000 acre-feet per year or a lesser amount as set by the Committee. Rentals for purposes below Milner can only be filled with storage from the 50,000 acre-feet of participant contributions described in Rule 5.2. To the extent the storage is assigned to the Common Pool, assigned storage will be used to fill the rentals of the First, Second, Third, and Fourth Priorities, allowing that portion of the participant contributions to be used for rentals below Milner. Rentals for purposes below Milner will only be approved to the extent the renter provides written certification from the Bureau stating either 1) that the Bureau has sufficient flow augmentation supplies for the year, or 2) that the storage to be released past Milner will count towards the Bureau's flow augmentation total.~~

Rule 5.5.107 modified to include an additional "impact fee" for fourth-priority (non-spaceholder) rentals when those rentals cause an impact to spaceholder allocations in the year following the rentals and the price paid for the rental was less than the rental price during the following year of impact.

> ***Rule 5.5.107 Fees & Surcharges.*** *There shall be added to the rental price for all rentals the administrative fee and Board surcharge. There shall also be added to the rental price for rentals pursuant to fourth priority Rule 5.2.104 and impact fee to mitigate the computed impacts under Rule 7 from such rentals, payable as follows: The exact amount which is to be set and paid when the full impacts of such rentals, based upon the following year's Common Pool rental price, are determined under said Rule 7, including all additional fees and surcharges. Payment shall then be due payable on or before 60 days from the day of allocation. There shall also be added to the rental price for rentals below Milner, excluding flow augmentation, the infrastructure fee. Failure of a non-spaceholder to timely pay the fees indentified above, shall result in the non-spaceholder's ineligibility to rent water in the future. Such failure to pay shall also subject the non-spaceholder to such legal actions as allowed under state law in the collection of fees.*

Rule 5.5.108 modified to certify that the Palisades powerhead storage does not need to be completely full to meet the definition of storage system fill.

> ***Rule 5.5.108 Storage System Fill.*** *For purposes of Rule 5.5 only, the storage system is considered full when all storage rights are filled in Jackson Lake, Palisades (except for powerhead), American Falls, and Island Park.*

Rule 5.6 added to re-affirm a renter cannot arbitrage Common Pool rental, consistent with Rule 6.2 already in existence for private leases.

> ***Rule 5.6 Limitations.*** *A participant cannot rent water from the Common Pool if the participant is replacing storage space or water which has been evacuated due to an assignment to or private lease through the Water District 1 Rental Pool, unless an exception is granted by the Committee.*

Rule 6.7 added to allow IWRB to lease its storage below Milner.

> ***Rule 6.7 Idaho Water Resource Board (IWRB) Storage.*** *The IWRB may lease its existing storage (up to 5,000 acre-feet) to Idaho Power and have it released past Milner for the purpose of mitigating minimum flows at Murphy. The administrative fee must be paid by the IWRB for any storage used for such purpose.*

Rule 7.3.101 modified to include payments to participant spaceholders from the newly created "impact fee". Payments from the "impact fund" were moved from old Rule 7.3.101 to new Rule 7.3.102, and old Rule 7.3.102 (Timing of Payment) was renumbered to new Rule 7.3.103.

> ***Rule 7.3.101 Payments to Impacted Participants Using Impact Fees.*** *Participants whose storage allocation has a computed impact from the prior year's rental of storage from the common pool, excluding assignments, shall first receive payment from impact fees collected pursuant to Rule 5.5.107 from the previous year's fourth priority rentals. The amount of impact fees disbursed to impacted participants will be proportional to the total common pool rental, including flow augmentation rentals, that occurred during the prior year:*
>
> *Impact Fee Payment = (Isp * RP) * (Fp/Cp)*

Isp = Participants computed impacted space in current year
RP = Rental Price in current year
Fp = Fourth priority rentals in prior year
Cp = Total common pool rentals (including flow augmentation) in prior year

Payment to spaceholders for the impacts by non-spaceholders pursuant to 7.3.101 shall be paid from the balance remaining in the impact fund after payments are made pursuant to 7.3.102, which shall then be reimbursed pursuant to Rule 5.5.107.

~~Rule 7.3.101: Impact Payment Formula.~~ ***Rule 7.3.102: Remaining Impact Payment.*** *Participants whose storage allocation ~~is~~ has a computed impact~~ed~~ from the prior year's rental of storage from the common pool, excluding assignments, will also receive payment from the Impact Fund ~~according the following formula~~ (in addition to the Impact Fee Payment pursuant to Rule 7.3.101) equal to the lesser value of the two following formulas:*

*Remaining Impact Payment = [(Isp*RP) – Impact Fee Payment]*
or
[½IF(Isp/Ispt) – Impact Fee Payment]*

Isp = Participants computed impacted space in acre-feet
RP = Rental Price
IF = Impact Fund
Ispt = Total of all Participants' computed impacted space in acre-feet

Rule ~~7.3.102~~ 7.3.103 Timing of Payment. *Impact payments, which will be based on preliminary data, will be made to participants on or before July 15.*

Rule 7.7 added to address impacts from USBR leasing their powerhead allocation for flow augmentation.

Rule 7.7 Impacts to Spaceholders Resulting from USBR Powerhead Private Lease. *Consistent with the Mediator's Term Sheet of the 2004 Snake River Water Rights Agreement, powerhead space used for flow augmentation shall be the last space to refill after all other pace in reservoirs in that water district, including other space used to provide flow augmentation, in the basin has filled*

Rule 7.8 added to address impacts of IWRB releasing their storage below Milner.

Rule 7.8 Impacts to Spaceholders Resulting from Release of Idaho Water Resource Board (IWRB) Storage Used for Mitigating Minimum Flows at Murphy. *For 2016 only, if the release of IWRB storage past Milner caused computed impacts, as determined by the Watermaster, the IWRB storage allocation shall be reduced by an amount equal to such computed impacts, not to exceed the quantity of storage released, and reallocated to mitigate computed impacts to affected spaceholders.*

Lastly, the word "**computed**" was inserted into the 2016 procedures ahead of the word "**impact**" in Rules 2.18, 2.29, 2.32, 5.1, 5.2.101, 5.4.101(a), 5.5.107, 7.2, 7.3, 7.3.101, 7.3.102, 7.4, 7.5, 7.6, 7.8, 8.1, 8.5.102, and 8.7. Insertion of the word "computed" does not change the way impacts from rentals have been computed in the past. Impacts in 2016 will be computed the same way they have been computed in previous years with the additional consideration for impacts resulting from powerhead and IWRB storage leases (Rules 7.7 and 7.8).

The SHOSHONE-BANNOCK TRIBES

FORT HALL INDIAN RESERVATION
PHONE (208) 478-3700
FAX # (208) 237-0797

FORT HALL BUSINESS COUNCIL
P.O. BOX 306
FORT HALL, IDAHO 83203

May 12, 2016

Roger Chase, Chairman
Idaho Water Resources Board
322 East Front Street
Boise, ID 83720

RE: Shoshone-Bannock Tribes Comments and Concerns with the Proposed 2016 Amendments to WD01 Rental Pool Procedures

Dear Chairman Chase:

The Shoshone-Bannock Tribes submit the following comments in response to the "Proposed 2016 Water District 01 Rental Pool Procedures." (Rental Pool Procedures.) A key component of the "1990 Fort Hall Indian Water Rights Agreement" ("Agreement") was the creation of a Shoshone-Bannock Tribal Water Bank to allow for rental for any beneficial use of all or any part of the Tribes water accruing in federal contract storage. Article 7.3.6. of the Agreement, states that: "The State agrees not to take any action that will interfere with the nature, scope, spirit and purpose of the Shoshone-Bannock Water Bank."

Currently, there are two water banks that operate in the upper Snake River Basin, the Shoshone-Bannock Tribal Water Bank and Water District 01 Water Bank. The Tribes believe that 2016 WD01 Rental Pool Procedures impact the Tribes ability to effectively market its storage water supply.

Thank you for giving the Tribes the opportunity to provide you with these comments and concerns regarding the Rental Pool Procedures. We appreciate the willingness of the IWRB to consider the Tribes' comments and concerns. The Tribes previously submitted comments to the Committee of Nine, but there are still two issues of concern with the Rental Pool Procedures that remain unresolved.

Section 5.6 provides that a renter cannot rent water from the Common Pool to replace water that was leased. This proposed language would limit the tools that the Tribes would have available to manage its portfolio of water rights and impede their ability to generate revenue from stored water rights – the negotiated purpose of which was to provide a source of revenue and economic development for the Tribes. By removing this tool, the Tribes would lose part of the benefits agreed upon in the 1990 Fort Hall Water Rights Agreement and the 2015 Settlement Agreement, since, under specific circumstances, this restriction creates a disincentive for participants to execute water right transactions with the Tribes. This limitation may also impact the ability of other non-Tribal water users, who are being incentivized to enter into private leases, from finding willing lessors

among spaceholders. The Tribes would like to have a detailed discussion about the impacts of this approach and the concerns underlying it, about the needs of the Tribes, and about the overall concept. The Tribes propose that this Section 5.6 be deleted, and we initiate those discussions as soon as possible. In the interim, the limitation provided in Section 6.2 would remain in place to address spaceholder concerns.

Section 7.4 addresses mitigating the impacts to non-participants due to rentals from the Common Pool. The key term, "impacts," is now modified by the adjective "computed" (replacing "associated"). The Tribes are concerned with the use of the term "computed" to qualify the amount of impact that will be mitigated. This term is loosely defined in Section 7.1, but it is not clear what happens when the "computed" impact is in fact lower than what turns out to be the actual impact. The Tribes' position is that since its water rights are property rights, any taking of such rights must be compensated to the full amount of the taking, and not arbitrarily limited by model calculations. This language was discussed at the Intergovernmental Board Meeting involving the Tribes, the United States, and the Idaho Water Resources Department on March 9, 2016, in Boise. The Tribes raised this concern at the meeting. The Tribes understood that there was some agreement around the concept of removing the qualifying adjective and just leaving the Procedures to state "impacts," without calling them "associated" or "computed." Tony Olenichack, of the Water District 01 Watermaster's office, in fact suggested that such an approach made sense. If the Board is not willing to make that change, in the alternative the Tribes would proposed that the language ought to be clarified so that (1) "computed" is defined and (2) that if the "computed" impacts turn out to be inaccurate, that the amount of mitigation shall be appropriately adjusted.

Again, thank you for the opportunity to provide you with our comments and concerns. We look forward to discussing this letter with you in the very near future.

Sincerely,

Blaine Edmo, Chairman
Shoshone-Bannock Tribes

Cc: Roger Chase
4985 Clearview Avenue
Pocatello, ID 83204-5023
rwchase33@gmail.com

Remington Buyer
Water Supply Bank Coordinator
Idaho Department of Water Resources
remington.buyer@idwr.idaho.gov

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JOHN A. ROSHOLT
JOHN K. SIMPSON
TRAVIS L. THOMPSON
SHELLEY M. DAVIS
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(208) 733-0700 telephone
(208) 735-2444 facsimile

John K. Simpson
jks@idahowaters.com

May 18, 2016

VIA E-MAIL AND HAND-DELIVERY
Roger Chase, Chairman
Idaho Water Resources Board
322 East Front Street
Boise, ID 83702-7374

Re: 2016 WD 1 Rental Pool Procedures

Dear Chairman Chase:

Water District 1 ("WD 1") has appreciated the long-standing relationship between the Idaho Water Resources Board ("IWRB") and WD 1 in managing water supplies above Milner. The procedures for the rental of storage water (WD 1 Rental Pool Procedures) are annually reviewed by the Committee of Nine ("Co of 9"), approved by WD 1 at the annual meeting and forwarded onto the IWRB for final approval. This process has allowed waterusers the opportunity to provide input during the Co of 9 review and at the WD 1 annual meeting. By the time the procedures are before the IWRB, the waterusers should have fully discussed issues and resolved any disagreements.

Over the last couple of years the WD 1 Rental Pool Procedures have come before the IWRB with lingering questions. In 2015, as a function of the implementation of certain water rights settlements, changes were proposed which certain waterusers questioned. Following discussions, the waterusers agreed that the 2014 WD 1 Rental Pool Procedures would remain in place and requested that the 2015 proposed procedures be withdrawn. The IWRB agreed and the 2014 procedures remained effective for the 2015 water year.

As in previous years the Co of 9, through the Rental Pool sub-committee, then began looking at the procedures prior to the 2016 WD 1 annual meeting to consider changes that the waterusers or the watermaster requested. These sub-committee meetings are open to all waterusers and the Bureau of Reclamation ("BoR") is present in an advisory role. Meetings are noticed in accordance with open meeting requirements. Numerous meetings were held from December, 2015 through February 2016, leading up to the annual meeting.

At the request of BoR, a set of draft procedures was distributed for review and comment. BoR specifically referenced the need to provide the Shoshone Bannock Tribes ("Tribes") a copy for review and comment. Prior to the February 29, 2016 Rental Pool and Co of 9 meetings, comments to the draft 2016 procedures were received from the United States and the Tribes. The comments received were fully discussed at the February 29th meetings. The United States, through BoR and the Interior Department attended, but no other Tribal representatives were present. Certain comments by the United States and Tribes were accepted into the draft procedures. Other suggestions were considered but ultimately, additional changes were not made. The United States through the Interior representative, acknowledged their acceptance of the changes and draft procedures. The WD 1 Rental Pool Procedures were then finalized by the Rental Pool sub-committee, approved by the Co of 9 and approved by resolution at the WD 1 annual meeting on March 1, 2016. Again, no direct representative from the Tribes was present at the Co of 9 meeting or WD 1 annual meeting. Furthermore, no additional written comments or concerns were lodged by the Tribes prior to said meetings.

The clear intent of the rental pool procedures is to make water available on a temporary basis to participating spaceholders. Any additional, available water is then made available to non-spaceholders through the procedures. All spaceholders are treated equally and equitably while protecting the integrity of the rental pool.

The Tribes have consistently taken the position that they didn't want to participate in the WD 1 Rental Pool. Pursuant to the Rental Pool Procedures, as a non-participant, the Tribes' storage supply will be protected from impacts arising from the operation of the WD 1 Rental Pool.

After all of the above opportunities have come and gone, WD 1 has now received a copy of the Tribes' May 12, 2016 letter to the IWRB addressing comments and concerns with the proposed 2016 Amendments to WD 1 Rental Pool Procedures. The remainder of this letter will address the Tribes' concerns associated with "Section 5.6" and "Section 7.4."

Rule 5.6 (Tribes' reference "Section 5.6") states:

"Limitations. A participant cannot rent water from the Common Pool if the participant is replacing storage space or water which been evacuated due to an assignment to or private lease through the Water District 1 Rental Pool, unless an exception is granted by the Committee."

This rule was added to ensure that a "participant" doesn't take advantage of variable rental or lease rates in marketing storage water which could have a detrimental impact on the viability of the rental pool. A "participant" is a spaceholder who elects to contribute storage to the common pool. *See Rule 5.2.101.* The Tribes have consistently declined participant status and therefore fall under the non-participant status described in Rule 5.2.102. The May 12, 2016 letter and identified Rule 5.6 concern was previously raised by the Tribes in comments submitted to the Rental Pool Committee. However, no one from the Tribes attended meetings to explain the rationale behind the comments. No specific factual examples were provided. To speculate that the rule as drafted would "impede their ability to generate revenue" appears factually untrue

as the Tribes have successfully negotiated a long-term lease of their storage to the Idaho Groundwater Appropriators ("IGWA"). Further, the language of Rule 5.6 clearly addresses only transactions through the Water District 1 Rental Pool and does not infringe upon the Tribes' operations of its separate water bank. The Co of 9 has consistently provided a forum for discussion and will continue to do so. It is the Co of 9's belief that Rule 5.6 furthers the WD 1 Rental Pool purposes articulated in Rule 3.0 and as administered, does not conflict with the Tribes' Water Bank.

Rule 7.4 (Tribes' reference "Section 7.4") states:

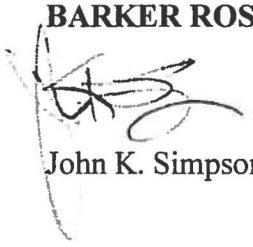
Impacts to Non-Participants due to Rentals from the Common Pool (excluding assignments). *If the prior year's rental of storage from the common pool caused computed impacts to non-participants as determined by the Watermaster, the current year's Common Pool shall be reduced to supply such impacts to non-participants (at no cost to non-participants) prior to providing any rental under the priorities of Rule 5.4.101.*

The Co of 9 believes that understanding as to how impacts as defined in the WD 1 Rental Pool Procedures are identified may resolve this concern. The attached "as applied" Rule 7.1 example and explanation is provided by the WD 1 Watermaster's office. The attachment identifies the steps undertaken to "compute" impacts. Any spaceholder has and will continue to have the process provided in IDWR rules and law to protect property interests, including storage allocation. The WD 1 Rental Pool Procedures do not change those protections.

With these clarifications, the Co of 9 through its sub-committees, believes the 2016 Rental Pool Procedures are appropriate and should be approved as submitted. Counsel for and Tony Olenichak of the Water District 1 office will be available during the IWRB working day, May 19, 2016, to address any questions the IWRB may have on the issues discussed herein.

Very truly yours,

BARKER ROSHOLT & SIMPSON LLP



John K. Simpson

JKS/jlw
Enclosure

2016

WATER DISTRICT 1

RENTAL POOL PROCEDURES

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RENTAL POOL PROCEDURES

RULE 1.0 LEGAL AUTHORITY

1.1 These procedures have been adopted by the Water District 1 Committee of Nine pursuant to Idaho Code § 42-1765.

1.2 These procedures shall not be interpreted to limit the authority of the Idaho Department of Water Resources, the Idaho Water Resource Board, or the Watermaster of Water District 1 in discharging their duties as prescribed by statute or rule.

1.3 These procedures shall be interpreted consistent with Idaho Code, rules promulgated by the Idaho Water Resource Board, relevant provisions of spaceholder contracts with the United States, and the Mediator's Term Sheet of the 2004 Snake River Water Rights Agreement.

1.4 The operation of the rental pool shall in no way recognize any obligation to maintain flows below Milner or to assure minimum stream flows at the United States Geological Survey (USGS) gaging station on the Snake River near Murphy.

1.5 These procedures shall not be interpreted in any manner that is inconsistent with or would adversely impact or effect the rights of the Shoshone-Bannock Tribes as set out in the Fort Hall Agreement, the Blackfoot River Equitable Adjustment Settlement Agreement, and the 2015 Settlement Agreement between the Tribes and the Committee of Nine.

RULE 2.0 DEFINITIONS

2.1 **Accounting Year:** the Water District 1 accounting year that begins on November 1 and ends on October 31.

2.2 **Acre-foot:** a volume of water sufficient to cover one acre of land one foot deep and is equal to 43,560 cubic feet.

2.3 **Administrative Fee:** a fee of one dollar and five cents ($1.05) per acre-foot assessed on the total quantity of storage set forth in any rental or lease application, disbursed to the District at the end of the irrigation season.

2.4 **Allocation:** the amount of stored water, including carryover, that has accrued to a spaceholder's storage space on the date of allocation that is available for the spaceholder's use in the same accounting year.

2.5 **Applicant:** a person who files with the Watermaster an application, accompanied by the required fees, to rent or lease storage through the rental pool.

2.6 **Assignment:** storage provided by an assignor from the current year's storage allocation for rental through the common pool pursuant to Rule 5.3.

2.7 **Assignor:** a participant who assigns storage to the common pool pursuant to Rule 5.3 and subject to Rule 7.5.

2.8 **Board:** the Idaho Water Resource Board (IWRB).

2.9 **Board Surcharge:** a surcharge equal to ten percent (10%) of the rental price or lease price assessed on the total quantity of storage set forth in any rental or lease application, disbursed to the Board at the end of the irrigation season.

2.10 **Bureau:** the United States Bureau of Reclamation (USBR).

2.11 **Committee:** the Committee of Nine, which is the advisory committee selected by the members of Water District 1 at their annual meeting and appointed as the local committee by the Board pursuant to Idaho Code § 42-1765.

2.12 **Common Pool:** storage made available to the Committee through participant contributions and/or assignments for subsequent rental pursuant to Rule 5.

2.13 **Date of Allocation:** the date determined each year by the Watermaster on which the maximum accrual to reservoir spaceholders occurs.

2.14 **Date of Publication:** the date on which the Watermaster publishes on the District website the storage allocation for the current accounting year.

2.15 **Department:** the Idaho Department of Water Resources (IDWR).

2.16 **District:** Water District 1 of the state of Idaho.

2.17 Impact Fee: a fee added to the rental price for non-spaceholder rentals pursuant to Rule 5.5.107.

2.18 **Impact Fund:** a fund maintained by the Watermaster for the mitigation of computed impacts to participants pursuant to Rule 7.3.

2.19 **Infrastructure Fee:** a fee of five dollars ($5.00) per acre-foot assessed on all storage rented through the common pool for purposes below Milner, excluding flow augmentation, disbursed to the Infrastructure Fund at the end of the irrigation season.

2.20 **Infrastructure Fund:** a fund maintained by the Watermaster for the purposes outlined in Rule 4.5.

2.21 **Lease:** a written agreement entered into between a lessor and lessee to lease storage through the rental pool pursuant to Rule 6.

2.22 **Lease Price:** a price per acre-foot negotiated between a lessor and lessee as set forth in a lease agreement.

2.23 **Lessee:** a person who leases storage from a participant under a lease.

2.24 **Lessor:** a participant who leases storage to a person under a lease pursuant to Rule 6 and subject to Rule 7.6.

2.25 **Milner:** Milner Dam on the Snake River.

2.26 **Net Price:** the average price per acre-foot of all rentals from the common pool, including flow augmentation, but excluding rentals of assigned storage.

2.27 **Net Proceeds:** the net price times the number of acre-feet rented from the common pool, excluding rentals of assigned storage.

2.28 **Participant:** a spaceholder who contributes storage to the common pool pursuant to Rule 5.2.

2.29 **Participant Contributions:** storage made available to the common pool by participants, with computed impacts accounted from next year's reservoir fill, which forms the supply for large rentals, small rentals, and flow augmentation, subject to the limitations in Rule 5.2.

2.30 **Person:** an individual, corporation, partnership, irrigation district, canal company, political subdivision, or governmental agency.

2.31 **Rent:** the rental of storage from the common pool.

2.32 **Rental Pool:** the processes established by these procedures for the rental and/or lease of storage, mitigation of computed impacts to spaceholders, and disposition of revenues.

2.33 **Rental Pool Subcommittee:** a subcommittee composed of the Watermaster (advisor), a designated representative from the Bureau (advisor), and three or more members or alternates of the Committee who have been appointed by the chairman of the Committee.

2.34 **Rental Price:** the price per acre-foot of storage rented from the common pool, as set forth in Rule 5.5, excluding the administrative fee, the Board surcharge, and the infrastructure fee.

2.35 **Renter:** a person who rents storage from the common pool.

2.36 **Reservoir System:** refers to American Falls, Grassy Lake, Henrys Lake, Island Park, Jackson Lake, Lake Walcott, Milner Pool, Palisades, and Ririe.

2.37 **Space:** the active capacity of a reservoir measured in acre-feet.

2.38 **Spaceholder:** the holder of the contractual right to the water stored in the space of a storage facility within the Reservoir System.

2.39 **Storage:** the portion of the available space that contains stored water.

2.40 **Watermaster:** the watermaster of Water District 1.

2.41 **Water Supply Forecast:** the forecasted unregulated runoff for April 1 to September 30 at the Heise USGS gaging station, referred to in Table 1.

RULE 3.0 PURPOSES

3.1 The primary purpose of the rental pool is to provide irrigation water to spaceholders within the District and to maintain a rental pool with sufficient incentives such that spaceholders supply, on a voluntary basis, an adequate quantity of storage for rental or lease pursuant to procedures established by the Committee. These procedures are intended to assure that participants have priority over non-participants and non-spaceholders in renting storage through the rental pool.

3.2 To maintain adequate controls, priorities, and safeguards to insure that existing water rights are not injured and that a spaceholder's allocation is not impacted without his or her consent. To compensate an impacted spaceholder to the extent the impact can be determined by the procedures developed by the District.

3.3 To generate revenue to offset the costs of the District to operate the rental pool and to fund projects that fall within the parameters of Rule 4.5.

3.4 To provide storage water at no cost under Rule 5.5 for the benefit of the Tribes consistent with the terms of the Blackfoot River Equitable Adjustment Settlement Agreement and the 2015 Settlement Agreement. Discussions are ongoing to identify the party responsible for mitigating impacts to the Tribes. Nothing in these Procedures should be construed as an admission of liability by Water District 1 or the Committee of Nine.

RULE 4.0 MANAGEMENT

4.1 **Manager.** The Watermaster shall serve as the manager of the rental pool and shall take all reasonable actions necessary to administer the rental pool consistent with these procedures, which include, but are not limited to:

(a) Determining impacts pursuant to Rule 7;
(b) Calculating payments to participating spaceholders as prescribed by Rules 5.2 and 7.3;
(c) Accepting storage into the common pool and executing rental agreements on behalf of the Committee;
(d) Disbursing and investing rental pool monies with the advice and consent of the Rental Pool Subcommittee; and
(e) Taking such additional actions as may be directed by the Committee.

4.2 **Rental Pool Subcommittee.** The Rental Pool Subcommittee shall exercise the following general responsibilities:

(a) Review these procedures and, as appropriate, make recommendations to the Committee for needed changes;
(b) Review reports from the Watermaster regarding rental applications, storage assignments to the common pool, and leases of storage through private leases;
(c) Advise the Committee regarding rental pool activities;
(d) Develop recommendations for annual common pool storage supplies and rental rates;
(e) Assist the Watermaster in resolving disputes that may arise from the diversion of excess storage; and
(f) Assume such additional responsibilities as may be assigned by the Committee.

4.3 **Applications**

4.3.101 Applications to rent or lease storage through the rental pool shall be made upon forms approved by the Watermaster and shall include:

(a) The amount of storage sought to be rented or leased;

(b) The purpose(s) for which the storage will be put to beneficial use;

(c) The lease price (for private leases); and

(d) To the extent practicable at the time of filing the application, the point of diversion identified by legal description and common name; and a description of the place of use.

4.3.102 *Application Acceptance*. Applications are not deemed accepted until received by the Watermaster together with the appropriate fees required under Rules 5.5 (rentals) or 6.4 (leases).

4.3.103 *Application Approval.* An application accepted under Rule 4.3.102 shall be approved after the Watermaster has determined that the application is in compliance with these procedures and sufficient storage will be available from the common pool and/or lessor to provide the quantity requested in the application. Upon approval of the application, the Watermaster shall send notice to the renter/lessor/lessee and entity owning the point-of-diversion designated in the application of such approval and allocation of storage; provided, however, no allocation of storage shall be made until the applicant designates the point of diversion and place of use of the rented and/or leased storage in the application or pursuant to Rule 4.3.106.

4.3.104 *Timeframe for having Rental Application Accepted to Preserve Rental Priority*. Applications to rent storage will not be accepted until April 5 of the year in which the storage will be used. Applications must be accepted by the Watermaster within 15 days following the date of publication to preserve the applicant's priority under Rule 5.4.101.

4.3.105 *Deadline for Accepting Applications to Rent or Lease Storage*. All applications to rent or lease storage must be accepted by the Watermaster pursuant to Rule 4.3.102 on or before December 1 in order for the storage identified in such applications to be accounted for as having been diverted prior to October 31 of the same year. Applications accepted after December 1 will be accounted for from storage supplies in the following calendar year, unless an exception is granted by the Rental Pool Subcommittee.

4.3.106 *Deadline to Designate Point of Diversion and Place of Use.* If the point of diversion and/or place of use of the rented and/or leased storage was not previously designated in the application, the renter and/or lessee must make such designation in writing to the Watermaster on or before December 1 of the same year, unless an extension is granted by the Rental Pool Subcommittee. Failure to comply with this provision shall cause any unused storage to automatically revert back to the common pool and/or lessor, respectively.

4.3.107 *Deadline to Use Rental or Lease Storage*. Approved applications pursuant to Rule 4.3 or water leased through a private lease, must be used and diverted on or before December 1 of the same year.

4.4 **Rental Pool Account**

4.4.101 All monies submitted by applicants shall be deposited in an interest-bearing account known as the "Rental Pool Account" and maintained by the Watermaster on behalf of the Committee. Monies in the Rental Pool Account will be disbursed to participants, the District, the Board, the Impact Fund, and the Infrastructure Fund in the proportions set forth in these Rules. Accrued interest to the Rental Pool Account shall be used to maintain the Impact Fund. Rental Pool Funds shall be considered public funds for investment purposes and subject to the Public Depository Law, Chapter 1, Title 57, Idaho Code.

4.4.102 Monies deposited in the Rental Pool Account are non-refundable to the extent the rental and/or lease application is approved pursuant to Rule 4.3.103, regardless of whether the storage is used.

4.5 **Infrastructure Fund**

4.5.101 Monies in the Infrastructure Fund may only be used to fund District costs of projects relating to improvements to the District's distribution, monitoring, and gaging facilities, and other District projects designed to assist in the adjudication, which includes the cost of Blackfoot River Equitable Adjustment Settlement Water, if any is required, conservation, or efficient distribution of water.

4.5.102 Disbursements from the Infrastructure Fund are subject to two-thirds (2/3) Committee approval.

4.5.103 If monies in the Infrastructure Fund accrue to one million dollars ($1,000,000.00), the infrastructure fee shall be waived and the same amount (five dollars ($5.00)) added to the rental price in Rule 5.5.105.

4.5.104 Monies in the Infrastructure Fund may be carried over from year to year.

RULE 5.0 COMMON POOL

5.1 **Scope.** The common pool consists of storage made available to the Committee through participant contributions and assignments. Participants make all of their storage available to the common pool pursuant to the terms of Rule 5.2, with computed impacts accounted from next year's reservoir fill. Assignors provide storage to the common pool, pursuant to Rule 5.3, by assigning a portion of their current year's storage allocation. Rentals from the common pool are subject to the priorities and prices established under this Rule.

5.2 **Participant Contributions**

5.2.101 *Participants.* Any spaceholder may, upon submitting written notice to the Watermaster prior to March 15, 2016, elect to contribute storage to the common pool. Any spaceholder making such election shall be deemed a "participant" for the current year and every year thereafter until the spaceholder provides written notice to the Watermaster prior to March 15, 2016 rescinding its participation. Upon election to participate, a spaceholder is eligible for all the benefits of a participant set forth in these procedures, excluding monetary payment for rentals or computed impacts associated with rentals from the prior year. If after March 15, 2016, less than seventy-five percent (75%) of the

contracted storage space is committed to the common pool by participants, the Committee shall revise the rental pool procedures as necessary prior to April 1.

5.2.102 *Non-Participants.* Spaceholders who are not participants shall not be entitled to supply storage to, or rent storage from, the common pool, or supply or lease storage through a private lease. Notwithstanding this restriction, the Bureau may rent water from the common pool for flow augmentation pursuant to Rule 5.2.105.

5.2.103 *Large Rentals.* The common pool will make available from participant contributions 50,000 acre-feet of storage for rentals, plus any assigned storage, subject to the priorities and limitations set forth in Rule 5.

5.2.104 *Small Rentals.* The common pool will make available from participant contributions 5,000 acre-feet for rentals of 100 acre-feet or less per point of diversion, subject to the priorities and limitations set forth in Rule 5. Rentals from the small pool shall only be considered for approval following submittal of written consent from the operator of the delivery system. The Committee may approve on a case-by-case basis the additional rental of storage under this provision to exceed the 100 acre-feet limitation. The 100 acre-feet limitation per point of diversion does not apply if the rental is supplied pursuant to Rule 5.2.103.

5.2.105 *Flow Augmentation*

(a) *Table 1.* The amount of storage, from participant contributions to the common pool, available for rental for flow augmentation shall be determined by Table 1.

(b) *Extraordinary Circumstances.* A greater amount of storage may be made available by the Committee, if it determines on or before July 1 that extraordinary circumstances justify a change in the amount of storage made available for flow augmentation.

5.2.106 *Shoshone-Bannock Tribes.* The Tribes shall be treated as non-participants unless written notice is provided under 5.2.101.

(a) *Blackfoot River Equitable Adjustment Settlement Agreement Water.* Storage water not to exceed 20,000 acre-feet shall be made available in accordance with the terms of the Blackfoot River Equitable Adjustment Settlement Agreement. The source and funding of the storage water shall be determined by the Committee at its June meeting. Administrative fees shall be paid by Water District 1.

(b) *2015 Settlement Agreement.* Storage water not to exceed 10,000 acre-feet (except with the approval of the Committee of Nine) shall be made available in accordance with the terms of the 2015 Settlement Agreement from the current year's Common Pool prior to providing any rental under the priorities of Rule 5.4.101. Administrative fees shall be paid by Water District 1. Discussions are ongoing to identify the party responsible for mitigating impacts to the Tribes. Nothing in these Procedures should be construed as an admission of liability by Water District 1 or the Committee of Nine.

5.2.107 *Additional Quantities*. In the event rental requests from participants impacted from the prior year's rentals exceed 50,000 acre-feet and insufficient storage has been assigned to the common pool to meet such additional requests, the maximum amount of storage that will be available through the common pool will be equivalent to the amount necessary to meet the demand of those shown to have been impacted from the prior year's rentals.

5.2.108 *Participant Payments*. Monies collected through the rental of the participant contribution portion of the common pool, including flow augmentation, shall be disbursed as follows:
(a) seventy percent (70%) of the Net Proceeds disbursed to participants; and
(b) thirty percent (30%) of the Net Proceeds disbursed to the Impact Fund.

5.2.109 *Participant Payment Formula.* Participants will receive payment for storage rented from the participant contribution portion of the common pool pursuant to the following payment formulas:

1^{st} Installment = (R x SP/TSP) / 2
2^{nd} Installment = (R x ST/TST) / 2

R = 70% of net proceeds
SP = Space of participants
ST = Storage of participants based on the preliminary storage allocation for the following year
TSP = Total participating space in system
TST = Total participating storage in system based on the preliminary storage allocation for the following year

If a specific reservoir's allocation has been reduced as a result of flood-control operations, the ST and TST values in the above formula for those reservoir spaceholders will reflect the values that otherwise would have occurred without any reductions for flood-control.

5.2.110 *Timing of Payments.* Payments to participants will be made in two installments. The first installment will be paid to participants immediately following the irrigation season in which the proceeds were collected. The second installment will be paid to participants within two weeks of the date of publication for the following irrigation season.

5.3 Assignments

5.3.101 *Assignors*. Any participant may assign storage to the common pool. An assignment of storage shall be made in writing on forms approved by the Watermaster.

5.3.102 *Purposes*. Storage assigned to the common pool may be rented only for purposes above Milner.

5.3.103 *Limitations.* Storage assigned to the common pool may be rented only after the participant contributions to the common pool have been rented. A participant

may not assign storage and rent storage in the same accounting year unless an exception is granted by the Rental Pool Subcommittee.

5.3.104 *Assignor Payment.* The assignor shall receive one-hundred percent (100%) of the rental price per acre-foot of the assigned storage that is rented.

5.3.105 *Distribution of Assigned Storage.* Assignments can only be made between April 5 and 15 days after the date of publication in the year in which the storage is to be rented. Assignments shall initially be distributed on a pro-rata basis, with each pro-rata share based on the amount of storage assigned or 10% of the assignor's storage space, whichever is less. If, after this initial distribution, additional rental requests exist, the remaining assigned storage shall be distributed on a pro-rata basis.

5.4 Priorities for Renting Storage

5.4.101 *Priorities*. Storage rented from the common pool shall be pursuant to the following priorities:

(a) *First Priority*. Rentals by participants whose storage is determined to have been impacted by the prior year's rental from the common pool not to exceed the amount of the computed impact.
(b) *Second Priority.* Rentals by participants for agricultural purposes up to the amount of their unfilled space.
(c) *Third Priority.* Rentals by participants for any purposes above Milner in excess of their unfilled space. Applications for such rentals will be reviewed by the Committee and may be approved on a case-by-case basis.
(d) *Fourth Priority*. Rentals by non-spaceholders for any purposes above Milner.

5.4.102 *Priority for Late Applications.* Applications received after the deadline set forth in Rule 4.3.104 will be deemed last in priority and will be filled in the order they are received, only after all timely applications have been filled.

5.4.103 *Distribution Within Priority Classes.* If rental supplies are not sufficient to satisfy all of the timely applications within a priority class (those received within 15 days of the date of publication), the available rental supplies will be distributed to the applicants within that priority class on a pro-rata basis.

5.4.104 *Priority for Small Rentals.* Small rentals made pursuant to Rule 5.2.104 are not subject to the priorities set forth in Rule 5.4.101 and will be approved in the same order in which the rental applications are received by the Watermaster, so long as the total amount of all such applications does not exceed 5,000 acre-feet.

5.4.105 *Priority for Flow Augmentation.* Rentals for flow augmentation are not subject to the priorities set forth in Rule 5.4.101 and shall be determined pursuant to Rule 5.2.105.

5.5 Rental Prices

5.5.101 *Tier 1*: If the storage system fills, the rental price for purposes above Milner shall be $6.00 per acre-foot.

5.5.102 *Tier 2:* If the storage system does not fill but storage is provided for flow augmentation pursuant to Rule 5.2.105(a), the rental price for purposes above Milner shall be $14.50 per acre-foot.

5.5.103 *Tier 3:* If the storage system does not fill and no flow augmentation water is provided pursuant to Rule 5.2.105(a), the rental price for purposes above Milner shall be $22.00 per acre-foot.

5.5.104 *Determination of Tier1, 2 or 3 Rental Price*: Unless the storage system has filled, the Watermaster shall designate on or before April 5 either Tier 2 or Tier 3 as the rental price for above-Milner rentals. If at any time during the same accounting year, the storage system should subsequently fill, the Watermaster shall designate Tier 1 as the rental price for above-Milner rentals and refund any excess rental fees within 30 days after the date of publication.

5.5.105 *Tier 4:* The rental price for storage rented for flow augmentation shall be $14.50 per acre-foot.

5.5.106 *Tier 5:* The rental price for storage rented for purposes below Milner, excluding flow augmentation, shall be negotiated between the applicant and the rental pool sub-committee.

5.5.107 *Fees & Surcharges*. There shall be added to the rental price for all rentals the administrative fee and Board surcharge. There shall also be added to the rental price for rentals pursuant to fourth priority Rule 5.4.101(d) and rentals to non-spaceholders pursuant to Rule 5.2.104 an impact fee to mitigate the computed impacts under Rule 7 from such rentals, payable as follows: The exact amount which is to be set and paid when the full impacts of such rentals, based upon the following year's Common Pool rental price, are determined under said Rule 7, including all additional fees and surcharges. Payment shall then be due and payable on or before 60 days from the day of allocation. . There shall also be added to the rental price for rentals below Milner, excluding flow augmentation, the infrastructure fee. Failure of a non-spaceholder to timely pay the fees identified above, shall result in the non-spaceholder's ineligibility to rent water in the future. Such failure to pay shall also subject the non-spaceholder to such legal actions as allowed under state law in the collection of fees.

5.5.108 *Storage System Fill*. For purposes of Rule 5.5 only, the storage system is considered full when all storage rights are filled in Jackson Lake, Palisades (except for powerhead), American Falls, and Island Park.

5.6 Limitations. A participant cannot rent water from the Common Pool if the participant is replacing storage space or water which has been evacuated due to an assignment to or private lease through the Water District 1 Rental Pool, unless an exception is granted by the Committee.

RULE 6.0 PRIVATE LEASES

6.1 **General**. All leases must be transacted through the rental pool. Only participants may lease storage to a Lessee subject to the provisions of these rules.

6.2 **Purposes.** Storage may be leased through the rental pool only for beneficial use purposes above Milner. A participant may not lease storage to a lessee and rent storage from the common pool in the same accounting year unless an exception is granted by the Rental Pool Subcommittee.

6.3 **Payment to Lessor.** The lessor shall receive one-hundred percent (100%) of the lease price.

6.4 **Fees & Surcharges.** There shall be added to the lease price the administrative fee and the Board surcharge.

6.5 **Non-Applicability to Common Pool.** Storage leased pursuant to this rule does not count against the participant contribution volumes set forth in Rule 5.2.

6.6 **Recharge**. All storage used for the purpose of recharge must be transacted through the rental pool. Unless storage is rented pursuant to Rule 5.0, storage used for recharge, whether diverted by the storage spaceholder or another person, will be treated as a lease of storage.

6.7 **Idaho Water Resource Board (IWRB) Storage.** The IWRB may lease its existing storage (up to 5,000 acre-feet) to Idaho Power and have it released past Milner for the purpose of mitigating minimum flows at Murphy. The administrative fee must be paid by the IWRB for any storage used for such purpose.

RULE 7.0 IMPACTS

7.1 **Determination.** In any year in which the storage rights in the reservoir system do not fill, the Watermaster will determine the actual computed impacts to spaceholders, if any, associated with the prior year's rentals and leases. In making this determination, the Watermaster will use a procedure which identifies the following:

(a) What each computed reservoir fill would have been had the previous year's rentals and leases not taken place;

(b) The storage space from which rented or leased storage was actually supplied for the previous year's rental or lease; and

(c) The amount of storage each spaceholder's current allocation was reduced by the previous year's rental or lease activities.

7.2 **Flood Control.** There are no computed impacts resulting from the previous year's rentals or leases for a specific reservoir when that reservoir's storage is released as a result of flood-control operations and water is spilled past Milner in the current year.

7.3 **Impacts to Participants due to Rentals from the Common Pool (excluding assignments)**

7.3.101 *Payments to Impacted Participants Using Impact Fees.* Participants whose storage allocation has a computed impact from the prior year's rental of storage from the common pool, excluding assignments, shall first receive payment from impact fees collected pursuant to Rule 5.5.107 from the previous year's fourth priority rentals. The amount of impact fees disbursed to impacted

participants will be proportional to the total common pool rental, including flow augmentation rentals, that occurred during the prior year:

Impact Fee Payment = (Isp * RP) * (Fp/Cp)

Isp = Participants computed impacted space in current year
RP = Rental Price in current year
Fp = Fourth priority rentals in prior year
Cp = Total common pool rentals (including flow augmentation) in prior year

Payment to spaceholders for the impacts by non-spaceholders pursuant to 7.3.101 shall be paid from the balance remaining in the impact fund after payments are made pursuant to 7.3.102, which shall then be reimbursed pursuant to Rule 5.5.107.

7.3.102 *Remaining Impact Payment.* Participants whose storage allocation has a computed impact from the prior year's rental of storage from the common pool, excluding assignments, will also receive payment from the Impact Fund (in addition to the Impact Fee Payment pursuant to Rule 7.3.101) equal to the lesser value of the two following formulas:
Remaining Impact Payment = [(Isp*RP) – Impact Fee Payment] or [½ IF*(Isp/Ispt) – Impact Fee Payment]

Isp = Participant's computed impacted space in acre-feet
RP = Rental Price
IF = Impact Fund
Ispt = Total of all Participants' computed impacted space in acre-feet

7.3.103 *Timing of Payment.* Impact payments, which will be based on preliminary data, will be made to participants on or before July 15.

7.4 **Impacts to Non-Participants due to Rentals from the Common Pool (excluding assignments).** If the prior year's rental of storage from the common pool caused computed impacts to non-participants as determined by the Watermaster, the current year's Common Pool shall be reduced to supply such impacts to non-participants (at no cost to non-participants) prior to providing any rental under the priorities of Rule 5.4.101.

7.5 **Impacts to Spaceholders due to Rental of Assigned Storage.** If the rental of assigned storage caused computed impacts, as determined by the Watermaster, the assignor's storage allocation shall be reduced by an amount equal to such computed impacts, not to exceed the quantity of storage assigned by the assignor, and reallocated to mitigate computed impacts to affected spaceholders. This reallocation will only occur in the year following the rental of assigned storage.

7.6 **Impacts to Spaceholders due to Private Leases.** If the lease of storage pursuant to a private lease caused computed impacts, as determined by the Watermaster, the lessor's storage allocation shall be reduced by an amount equal to such computed impacts, not to exceed the quantity of storage leased by the Lessor, and reallocated to mitigate computed impacts to affected spaceholders. This reallocation will only occur in the year following the lease of storage.

7.7 ***Impacts to Spaceholders Resulting from USBR Powerhead Private Lease***. Consistent with the Mediator's Term Sheet of the 2004 Snake River Water Rights Agreement, powerhead space used for flow augmentation shall be the last space to refill after all other space in reservoirs in that water district, including other space used to provide flow augmentation, in the basin has filled;

7.8 *Impacts to Spaceholders Resulting from Release of Idaho Water Resource Board (IWRB) Storage Used for Mitigating Minimum Flows at Murphy.* For 2016 only, if the release of IWRB storage past Milner caused computed impacts, as determined by the Watermaster, the IWRB storage allocation shall be reduced by an amount equal to such computed impacts, not to exceed the quantity of storage released, and reallocated to mitigate computed impacts to affected spaceholders.

RULE 8.0. SUPPLEMENTAL POOL

8.1 **Purpose.** To provide a voluntary mechanism for the lease of storage water below Milner for hydropower generation within the state of Idaho when storage water supplies, as a result of hydrologic, climate and other conditions, are sufficient to satisfy above Milner uses and flow augmentation. A supplemental pool shall be created in order to mitigate for computed impacts associated with leases below Milner, consistent with the Idaho Water Resource Board's policy to establish an effective water marketing system consistent with state law and assuring the protection of existing water rights while accommodating the purchase, lease or conveyance of water for use at Idaho Power's hydroelectric facilities, including below Milner Dam.

8.2 **Annual Authorization Required**. No storage may be leased through the supplemental pool until the Committee on or after April 1 of each year authorizes use of the pool and the Bureau certifies that it has sufficient flow augmentation supplies for the year or that storage to be released past Milner will count toward flow augmentation.

8.3 **Quantity and Price Determinations.**

8.3.101 *Quantity Determination*. The maximum quantity of storage authorized to be leased through the supplemental pool shall be determined annually by the Committee taking into account the advice and recommendation of the Rental Pool Subcommittee, together with current and forecasted hydrological conditions and estimated demand on the rental pool for above Milner uses.

8.3.102 *Price Determination.* The Committee shall authorize the leasing of water, including price pursuant to Rule 8 after taking into account spaceholder needs and current market conditions for power generation. There shall be added to the lease price the board surcharge and not to exceed a $1.80 per acre-foot administrative fee associated with the development and implementation of the supplemental pool, assessed on the total quantity of storage set forth in any lease application approved or conditionally approved under Rule 8.4.

8.3.103 *Subsequent Quantity and Price Determinations.* If within the same accounting year, the Committee subsequently determines based on the criteria set forth in Rule 8.3.101 that additional opportunities exist for utilizing the use of water within Idaho through the supplemental pool consistent with Rule 8.1.it shall designate such additional maximum quantity authorized to be leased through

the supplemental pool and identify a separate lease price for such additional quantity pursuant to Rule 8.3.102.

8.4 **Application to Lease Storage from the Supplemental Pool.**

8.4.101 Applications to lease storage from the supplemental pool for hydropower purposes shall be made upon forms approved by the Watermaster and shall include:

(a) The amount of storage sought to be leased;

(b) The lease price with associated fees as identified by the Committee under Rule 8.3.102;

(c) The point of diversion identified by legal description and common name; and

(d) A description of the place of use.

8.4.102 *Application Acceptance*. Applications are not deemed accepted until received by the Watermaster together with the appropriate fees required under Rule 8.3.102.

8.4.103 *Application Approval.* An application accepted under Rule 8.4.102 shall be approved after the Watermaster has determined that the application is in compliance with these procedures and sufficient storage will be available from the supplemental pool to provide the quantity requested in the application; provided, however, if the date of publication has not yet occurred, approval of the application shall be conditioned on the ability of spaceholders who have contracted to lease storage through the supplemental pool to have a sufficient storage allocation during the accounting year to satisfy their contracts approved under Rule 8.5.104. Upon approval or conditional approval of the application, the fees collected from the applicant shall be non-refundable to the extent of the total quantity of storage approved or conditionally approved in supplemental pool lease contract(s) under Rule 8.5.104. The Watermaster shall provide notice of such approval.

8.4.104 *Deadline for Accepting Applications*. All applications to lease storage from the supplemental pool must be accepted by the Watermaster pursuant to Rule 8.4.102 not later than October 31 in order for the storage identified in such applications to be accounted for as having been diverted as of October 31 of the same year. Applications accepted after October 31 will be accounted for from storage supplies in the following calendar year, unless an exception is granted by the Rental Pool Subcommittee.

8.5 **Supplemental Pool Supply.**

8.5.101 *Notice to Spaceholders of Opportunity to Lease Storage through the Supplemental Pool.* The Watermaster shall provide notice of the supplemental pool on the Water District 1 website, which shall include the following information:

(a) The maximum quantity of storage authorized to be leased through the supplemental pool;

(b) The lease process, including price and deadlines as authorized by the Committee;

(c) Instructions for spaceholders interested in leasing storage through the supplemental pool, including instructions for executing a standardized supplemental pool lease contract; and
(d) The deadline, as set by the Committee, for the Watermaster to receive supplemental pool lease contracts from spaceholders interested in leasing storage through the supplemental pool.

8.5.102 *Supplemental Pool Lease Contracts.* Spaceholders interested in leasing storage through the supplemental pool shall execute a standardized supplemental pool lease contract, which shall be provided by the Watermaster and include provisions for the following:
(a) Limit eligibility to lease storage through the supplemental pool only to spaceholders who qualify as participants under Rule 2.27;
(b) The quantity sought to be leased by the spaceholder may be any amount, except that the total amount of storage leased pursuant to Rule 8 may not exceed either the maximum quantity set by the Committee under Rule 8.3.101 or 10% of the spaceholder's total reservoir system space, unless an exception is approved by the Rental Pool Subcommittee;
(c) The quantity actually leased by the spaceholder may be reduced depending upon the number of spaceholders who elect to lease storage through the supplemental pool as provided in Rule 8.5.103;
(d) That, in the event the spaceholder elects to sign a standard pool lease contract before the date of publication, the spaceholder assumes the risk that its storage allocation may be less than the spaceholder anticipated; and
(e) Notice to the spaceholder that if the spaceholder's lease through the supplemental pool causes computed impacts, the mitigation required under Rule 8.7 will result in an amount of the spaceholder's space, not to exceed the quantity of storage leased by the spaceholder, being assigned a junior priority which may not fill for multiple consecutive years, an accounting commonly referred to as "last to fill."

8.5.103 *Distribution of Storage to the Supplemental Pool.* If, following the deadline for receipt of executed supplemental pool lease contracts, the Watermaster determines that the total quantity of storage sought to be leased through the supplemental pool exceeds the quantity limitation established under Rule 8.3, then the Watermaster shall reduce the quantity of each supplemental pool lease contract to a pro rata share based on the amount of storage sought to be leased by each spaceholder. The Watermaster shall amend the supplemental pool lease contract(s) to reflect any reduced quantity required by this provision.

8.5.104 *Lease Contract Approval.* Following receipt of a supplemental pool lease contract, the Watermaster shall determine whether the contract is in compliance with these procedures, and, if so, shall approve the same; provided, however, if the date of publication has not yet occurred, approval of the contract shall be conditioned on the spaceholder having a sufficient storage allocation during the accounting year to satisfy the contract.

8.6 **Notice of Contract Approval and Payment to Lessors**. The lessors shall receive one-hundred percent (100%) of the lease price apportioned according to the quantity of storage each lessor leased through the supplemental pool. The Watermaster shall notify spaceholder(s) who submitted supplemental pool lease contracts of the approved amount

and distribute the funds to the lessors within 30 days following approval or conditional approval of an application under Rule 8.4.103.

8.7 **Mitigation of Impacts.** If a lease of storage through the supplemental pool caused computed impacts, as determined by the Watermaster, the lessor's storage allocation shall be reduced by an amount equal to such computed impacts, not to exceed the quantity of storage leased by the lessor, and reallocated to mitigate computed impacts to affected spaceholders until the lessor's affected space fills under a priority junior to that required to fill Palisades powerhead space.

8.8 **November 1 Carryover Unaffected**. For purposes of determining the amount of storage available for flow augmentation under Rule 5.2.105(a), storage leased through the supplemental pool shall not affect the November 1 carryover quantity on Table 1.

November 1 Stipulated Augmentation Rental Water District 1

Carryover	<----------April 1 to Sept 30 Heise Forecast 1000s AF---------->						
1000s AF	<2,450	<2,920	<3,450	<4,208	<5,042	<5,670	>5,670
0	0	0	0	0	150000	185000	185000
100	0	0	0	0	150000	185000	185000
200	0	0	0	0	150000	185000	185000
300	0	0	0	0	150000	185000	185000
400	0	0	0	0	150000	185000	185000
500	0	0	0	0	150000	185000	185000
600	0	0	0	60000	150000	185000	185000
700	0	0	0	60000	150000	185000	185000
800	0	0	0	60000	150000	185000	185000
900	0	0	60000	60000	150000	185000	185000
1000	0	0	60000	60000	150000	185000	185000
1100	0	0	60000	60000	150000	185000	185000
1200	0	0	60000	60000	150000	185000	185000
1300	0	0	60000	60000	150000	185000	185000
1400	0	0	60000	60000	150000	185000	185000
1500	0	0	100000	150000	185000	185000	185000
1600	0	0	100000	150000	185000	185000	185000
1700	0	0	100000	150000	185000	185000	185000
1800	0	0	100000	150000	185000	185000	185000
1900	0	0	100000	150000	185000	185000	185000
2000	0	0	100000	150000	185000	185000	185000
2100	0	0	100000	150000	205000	205000	205000
2200	0	0	100000	150000	205000	205000	205000
2300	0	0	100000	150000	205000	205000	205000
2400	0	0	100000	150000	205000	205000	205000
2500	0	0	100000	150000	205000	205000	205000
2600	0	0	185000	185000	205000	205000	205000
2700	0	0	185000	185000	205000	205000	205000
2800	0	0	185000	185000	205000	205000	205000
2900	0	0	185000	185000	205000	205000	205000
3000	60000	60000	185000	185000	205000	205000	205000
3100	60000	60000	185000	185000	205000	205000	205000
3200	100000	100000	185000	185000	205000	205000	205000
3300	100000	100000	185000	185000	205000	205000	205000
3400	100000	100000	185000	185000	205000	205000	205000
3500	100000	100000	185000	185000	205000	205000	205000
3600	100000	100000	185000	185000	205000	205000	205000

Memorandum

To: Idaho Water Resource Board

From: Wesley Hipke and Neal Farmer

Date: May 10th, 2016

Re: ESPA Managed Recharge Program Status Report

Progress/Status of ESPA Managed Recharge Program

Contents

I. Introduction

The Idaho Water Resource Board (IWRB) has been tasked with developing a managed recharge program in the Eastern Snake Plain Aquifer (ESPA) capable of recharging 250,000 acre-feet per year to stabilize the ESPA. The ESPA has been losing approximately 200,000 acre-feet annually from aquifer storage since the 1950s resulting in declining groundwater levels and spring flows from the aquifer. Stabilizing the ESPA will assist in maintaining the minimum flow requirements on the Snake River and reduce conflicts between the water users.

The strategy of the IWRB is to maximize managed recharge to the ESPA using natural flow of the Snake River. The current IWRB recharge water right (approximately 1,200 cfs) authorizes diversion of water from the Snake River above the Milner Pool (Milner) including the Henry's Fork and the South Fork. Between American Falls Reservoir and Milner the IWRB water right is generally in priority during the winter months between irrigation seasons. The IWRB water right is junior to the refill of American Falls Reservoir (1921 priority) and the unsubordinated hydropower rights at Minidoka Dam (1909/1912 priority). Therefore, the IWRB's right is generally in priority and available for recharge only during flood control releases from the Upper Snake Reservoir System.

Water spills past Milner (minimally 500 cfs) every year during non-irrigation season and is available for recharge under the IWRB's current recharge water right resulting in a reliable "base-load" for recharge. To ensure this base-load is captured the IWRB is pursuing various plans to maximize non-irrigation season recharge including:

a. Long-term delivery agreements (5 years) with canals that divert from the Milner Pool.
b. Infrastructure modifications to improve recharge capacity over the winter months of the non-irrigation season.
c. Developing new winter-operational recharge sites that divert from the Milner Pool.

The volume and timing of water available for recharge during flood control releases can be very sporadic, but during above average water years, this water provides a "surplus supply" for recharge. The IWRB has developed the following plan to maximize opportunities to divert this water supply for recharge while ensuring that managed recharge does not interfere with filling the reservoir system:

a. Execution of agreements for the delivery of water for recharge when the IWRB's recharge water right is in priority.
b. Investigations of infrastructure modifications to improve late-winter/spring-time recharge capabilities and develop off-canal recharge sites.

c. Continue current opportunistic recharge efforts throughout the basin and manage adaptively to address changing circumstances.

The following report provides a summary of the current activities of the ESPA Managed Recharge Program.

II. ESPA Managed Recharge 2015/2016 Season

The IWRB 1980 recharge water right is "in priority" during different periods of the year in the Upper and Lower Snake River Valley (upstream and downstream of American Falls Reservoir respectively). The irrigation season in the Eastern Snake River Plain has historically been between October and April. Usually, after irrigation diversions have stopped, water passing below Milner Dam is available for recharge under the IWRB's water right in the Lower Valley.

Managed recharge in the Upper Valley is dependent on the availability of water to recharge. Reservoir fill and the unsubordinated hydropower water rights at Minidoka Dam have precedence over the IWRB's natural flow recharge water right. These constraints generally limit water available for recharge by the IWRB in the Upper Valley to flood control releases by the Bureau of Reclamation (BOR) usually in the spring. Historically the majority of excess water available for recharge in the Upper Valley is during the irrigation season (May through June).

The following section provides a current summary of the IWRB ESPA managed recharge program for the 2015-2016 season.

IWRB ESPA Managed Recharge 2015/2016 Summary

The IWRB's recharge water right was in priority for the 2015/2016 Recharge Season between October 23rd, 2015 and April 1st, 2016 in the Lower Valley and never came into priority in the Upper Valley. Table 1 provides a summary of the IWRB managed recharge that was conducted for the 2015/2016 recharge season. The volumes reported are preliminary and subject to change as the volumes are verified with the canal companies and Water District 01.

The canals in the Lower Valley did not start on October 23rd due to normal canal maintenance or other canal projects. A detailed summary of the individual entities that have conducted IWRB managed recharge for this season is provided below. Figure 1 provides a daily accounting of the flow available for IWRB recharge and the diversions by the various entities for IWRB recharge. The IWRB's recharge right may be in priority during the irrigation season if flows in the river exceed irrigation demand and are not retained in the reservoir system. In that scenario, only off-canal sites could be used for recharge.

Figure 2 shows the total monthly recharge for both seasons. The lower recharge at the start of the 2015/2016 season is a result of the Milner-Gooding Canal being off-line during the construction of the MP 28 hydro plant by-pass construction. The higher volume of recharge in the 2014/2105 season in February and March is a result of the IWRB recharge right being in priority in the Upper Valley during those months, accounting for over 14,000 af of IWRB recharge. Figures 2 and 3 provide a monthly comparisons between the 2014/2015 and 2015/2016 recharge seasons for the total IWRB recharge across the ESPA and just the Lower Valley.

Table 1. ESPA IWRB Managed Recharge from October 23rd, 2015 to April 1st, 2016					
ESPA Area	**Canal System**	**5-Year Retention Time[1] (%)**	**Average Recharge Rate (cfs)**	**Days Recharged**	**Volume Recharged[2] (af)**
Lower Valley	American Falls Reservoir District No. 2 (Milner-Gooding Canal)	~36	185	127	46,875
	North Side Canal Company	~37	81	58	9,355
	Southwest Irrigation District[2]	~54	21	21	886
	Twin Falls Canal Company[2]	~45	30	154	9,102
				TOTAL	**66,218**

[1] 5-year retention rate determined by the ESPAM2.1 groundwater model.

[2] Recharge Volumes are preliminary and subject to change upon verification of days and volumes delivered for recharge.

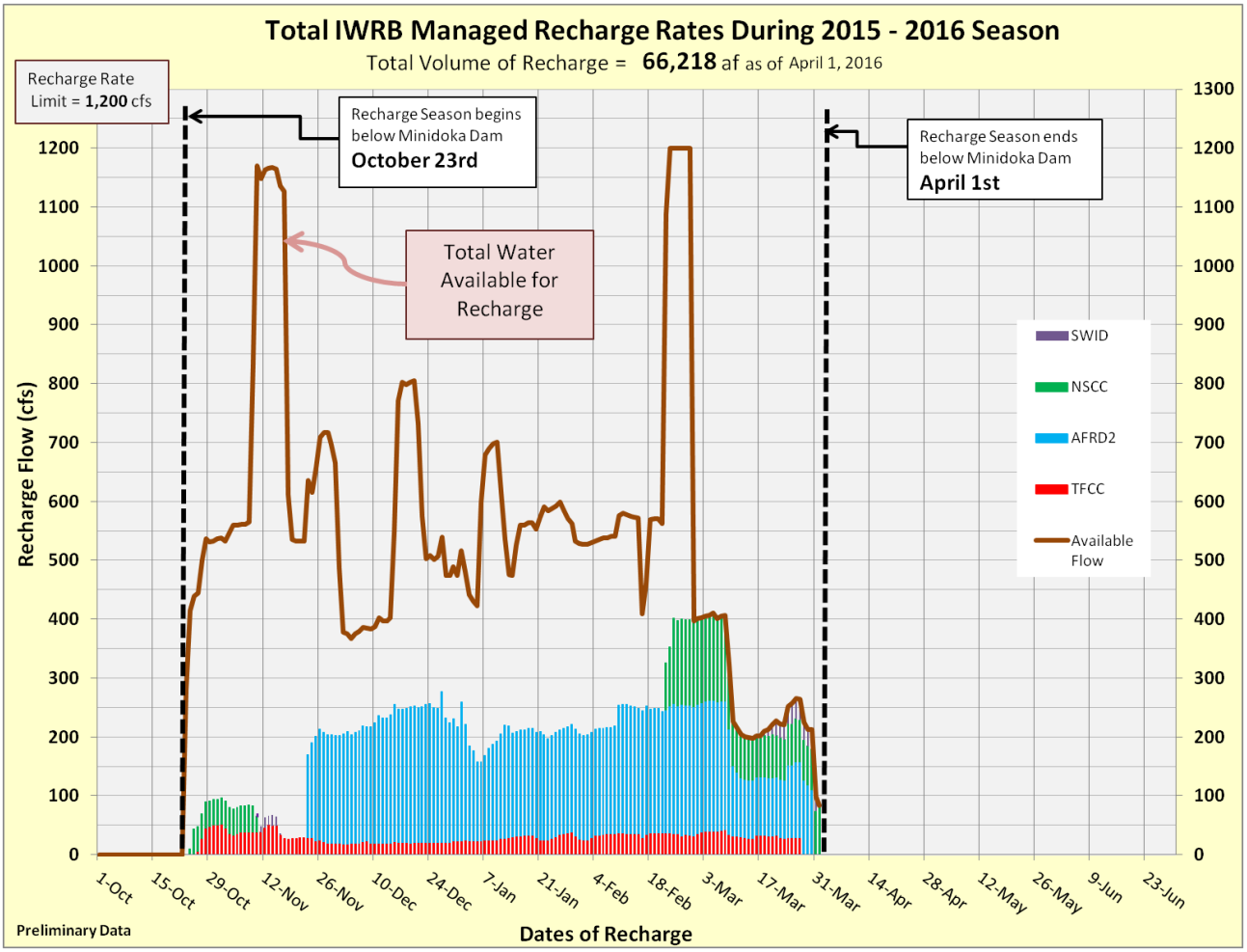

Figure 1. IWRB ESPA managed recharge.

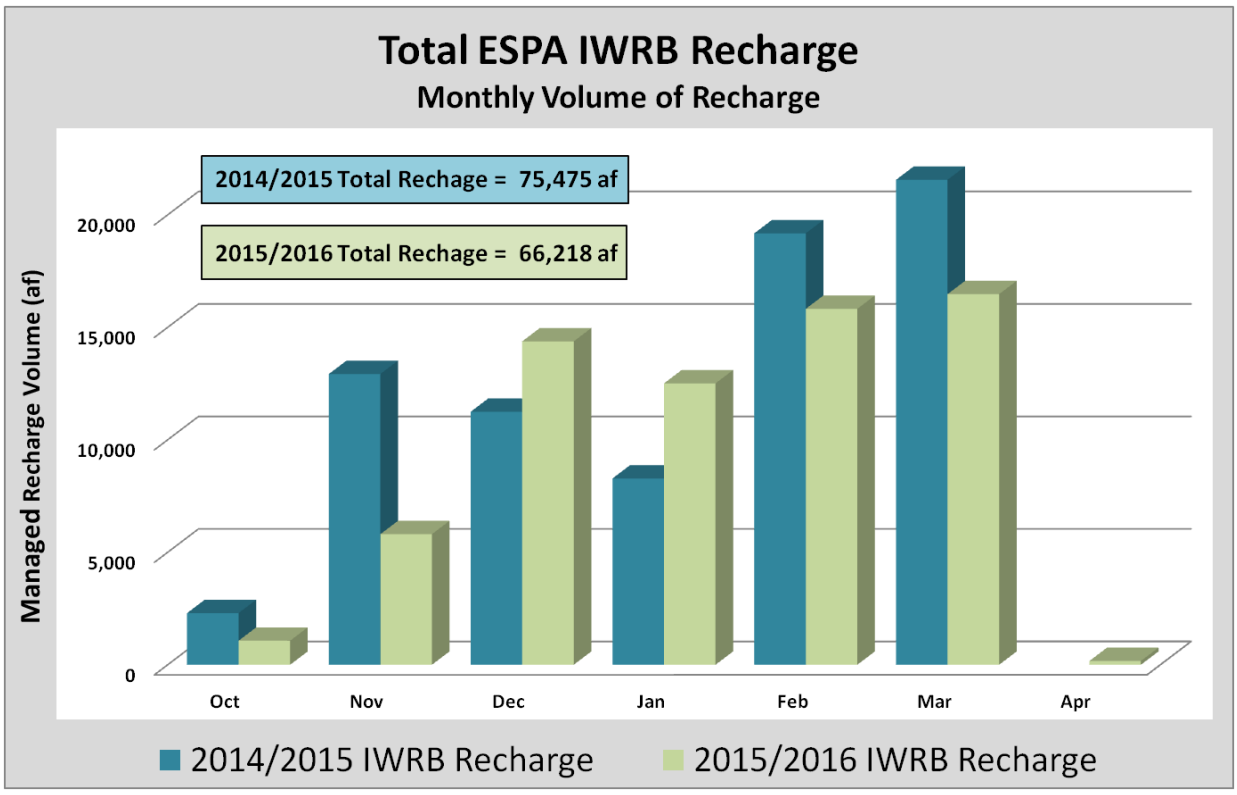

Figure 2. Total IWRB monthly recharge volumes between the 2014/2015 and 2015/2016 seasons.

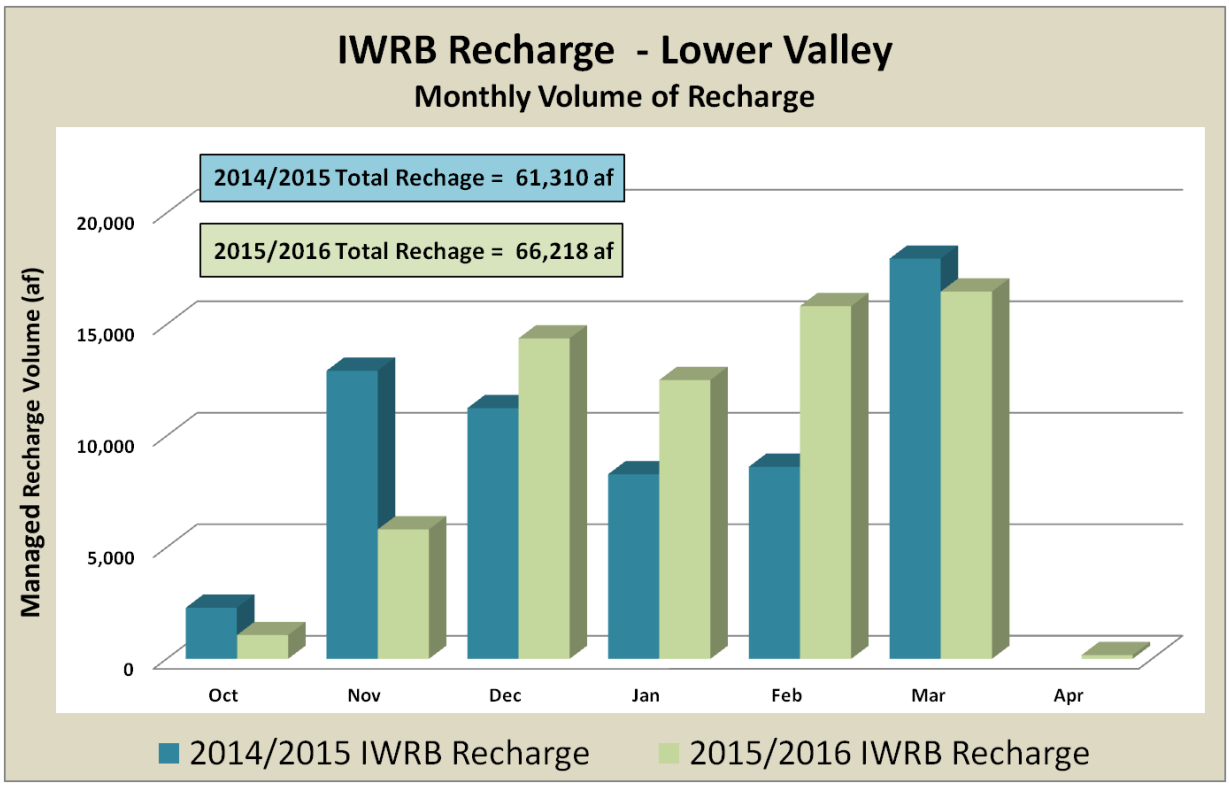

Figure 3. Lower Valley monthly volume of recharge between the 2014/2015 and 2015/2016 seasons.

Comparison of the two seasons in just the Lower Valley (Figure 3) shows an overall increase in the volume recharged per month during the 2015/2016 season. This is a result of IWRB's assistance in improving the infrastructure and the canal companies' efforts to conduct recharge during the winter months. Operations of the Milner Pool this last spring in response to A&B Irrigation District's construction of a new pump station limited the amount of water available for IWRB recharge in March.

Non-IWRB Recharge

Various entities have conducted managed recharge during the 2015/2106 recharge season. All of the non-IWRB entities recharged with water from storage reservoirs rather than natural flow from the Snake River. Table 2 provides a summary of the entities that conducted recharge last fall, where the recharge occurred, and the volumes recharged. Non-IWRB recharge is reported to have occurred this spring, however, exact locations and volumes have not been provided as the date of this report.

Table 2. Non-IWRB Managed Recharge 2015/2016

ESPA Area	Recharge Entity	Recharge Location	Volume Recharged (Acre-feet)
Lower Valley	Coalition of Cities	North Side Canal	**990**
	Southwest Irrigation District	Recharge Wells	**unknown**
Upper Valley	Association of Cities Surface Water Coalition Twin Falls CC	Eagle Rock/Progressive CC	6,196
		Farmers Friend CC	3,069
		Enterprize CC	1,527
		Great Feeder/Harrison	362
		TOTAL	**11,154**
	IGWA	Aberdeen Springfield CC	12,500
		Fremont-Madison ID	1,900
		New Sweden ID	1,745
		Snake River Valley ID	2,200
		TOTAL	**18,345**
		TOTAL	**30,489**

III. Recharge Delivery Operations Summary

To accommodate the difference in water availability for IWRB managed recharge in the Upper and Lower Valleys, separate conveyance payment structures were developed for the two areas.

Upper Valley ESPA Recharge

The following payment structure was adopted by the IWRB for conveyance of the IWRB recharge water in the Upper Valley:

1) **Base Rate** – determined by 5-year aquifer retention zone in which the contracted canal company or irrigation district is located using ESPAM2.1:
   - Greater than 40% retained in aquifer at 5 years $6.00/af delivered
   - 20% to 40% retained in aquifer at 5 years $5.00/af delivered
   - 15% to Less than 20% retained in aquifer at 5 years $4.00/af delivered
2) **Added Incentive for Delivery** – $1.00/af when recharge is conducted at least 75% of the time that IWRB recharge right is in priority and IWRB issues a Notice to Proceed.
3) **Added Winter-time Incentive for Delivery** – $1.00/af when IWRB recharge right is conducted between December 1st and March 30th and IWRB has issued a Notice to proceed.

Lower Valley ESPA Recharge

The payment structure for conveyance of the IWRB's recharge water stipulated in the 5-year conveyance contracts for the entities that recharge the IWRB's water is outlined in Table 3.

The following entities executed 5-year conveyance contracts in 2014:

- Twin Falls Canal Company (TFCC)
- American Falls Reservoir District 2 (ARFD2)
- Southwest Irrigation District (SWID)
- North Side Canal Company (NSCC)
- Big Wood Canal Company (BWCC)

Table 3. Lower Valley ESPA Payment Structure

Number of Days Recharge Water Delivered*	Payment Rate per AF Delivered	
1-to-25 days	$3/AF	An incentivized payment structure was adopted in 2014 to encourage canals to divert recharge water as long as possible during the non-irrigation season.
26-to-50 days	$5/AF	* Number of days between the date the recharge permit turns on in fall and the date it turns off following spring.
51-to-80 days	$7/AF	
81-to-120 days	$10/AF	
More than 120 days	$14/AF	

IV. Monitoring and Measurement Program

A monitoring and measurement program has been developed to assess results and impacts of recharge activities, and address regulatory requirements. The program consists of regional and site-specific monitoring to measure groundwater levels, surface water flows, recharge diversions, and water quality.

Recharge Water Quality Monitoring Program

Water quality monitoring is required if injection wells or land application methods are used to conduct managed recharge. Injection wells are permitted under IDWR's Underground Injection Control Program (UIC). Any other recharge conducted through land application methods (usually basins) requires a Groundwater Monitoring Program approved by the Idaho Department of Water Quality (IDEQ). In both cases, the recharge activity must meet specific standards to ensure the groundwater is protected and meets Idaho's Ground Water Quality Rule (IDAPA 58.01.11).

The Southwest Irrigation District (SWID) is the only entity that is currently using injection wells to conduct IWRB recharge. SWID has obtained injection well permits under IDWR's UIC program and is accountable for meeting the requirements under those permits. The MP 31 and Shoshone Recharge Sites are classified as land application. The IWRB has obtained IDEQ approved Groundwater Monitoring Programs for both of those sites.

The groundwater monitoring plans for the MP 31 and Shoshone Recharge Sites consist of:

- Approved monitoring schedule, dedicated sampling points, and a full suite of chemical, biological and physical elements that are analyzed to determine the source water and groundwater quality. Currently 130 constituents are analyzed along with the collection of field parameters.
- Idaho Bureau of Labs (IBL) is currently under a 5-year contract (started in Dec. 2014) to conduct the water quality sampling.

The MP 31 Recharge Site was the only site used for the 2015/2016 recharge season. IBL staff conducted seven sampling events over the recharge season. The sampling events included source water and groundwater sampling when recharge was occurring and pre / post recharge groundwater sampling. Analysis of results of the groundwater samples from the MP 31 Recharge Site has shown most of the constituents to be below the lab's detection limits. Any detection of a constituent above the lab's detection limit has been significantly below the Idaho Groundwater Standards (Idaho Administrative rule 58.01.11.105.01.200) and in compliance with the Groundwater Monitoring Program.

IDWR staff worked with the Bureau of Land Management (BLM) and the AFRD2 canal operator to deepen and improve the two groundwater quality monitor wells at the Shoshone Recharge Site.

Recharge Monitoring Program

The Recharge Monitoring Program is designed to verify the volumes of IWRB recharge water being delivered and to quantify the impact individual areas/sites have on the water level of the aquifer. The following provides a summary of the ongoing work for this program.

- Verification of Recharge Deliveries - Flow Measurements:
    - Quality assurance and control of recharge flow measurements has been conducted by TFCC, AFRD2, NSCC, Idaho Power Co., Water District 01, and IDWR staff during this recharge season.
    - Installed real time automated flow monitoring equipment at MP31 Recharge Site. This equipment has been extremely beneficial in monitoring the site and the check dam structure used to divert water into the site. The instrumentation of this site provides real time data to ensure the delivery system is working properly and to assess the recharge capacity of the site. Similar monitoring is scheduled for installation at the Shoshone Recharge Site.
- Water Level Monitoring:
    - An evaluation of the effects of recharge on the aquifer is being conducted by IDWR staff.
    - Installed real time automated water level monitoring equipment at the MP31 Recharge Site at one monitor well and in the basin. Similar monitoring is scheduled for installation at the Shoshone Recharge Site.

ESPA Regional Monitoring Program

IDWR's Hydrology Section (Hydrology) oversees the ESPA Regional Monitoring Program. Hydrology is actively expanding the existing monitoring program to respond to the need for more detailed information about the ESPA. The section is also accountable for the input and analysis of the data and for managing improvements to the ESPA groundwater flow model. The program requires management of an extensive monitoring network for:

- Groundwater measurements (440 sites)
- Stream gages
    - IDWR (33 sites)
    - USGS (35 sites)
- Spring flow measurements (64 sites)
- Return flow measurements (75 sites)

The following provides a summary of the ongoing work for this program:

- Monitoring port and transducer was installed at the recently deepened "Craters of the Moon" monitoring well.
- Spring 2016 ESPA synoptic water level measurements were successfully completed (water level measurements at approximately 400 sites). The data will be loaded into the database by the end of May.
- All but two of the Sentinel Wells in the Surface Water Coalition Settlement Agreement and Term Sheet have been equipped with data loggers. The remaining two wells will be equipped by the end of May.
- Letters to well owners have been sent to five of the ESPA tributary basins concerning conducting field measurements. Fieldwork to visit and measure the wells that permission has been receives is currently being scheduled.

V. ESPA Recharge Program Projects

A number of projects were undertaken in Fiscal Year 2016 (FY16) to enhance the IWRB's ability to recharge in the ESPA. A brief summary of the projects is provided below and in Table 4. The projects identified in this report have been approved by the IWRB or are included in the FY16 budget.

For managed recharge projects involving infrastructure improvements to which the IWRB provided funding, a Memorandum of Intent (MOI) was developed to establish a long-term agreement (twenty years) between the IWRB and the entity implementing the project. The MOI acknowledges: 1) the IWRB provided financial assistance for a project; and 2) the entity agrees to deliver the IWRB's recharge water as compensation for financial assistance from the IWRB. The MOI calls for automatic renewal for another twenty (20) year period unless one or both of the parties provide notice to terminate the agreement.

Project Status

1. American Falls Reservoir District 2 (AFRD2)/Milner-Gooding Canal:
    a. **MP 28 Hydro Plant By-pass** - The plant experienced complications from winter recharge flows in 2014?. Construction on the bypass wall began in October 2015 to route flows under 400 cfs around the plant. The IWRB, by resolution, authorized $60,000 for this project and entered into a contract with AFRD2 to complete the project for $45,000. While the final project cost was $48,000, the plant operator assumed the additional $3,000 cost. The project was completed on November 20th, 2015.

b. **Concrete Flume Improvements** – The IWRB's recharge water to the Shoshone Recharge Site (250 cfs estimated capacity) must travel through a 3-mile concrete flume within the Milner-Gooding Canal. The age and deteriorated condition of the concrete limited delivery of recharge water through the flume, particularly in winter. The IWRB worked with AFRD2 to assist in the financing of the project that would enable the flume to deliver water for irrigation and recharge into the future. The IWRB passed a resolution in July 2015 to provide a 50% cost-share with IWRB's contribution not to exceed $700,000. The lowest bid for the rehabilitation was $1,372,000. The project was completed on schedule with construction starting in mid-October 2015 and ending in March 2016. Once the concrete portion of the flume was cleaned more cracks were discovered that required repair than was originally estimated. The increased cost for repairing the cracks raised the original cost estimated to a final cost of $1,497,800.

c. **Road Improvement MP31 to Shoshone Recharge Site** – Improvements to the access road along the Milner-Gooding Canal were necessary to allow AFRD2 personnel and IDWR staff adequate/safe roads to monitor canal operations and the recharge site during the winter months. Estimated cost for resurfacing portions of the canal road is $120,000. A resolution was passed by the IWRB in July 2015 to authorize expenditure of the funds. The project is scheduled to be completed by the June of 2016.

d. **Dietrich Drop Hydropower Plant** – The Dietrich Drop hydro plant is on the Milner-Gooding Canal between the MP31 and the Shoshone Recharge Site. A study was completed in February 2016 to determine the options to prevent negative impacts to the plant during winter-time deliveries of recharge. In March, a resolution was passed by the IWRB to authorize expenditure up to $1,500,000 for the design and construction of the required infrastructure improvements to allow for the delivery of winter-time recharge past the hydro plant. The design phase is scheduled to be completed by August 2016. Construction is planned for the fall/winter of 2016.

e. **Expansion of the MP31 Recharge Site** – Capacity of the MP31 Recharge Site is currently limited by the maximum flow that can be diverted into the site. By installing a larger turnout structure, it is estimated the capacity of the site could be increased to 300 cfs. A resolution was passed by the IWRB in July to authorize expenditure up to $200,000 for the design and construction. To achieve the IWRB's goal to maximize the recharge potential at this site the potential of

including a new check dam structure is also being considered. This will have the added benefit of allowing for recharge as construction is taking place. The design process for a new diversion structure and check dam, if approved, is scheduled to be complete by August 2016 with construction in the fall of 2016.

2. North Side Canal Company (NSCC):

   Winter Recharge Feasibility Assessment – NSCC's assessment of the potential capacity of recharge at Wilson Lake and infrastructure improvements required for winter-time delivery of recharge water to Wilson Lake was finalized in February 2016. The assessment provided options and high-level cost estimates for infrastructure improvements to accommodate winter recharge delivery through the canal and four hydro plants. NSCC and IWRB staff agreed to move forward with development of a design to isolate the Hazelton A and B hydro plants along with other required improvements for winter-time recharge. NSCC has authorized its consultant to initiate the design phase. A resolution was passed by the IWRB in January to authorize expenditure up to $274,000 for the design portion of this project. The potential cost for the construction of this project is included in the FY17 budget and will require a resolution by the IWRB for approval at that time. The design of the project is scheduled for completion by August 2016 to accommodate construction during the fall/winter of 2016/2017.

3. Southwest Irrigation District (SWID):

   Cassia Pipeline Winter Recharge – An independent group (Buckhorn LLC) is working with SWID to develop a new pipeline to deliver water for conversion projects and to conduct managed recharge during the winter months. Buckhorn has contracted with Rumsey Engineering to design the new system with the intention of beginning construction in 2016. While Buckhorn LLC is funding the construction of the pipeline, SWID and Buckhorn LLC have proposed that the IWRB fund the construction of the infrastructure improvements that would allow for IWRB recharge through the winter months when the IWRB water right is in priority below Minidoka. The plan is to winterize the pumping station and pipeline to allow delivery of water to 11 injection wells with an estimated combined recharge capacity of 84.7 cfs. The cost for the additional infrastructure improvements has been estimated at slightly under $600,000.

4. Great Feeder Canal Company (GFCC):

   Recharge Conveyance Improvements - GFCC replaced the out-dated headworks to the Great Feeder Canal. The headworks are an integral part of the GFCC's diversion system and facilitate delivery of irrigation water and IWRB recharge water to other canal systems and potential off-canal recharge sites. A resolution was passed by the IWRB in July 2015 to authorize a cost-share of up to $500,000 for the construction of the project (estimated at the time to be 50% of the project cost). The project was completed during the first part of April for a final cost of $1,400,000. IWRB's final contribution to this project was the contracted amount of $500,000.

5. Fremont-Madison Irrigation District (FMID):

   Expansion of the Egin Lakes Recharge Area – FMID, in cooperation with Egin Bench Canal Co., has constructed a new recharge canal from the St. Anthony Canal to the Egin Lakes recharge area. The new recharge canal will significantly increase the volume of water that can be diverted to this recharge area. A resolution was passed by the IWRB in November 2015 to authorize expenditure of $1,030,000 for the construction of this project. As a condition of IWRB financing, IWRB will have exclusive rights to use this facility when its recharge water right is in priority. The project was completed at the end of March 2016.

6. Snake River Irrigation District (SRVID):

   Monitoring Equipment for the Monson Site – SRVID requested $5,000 for monitoring equipment on the Monson Site. This site is located in the Upper Valley were the volume and duration of the water available for IWRB recharge can be extremely variable. Monitoring equipment will improve measurement accuracy under variable conditions. Currently the project is on hold as SRVID is considering other improvements.

7. City of Blackfoot

   Jensen Grove – The City of Blackfoot is conducting infrastructure modifications at Jensen Grove to improve both their ability to deliver water to the site and to monitor the site. The preliminary study conducted by the city estimated the cost of the improvements at $53,054. The IWRB passed a resolution to assist the City of Blackfoot with an amount not to exceed $26,527, 50% of the cost of the original estimate. An updated estimate was submitted in March 16, 2016 for $55,280. The cost of the project above IWRB's allocated amount will be covered

by the City of Blackfoot and Snake River Valley Irrigation District. The project is scheduled to be completed in May 2015.

8. Other Projects:
    a. **Injection Well and Test** – Two potential injection well recharge sites are under investigation. The current phase of testing, $70,000 has been budgeted. The areas being studied and current status include:
        i. **Milner Dam Area** – Injection test well completed June 6th, 2015 to a depth of 500 ft. Observations during drilling and borehole video suggests very good conductivity for injection. A permit application has been submitted for an injection test and will be performed during the summer of 2016 if possible.
        ii. **Little Wood Recharge Site** (State Land South of Richfield) - A permit to drill a test injection well on state land south of the city of Richfield is complete. LSRARD is assisting with the acquisition of the permit and drilling process. This project is on hold until the engineering report is received concerning the 'Bifurcation' modification to divert Little Wood River water for recharge.

    b. **ESPA Managed Recharge Program Review** – IWRB contracted with CH2M to provide an independent review of the ESPA Managed Recharge Program for $91,850. The results of this analysis were presented at the IWRB Work Session in November 2015. The final report and updated scenario runs incorporating reduced limitations at the Minidoka Dam were complete in March 2016. Assuming no other work will be required on the project the final cost is $91,135.

    c. **De-Icing Study** – IWRB contracted with CH2M to evaluate the de-icing system deployed by TFCC on the Murtaugh Lake structures. This information will be used as a reference case for the development of de-icing systems at other facilities involved with winter-time recharge. The cost of the project was estimated to be $25,000. The project is scheduled to be completed in May 2016 and the report is currently in review.

Table 4. IWRB ESPA Recharge Program Projects					
Project Type	**Canal/Project**	**Project Type**	**Status**	**IWRB Cost Estimate**	**Completion Date**
ESPA Infrastructure	Milner-Gooding Canal				
	Concrete Flume Improv.	CNST	Complete	$750,000	March 2016
	Road Improv. MP31 to Shoshone Recharge Site	CNST	In-Progress	$120,000	Spring 2016
	Dietrich Drop Hydro Plant	Design/CNST	In-Progress	$1,500,000	Fall/Winter 2016
	MP31 Expansion	Design/CNST	In-Progress	$200,000	Fall 2016
	North Side Canal				
	Wilson Lake/Canal Improv.	Design	Proposed	$274,581	Aug. 2016
	Southwest I.D.				
	Winterized Pipeline/Recharge	Design/CNST	Proposed	$600,000	Fall/Winter 2016
	Great Feeder Canal				
	Canal Improvements	CNST	Complete	$500,000	Apr. 2016
	Fremont-Madison I.D.				
	Egin Lakes Recharge Canal	Study/CNST	Complete	$1,030,000	Mar. 2016
	Snake River I.D.				
	Monitoring Improvements	CNST	Proposed	$5,000	Fall 2016
	Jensen Grove				
	Infrastructure Improv.	CNST	In-Progress	$26,527	May 2016
	Injection Well &Test				
	Milner Dam Area	TEST	Proposed	$70,000*	Summer 2016
ESPA Program	Misc.				
	ESPA Program Review	Study	Completed	$91,135*	Mar. 2016
	De-icing Study	Study	In-Progress	$25,000	May 2016

CNST = Construction

* Original IWRB funds committed in FY15. Projects are in various stages of completion.

ESPA Managed Recharge Program Update

Idaho Water Resource Board

Wesley Hipke
May 19, 2016

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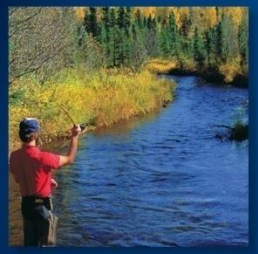
Water Resource Board

ESPA Managed Recharge Program

- **IWRB Managed Recharge Summary - 2015-2016**
- **IWRB Managed Recharge Monitoring**
- **IWRB Projects**
- **Potential Managed Recharge Projects**

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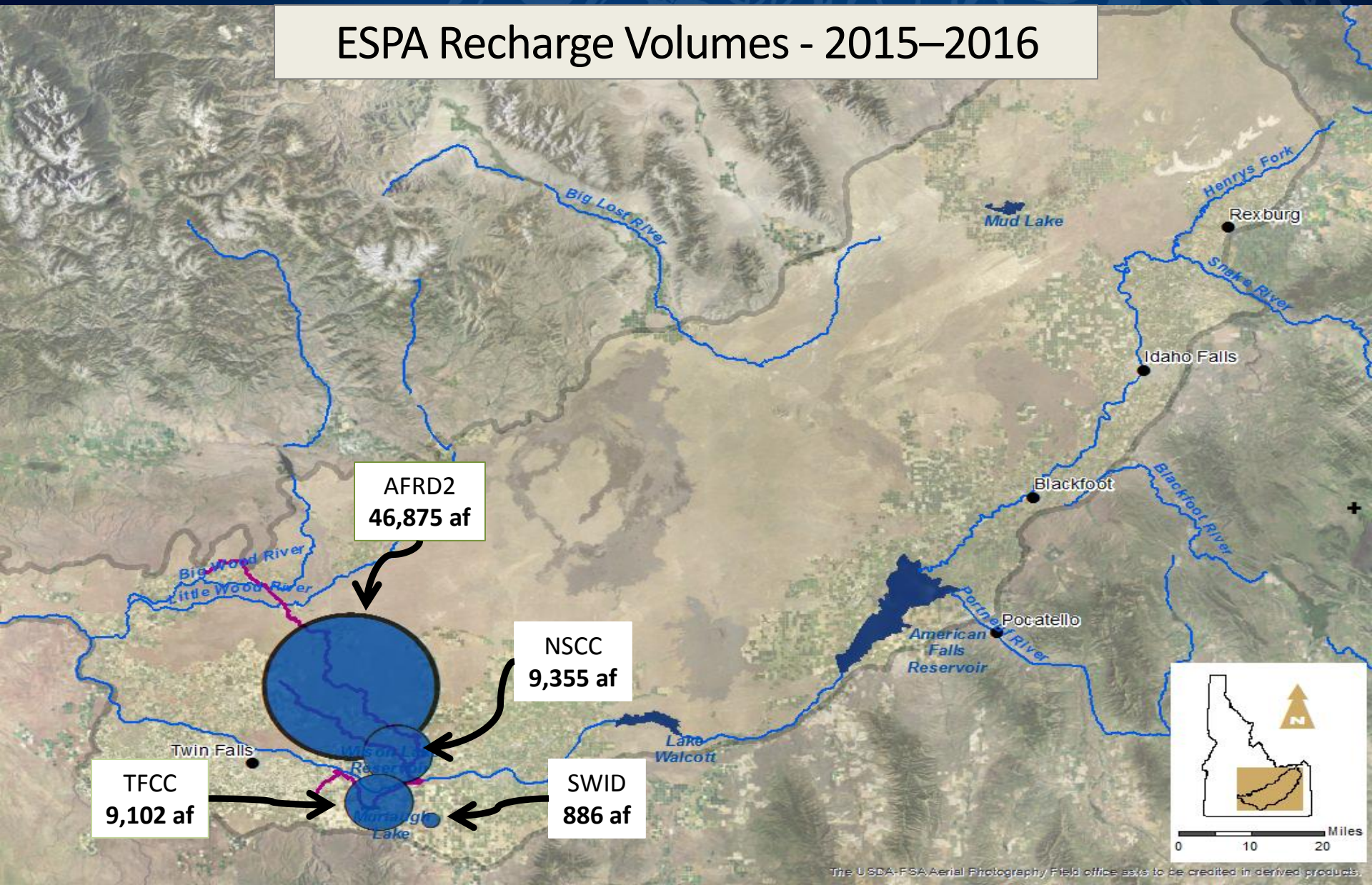
ESPA Recharge Volumes - 2015–2016



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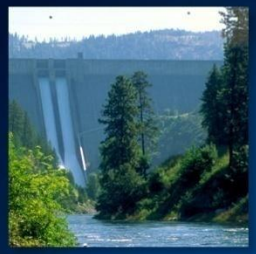
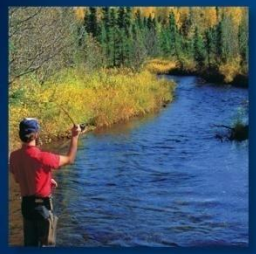



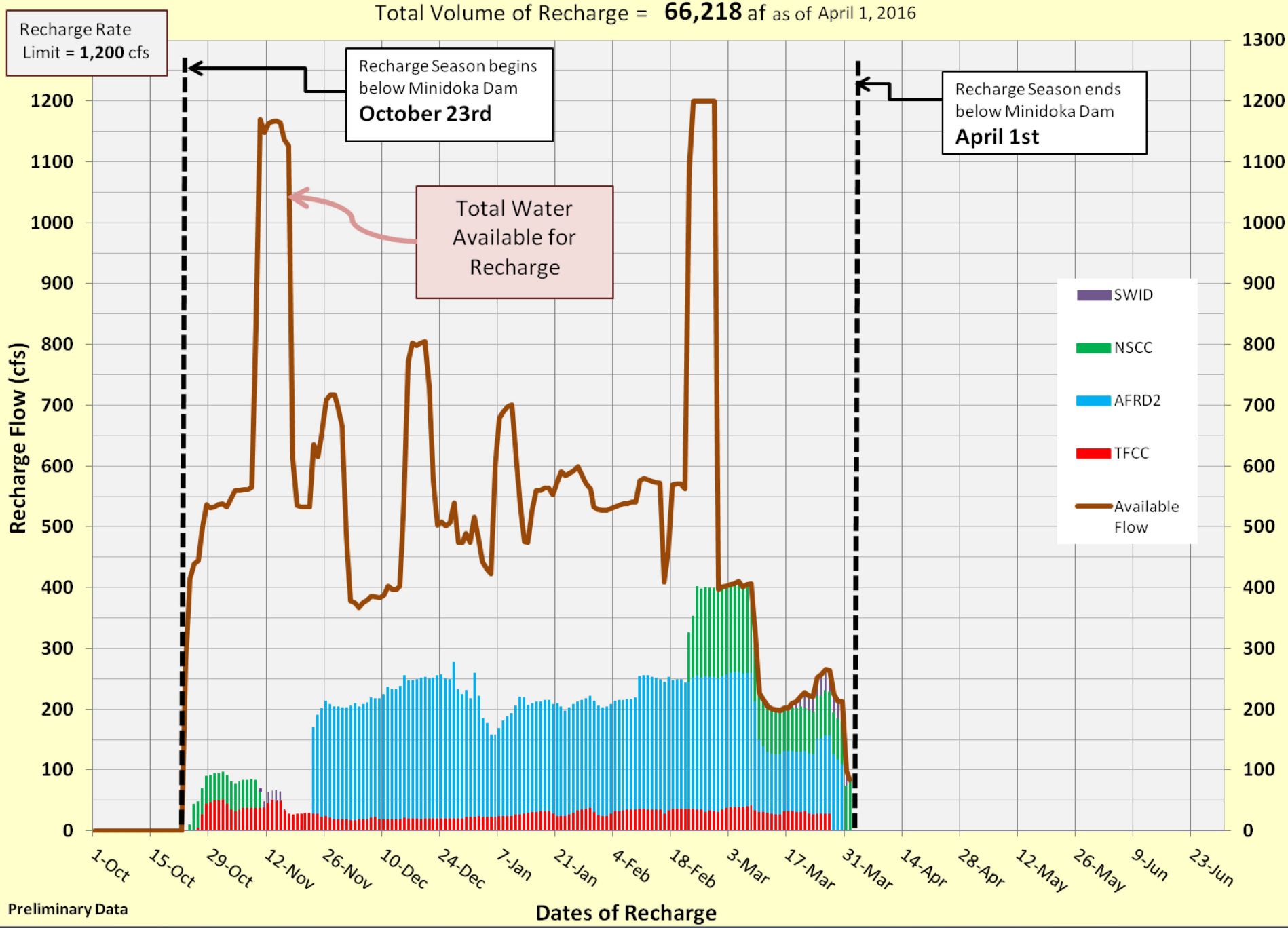
IWRB ESPA Managed Recharge – Lower Valley

- **Recharge Summary**
  - Recharge Right in Priority (Oct 23rd – Apr 1st) : 162 days
  - IWRB Recharge = 161 days
  - Total Recharged = 66,218 af *
  - Average Daily Recharge Rate = 207 cfs

*Preliminary Data


Total IWRB Managed Recharge Rates During 2015 - 2016 Season

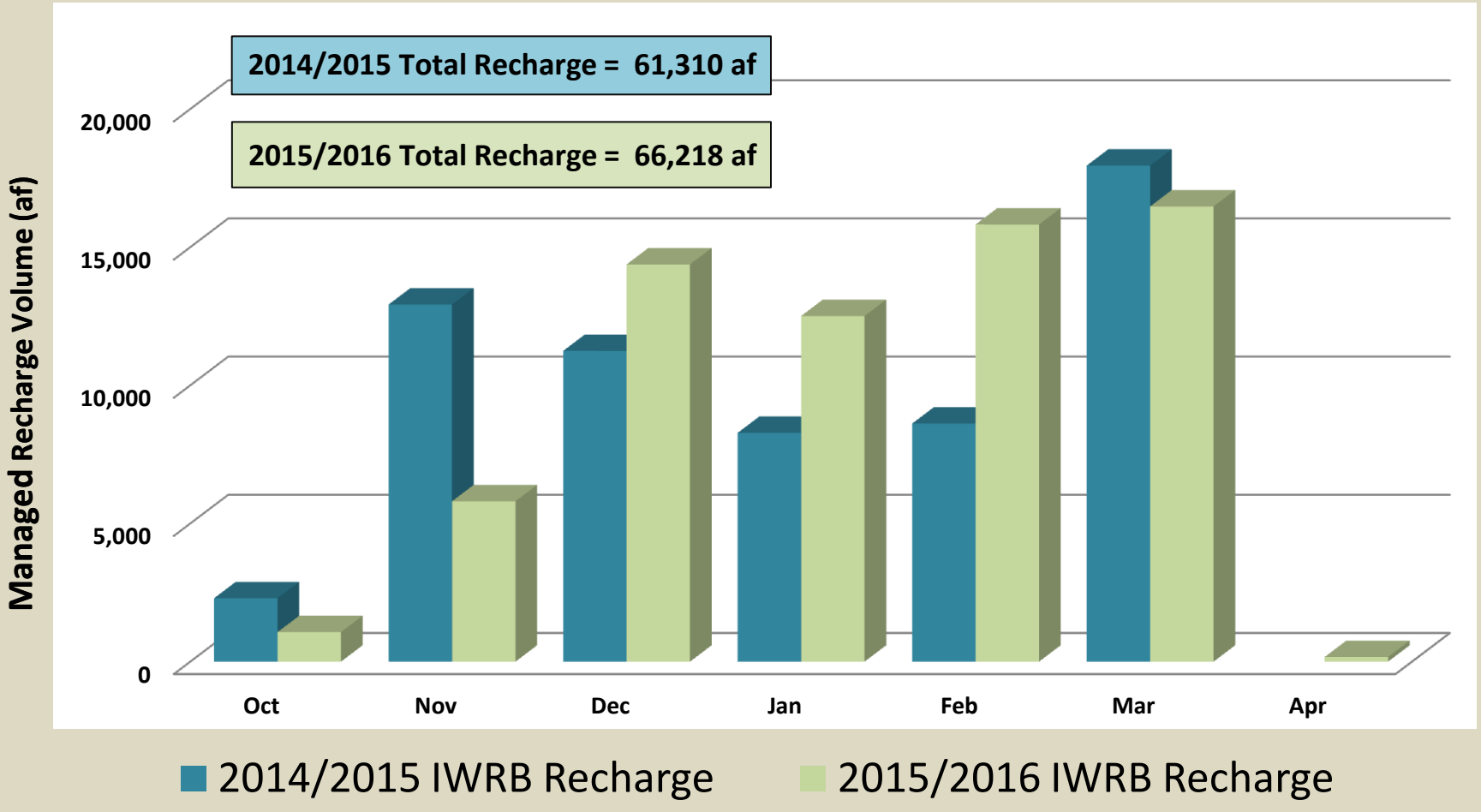
Total Volume of Recharge = **66,218** af as of April 1, 2016



Preliminary Data

IWRB Recharge - Lower Valley

Monthly Volume of Recharge



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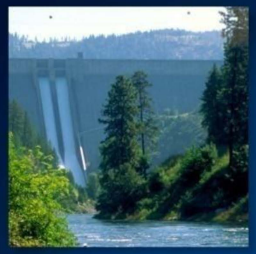

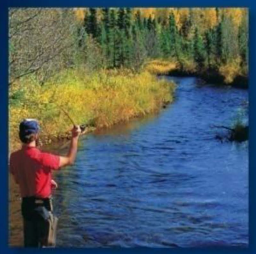

Non-IWRB Managed Recharge

October and November - 2015

ESPA Area	Recharge Entity	Recharge Location	Volume Recharged (Acre-feet)
Lower Valley	Coalition of Cities	North Side Canal	990
	Southwest Irrigation District	Recharge Wells	??
Upper Valley	Association of Cities Surface Water Coalition Twin Falls CC	Eagle Rock/Progressive CC	6,196
		Farmers Friend CC	3,069
		Enterprize CC	1,527
		Great Feeder/Harrison	362
		TOTAL	**11,154**
	IGWA	Aberdeen Springfield CC	12,500
		Fremont-Madison ID	1,900
		New Sweden ID	1,745
		Snake River Valley ID	2,200
		TOTAL	**18,345**
		TOTAL	**30,489**

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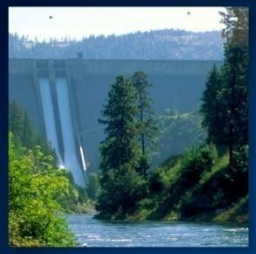
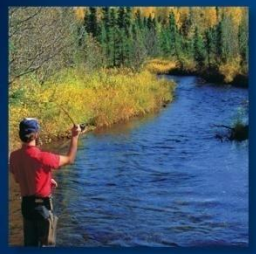

Non-IWRB Managed Recharge

PRELIMINARY **Spring- 2015** Estimates

ESPA Area	Recharge Entity	Recharge Location	Volume Recharged (Acre-feet)
Lower Valley	**Magic Valley Groundwater District**	AFRD2/ MP 31	**5,000**
Upper Valley	**Bingham Groundwater District**	Egin Bench CC	2,000
		Peoples CIC	850
		Snake River Valley ID	850
		United CC	200
		Riverside CC	200
		Aberdeen Springfield CC *	12,000
		Jensen Grove *	4,000
		TOTAL	**20,100**
	IGWA	Great Feeder CC	10,000
		Snake River Valley ID	3,000
		New Sweden ID	3,500
		TOTAL	**16,500**
*** Contracted Volume**		**TOTAL**	**41,600**

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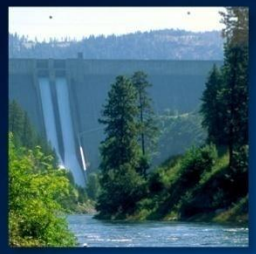
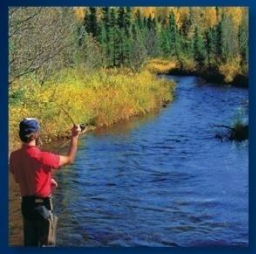

ESPA Managed Recharge Program

- **IWRB Managed Recharge Summary - 2015-2016**
- **IWRB Managed Recharge Monitoring**
- **IWRB Projects**
- **Potential Managed Recharge Projects**


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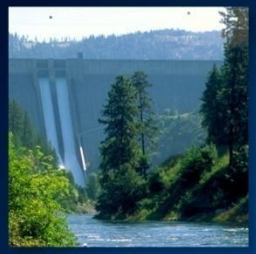
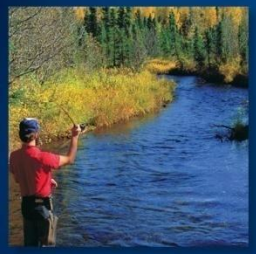
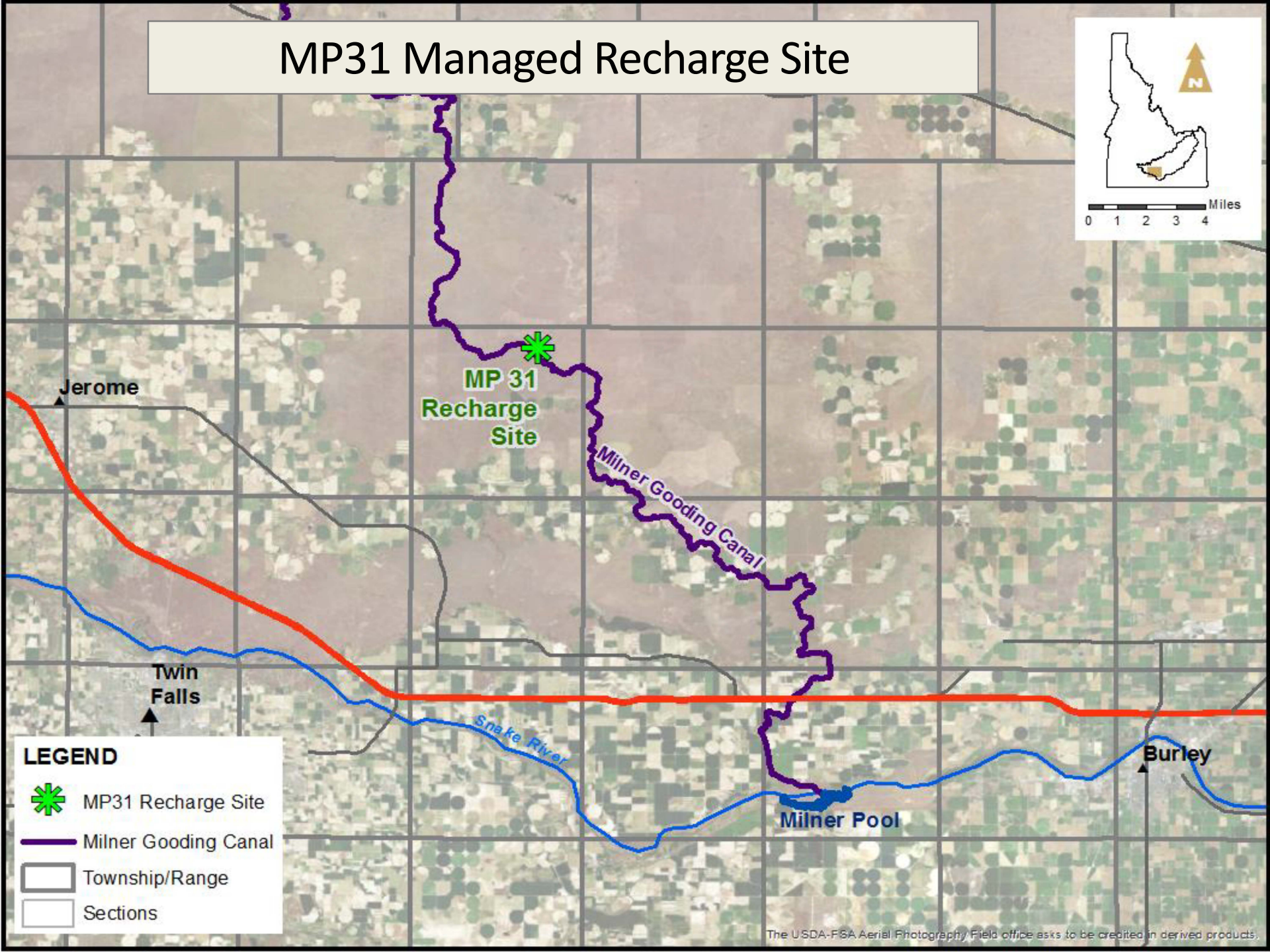




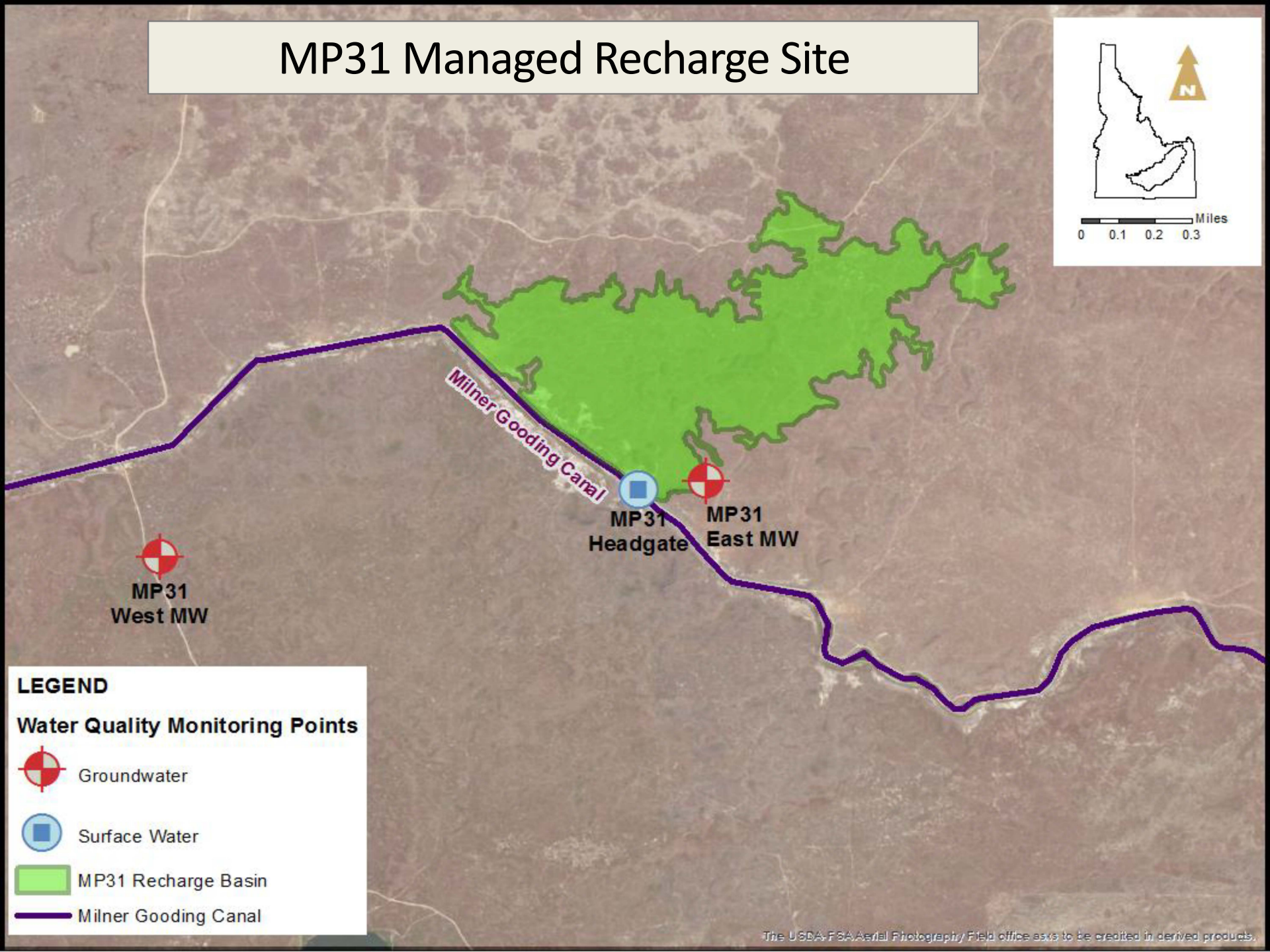
ESPA Managed Recharge Monitoring

- **Flow Measurements**
- **Site Water Level Monitoring**
- **Water Quality Monitoring**
- **ESPA Regional Monitoring**

MP31 Managed Recharge Site



MP31 Managed Recharge Site



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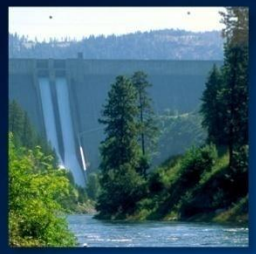
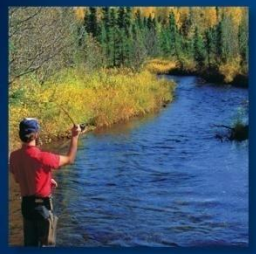
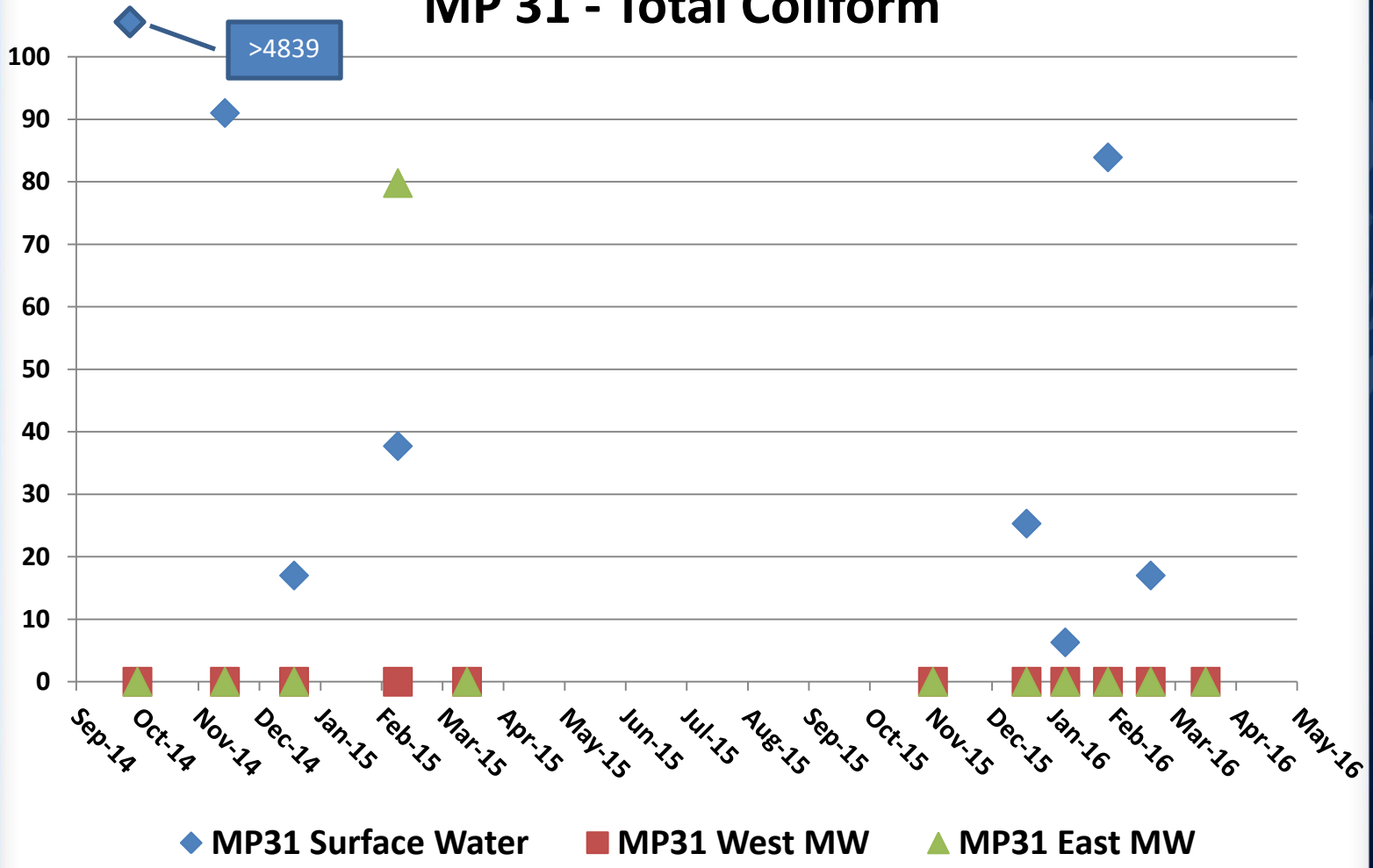




MP 31 Water Quality Monitoring

MP 31 - Total Coliform



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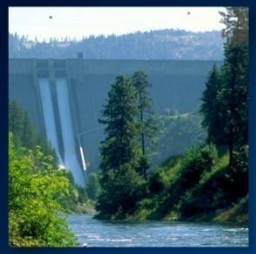
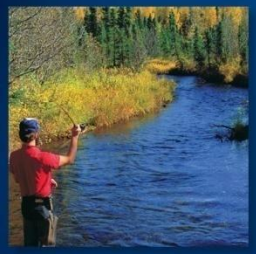
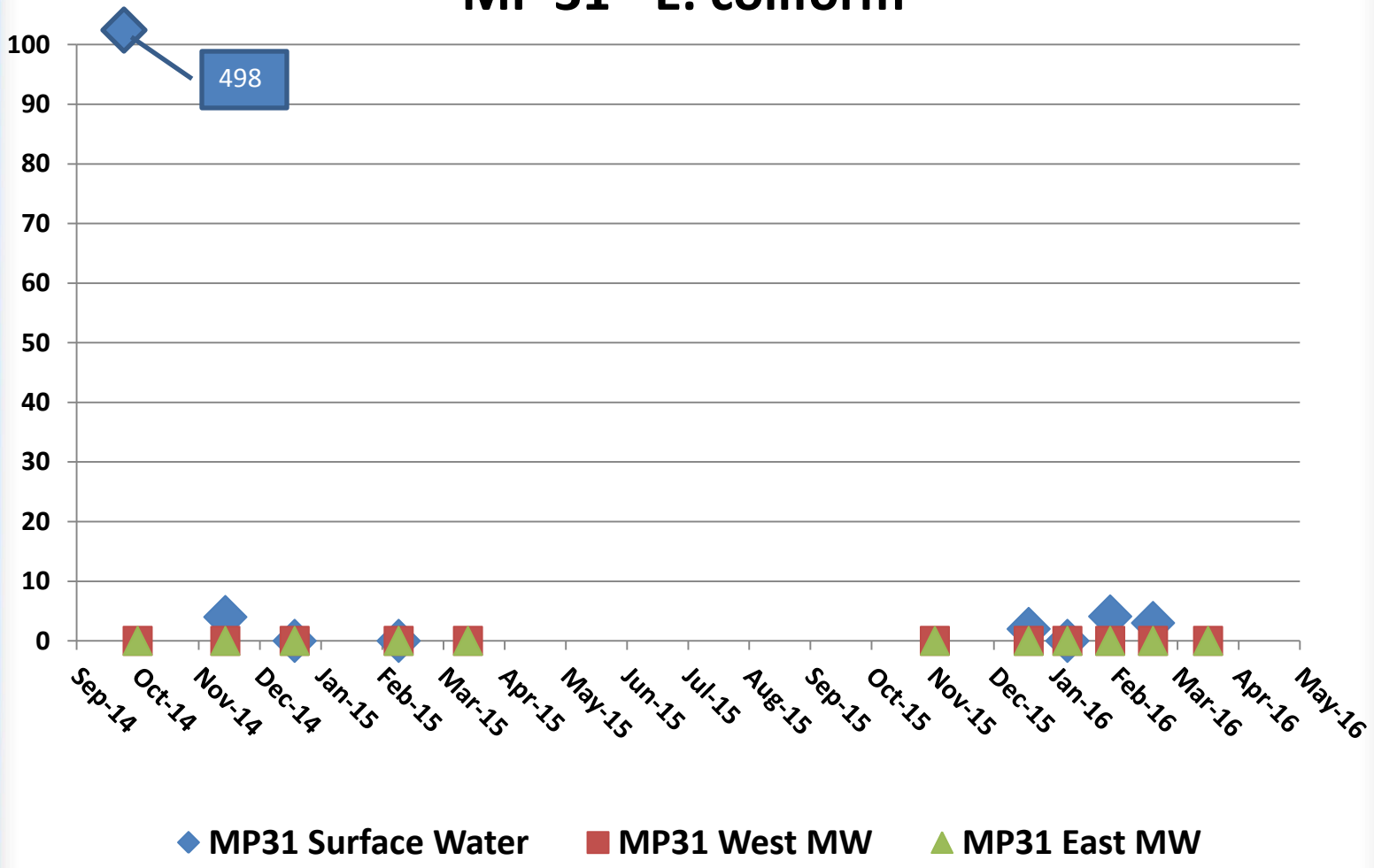




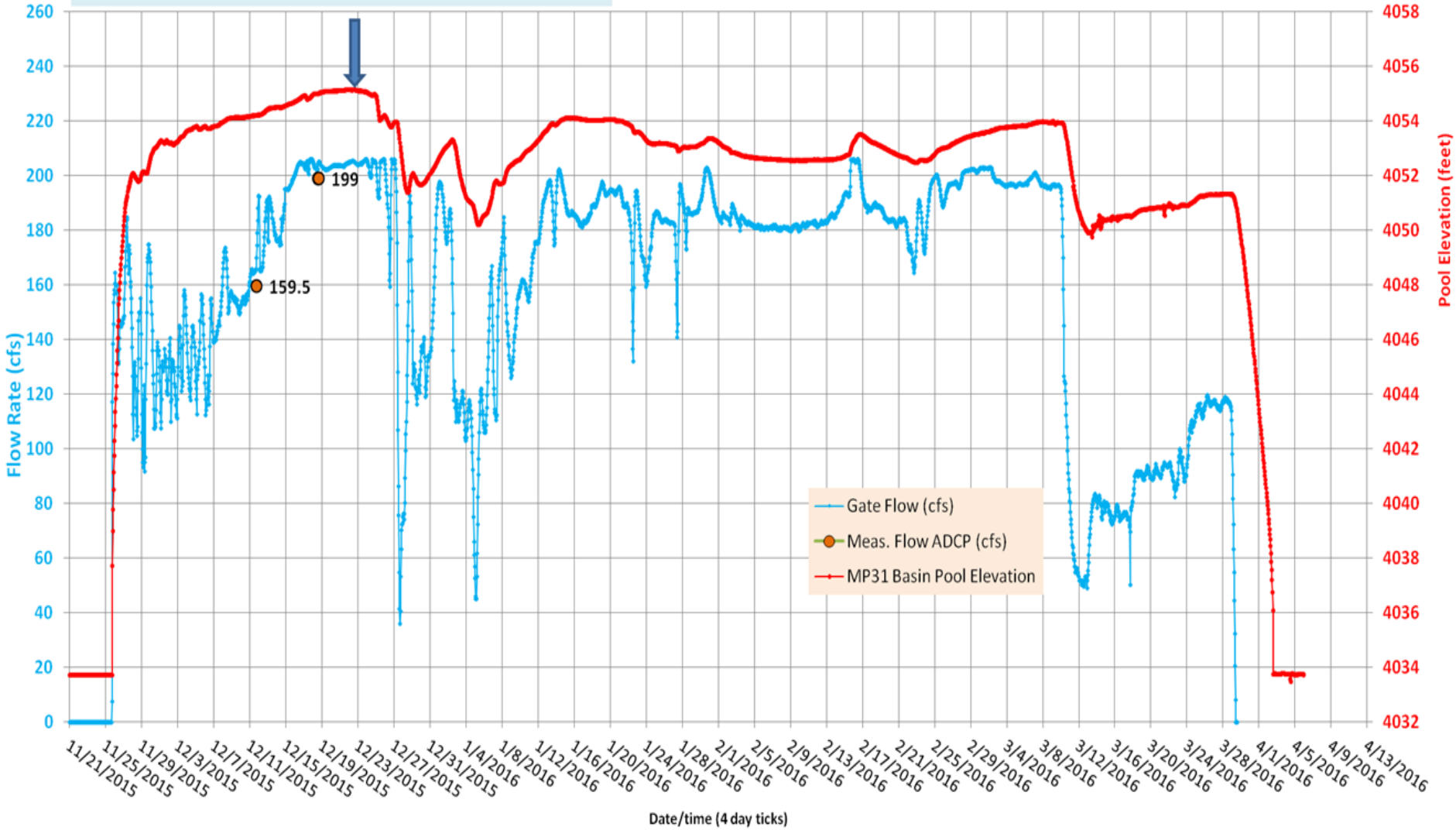
MP 31 Water Quality Monitoring

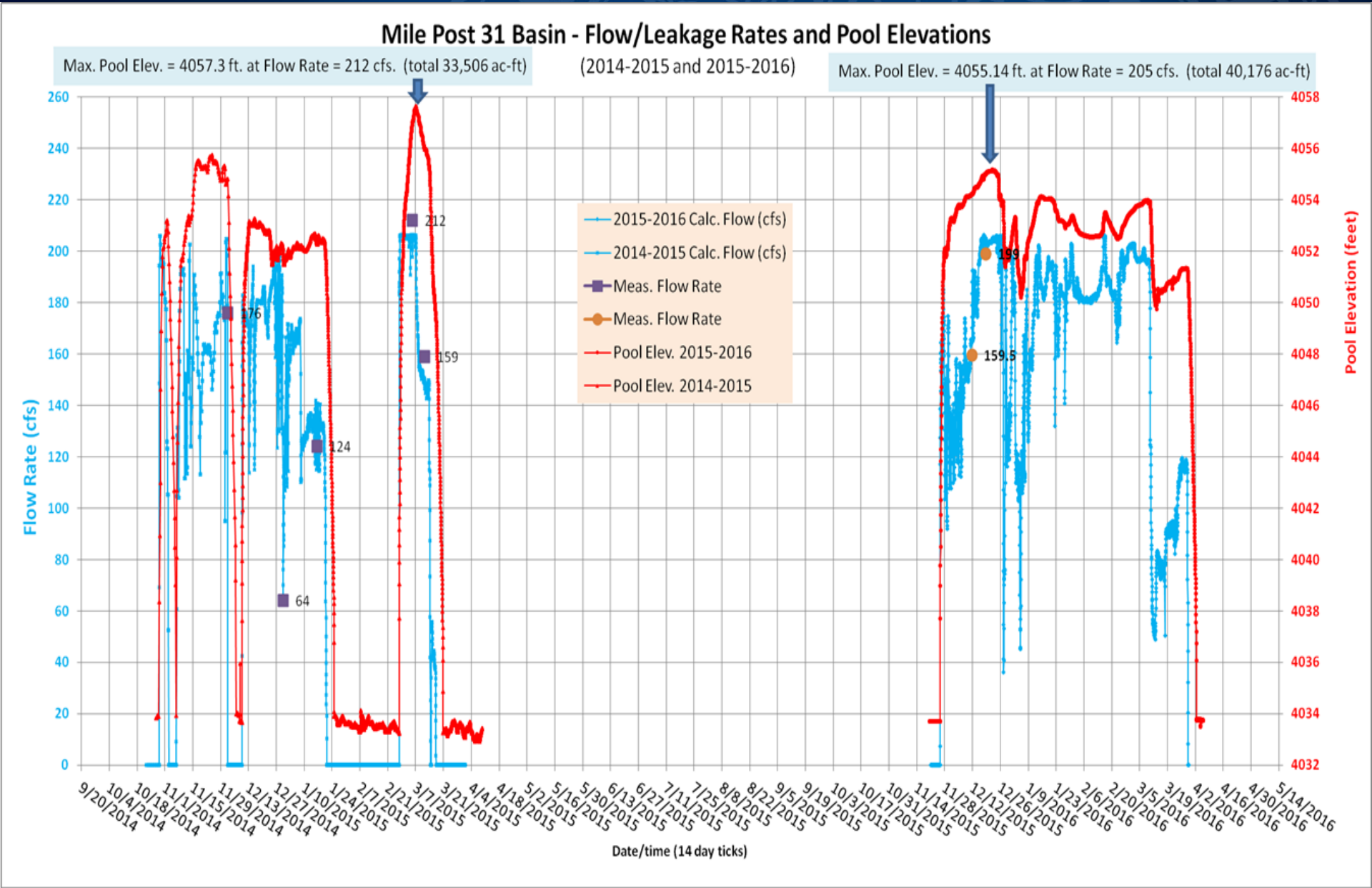
MP 31 - E. coliform

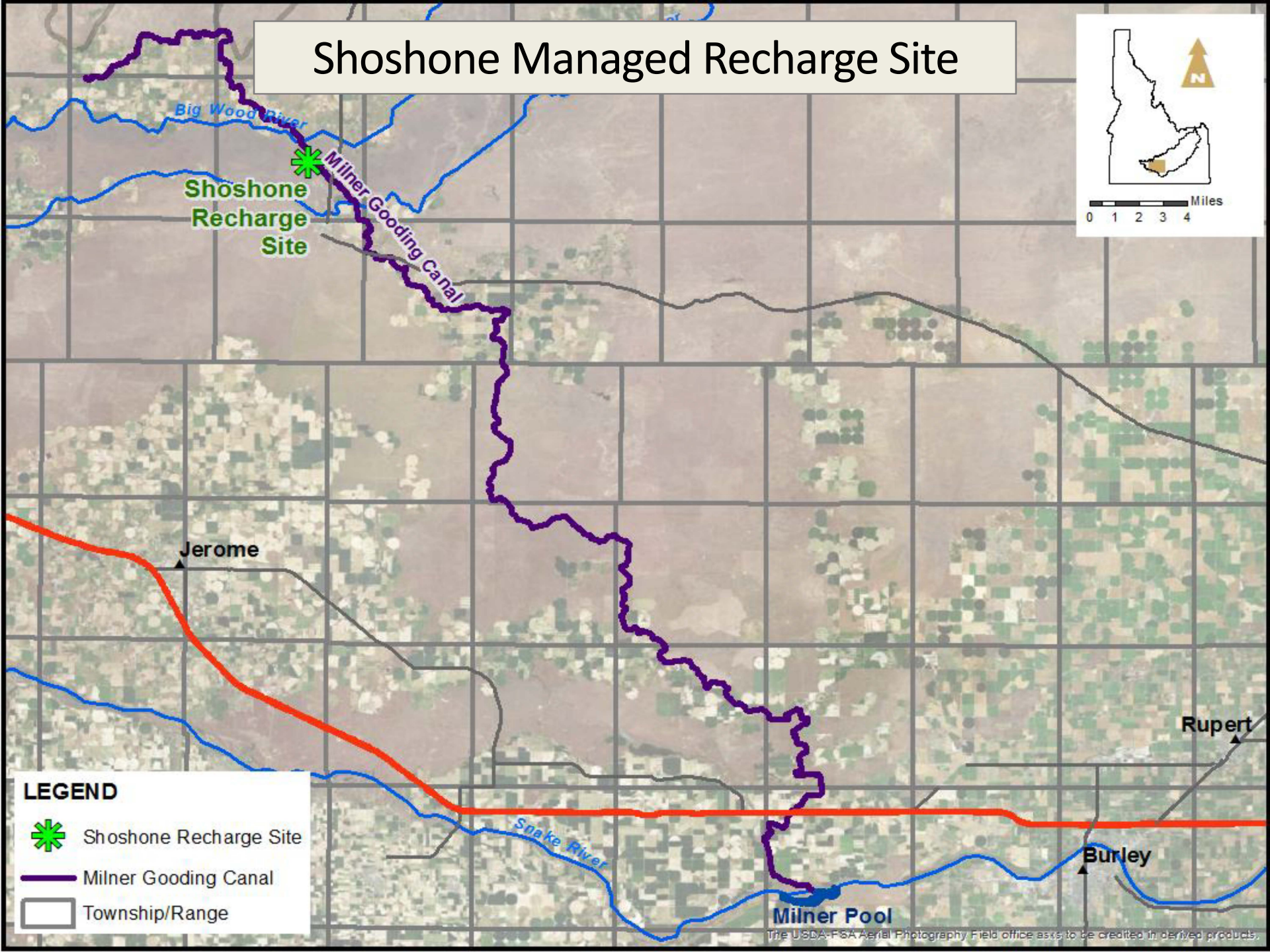


Mile Post 31 Basin Flow/Leakage Rates and Pool Elevations

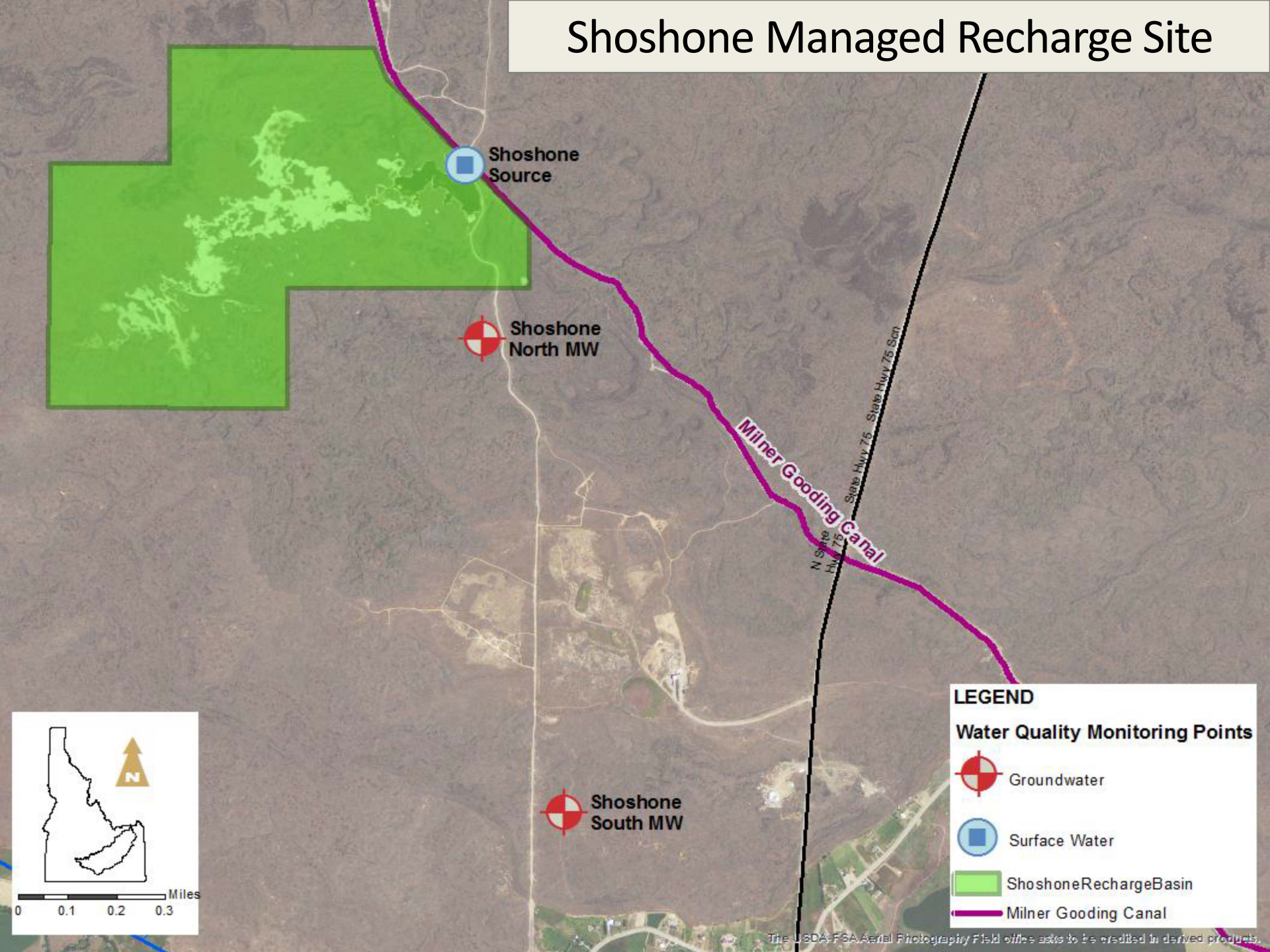
(2015/2016)




Mile Post 31 Basin - Flow/Leakage Rates and Pool Elevations
(2014-2015 and 2015-2016)
Max. Pool Elev. = 4057.3 ft. at Flow Rate = 212 cfs. (total 33,506 ac-ft)
Max. Pool Elev. = 4055.14 ft. at Flow Rate = 205 cfs. (total 40,176 ac-ft)
2015-2016 Calc. Flow (cfs)
2014-2015 Calc. Flow (cfs)
Meas. Flow Rate
Meas. Flow Rate
Pool Elev. 2015-2016
Pool Elev. 2014-2015
212
176
159
124
64
199
159.5
Flow Rate (cfs)
Pool Elevation (feet)
Date/time (14 day ticks)


Shoshone Managed Recharge Site
Big Wood River
Milner Gooding Canal
Shoshone Recharge Site
Jerome
Rupert
Burley
Snake River
Milner Pool
N
Miles
0 1 2 3 4
LEGEND
Shoshone Recharge Site
Milner Gooding Canal
Township/Range
The USDA-FSA Aerial Photography Field office asks to be credited in derived products.

Shoshone Managed Recharge Site



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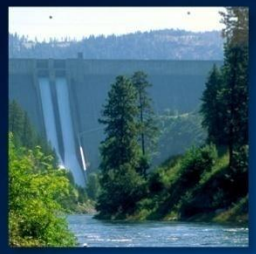
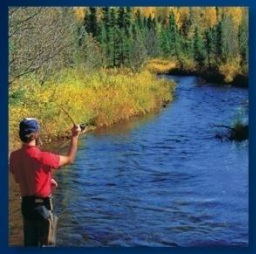
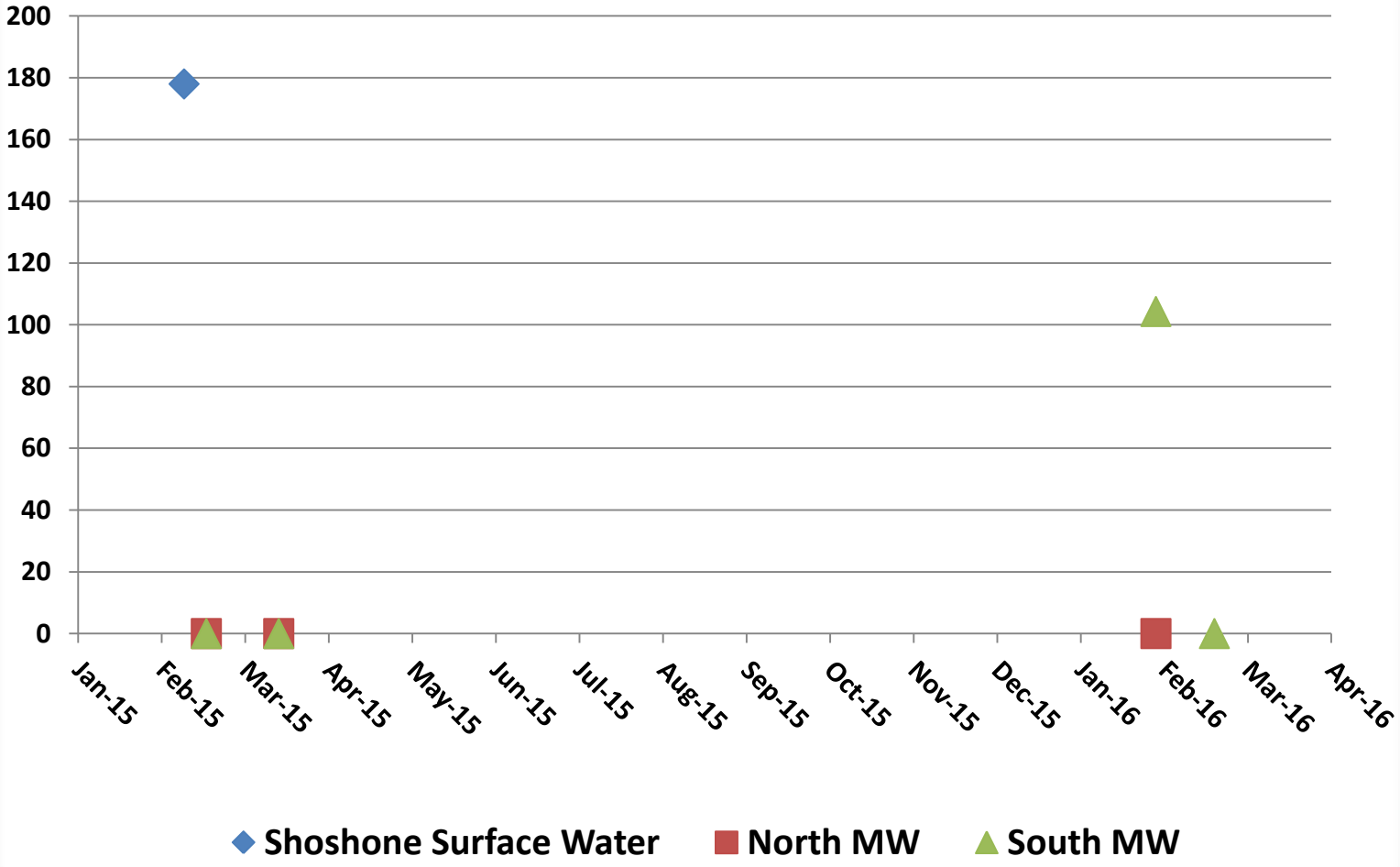




Shoshone Water Quality Monitoring

Shoshone - Total Coliform



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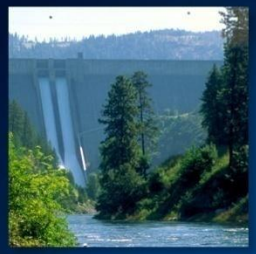
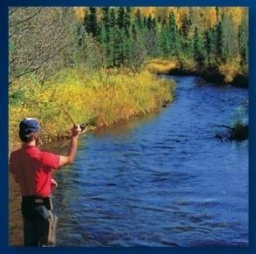
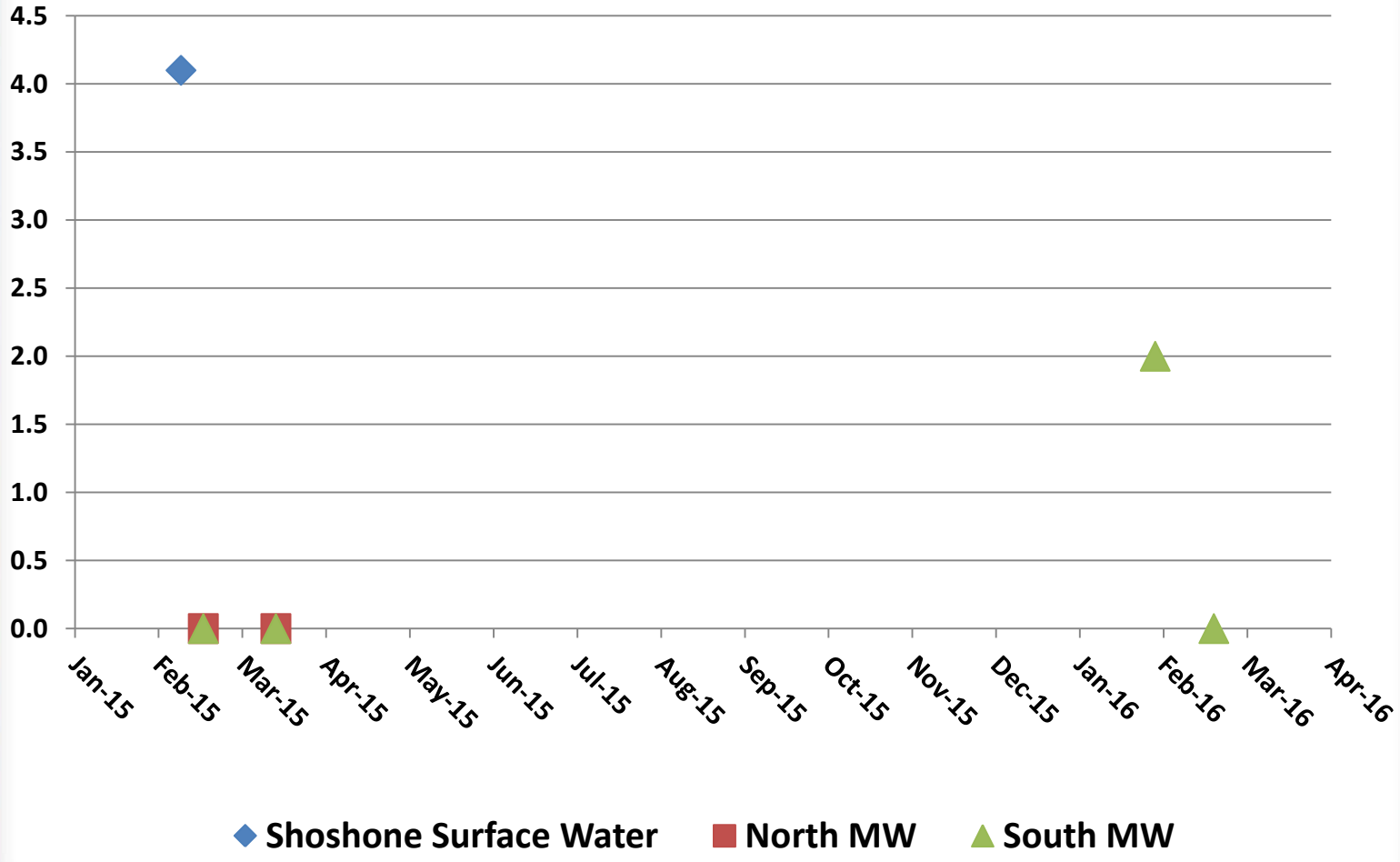




Shoshone Water Quality Monitoring

Shoshone - E. coli



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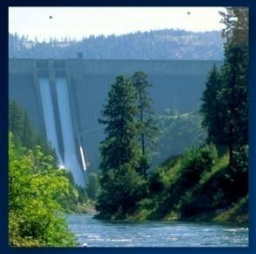
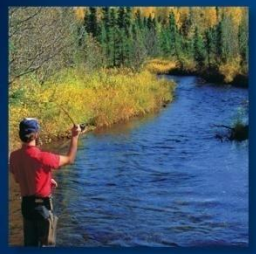
Water Resource Board





ESPA Managed Recharge Program

- **IWRB Managed Recharge Summary - 2015-2016**
- **IWRB Managed Recharge Monitoring**
- **IWRB Projects**
- **Potential Managed Recharge Projects**

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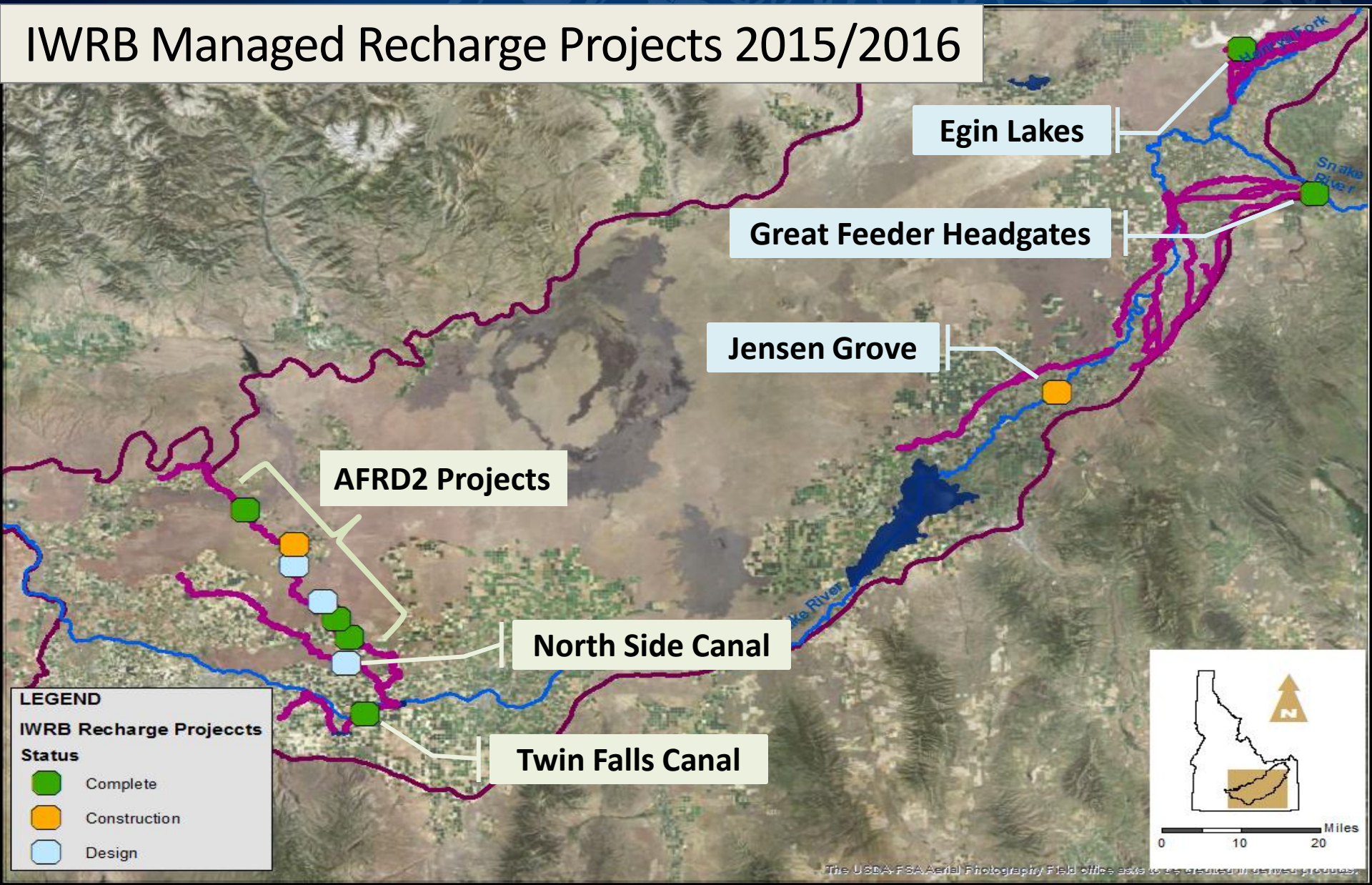
IWRB Managed Recharge Projects 2015/2016



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AFRD2 - Milner-Gooding Canal

Capacity ~ 70 cfs

Big Wood Recharge Site

Shoshone Recharge Site

Capacity ~ 250 cfs

Concrete Flume Improvement

Mile Post 31 Recharge Site

Capacity 200 to 300+ cfs

Big Wood River

Little Wood River

Twin Falls

Milner Pool

LEGEND

Recharge Sites

IWRB Recharge Projects

Complete

Construction

Design

N

Miles

0 1.5 3 4.5

The USDA-FSA Aerial Photography Field office asks to

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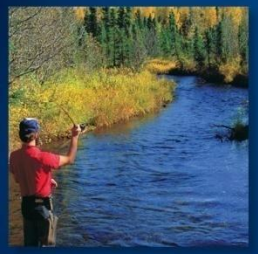

ESPA Managed Recharge Projects

AFRD2 – Milner Gooding Canal

Road Improvements

- **Milner-MP31**

  31 miles $177,000 **Complete** April 2015

- **MP31-Shoshone**

  21 miles $150,000 **Construction** May/June 2016


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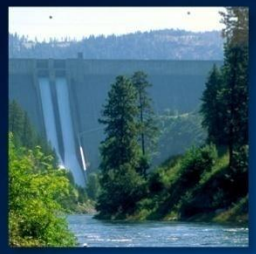
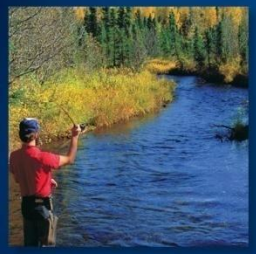

ESPA Managed Recharge Projects

AFRD2 – Milner Gooding Canal

MP28 Hydro Plant By-pass **Complete** November 2015

- Resolution $60,000
- Final Cost $48,000
- **IWRB Cost** **$45,000**


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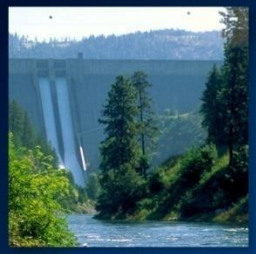
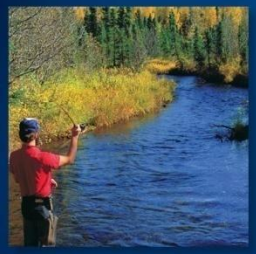

ESPA Managed Recharge Projects

AFRD2 – Milner Gooding Canal

Concrete Flume Impr. **Complete** March 2016

- Cost Estimate $1,400,000
- Resolution $700,000 (50% of est. cost)
- Final Cost $1,497,800
  - Additional crack repair per factor rep to guarantee 5-year warranty.
- **AFRD2 requesting an additional $48,205.58**


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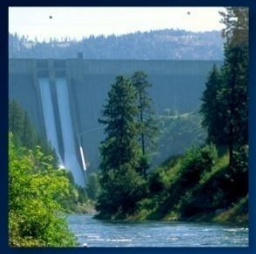
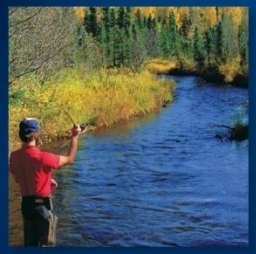



ESPA Managed Recharge Projects

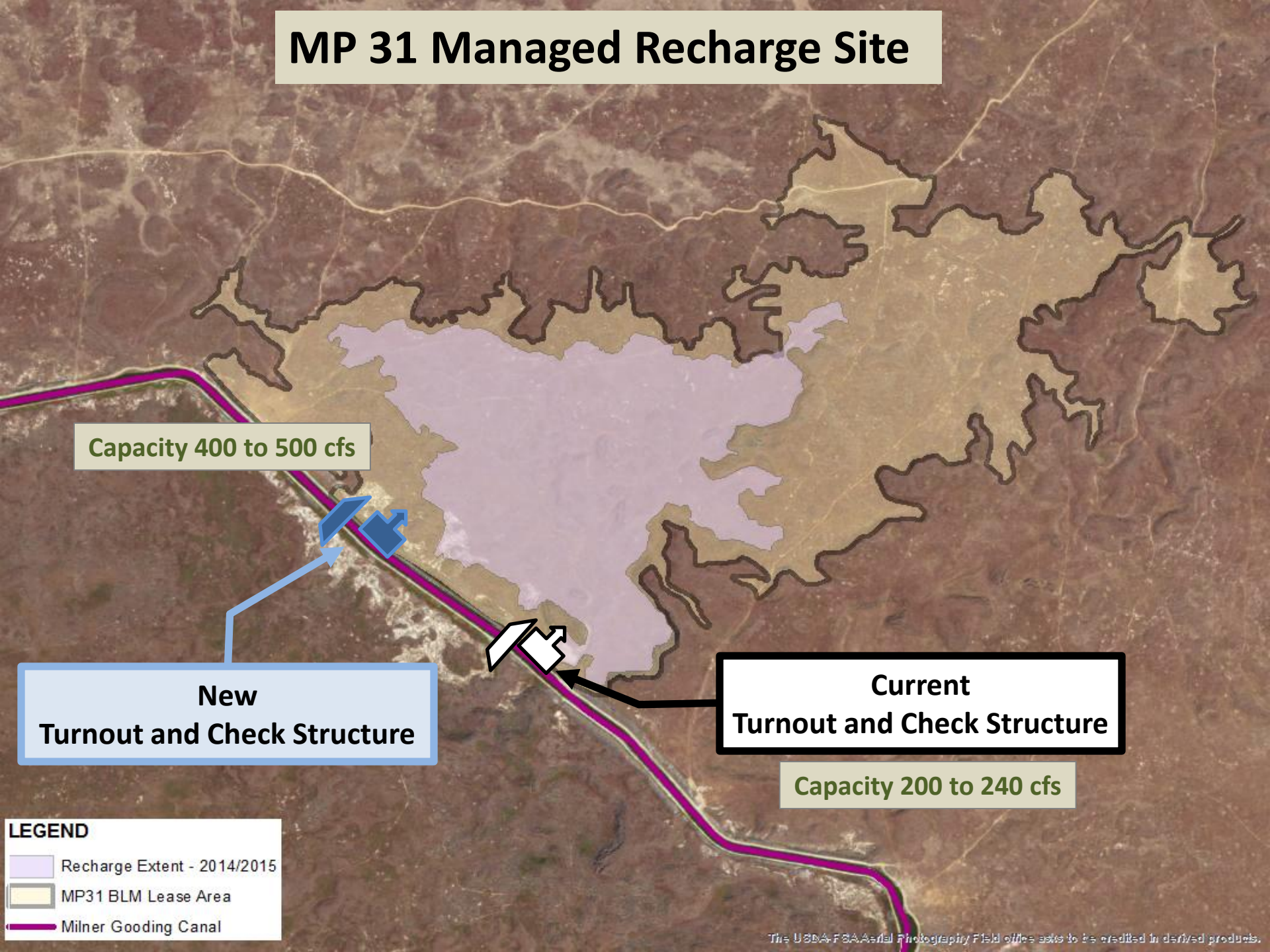
AFRD2 – Milner Gooding Canal

MP31 Expansion — **Design** — August 2016

- Resolution — $200,000
- Preliminary Total Cost — $1,300,000

Construction

- Phase I — New Gate/Weir Structure — Oct – Dec 2016
- Phase II — Installation of Weir — Nov. 2017



MP 31 Managed Recharge Site
Capacity 400 to 500 cfs
New
Turnout and Check Structure
Current
Turnout and Check Structure
Capacity 200 to 240 cfs
LEGEND
Recharge Extent - 2014/2015
MP31 BLM Lease Area
Milner Gooding Canal
The USDA-FSA Aerial Photography Field office asks to be credited in derived products.

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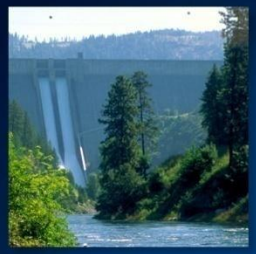
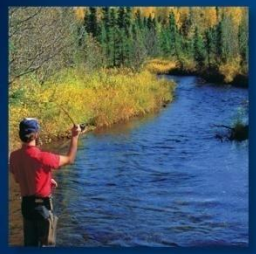



ESPA Managed Recharge Projects

AFRD2 – Milner Gooding Canal

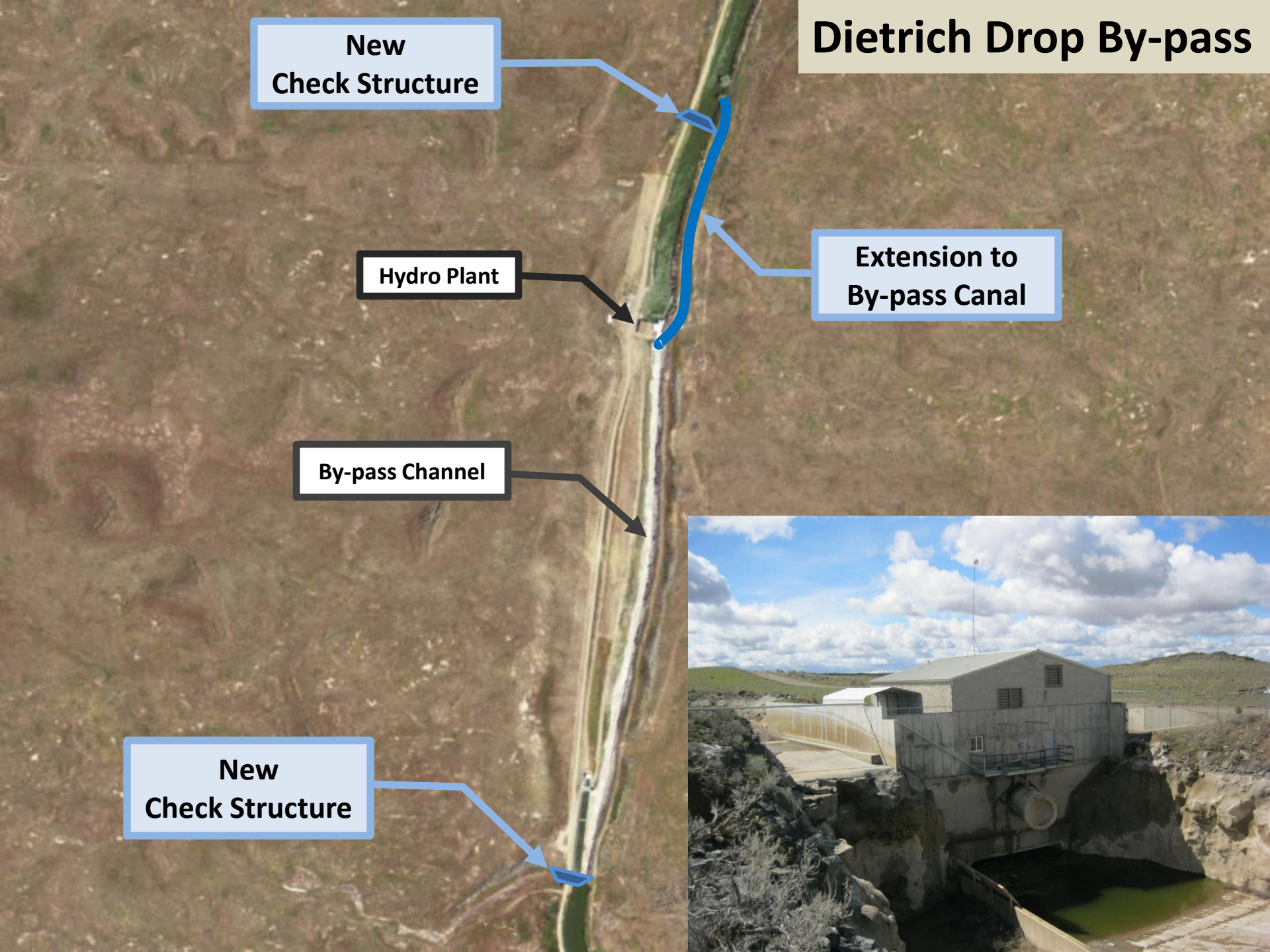
Dietrich Drop By-pass

- Resolution (Design/Const.) $1,500,000

Design August 2016

Construction Winter 2016/2017


Dietrich Drop By-pass



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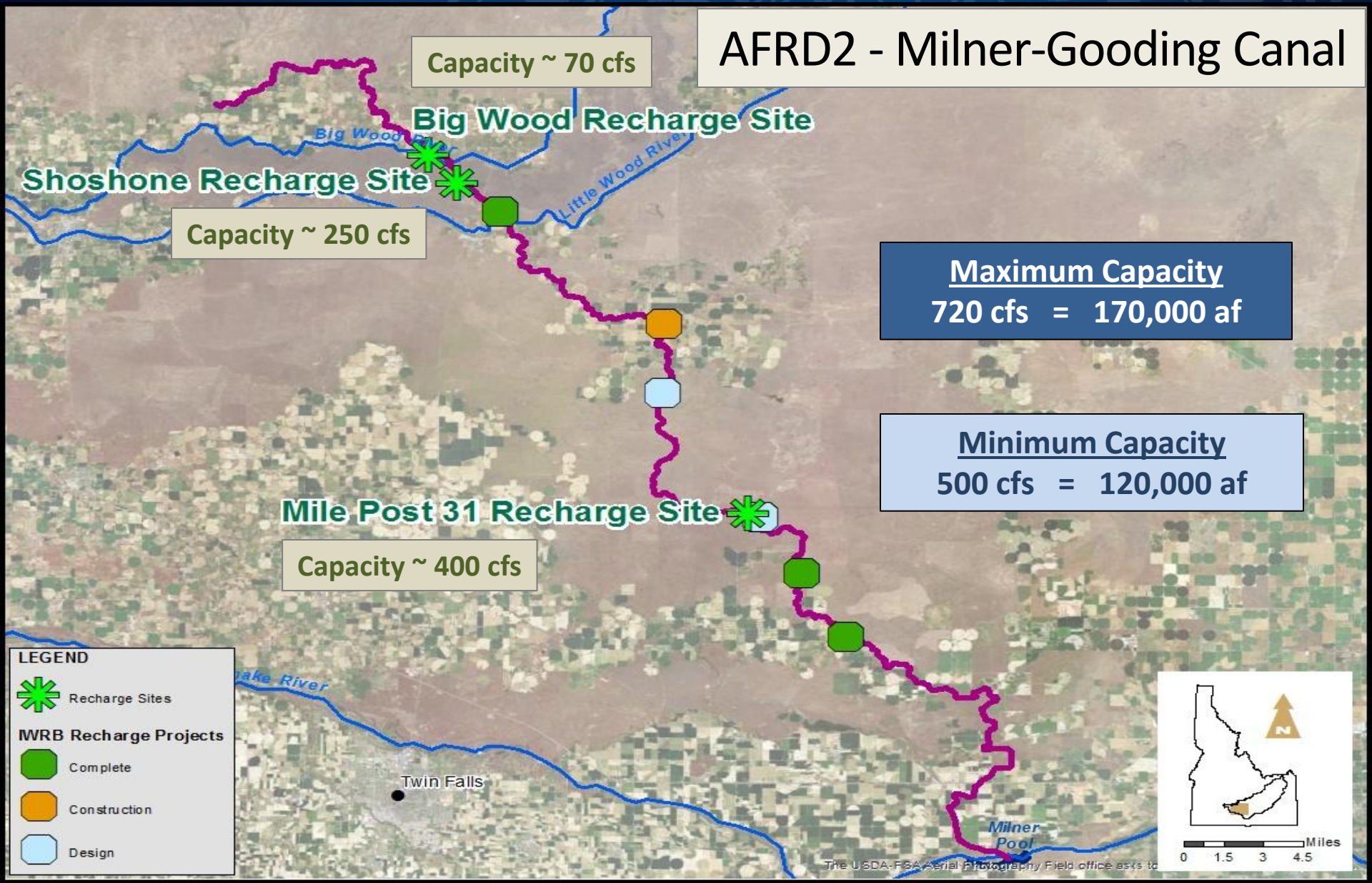
AFRD2 - Milner-Gooding Canal



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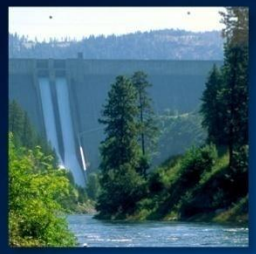
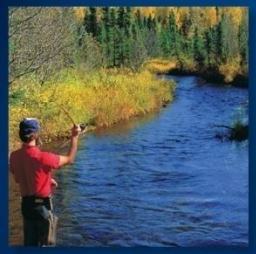



ESPA Managed Recharge Projects

Lower Valley

TFCC – Twin Falls Canal **+30 cfs**

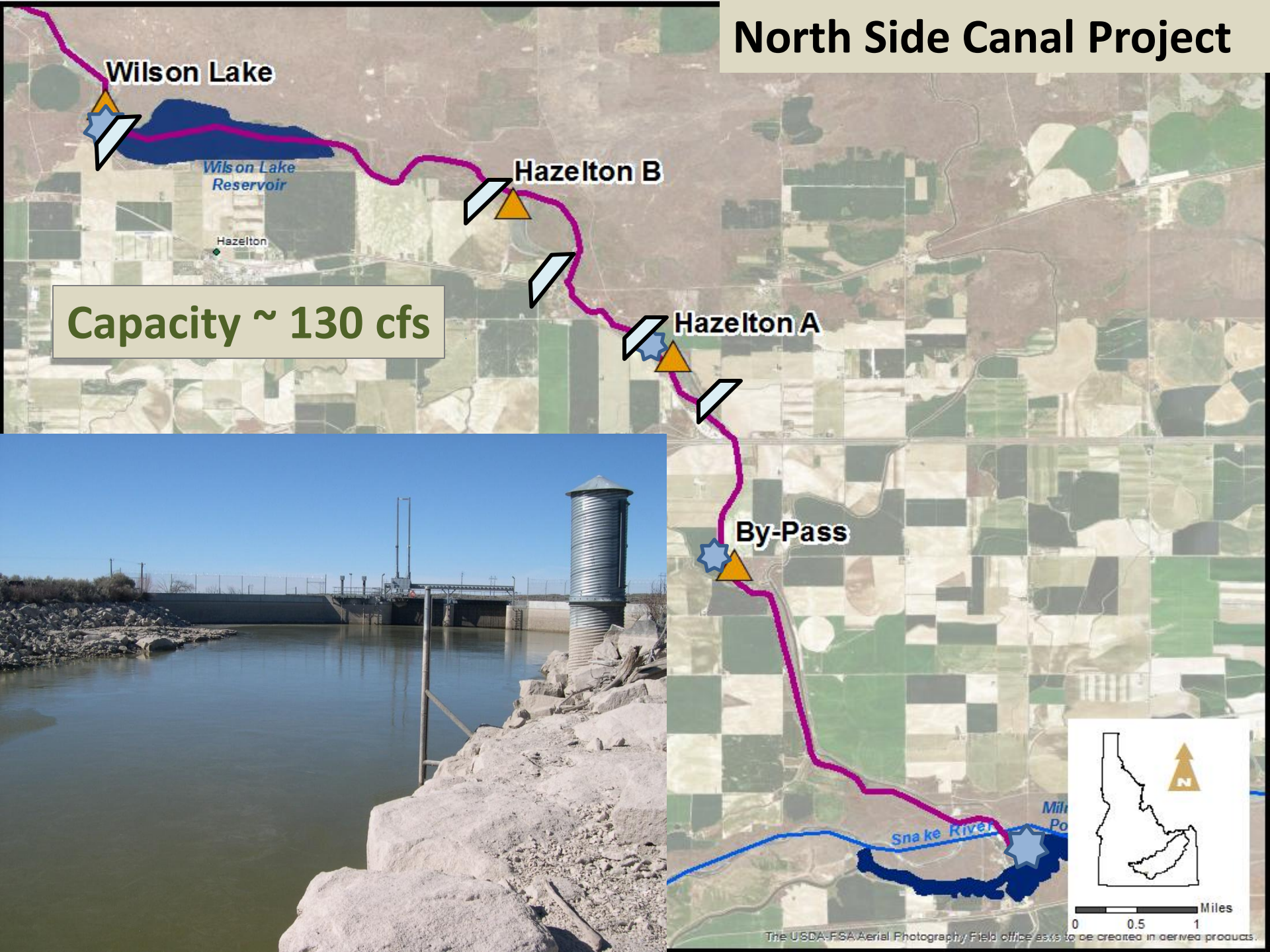
- Various Canal Improvements **Complete**

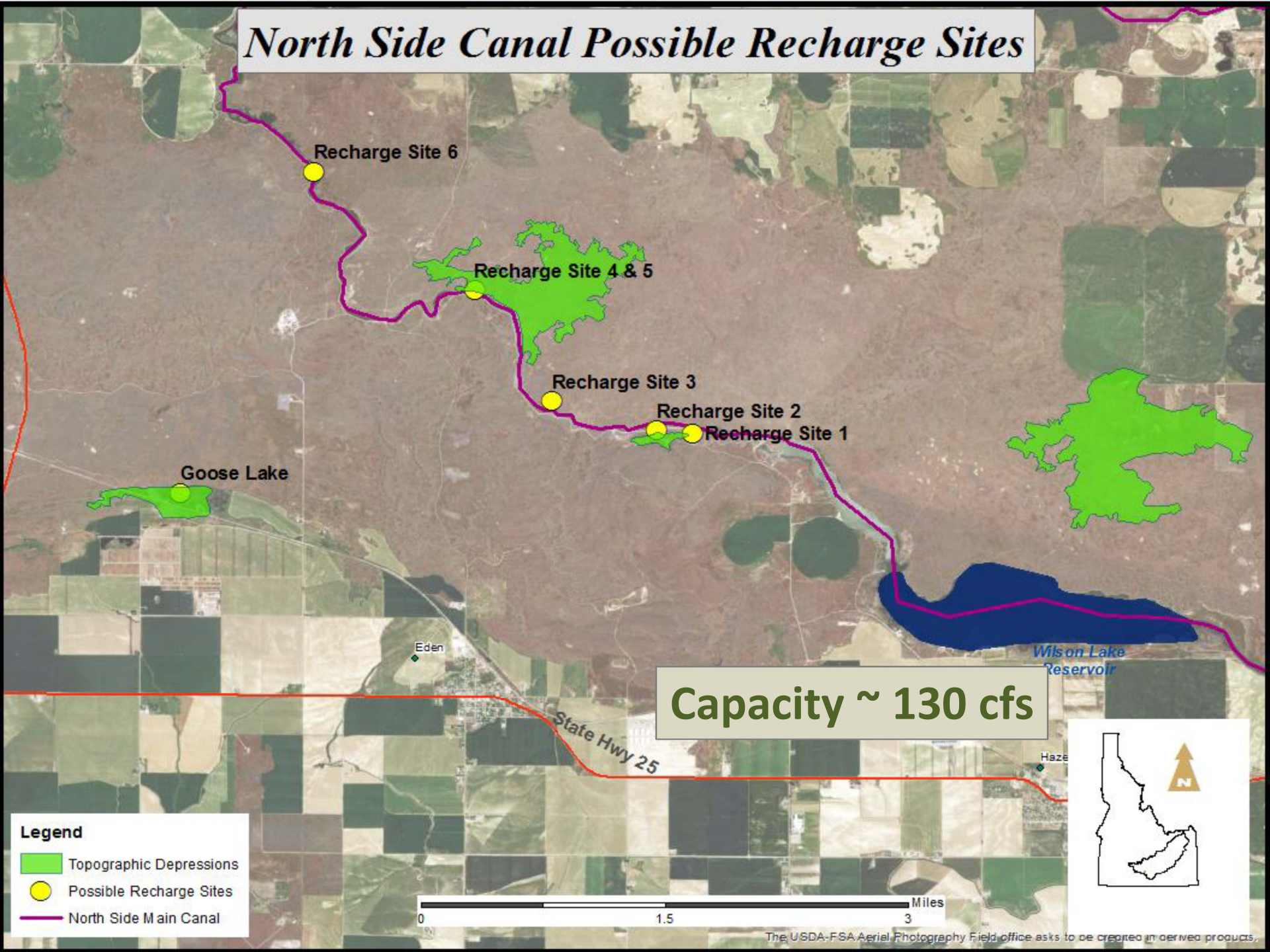
NSCC – Winter Recharge to Wilson Lake **+130 cfs**

- Resolution - $274,000 **Design** August 2016

Construction Winter 2016/2017


North Side Canal Project




North Side Canal Possible Recharge Sites
Recharge Site 6
Recharge Site 4 & 5
Recharge Site 3
Recharge Site 2
Recharge Site 1
Goose Lake
Eden
Wilson Lake Reservoir
State Hwy 25
Capacity ~ 130 cfs
Legend
Topographic Depressions
Possible Recharge Sites
North Side Main Canal
0
1.5
3
Miles
N
The USDA-FSA Aerial Photography Field office asks to be credited in derived products.

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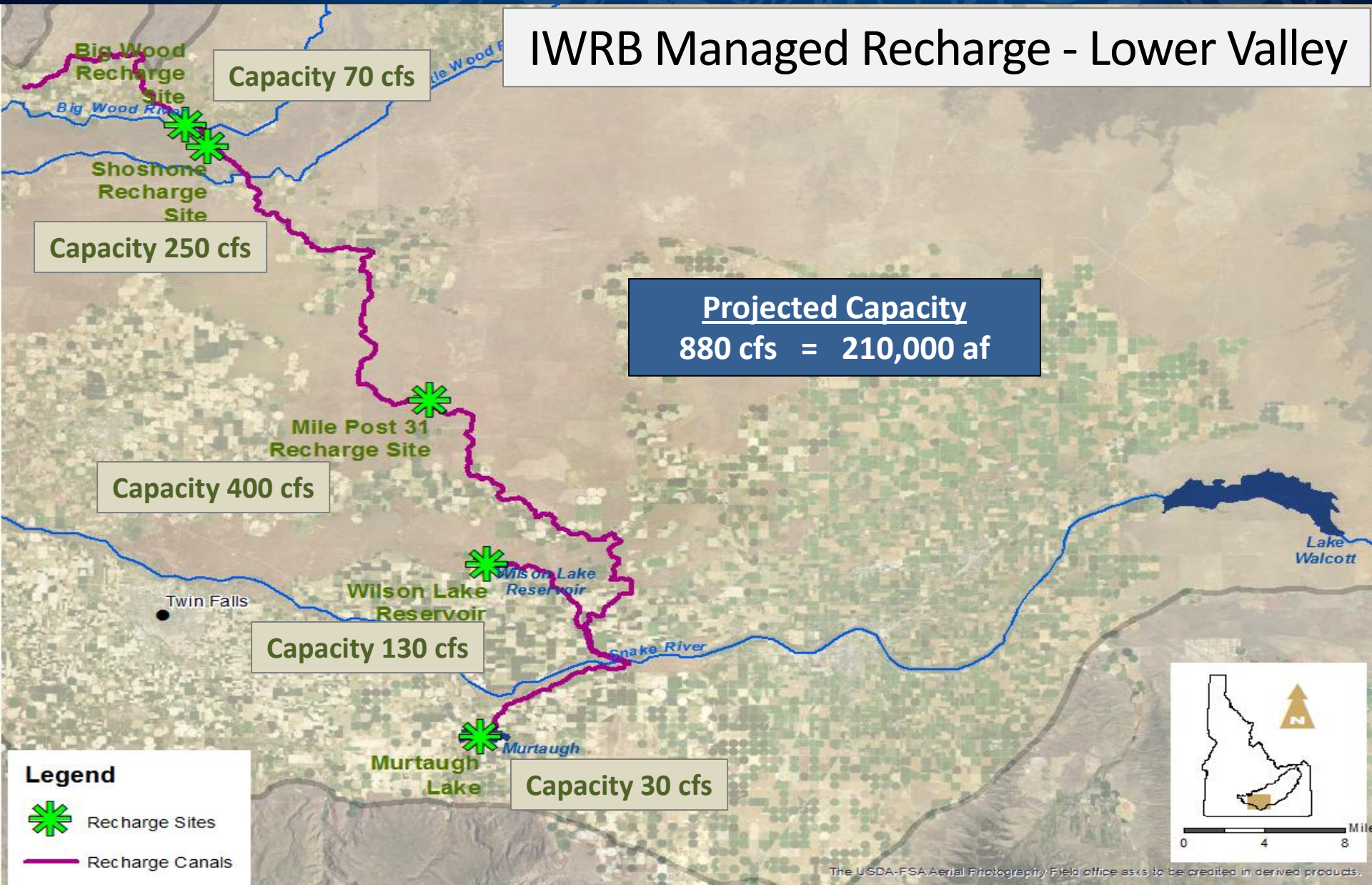
IWRB Managed Recharge - Lower Valley



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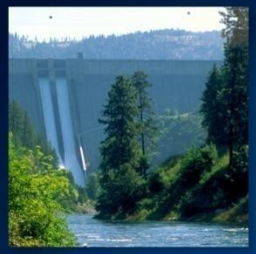
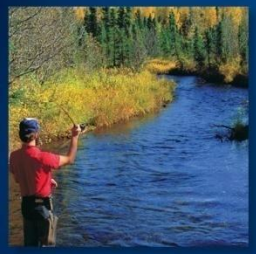

ESPA Managed Recharge Projects

Upper Valley

Egin Bench Recharge Canal

- IWRB Cost $1,030,000 **Complete** March 2016

Great Feeder Headgate

- IWRB Cost $500,000 **Complete** April 2016
- Final Cost $1,400,000

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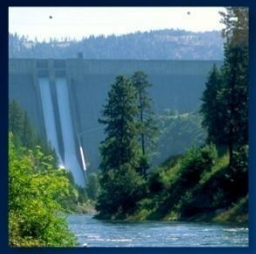
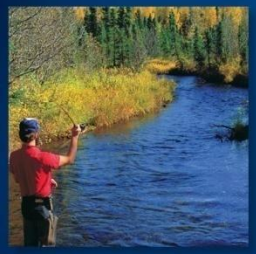



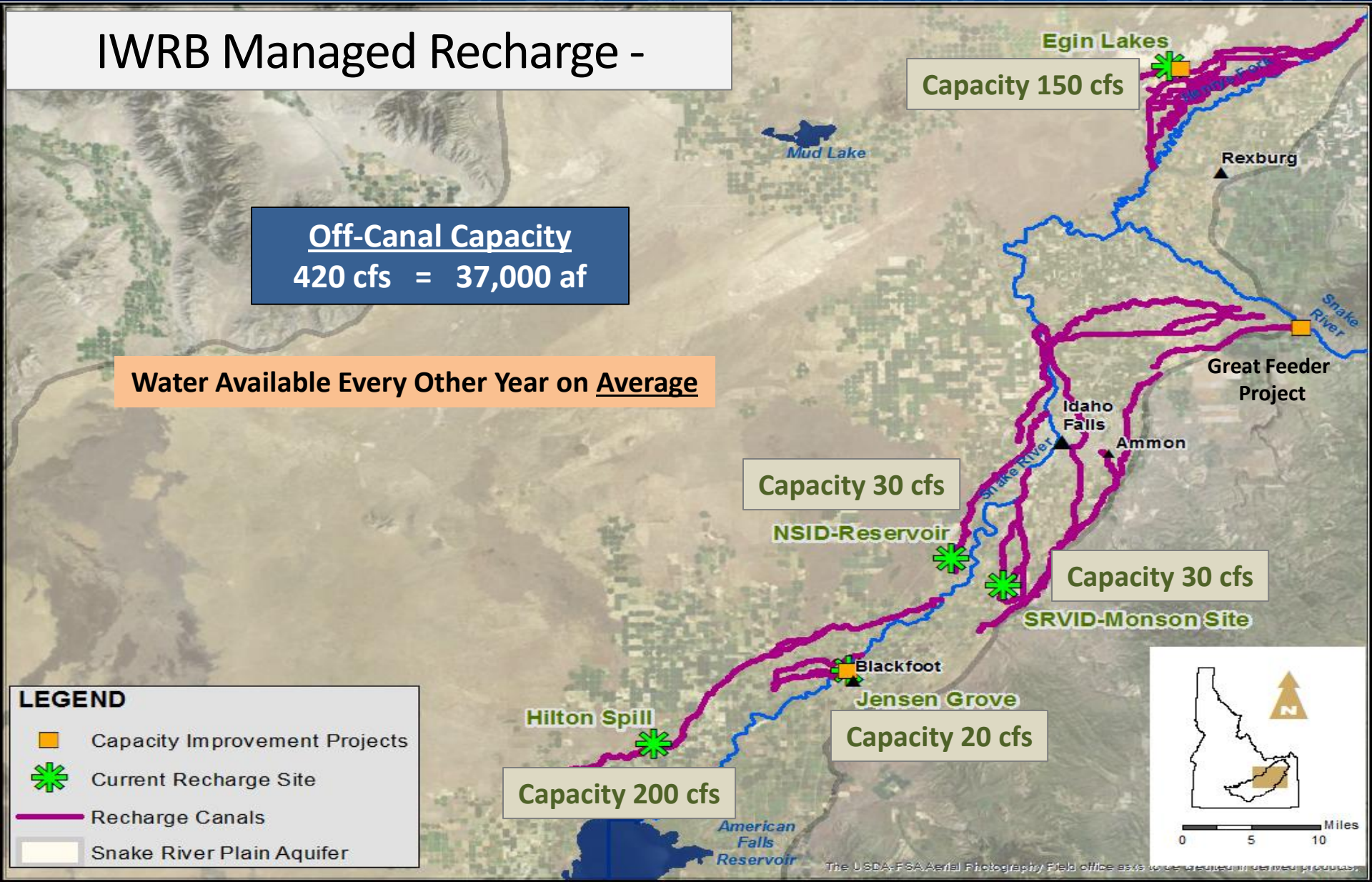
ESPA Managed Recharge Projects

Upper Valley

Jensen Grove Improvements

- IWRB Cost $26,527 **Complete** May 2016
- Final Cost $55,280


IWRB Managed Recharge -



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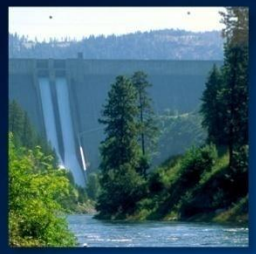
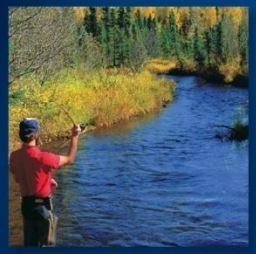
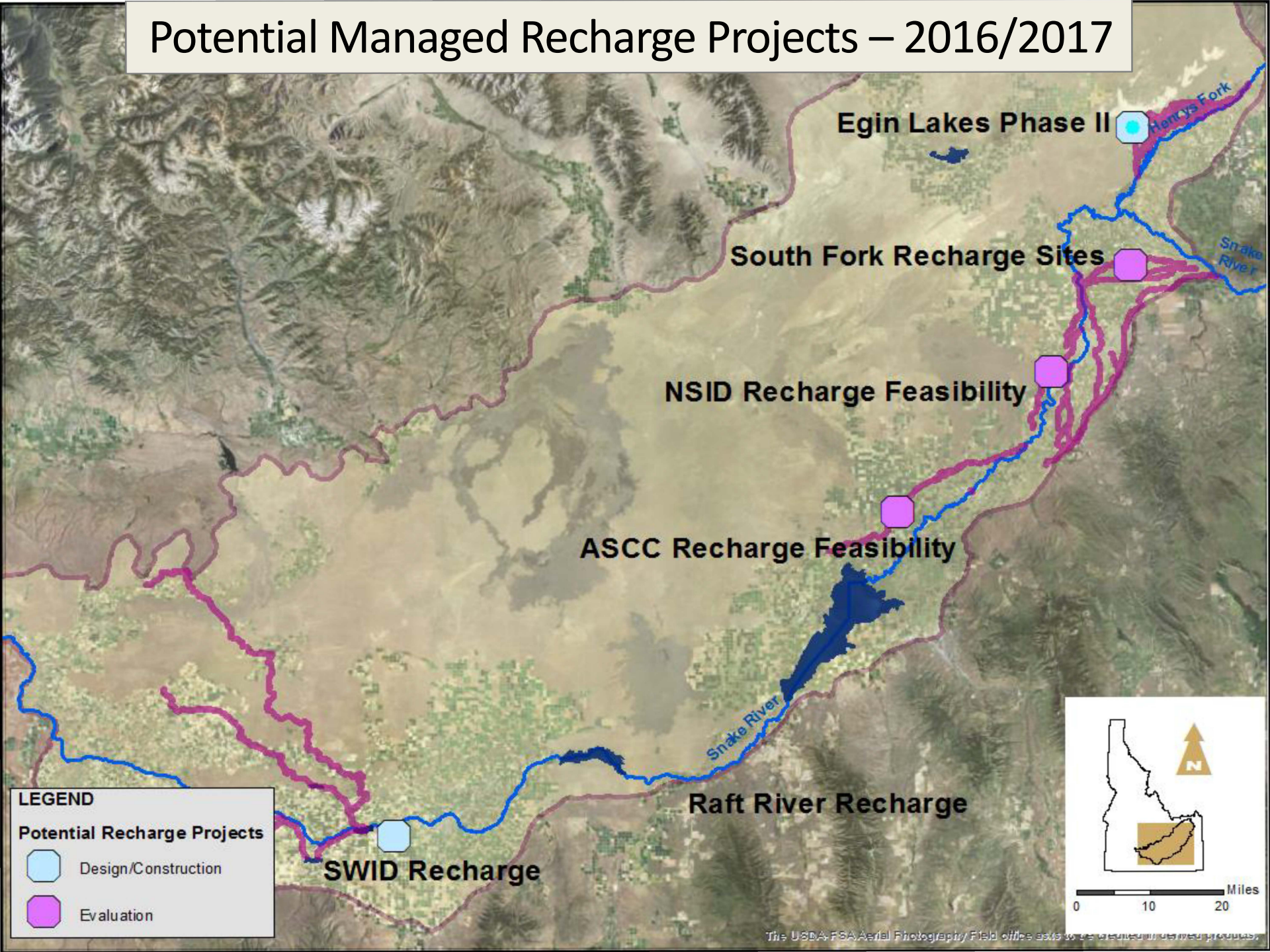




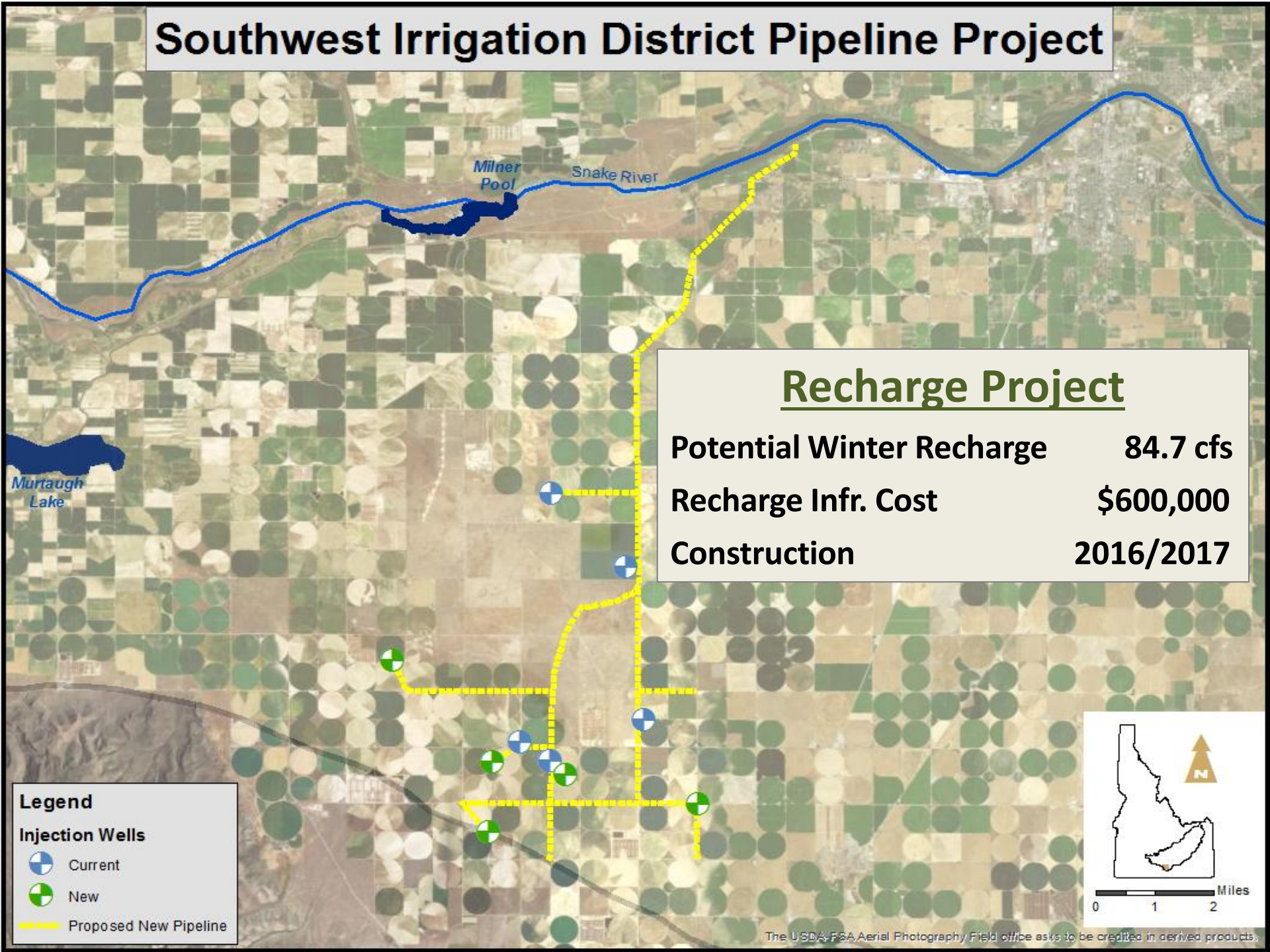
ESPA Managed Recharge Program

- **IWRB Managed Recharge Summary - 2015-2016**
- **IWRB Managed Recharge Monitoring**
- **IWRB Projects**
- **Potential Managed Recharge Projects**

Potential Managed Recharge Projects – 2016/2017



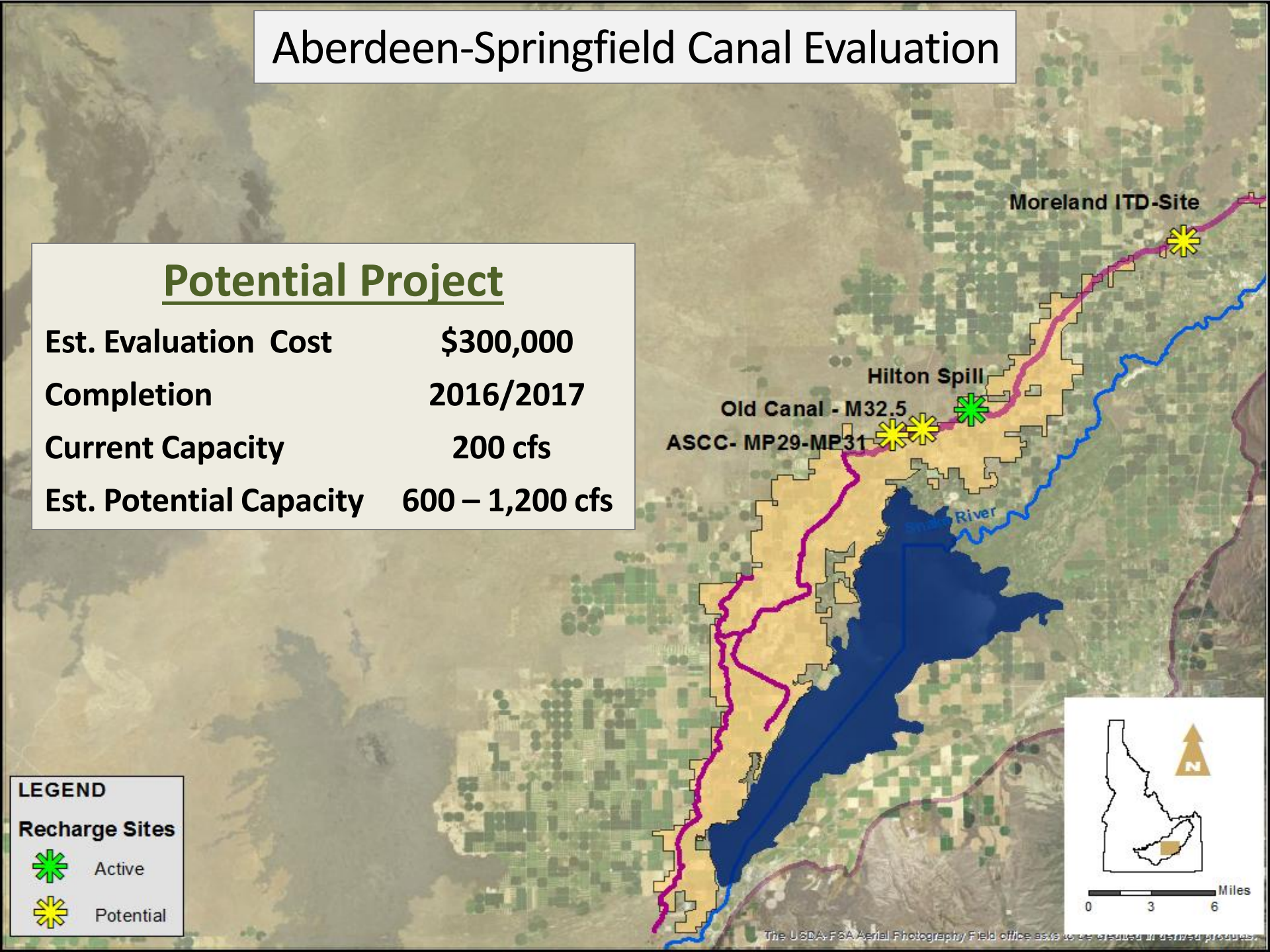
Southwest Irrigation District Pipeline Project



Aberdeen-Springfield Canal Evaluation

Potential Project

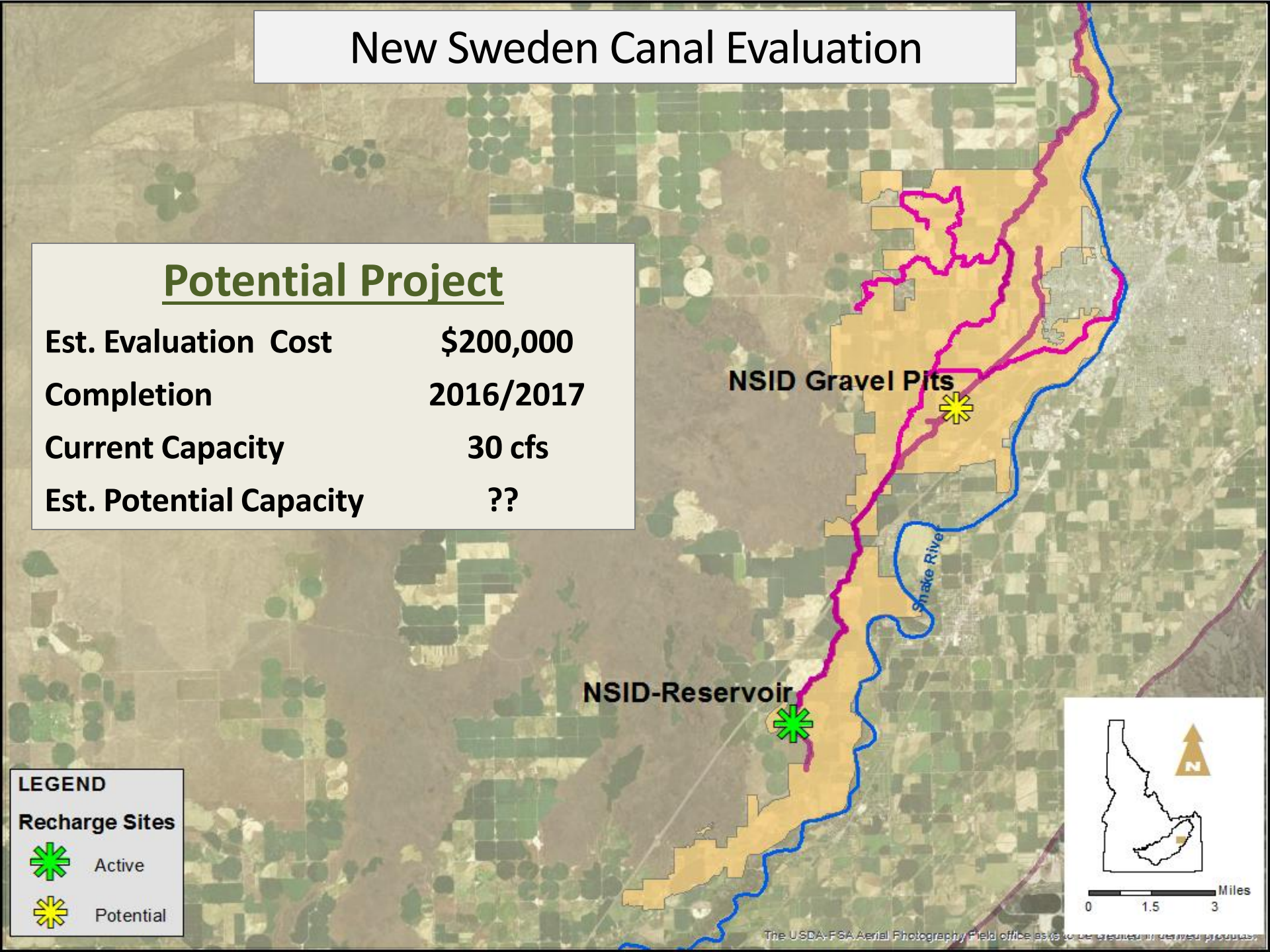
Est. Evaluation Cost	**$300,000**
Completion	**2016/2017**
Current Capacity	**200 cfs**
Est. Potential Capacity	**600 – 1,200 cfs**



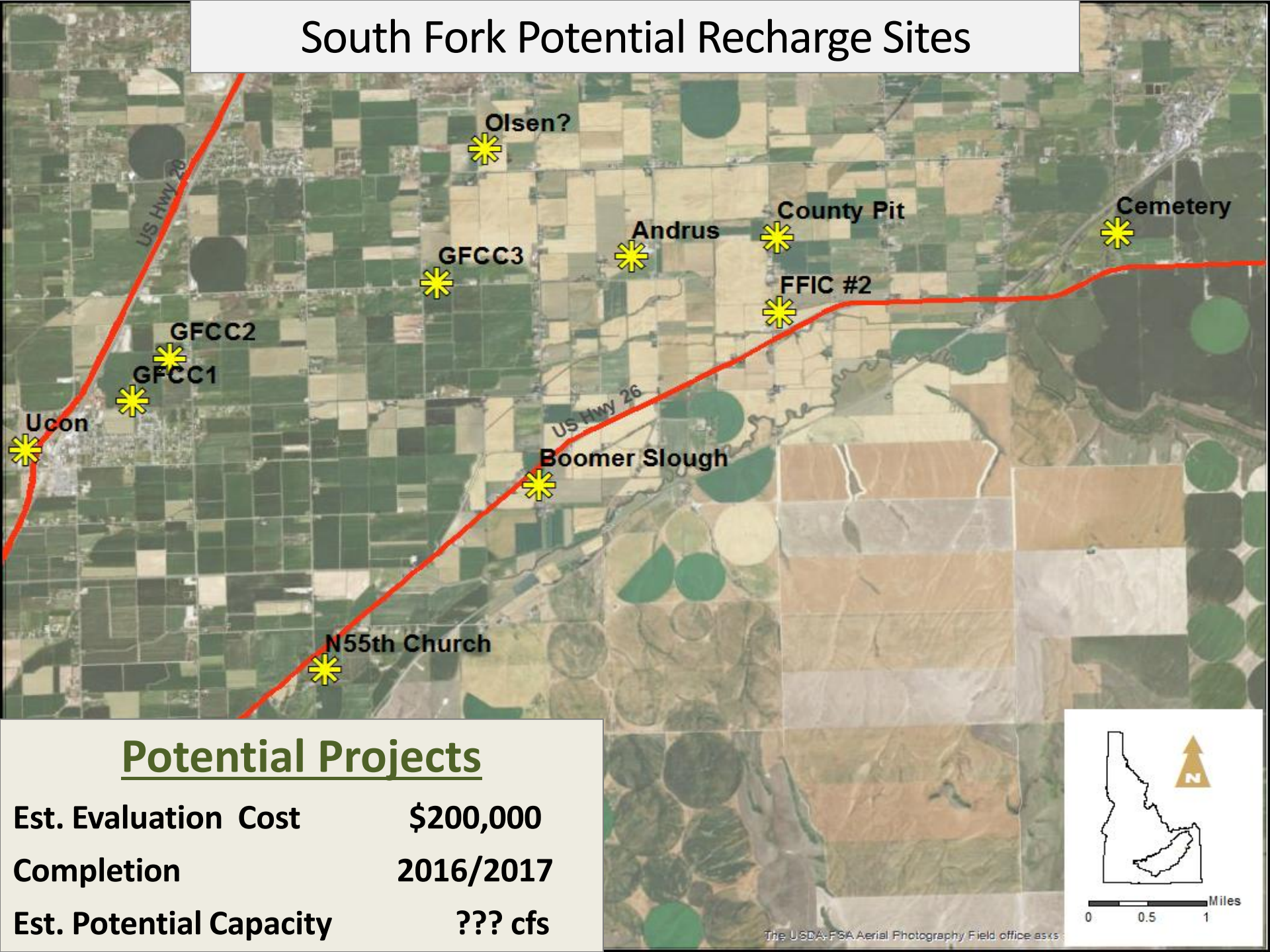
New Sweden Canal Evaluation

Potential Project

Est. Evaluation Cost	$200,000
Completion	2016/2017
Current Capacity	30 cfs
Est. Potential Capacity	??



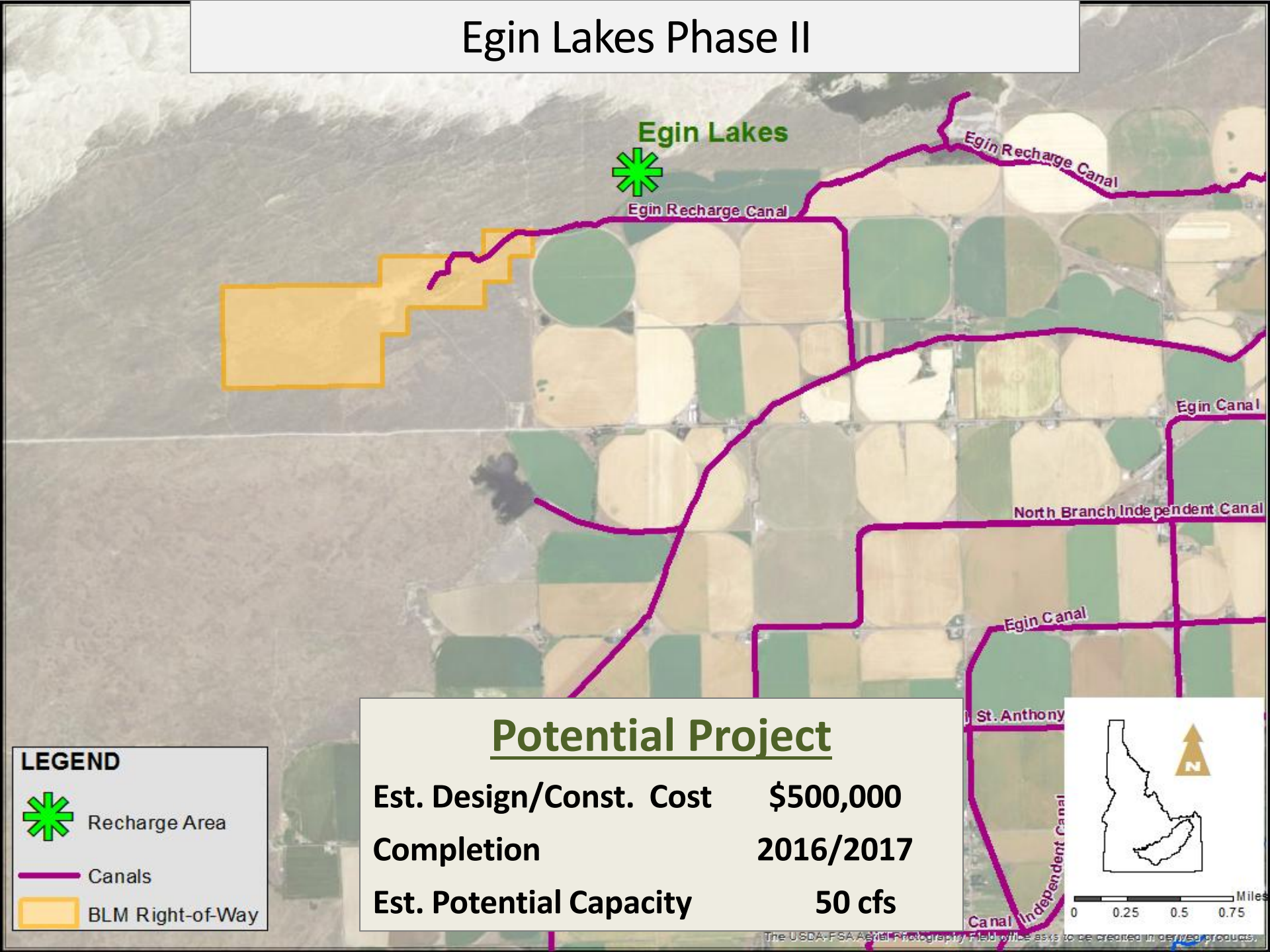
South Fork Potential Recharge Sites



Potential Projects

Est. Evaluation Cost	**$200,000**
Completion	**2016/2017**
Est. Potential Capacity	**??? cfs**

Egin Lakes Phase II



Potential Project

Est. Design/Const. Cost	$500,000
Completion	2016/2017
Est. Potential Capacity	50 cfs

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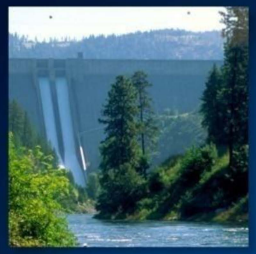

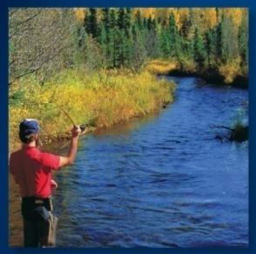

Questions

IDAHO Water Resource Board

DRAFT

IWRB – Projected ESPA Recharge Project Cost Benefit

Recharge Location	Area/Project	Delivery Capacity cfs	Average Water Recharged af/yr	5yr Ret.	Project Cost (20 yr) $/yr	Delivery Cost $/yr	Construction Cost $/af	Total Recharge Water Cost $/af	Retained (20yr) Recharge Cost $/af
AFRD2*	MP31/Lower Canal**	300	72,272	36%	$74,950	$568,422	$1	$9	$22
	Shoshone/Upper Canal**	300	72,272	32%	$118,500	$568,422	$2	$10	$33
North Side Canal	Wilson Lake Recharge	130	31,200	37%	$206,100	$212,473	$7	$13	$46
Twin Falls Canal	Winter Recharge	50	12,000	45%	$1,000	$81,720	$7	$7	$20
Southwest I.D.	Winter Recharge	60	14,400	54%	$30,000	$64,265	$2	$7	$32
Fremont-Madison I.D.	Egin Lake – Phase I	150	6,843	59%	$51,500	$47,902	$8	$15	$33
ASCC	Hilton Spill – Canal Evaluation	250	11,405	21%	$15,000	$68,431	$1	$7	$35
New Sweden I.D.	Canal Evaluation	30	1,369	21%	$10,000	$8,212	$7.3	$13	$61
South Fork Area	Site Evaluation	50	2,281	19%	$10,000	$14,405	$4.4	$11	$51
Jensen Grove	Site Improvements	30	1,369	18%	$1,326	$6,843	$1	$6	$29

Preliminary Data

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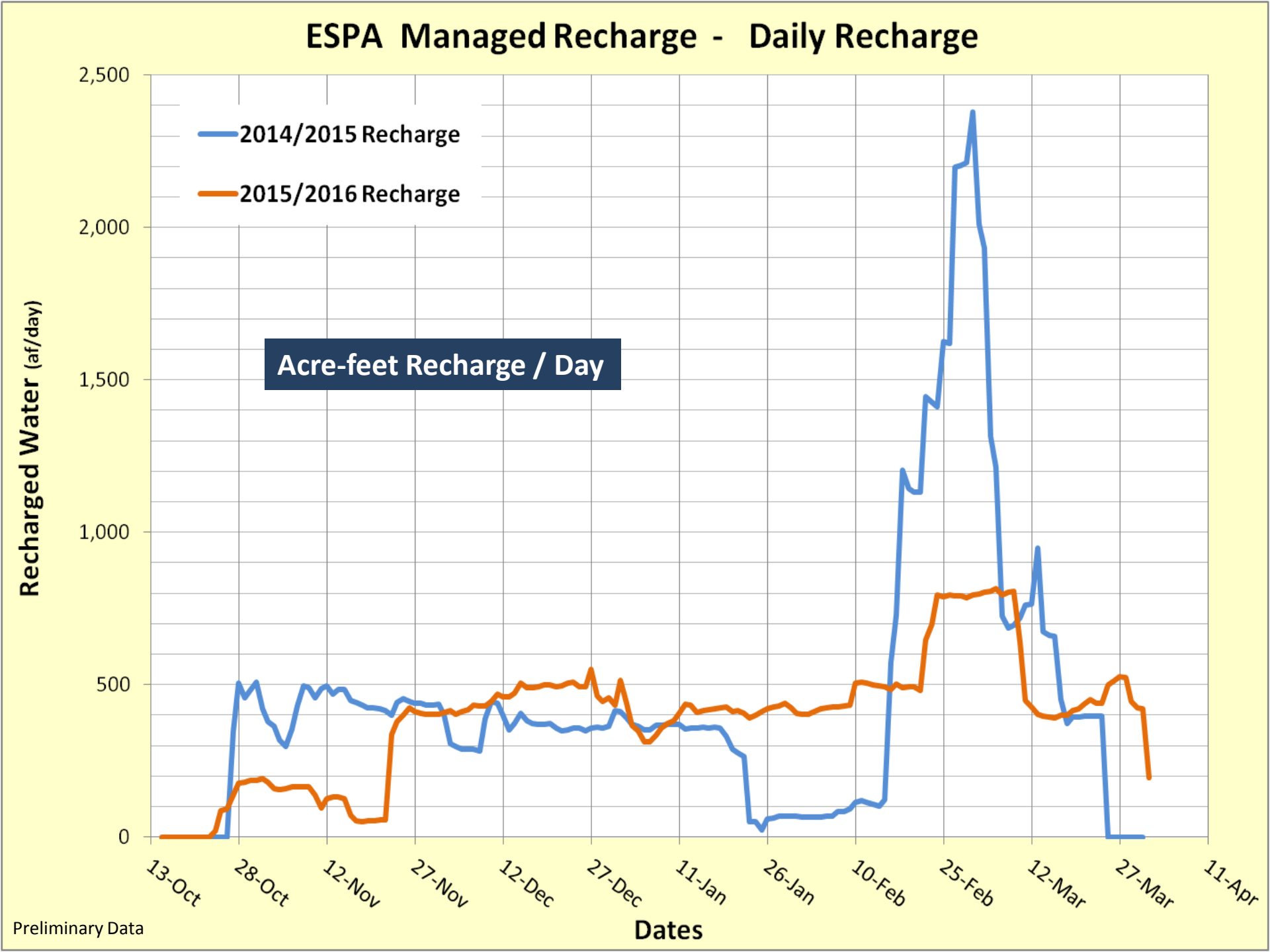
ESPA Managed Recharge Summary

Oct. 23rd, 2015 – Apr. 1st, 2016

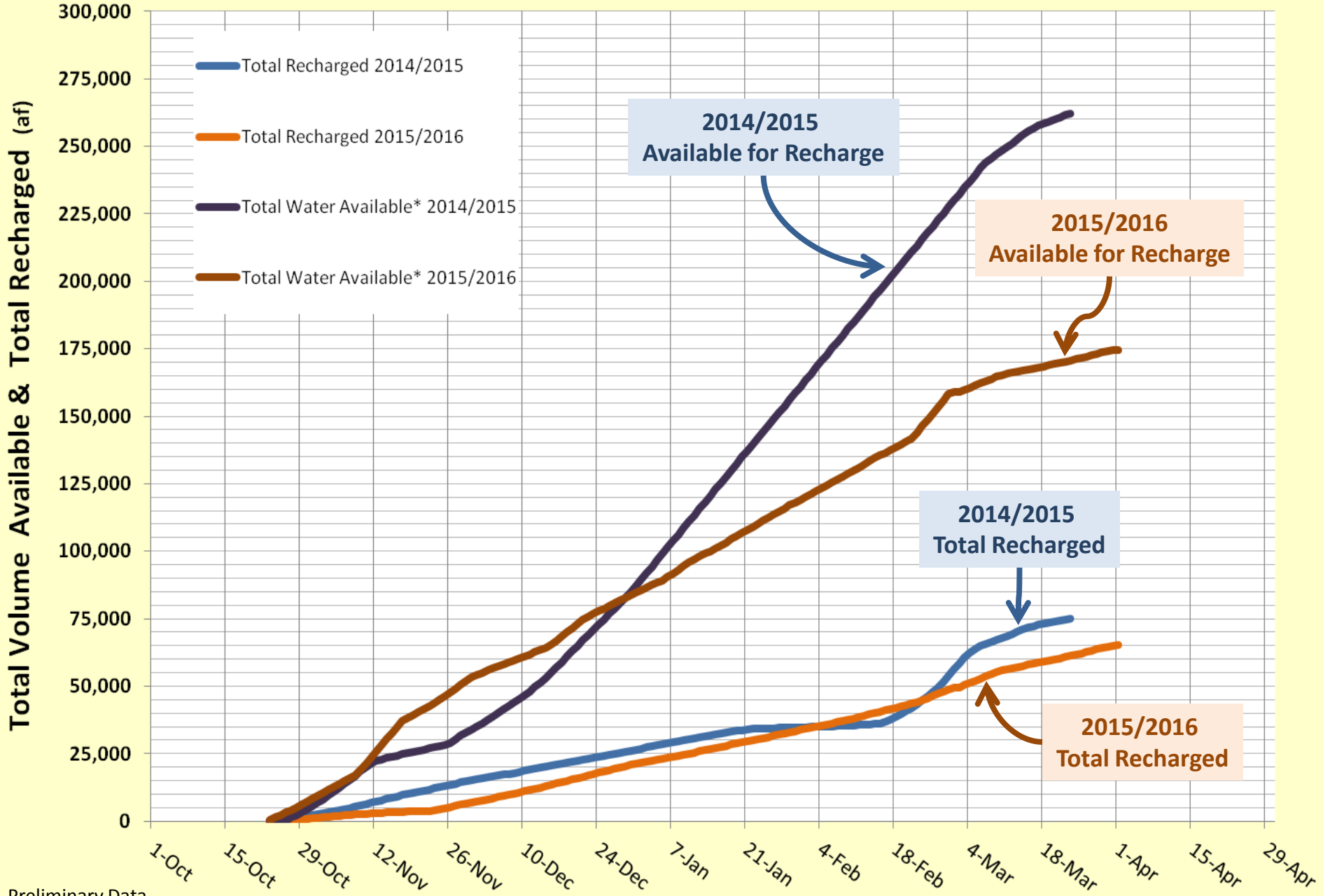
ESPA Area	Canal System	5-Year Retention Time (%)	Mean Recharge Rate (cfs)	Days Recharged	Volume Recharged (Acre-feet)	IWRB Delivery Cost
Lower Valley	American Falls Reservoir District No. 2 (Milner-Gooding Canal)	~36	183	129	46,875	$327,588
	North Side Canal Company	~37	81	58	9,355	$42,211
	Southwest Irrigation District	~54	21	21	886	$2,658
	Twin Falls Canal Company	~45	30	154	9,102	$77,362
				TOTAL	**66,218**	**$447,202**

*Preliminary Data


ESPA Managed Recharge - Daily Recharge
2014/2015 Recharge
2015/2016 Recharge
Acre-feet Recharge / Day
Recharged Water (af/day)
2,500
2,000
1,500
1,000
500
0
13-Oct
28-Oct
12-Nov
27-Nov
12-Dec
27-Dec
11-Jan
26-Jan
10-Feb
25-Feb
12-Mar
27-Mar
11-Apr
Dates
Preliminary Data

ESPA Total Managed Recharge

(Availability & Recharge comparision between 2014/2015 and 2015/2016)



Preliminary Data

Eastern Snake Plain Aquifer (ESPA)

Review of Comprehensive Managed Aquifer Recharge Program: Additional Water Availability Analysis

PREPARED FOR

IDAHO WATER RESOURCE BOARD

PREPARED BY

ch2m

THE VOICE OF THE RIVER SINCE 1984 HENRY'S FORK FOUNDATION

Rob Van Kirk and
Christina Morrisett

MAY 2016

Outline

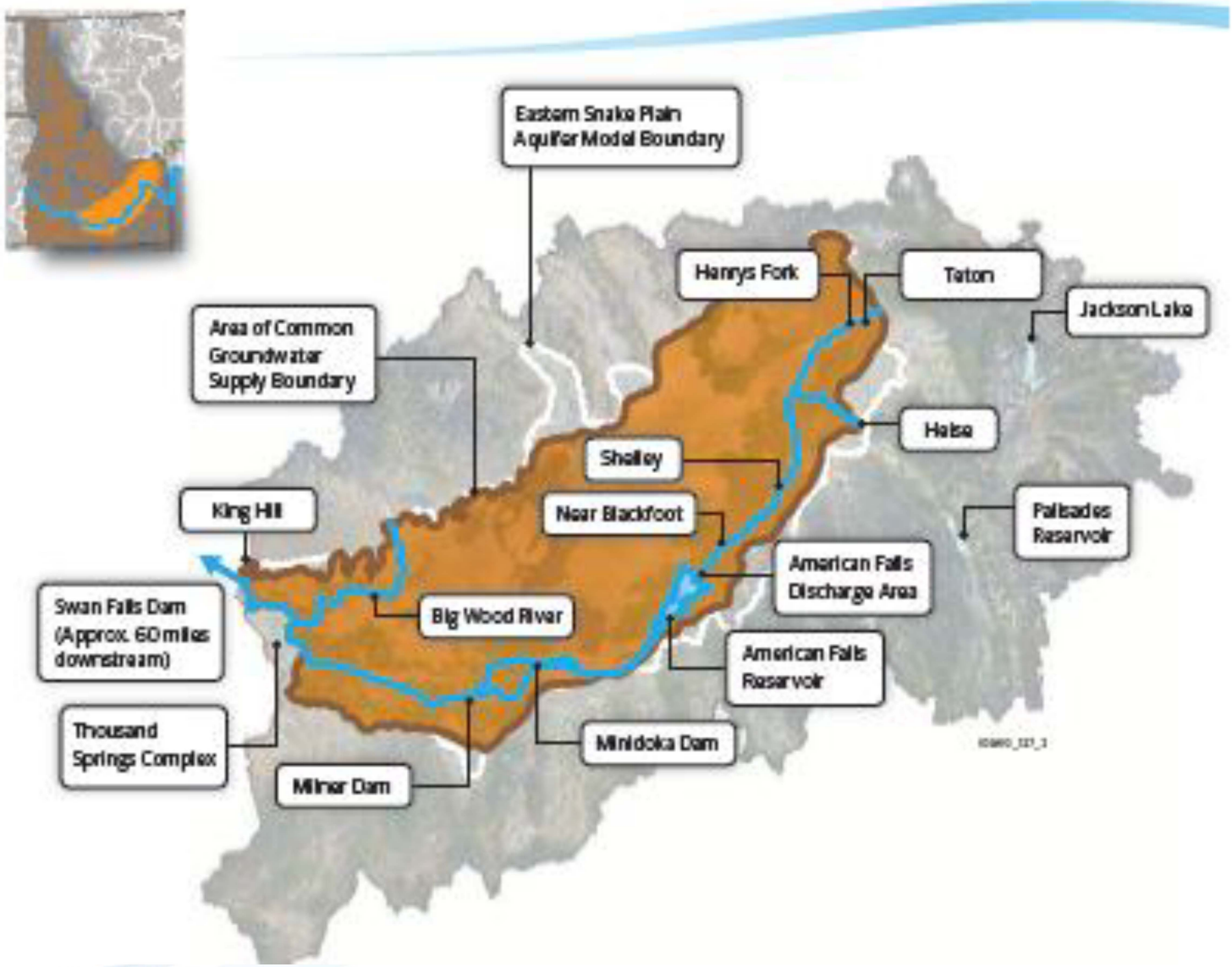
- Review of information presented in November 2015
- Why median and not mean?
- Primary results from earlier analysis
- Questions that prompted additional analysis
- Effect of subordinating part of Minidoka power right
- Description of interdependent, system-wide model
- Streamflow maintenance allowance
- Results from system-wide model:
  - » *Subordinating part of Minidoka power right*
  - » *Geographic prioritization: upstream vs. downstream of Minidoka*
  - » *Effects of including streamflow maintenance allowance*
- Conclusions

Policies governing water availability

Managed recharge on ESPA…

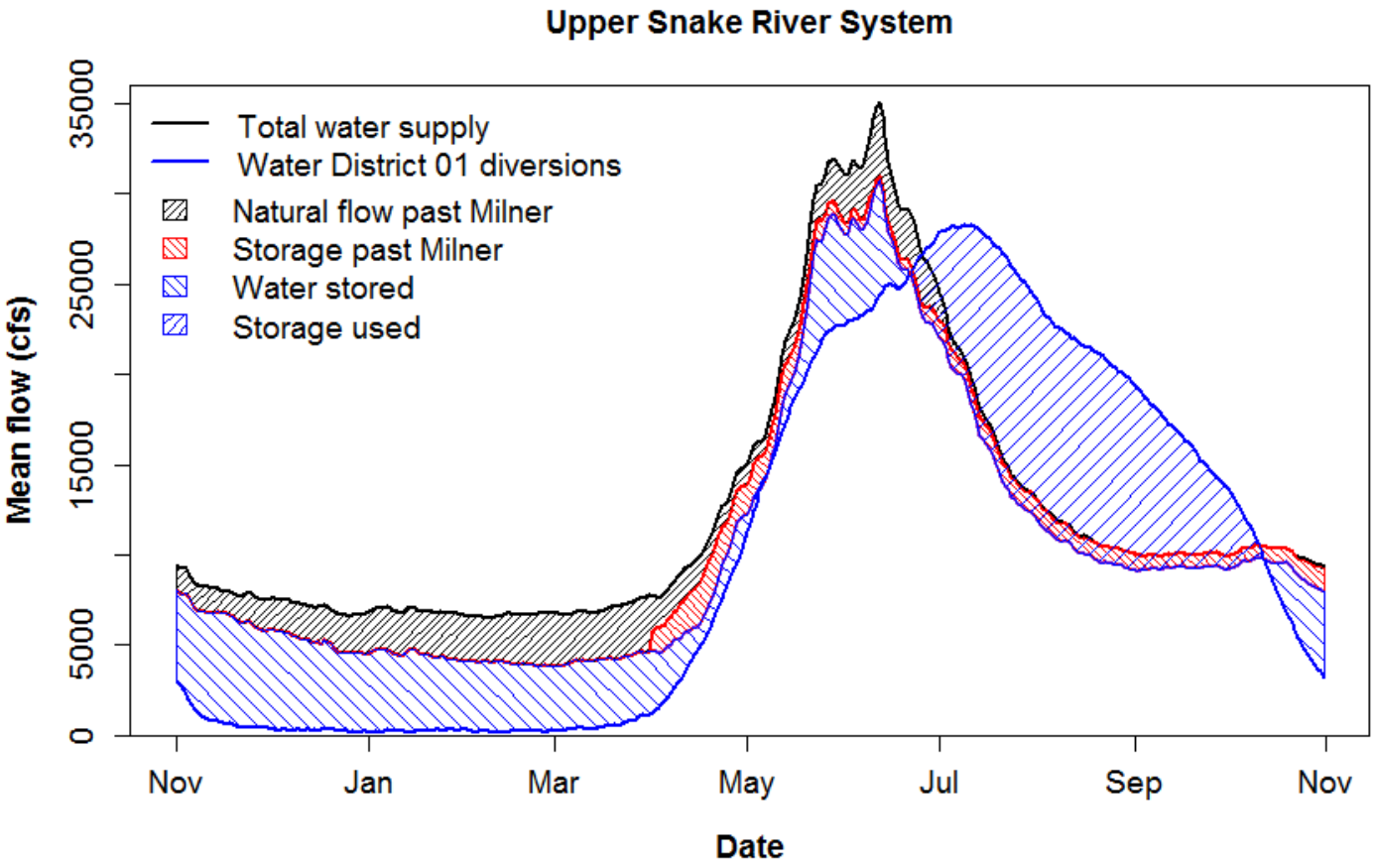
- Is an opportunistic use of available natural flow in upper Snake River
- Shall not interfere with optimal storage in upper Snake reservoirs
- Will be conducted in accordance with prior appropriation doctrine
- Will be consistent with water-rights administration in WD01
- Shall not interfere with USBR's unsubordinated Minidoka power right
- Will be consistent with State Water Plan and ESPA CAMP

Analysis nodes



Physical and administrative water availability

- Natural flow past Milner Dam is available for managed recharge



Why median instead of mean

- "Nice" data such as groundwater-dominated streamflow:

  125, 144, 160, 178, 210

  - » *Mean = 163.4: describes "middle" of the set well (median = 160)*
  - » *Standard deviation = 32.6*
  - » *95% of future observations from this distribution lie within ±2 standard deviations of mean, i.e., between 98.2 and 228.6*
  - » *We can plan on typical values around 160, with less than 5% of values below 98.2 or above 228.6*

- "Skewed" data typical of water availability under junior priority:

  0, 0, 10, 200, 607

  - » *Mean = 163.4, but this does NOT describe the "middle" very well*
  - » *Standard deviation = 262.2;*
  - » *2 standard-deviation rule does not work: mean – 2 s.d. = -361*
  - » *Planning on values around 160 greatly overestimates reliable supply*
  - » *Median = 10: in 50% of years, availability is at least 10*

Conclusions from initial analysis: 1980-2014

- Water is available almost every day of every winter below Minidoka.
- Power right prevents winter recharge above Minidoka in half of years.
- Water available system-wide in half of years for ~30 days in May-June.
- Future availability depends on whether climate includes sequences of wet years like 1980-1987 and 1995-1999.
  - » *If so, median availability is 600,000 af below Minidoka and 150,000 af above.*
  - » *If not, median availability is 200,000 af below Minidoka and 7,000 af above.*
- Need to recharge 500-1000 cfs downstream of Minidoka all winter and be able to divert late-winter water upstream on short notice.
- Using spring freshet may require expanded canal capacity.
- If all applications are permitted, existing recharge rights are sufficient.
- Canal capacity, administrative and physical logistics, weather, and fish/wildlife concerns may limit recharge before water supply does.

Caveat to "available natural flow"

- Storage water can be released past Milner Dam during summer
  - » *Idaho Power*
  - » *Anadromous fish flow augmentation*
  - » *Unaccounted*
- Unaccounted storage past Milner *is* available for managed recharge
  - » *This is usually flood-control release accounted as stored flow*
  - » *It is available during early summer of some wet years (e.g., 2011)*
  - » *It may be available even when recharge water rights are not in priority*
  - » *We did NOT include it in the original analysis*
- IDWR hydrology division (Liz Cresto) has estimated Idaho Power and salmon flow augmentation storage delivery; we will add this additional water to our availability analysis.

Questions that motivated additional analysis

1. Could more water be made available upstream of Minidoka if the unsubordinated portion of the power right were reduced?
   a) *2,700 cfs (current value)*
   b) *2,200 cfs*
   c) *1,700 cfs*

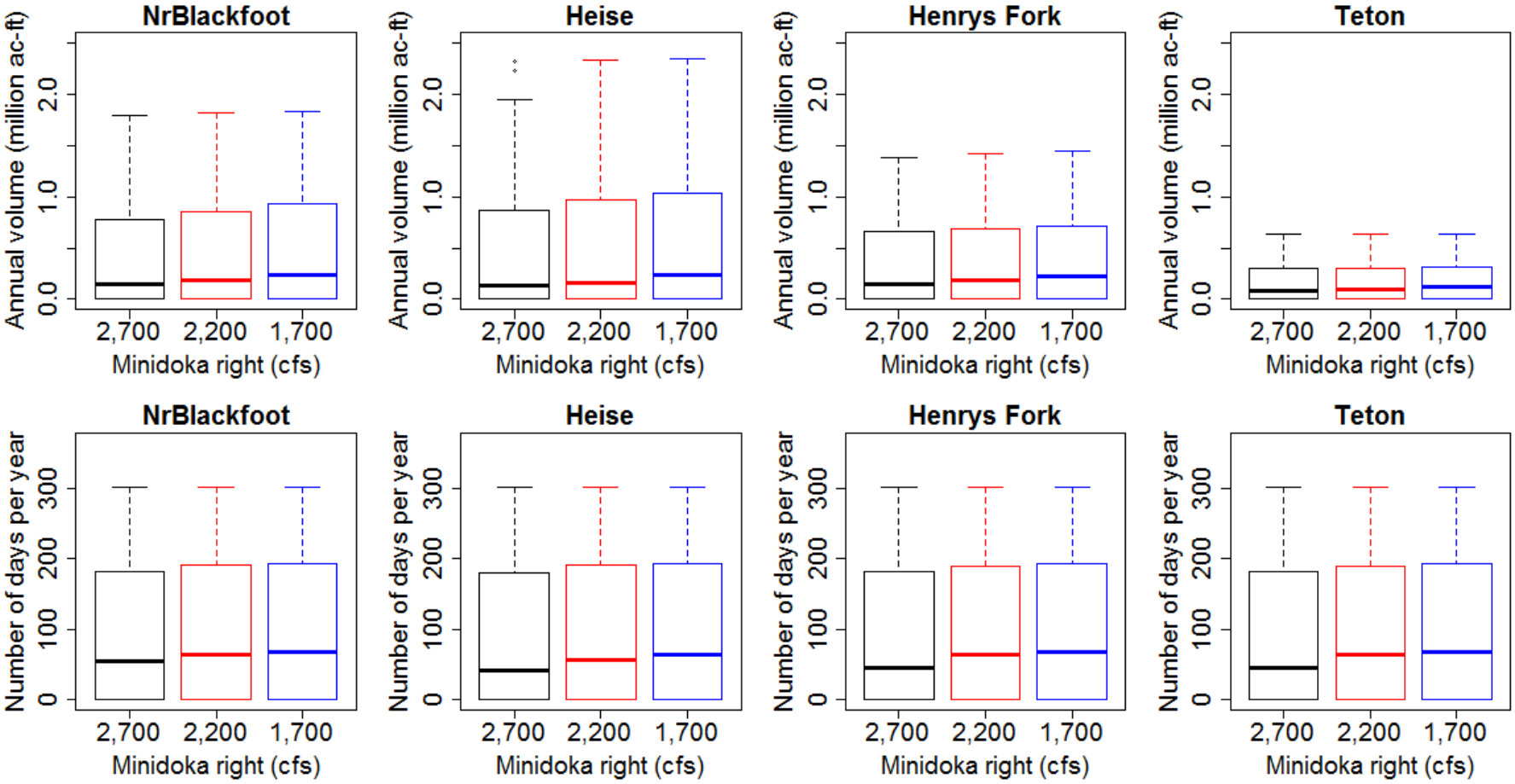
Results: Availability at Heise vs. Minidoka right

Median annual figures at Heise, 1980-2014

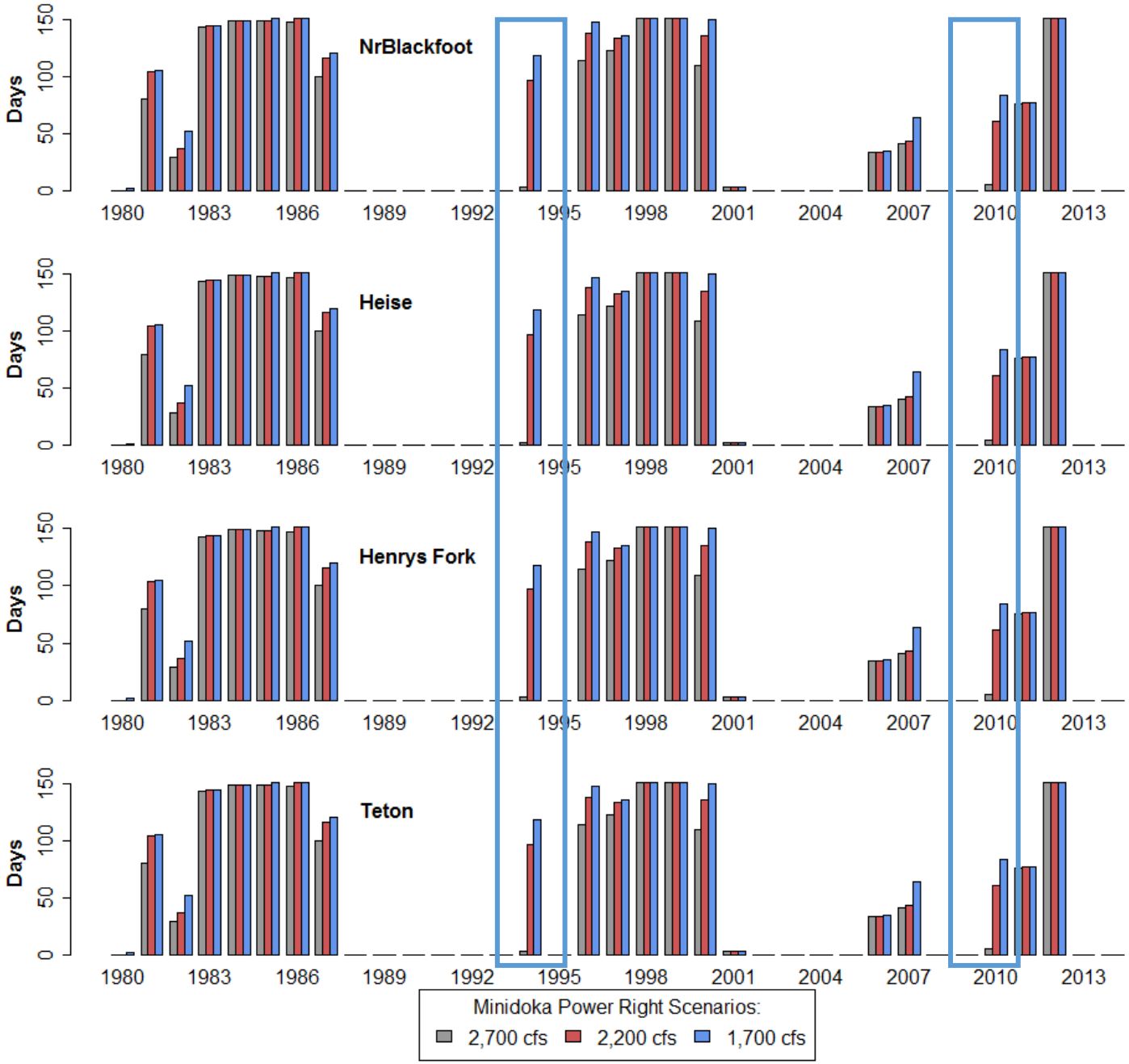
(Results are similar at other locations upstream of Minidoka.)

Unsubordinated power right at Minidoka	Annual volume of availability	Duration of longest contiguous period of recharge	Duration of winter recharge availability
2,700 cfs	130,185 ac-ft	34 days	6 days
2,200 cfs	163,845 ac-ft	43 days	34 days
1,700 cfs	231,287 ac-ft	43 days	35 days

Results: All locations, summary over 1980-2014 Volume (top) and duration (bottom)

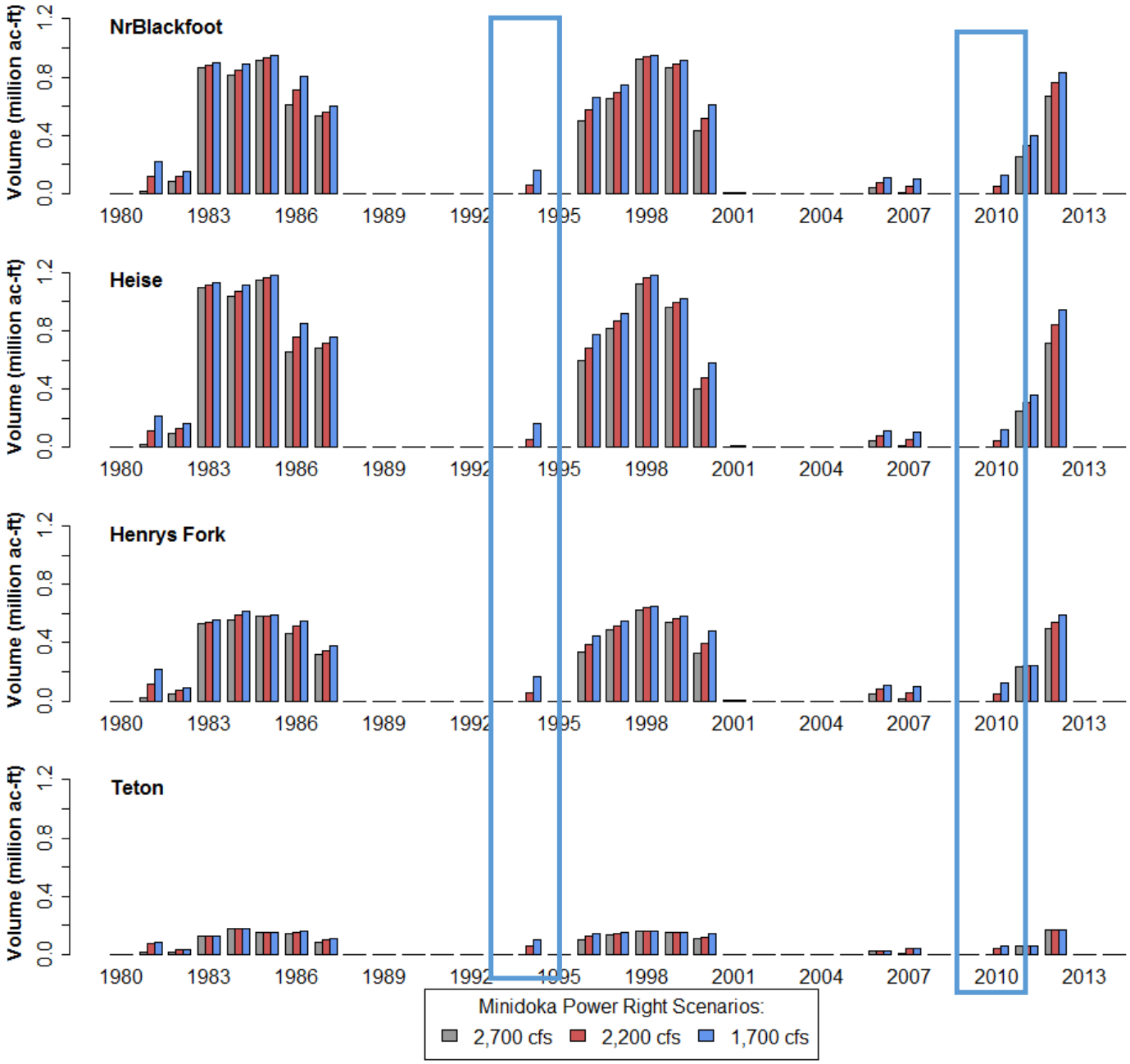


Days of winter recharge



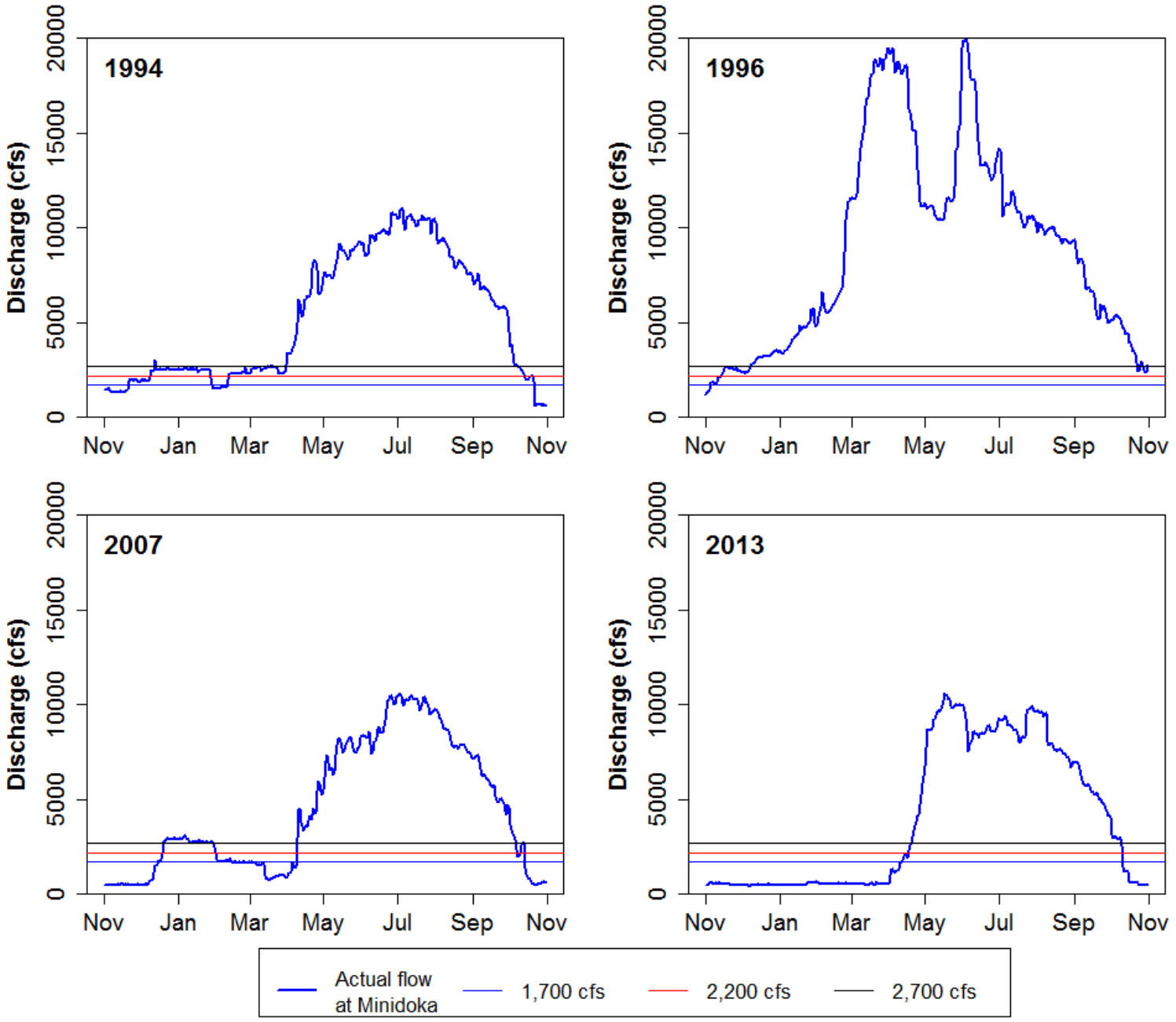
- Decreasing power right constraint rarely allows winter recharge in years when it is not available under the current 2,700 cfs right.
- Note 1994 and 2010: large increase in days, but almost no increase volume.

Annual volume



Why?

Selected years



- When a large amount of water is available in winter, it is available under all scenarios.
- When very little winter water is available, reducing Minidoka constraint makes little difference.

Questions that motivated additional analysis

1. Could more water be made available upstream of Minidoka if the unsubordinated portion of the power right were reduced?
   a) *2,700 cfs (current value)*
   b) *2,200 cfs*
   c) *1,700 cfs*
2. How much water is available for recharge system-wide if water is simultaneously diverted at multiple PODs throughout the system? (Note that original analysis treated each location independently.)
3. What is optimal allocation of diversion downstream vs. upstream of Minidoka, when water is available upstream?
4. Is it realistic to assume that every cfs of administratively available water is physically available for diversion at any given POD?
5. If not, what is a realistic streamflow maintenance allowance in each reach, and how does that affect availability?

Interdependent, system-wide model

- Water diverted at any given POD is subtracted from physical water availability at all downstream locations
- To maximize diversion under all IWRB recharge rights:
  - » *Divert as much water as high in system as possible (Teton, HF, Heise, Blackfoot)*
  - » *Divert any remaining water at Minidoka, and lastly at Milner*
- This scenario prioritizes diversion upstream of Minidoka (and maximizes total diversion at any given time).
- Prioritization downstream of Minidoka: take this same amount of water and move as much of it as possible to PODs downstream of Minidoka, without exceeding maximum diversion rate of IWRB rights.
- These two geographic prioritization schemes are endpoints of a continuum of possibilities for distributing available water between upper- and lower-system PODs.

Streamflow maintenance allowance

- Is it realistic to assume that every cfs of administratively available water is physically available for diversion at any given POD?
- No. In most reaches, some water needs to remain in stream channel to:
  - » *Provide physical water to downstream users with senior rights*
  - » *Provide physical water for managed recharge at downstream PODs*
  - » *Maintain hydraulic head sufficient to allow diversion into canals*
- Key recharge locations are in reaches with important fisheries
- In the appropriate scenarios, diversion for managed recharge did not allow streamflow to drop below the following values:
  - » *Teton River below splitter: 200 cfs*
  - » *Henrys Fork at St. Anthony: 1,000 cfs*
  - » *(South Fork) Snake River below Dry Bed: 1,200 cfs*
  - » *Snake River near Blackfoot: 2,070 cfs*
  - » *Snake River at Minidoka: 525 cfs*

System-wide model scenarios

- All 12 possible combinations of:
- Three Minidoka power right constraints:
  - » *2,700 cfs*
  - » *2,200 cfs*
  - » *1,700 cfs*
- Two geographic prioritizations:
  - » *Upstream of Minidoka*
  - » *Downstream of Minidoka*
- Two possibilities for streamflow maintenance allowance:
  - » *No allowance*
  - » *Allowances applied as listed in previous slide*

Results: Median annual availability 1980-2014; prioritization upstream of Minidoka

Power right at Minidoka	Geographic location of PODs	Streamflow maintenance allowance applied	No streamflow maintenance allowance
2,700 cfs	Ab. Minidoka	210,091 ac-ft	210,091 ac-ft
	Bl. Minidoka	488,289 ac-ft	486,801 ac-ft
	SUM	698,380 ac-ft	696,892 ac-ft
2,200 cfs	Ab. Minidoka	210,091 ac-ft	210,091 ac-ft
	Bl. Minidoka	453,105 ac-ft	443,617 ac-ft
	SUM	663,196 ac-ft	653,708 ac-ft
1,700 cfs	Ab. Minidoka	215,358 ac-ft	243,283 ac-ft
	Bl. Minidoka	432,592 ac-ft	395,074 ac-ft
	SUM	647,950 ac-ft	638,357 ac-ft

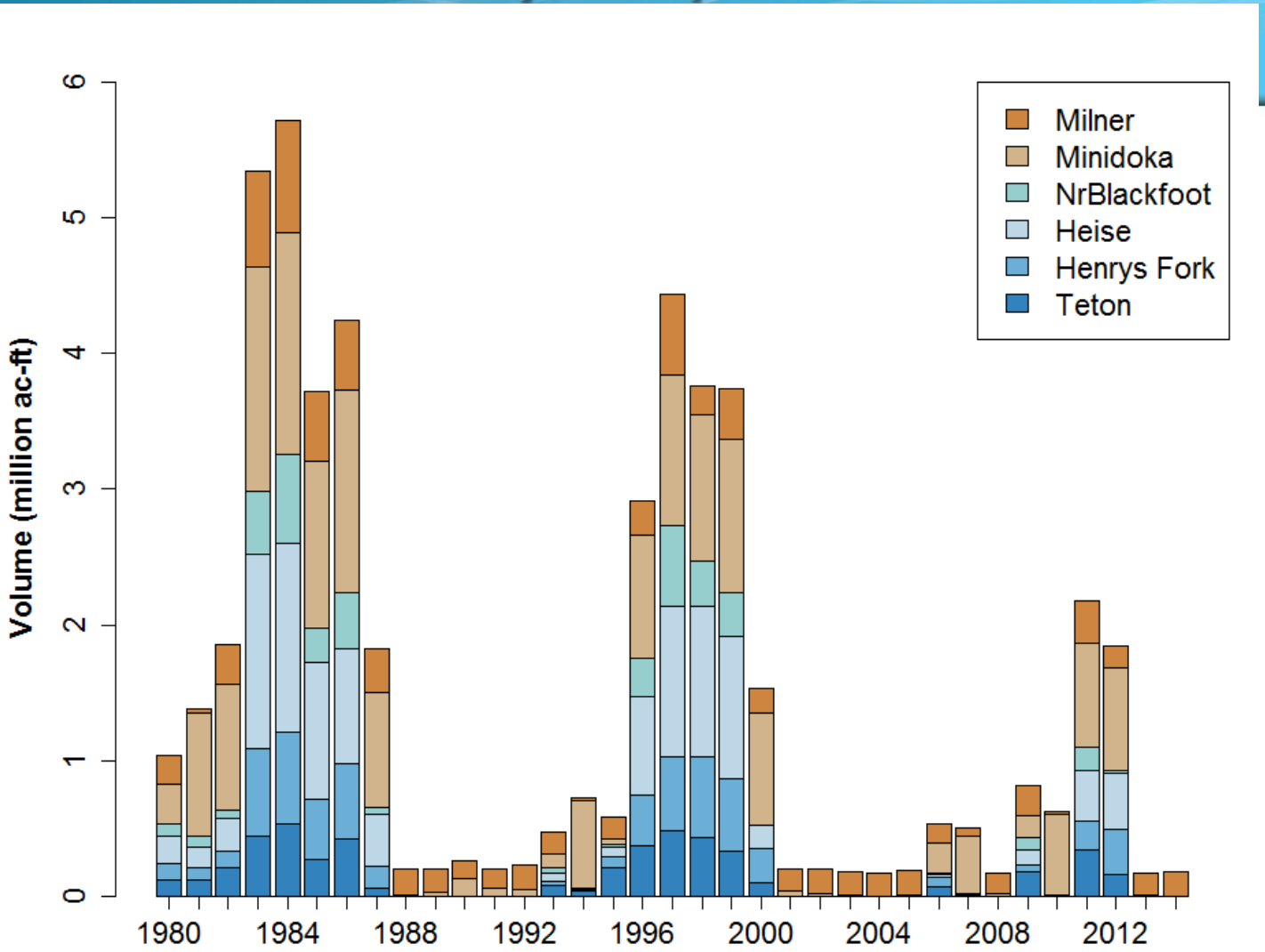
- Median availability for ALL 6 scenarios when diversion is prioritized downstream of Minidoka:

Ab. Mini: 61 a-f

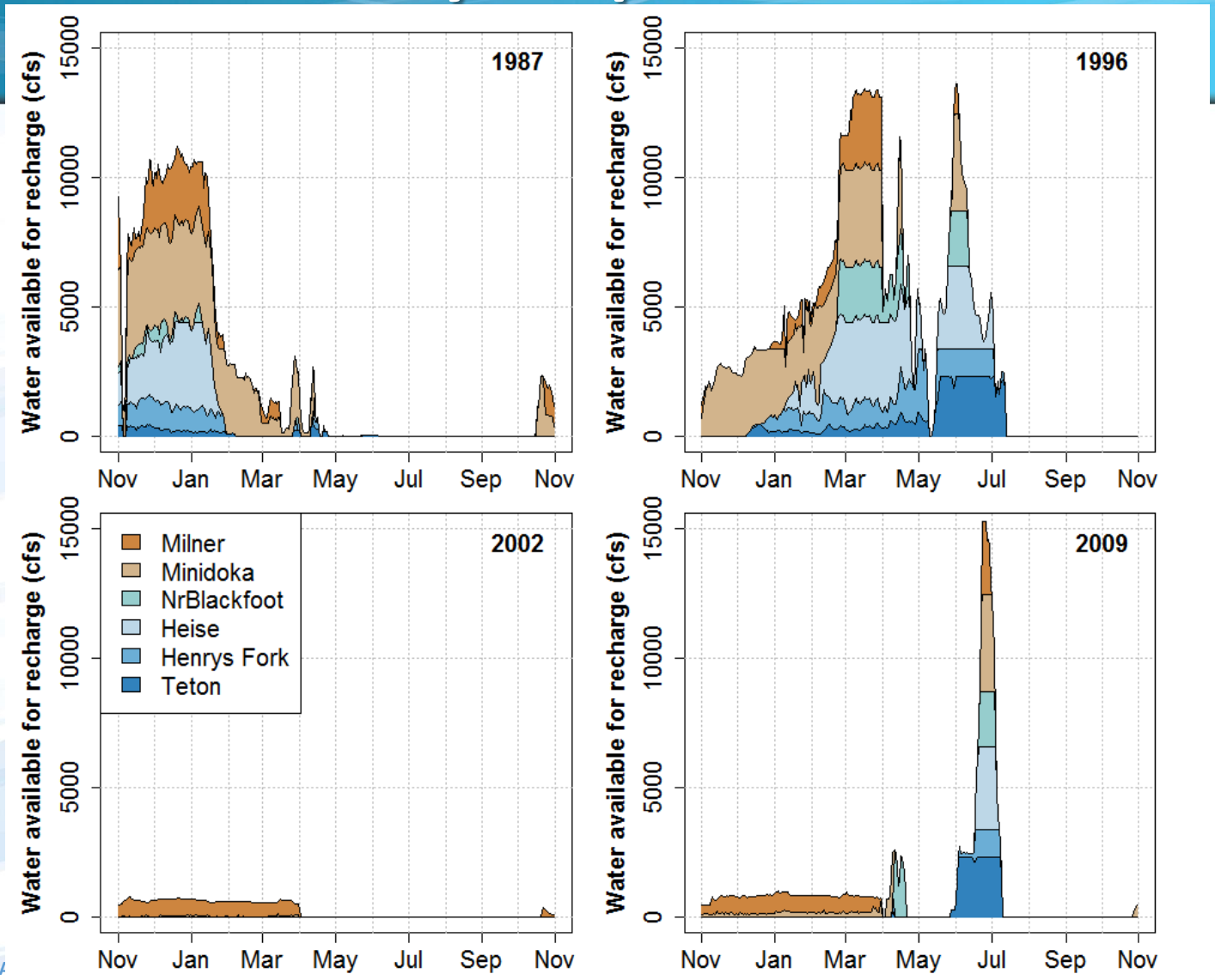
Blw: 627,183 a-f

Sum: 627,244 a-f

Results: Availability in optimal scenario



Results: Availability in optimal scenario



Conclusions from additional analysis

- Subordinating 1,000 cfs of the Minidoka power right increased median *duration* of winter recharge upstream of Minidoka from 6 to 35 days, but
- had little to no effect on *volume* of availability in 22 of the 35 water years
- Combined (upstream + downstream) median annual availability across the 12 system-wide scenarios fell within a range of 662,812 acre-feet per year ± 5.4%.
- Under given combination of other factors, combined median annual availability was greatest when diversions were prioritized upstream of Minidoka.
- Optimal scenario (maximum upstream + downstream medians):
  - » *Minidoka power right at 2,700 cfs*
  - » *Streamflow-maintenance allowance applied*
  - » *Prioritize diversion upstream of Minidoka*
- Optimal median annual availability:
  - » *210,091 acre-feet upstream of Minidoka*
  - » *488,289 acre-feet downstream*
- During periods of high water supply, 40-60% of the water available for managed recharge can be diverted upstream of Minidoka.