Magic Springs Pipeline Under Construction.
Photo by Stuart VanGrueningen, January 9, 2015

Idaho Water Resource Board

Meeting No. 1-15
January 23, 2015
Boise, Idaho

WORK SESSION IN PREPARATION FOR IWRB MEETING NO. 1-15

January 22, 2015 at 1:30 pm
Idaho Water Center
Conference Rooms 602 B,C,D
322 East Front Street, Boise, Idaho 83720

WORK SESSION AGENDA

1. Financial Status Report
2. Project and Program Tracking and Reporting
3. North Idaho Future Demand – *Presentation by Mark Solomon*
4. Sustainability Policy
5. Sustainability of the ESPA
6. ESPA Recharge (See Tab 10 of Board Meeting Materials)
7. Water Transactions- Carmen Creek Reconnect (See Tab 7 of Board Meeting Materials)
8. Water Supply Bank (See Tab 12 of Board Meeting Materials)

Americans with Disabilities

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

MEMO

To: Idaho Water Resource Board
From: Brian Patton
Subject: Financial Status Report
Date: January 12, 2014

As of **December 1st** the IWRB's available and committed balances in the Revolving Development Account, Water Management Account, and the Secondary Aquifer Management Account are as follows.

Revolving Development Account (main fund)		
Committed but not disbursed		
Loans for water projects	$5,810,743	
Water storage studies	1,465,197	
Aqualife Hatchery, HB644 2014	0	
HB479 2014		
Mountain Home	1,495,500	
Galloway	2,000,000	
Boise/Arrowrock	1,500,000	
Island Park	2,500,000	
Water supply Bank	500,000	
Total committed but not disbursed		15,271,441
Loan principal outstanding		8,309,071
Uncommitted balance		841,886
Estimated revenues next 12 months		3,200,000
Commitments from revenues next 12 months		0
Estimated uncommitted funds over next 12 months		4,041,886
Rev. Dev. Acct. Bell Rapids Sub-Account		
Committed but not disbursed		$180,741
Estimated revenues next 12 months *(1)*		1,000
Commitments from revenues over next 12 months		1,000
Estimated uncommitted funds over next 12 months		0
Rev. Dev. Acct. Pristine Springs Sub-Account (5)		
Committed but not disbursed		$1,007,428
Loan principal outstanding		7,127,940
Uncommitted balance		0
Estimated revenues next 12 months		1,000,000
Commitments from revenues over next 12 months		1,000,000
Estimated uncommitted funds over next 12 months		0
Rev. Dev. Acct. Treasure Valley & Rathdrum Prairie CAMP Sub-Account		
Committed but not disbursed		$33,899
Available for RP and TV CAMP projects		173,745
Estimated revenues next 12 months (5)		200,000
Estimated Available funds over next 12 months		373,745

Rev. Dev. Acct. Upper Salmon/CBWTP Sub-Account		
Committed but not disbursed		$3,246,541
(Upper Salmon flow enhancement/reconnect projects)		
Estimated revenues next 12 months *(4)*		10,000
Commitments from revenues over next 12 months		10,000
Estimated available funds over next 12 months		0
Rev. Dev. Acct. Water District 02 Water Smart Grant Sub-Account (6)		
Committed but not disbursed		$78,907
(Water District 02 Measurement Devices)		
Commitments from revenues over next 12 months		$78,907
Estimated available funds over next 12 months		0
Rev. Dev. Acct. Water Supply Bank Sub-Account (7)		
Committed but not disbursed		$547,282
(Owners share – water bank lease/rentals)		
Estimated revenues next 12 months		1,000
Commitments from revenues over next 12 months		$548,282
Estimated available funds over next 12 months		$1,000
Rev. Dev. Acct. ESPA Sub-Account		
Committed but not disbursed		
CREP	2,419,581	
Aquifer recharge	337,594	
Bell Rapids	361,620	
Palisades storage	10,000	
Black Canyon Exchange	529,445	
Total committed but not disbursed		$3,658,240
Loan principal outstanding		296,233
Uncommitted balance		450,789
Estimated revenues next 12 months		120,000
Commitments from revenues over next 12 months		0
Estimated uncommitted funds over next 12 months		570,789
Rev. Dev. Acct. Dworshak Hydropower (2)		
Committed but not disbursed (repair fund, etc.)		$1,337,151
Estimated revenues next 12 months *(3)*		200,000
Commitments from revenues over next 12 months		200,000
Estimated uncommitted funds over next 12 months		0
Water Management Account		
Committed but not disbursed:		$111,376
Loan principal outstanding		0
Uncommitted balance		9,915
Estimated revenues next 12 months		0
Commitments from revenues over next 12 months		0
Estimated uncommitted funds over next 12 months		$9,915

Secondary Aquifer Management Fund	
Committed but not disbursed:	
HB 479 2014	
ESPA Managed Recharge Infrastructure	3,997,181
Northern Idaho Future Water Needs	500,000
Recharge wheeling fees	1,215,432
Recharge sites	44,971
Cloud Seeding	512,000
Loan – North Snake & Magic Valley GWD	1,260,000
Other	121,938
Total Committed	$7,742,522
Uncommitted balance	779,597
Estimated revenues next 12 months (Cigarette Tax)	5,000,000
Commitments from revenues over next 12 months	0
Estimated uncommitted funds over next 12 months	5,779,597
Secondary Aquifer Fund Aquifer Mon. Meas. & Model Sub-Acct (8)	
Committed but not disbursed	$522,458
Commitments from revenues over next 12 months	$522,458
Estimated available funds over next 12 months	0
Total committed but not disbursed	**$33,215,527**
Total loan principal outstanding	**15,733,244**
Total uncommitted balance	**2,285,932**
Total estimated uncommitted funds over next 12 months	**10,775,932**

(1) Exclusive of pass-through payments made by the U.S. Bureau of Reclamation.
(2) Excess funds generated by the Dworshak Hydropower Project are deposited into the Revolving Development Account (Main Fund) on a monthly basis. To the date of this report this has totaled $2,520,298.
(3) This line item includes power sales and interest income after removing debt service. Debt service is paid prior to the funds being deposited in the Revolving Development Account.
(4) Exclusive of project funds provided by Bonneville Power Administration or federal appropriation sources. These funds are provided to the Board based on individual project proposals and so are not included in the income projection.
(5) Excess funds generated by the Pristine Springs Project are deposited into the Revolving Development Account (Main Fund) or into the Rathdrum Prairie/Treasure Valley Sub Account.
(6) Pass-through for Bureau of Reclamation grant to assist with installation of measurement devices in Water District 02.
(7) Pass-through for owners share of Water Supply Bank lease/rentals. Interest earned accrues to IWRB.
(8) Source is Pristine Springs loan repayments of $716,000 annually through 2027.

The following is a list of potential loans:

Potential Applicant	Potential Project	Preliminary Loan Amount	Comment
Raft River Ground Water District	Ground water-to-surface water conversion pipeline	$4 million	Project in planning. Applying for NRCS cost share grants.
Marysville Irrigation Company/North Fremont	Gravity pipeline system – next phase	$1.5 million	Project in planning and design. Applying for NRCS cost share grants
Big Wood Canal Co.	Gravity pipeline	$2 million	
Jefferson Irrigation Company	Ground water well reconstruction	$200,000	

Administrative Management of the Annual Cigarette Tax Receipts

Staff has been considering how best to administratively manage the $5 Million annual Cigarette Tax receipts for aquifer stabilization. We anticipate first $5 Million this coming July, with annual $5 Million receipts every July thereafter. Rather than have the IWRB authorize every expenditure, Staff is suggesting moving to the IWRB authorizing an annual budget for the use of these funds. This could works as follows:

- Every spring, Staff would work with the IWRB Finance Committee to develop an annual budget for the use of the annual $5 Million to be received in July, together with any other available funds the Secondary Aquifer Fund, for aquifer stabilization purposes. Any un-used funds remain in the Secondary Aquifer Funds for future use.

- Staff suggests that the budget be broken into broad categories, such as "ESPA recharge operations," or "ESPA recharge infrastructure development." There should be sideboards, however, as may be recommended by the Finance Committee.

- Every year prior to the receipt of the $5 Million in Cigarette Tax funds, the full IWRB would adopt a resolution approving the annual budget and authorizing Staff to spend the funds according to the budget.

- Significant changes to the approved budget would need to be approved by the IWRB.

The IWRB gave its approval for moving forward with this approach at the September meeting. Therefore, Staff suggests that the IWRB Finance Committee begin meeting in March to start working on the draft budget.

IDAHO WATER RESOURCE BOARD
Sources and Applications of Funds
as of November 30, 2014
REVOLVING DEVELOPMENT ACCOUNT

Original Appropriation (1969)	$500,000.00
Legislative Audits	($49,404.45)
IWRB Bond Program	($15,000.00)
Legislative Appropriation FY90-91	$250,000.00
Legislative Appropriation FY91-92	$280,700.00
Legislative Appropriation FY93-94	$500,000.00
IWRB Studies and Projects	($249,067.18)
Loan Interest	$6,930,184.34
Interest Earned State Treasury (Transferred)	$1,669,058.71
Filing Fee Balance	$47,640.20
Bond Fees	$1,469,601.45
Arbitrage Calculation Fees	($12,000.00)
Protest Fees	($625.00)
Series 2000 (Caldwell/New York) Pooled Bond Issuers fees	$43,657.93
2012 Ground Water District Bond Issuer fees	$377,000.00
Bond Issuer fees	$39,257.09
Attorney fees for Jughandle LID	($3,600.00)
Attorney fees for A&B Irrigation	($4,637.50)
Water Supply Bank Receipts	$4,244,742.74
Legislative Appropriation FY01	$200,000.00
Pierce Well Easement	$2,000.00
Transferred to/from Water Management Account	$317,253.80
Legislative Appropriation 2004, HB843	$500,000.00
Legislative Appropriation 2009, SB 1511 Sec 2, Teton/Minidoka Studies	$1,800,000.00
Legislative Appropriation 2009, SB 1511 Sec 2, Teton/Minidoka Studies Expenditures	($1,229,460.18)
Weiser Galloway Study - US Army Corps of Engineers	($1,597,099.12)
Boise River Storage Feasibility Study	($222,361.09)
Geotech Environmental (Transducers)	($6,402.61)
Legislative Appropriation 2014, HB 479 Sec 1 and 2	$10,500,000.00
Appraisal (LeMoyne Appraisal LLC)	($4,500.00)
Payment to JR Simplot Co for water rights	($2,500,000.00)
Aqua Life Hatchery, HB644, 2014	($1,885,000.00)
Aqualife Lease receipt from Seapac	$18,000.00

Bell Rapids Water Rights Sub-Account		
Legislative Appropriation 2005, HB392	$21,300,000.00	
Interest Earned State Treasury	$692,881.13	
Bell Rapids Purchase	($16,006,558.00)	
Bureau of Reclamation Principal Amount Lease Payment Paid	$8,294,337.54	
Bureau of Reclamation Interest Paid	$179,727.97	
Bureau of Reclamation Remaining Amount Lease Payment Paid	$9,142,649.54	
First Installment Payment to Bell Rapids	($1,313,236.00)	
Second Installment Payment to Bell Rapids	($1,313,236.00)	
Third Installment Payment to Bell Rapids	($1,313,236.00)	
Fourth Installment Payment to Bell Rapids	($1,040,431.55)	
Interest Credit due to Bureau of Reclamation (Part of Fourth Installment)	($19,860.45)	
Fifth Installment Payment to Bell Rapids	($1,055,000.00)	
Transfer to General Fund - Principal	($21,300,000.00)	
Transfer to General Fund - Interest	($772,052.06)	
BOR payment for Bell Rapids	$1,040,431.55	
BOR payment for Bell Rapids	$1,313,236.00	
BOR prepayment for Bell Rapids	$1,302,981.70	
BOR prepayment for Bell Rapids	$1,055,000.00	
BOR payment for Alternative Financing Note	$7,117,971.16	
Payment to US Bank for Alternative Financing Note	($7,118,125.86)	
Payment for Ongoing Bell Rapids Finance Costs (trustee fees, water bank, etc.)	($6,740.10)	
Commitments		
Ongoing Bell Rapids Finance Costs (trustee fees, etc.)	$180,740.57	
Committed for alternative finance payment	$0.00	
Total Commitments	$180,740.57	
Balance Bell Rapids Water Rights Sub-Account		**($0.00)**

Pristine Springs Project Sub-Account	
Legislative Appropriation 2008, SB1511, Pristine Springs	$10,000,000.00
Legislative Appropriation 2006, HB870, Water Right Purchases	$5,000,000.00
Interest Earned State Treasury	$36,330.98
Loan Interest	$1,778,809.73
Transfer from ESP Sub-Account	$1,000,000.00
Payment for Purchase of Pristine Springs (3)	($16,000,000.00)
Payment from Magic Valley & Northsnake GWD for Pristine Springs	$3,252,948.42
Appraisal	($25,500.00)
Insurance	($33,662.25)
Recharge District Assessment	($24,171.45)
Water District 130 Annual Assessment	($3,841.45)
Hydro Plants Engineering Certification (Straubhar)	($3,000.00)
Payment to EHM Engineers for pipeline work	($1,200.00)
Payment to John Root for Easement Survey	($1,000.00)
Payment to MWH Americas Inc	($11,326.27)
Payment to Dan Lafferty Contruction	($16,846.68)
Telemetry Station Equipment	($15,193.92)
Rein Tech LLC (Satellite phone annual payment)	($990.00)
Standley Trenching (Trac system for communication equip)	($2,783.99)
Property Taxes and other fee assessments (Jerome County)	($6,939.15)
Rental Payments	$1,443,407.46
Payments to Scott Kaster	($74,881.24)
Utility Payments (Idaho Power)	($34,700.86)
Costs for property maintenance	($31,549.05)

Travel costs for property maintenance		($351.30)	
Pipeline repair (IGWA)		($170,000.00)	
Transferred to Secondary Aquifer Fund (2011 Legislature; HB 291)		($2,465,300.00)	
Transferred to Secondary Aquifer Fund (2012 Legislature; SB 1389)		($1,232,000.00)	
Transferred to Secondary Aquifer Fund (2013 Legislature; HB 270)		($716,000.00)	
Transferred to Secondary Aquifer Fund (2014 Legislature; HB 618)		($716,000.00)	
Pristine Springs Hydropower Projects			
Net power sales revenues		$377,001.01	
Pristine Springs Committed Funds			
ESPA CAMP (to be transferred to Secondary Fund)	0.00		
Repair/Replacement Fund	$1,007,427.96		
TOTAL COMMITTED FUNDS	$1,007,427.96		
Loans Outstanding			
North Snake and Magic Valley Ground Water Districts	$7,127,940.18		
Total Loans Outstanding	$7,127,940.18		
Funds to RP CAMP & TV CAMP Sub-Account		**$271,672.34**	
Pristine Springs Revenues into Main Revolving Development Account			**$22,159.69**

Rathdrum Prairie CAMP & Treasure Valley CAMP Sub-Account			
Pristine Springs Hydropower and Rental Revenues		$271,672.34	
Interest Earned State Treasury		$573.11	
Spokane River Forum		($8,000.00)	
Treasure Valley Water Quality Summit		($500.00)	
Kootenai-Shoshone Soil & Water Cons. Dist. - Agrimet Station		($16,000.00)	
Rathdrum Prairie-Spokane Valley Aquifer Pumping Study (CON00989)		($40,101.04)	
Committed Funds			
Kootenai-Shoshone Soil & Water Cons. Dist. - Agrimet Station	$4,000.00		
Spokane River Forum	$0.00		
Rathdrum Prairie-Spokane Valley Aquifer Pumping Study	$29,898.96		
Treasure Valley Water Quality Summit	$0.00		
TOTAL COMMITTED FUNDS	$33,898.96		
Balance Rathdrum Prairie CAMP & Treasure Valley CAMP Sub-Account		**$173,745.45**	

Upper Salmon/CBWTP Sub-Account			
Water Transaction Projects Payment Advances from CBWTP/Accord		$2,846,320.47	
PCSRF Funds for Administration of Non-Diversion Easements on Lemhi River		$237,807.26	
Interest Earned State Treasury		$102,355.61	
Transfer to Water Supply Bank		($64,801.33)	
Change of Ownership		($600.00)	
Alturas Lake Creek Appraisal		($8,989.23)	
Payments for Water Acquisition		($618,506.52)	
Committed Funds			
Administration of Non-Diversion Easements on Lemhi River	$148,686.69		
Alturas Lake Creek (Breckenridge)	($0.00)		
Bayhorse Creek (Peterson Ranch)	$34,748.18		
Beaver Creek (DOT LLP)	$0.00		
Big Hat Creek	$0.00		
Big Timber Tyler (Leadore Land Partners)	$521,949.64		
Canyon Creek/Big Timber Creek (Beyeler)	$479,809.99		
Fourth of July Creek (Vanderbilt)	$18,437.16		
Iron Creek (Phillips)	$268,189.73		
Kenney Creek Source Switch (Gail Andrews)	$26,363.56		
Lemhi - Big Springs (Merrill Beyeler)	$65,133.50		
Lemhi River & Little Springs Creek (Kauer)	$23,004.68		
Little Springs Creek (Snyder)	$307,687.37		
Lower Eighteenmile Creek (Ellsworth Angus Ranch)	$1,777.78		
Lower Lemhi Thomas (Robert Thomas)	$2,100.00		
P-9 Bowles (River Valley Ranch)	$331,363.86		
P-9 Charlton (Sydney Dowton)	$21,933.08		
P-9 Dowton (Western Sky LLC)	$262,827.99		
P-9 Elzinga (Elzinga)	$325,096.74		
Patterson-Big Springs (PBSC9)	$201,170.12		
Spring Creek (Richard Beard)	$1,628.64		
Spring Creek (Ella Beard)	$2,387.07		
Whitefish (Leadore Land Partners)	$202,244.87		
Total Committed Funds	$3,246,540.65		
Balance CBWTP Sub-Account		**($752,954.39)**	

Water District 02 WaterSmart Grant Sub-Account			
Received from BOR		$73,093.18	
Payments made to contractors		($84,612.14)	
Committed Funds:			
Grant Approval	$78,906.82		
Total Committed Funds	$78,906.82		
Balance WaterSmart Grant Sub-Account		**($11,518.96)**	

Water Supply Bank Sub-Account			
Payments received from renters for 2013 season		$529,823.25	
Payments received from renters for 2014 season		$605,408.45	
Payments made to owners for 2013 season		($522,645.12)	
Payments made to owners for 2014 season		($52,452.00)	
Interest Earned State Treasury		$1,604.49	
Committed Funds:			
Owners Share	$547,282.11		
Total Committed Funds	$547,282.11		
Balance Water Supply Bank Sub-Account		**$14,456.96**	

Eastern Snake Plain Sub-Account			
Legislative Appropriation 2005, HB392		$7,200,000.00	
Legislative Appropriation 2005, HB392, CREP Program		$3,000,000.00	
Interest Earned State Treasury		$1,899,688.84	
Loan Interest		$211,581.01	
Bell Rapids Water Rights Closing Costs		($6,558.00)	

First Installment Payment to Bell Rapids Irr. Co. (Partial)		($361,800.00)	
Second Installment Payment to Bell Rapids Irr. Co. (Partial)		($361,800.00)	
Third Installment Payment to Bell Rapids Irr. Co. (Partial)		($361,800.00)	
Fourth Installment Payment to Bell Rapids Irr. Co. (Partial)		($614,744.00)	
Fifth Installment Payment to Bell Rapids Irr. Co. (Final)		($1,675,036.00)	
Reimbursement from Commerce & Labor W-Canal		$74,709.77	
Transfer to Pristine Springs Sub Account		($1,000,000.00)	
Reimbursement from Magic Valley GWD - Pristine Springs		$500,000.00	
Reimbursement from North Snake GWD - Pristine Springs		$500,000.00	
Reimbursement from Water District 1 for Recharge		$159,764.73	
Palisades (FMC) Storage Costs		($3,513,078.26)	
Reimbursement from BOR for Palisades Reservoir		$2,381.12	
W-Canal Project Costs		($326,834.11)	
Black Canyon Exchange Project Costs		($71,680.00)	
Black Canyon Exchange Project Revenues		$23,800.00	
2008 Recharge Conveyance Costs		($14,580.00)	
2009 Recharge Conveyance Costs		($355,253.00)	
2010 Recharge Conveyance Costs		($484,231.62)	
Additional recharge projects preliminary development		($12,405.89)	
Pristine Springs Cost Project Costs		($6,863.91)	
Loans and Other Commitments			
Commitment - Remainder of Bell Rapids Water Rights Purchase (1)		$361,620.00	
Commitment - CREP Program (HB392, 2005)		$2,419,580.50	
Commitment - Additional recharge projects preliminary development		$337,594.11	
Commitment - Palasades Storage O&M		$10,000.00	
Commitment - Black Canyon Exchange Project (fund with ongoing revenues)		$529,444.95	
Total Loans and Other Commitments		$3,658,239.56	
Loans Outstanding:			
American Falls-Aberdeen GWD (CREP)	$96,701.70		
Bingham GWD (CREP)	$0.00		
Bonneville Jefferson GWD (CREP)	$59,255.62		
Magic Valley GWD (CREP)	$92,072.19		
North Snake GWD (CREP)	$48,203.07		
TOTAL ESP LOANS OUTSTANDING	$296,232.58		
Uncommitted Balance Eastern Snake Plain Sub-Account		**$450,788.54**	
Dworshak Hydropower Project			
Dworshak Project Revenues			
Power Sales & Other	$6,251,812.94		
Interest Earned State Treasury	485,547.20		
Total Dworshak Project Revenues		$6,737,360.14	
Dworshak Project Expenses (2)			
Transferred to 1st Security Trustee Account	$148,542.63		
Construction not paid through bond issuance	$226,106.83		
1st Security Fees	$314,443.35		
Operations & Maintenance	$1,763,734.91		
Powerplant Repairs	$58,488.80		
Capital Improvements	$318,366.79		
FERC Payments	$50,227.33		
Total Dworshak Project Expenses		($2,879,910.64)	
Dworshak Project Committed Funds			
Emergency Repair/Future Replacement Fund	$1,314,575.00		
FERC Fee Payment Fund	$22,576.30		
Total Dworshak Project Committed Funds		$1,337,151.30	
Excess Dworshak Funds into Main Revolving Development Account			$2,520,298.20
TOTAL			**$24,452,397.02**

Loans Outstanding:	Amount Loaned	Principal Outstanding
Aberdeen-Springfield Canal Company (WRB-491; Diversion structure)	$329,761	$152,228.25
Boise City Canal Company (WRB-492)...Grove St Canal Rehab	$110,618	$29,997.00
Bonnie Laura Water Corporation (14-Jul-06; Well repairs)	$71,000	$24,101.33
Canyon County Drainage District No. 2 (28-Nov-12; Drain tile pipeline	$35,000	$29,362.87
Challis Irrigation Company (28-Nov-07; river gate replacement)	$50,000	$20,744.35
Chaparral Water Association	$90,154	$5,167.79
Chaparral Water Association (21-Jan-11; Well deepening & improvem	68,000	$22,921.75
Cloverdale Ridge Water Corp. (irrigation system rehab 25-sep-09)	106,400	$63,356.56
Consolidated Irrigation Company (July 20, 2012; pipeline project)	1,500,000.00	$951,900.00
Country Club Subdivision Water Association (18-May-07, Well Project)	$102,000	$47,040.57
Cub River Irrigation Company (18-Nov-05; Pipeline project)	$1,000,000	$692,203.48
Cub River Irrigation Company	$500,000	$374,620.59
Enterprise Irrigation District (14-Jul-06; Pipeline project)	$37,270	$13,309.58
Enterprise Irrigation District (North Lateral Pipeline)	$105,420	$36,135.10
Firth, City of	$112,888	$29,512.12
Foothills Ranch Homeowners Association (7-oct-11; well rehab)	$150,000	$122,566.54
Garden Valley Ranchettes Homeowners Association (25-Jan-05)	$2,716	$0.00
Harvest Valley Homeowners Association (22-Mar-13; Pump Replacem	4,500.00	$3,288.95
Jefferson Irrigation Company (well deepenings)	$207,016	$24,043.73
Jefferson Irrigation Company (9-May-2008 Well Replacement)	$81,000	$49,420.63
Jughandle HOA/Valley County Local Improvement District No. 1 (well p	$907,552	$720,119.76
King Hill Irrigation District (24-Sep-10; Pipeline replacement	$300,000	$106,730.14
Lake Reservoir Company (29-July-11; Payette Lake-Lardo Dam Outle	$594,000	$186,147.87
Last Chance Canal Company (WRB-497)	$500,000	$82,519.91
Lava Hot Springs, City of	$347,510	$139,078.44
Lindsay Lateral Association (22-Aug-03)	$9,600	$922.49
Lindsay Lateral Association (Engineering Design Project & Pipeline Stu	$19,700	$16,236.53
Live-More Lake Community (9-Jun-04)	$42,000	$14,084.43
Lower Payette Ditch Company (2-Apr-04; Diversion dam replacement	$875,000	$166,179.49
Marsh Center Irrigation Company (13-May-05; Hawkins Dam)	$236,141	$134,768.26
Marysville Irrigation Company (18-May-07, Pipeline Project Phase 1)	$625,000	$331,877.80
Marysville Irrigation Company (9-May-08, Pipeline Project Phase 2)	$1,100,000	$551,866.10
McGuire Estates Water Users Association (4-Mar-05)	$60,851	$9,209.33

Meander Point Subdivsion Homeowners Association (7-Sep-07; comn	$330,000	$33,905.66	
Meridian Heights Water & Sewer Association (18-May-07)	$350,000	$216,481.64	
Mores Creek Rim Ranches Water District	$221,400	$27,282.24	
North Fremont Canal Systems (25-Jan-13; Marysville Project)	$2,500,000	$2,000,000.00	
Point Springs Grazing Association (July 20, 2012; storck water pipeline	48,280.00	$43,753.18	
Preston-Whitney Irrigation Company (29-May-09; Fairview Lateral Pipe	$800,000	$126,617.61	
Producers Irrigation Company (17-Mar-06; well replacements)	$185,000	$33,233.26	
Ranch Subdivision Property Owners Assoc	$24,834	$8,463.59	
Riverside Independent Water District	$350,000	$149,180.60	
Skin Creek Water Association	$188,258	$75,745.13	
Spirit Bend Water Association	$92,000	$34,600.04	
Sunset Heights Water District (17-May-13; Exchange water project)	$48,000	$43,747.40	
Thunder Canyon Owners Association (6-Feb-04)	$92,416	$0.00	
Twin Lakes Canal Company - Winder Lateral Pipeline Project (13-Jul-0	$500,000	$322,339.96	
Twin Lakes Canal Company (2-Apr-04)	$90,000	$8,814.82	
Whitney-Nashville Water Company	$225,000	$33,243.94	
TOTAL LOANS OUTSTANDING			**$8,309,070.81**

Loans and Other Funding Obligations:

Legislative Appropriation 2014, HB 479 Sec 1 and 2		
Mountain Home AFB Water Rights (HB479)	$1,495,500.00	
Galloway Dam & Reservoir Project (HB 479)	$2,000,000.00	
Boise River (Arrowrock Enlargement) Feasibility Study (HB479)	$1,500,000.00	
Island Park Enlargement (HB479)	$2,500,000.00	
Water Supply Bank Computer Infrastructure (HB 479)	$500,000.00	
Aqua Life Hatchery, HB644, 2014	$0.00	
Senate Bill 1511 - Teton Replacement and Minidoka Enlargement Studies	$678,161.82	
Boise River Storage Feasibility Study	$325,414.93	
Weiser-Galloway Study (28-May-10)	$461,620.87	
A&B Irrigation District (18-July-14; pipeline and conversion project)	$3,500,000.00	
Bee Line Water Association (Sep 23, 2014; System Improvements)	$400,000.00	
Clearview Water Company (5-Nov-14)	$50,000.00	
Clearwater Water District - pilot plant (13-jul-07)	$80,000.00	
Consolidated Irrigation Company (July 20, 2012; pipeline project)	$1,023,100.00	
Dover, City of (23-Jul-10; Water Intake project)	$194,063.00	
Lake Reservoir Company (29-July-11; Payette Lake-Lardo Dam Outlet Gates)	$0.00	
Lindsay Lateral Association	$15,300.00	
North Fremont Canal Systems (25-Jan-13; Marysville Project)	$500,000.00	
Point Springs Grazing Association (July 20, 2012; storck water pipeline)	$48,280.00	
TOTAL LOANS AND OTHER FUNDING OBLIGATIONS		**$15,271,440.62**
Uncommitted Funds		**$871,885.59**
TOTAL		**$24,452,397.02**

(1) Actual amount needed may vary depending on final determination of water actually purchased and interest income received.

(2) Debt service on the Dworshak Project bonds is paid before the Dworshak monies are deposited into the Revolving Development Account and is therefore not shown on this balance sheet.

Idaho Water Resource Board
Sources and Applications of Funds
as of November 30, 2014
WATER MANAGEMENT ACCOUNT

Original Appropriation (1978)	$1,000,000.00
Legislative Audits	($10,645.45)
IWRB Appraisal Study (Charles Thompson)	($5,000.00)
Transfer funds to General Account 1101(HB 130, 1983)	($500,000.00)
Legislative Appropriation (6/29/1984)	$115,800.00
Legislative Appropriation (HB988, 1994)	$75,000.00
Turned Back to General Account 6/30/95, (HB988, 1994)	($35,014.25)
Legislative Appropriation (SB1260, 1995, Aquifer Recharge, Caribou Dam)	$1,000,000.00
Interest Earned	$120,475.04
Filing Fee Balance	$2,633.31
Water Supply Bank Receipts	$841,803.07
Bond Fees	$277,254.94
Funds from DEQ and IDOC for Glenns Ferry Water Study	$10,000.00
Legislative Appropriation FY01	$200,000.00
Western States Wate Council Annual Dues	($7,500.00)
Tranfer to/from Revolving Development Account	($317,253.80)
Legislative Appropriation (SB1239, Sugarloaf Aquifer Recharge Project)	$60,000.00
Legislative Appropriation (HB 843 Sec 6)	$520,000.00
Legislative Appropriation (SB1496, 2006, ESP Aquifer Management Plan)	$300,000.00
Legislative Appropriation (HB 320, 2007, ESP Aquifer Management Plan)	$849,936.99
TOTAL	**$4,497,489.85**

Grants Disbursed:

Completed Grants	$1,291,110.72
Arco, City of	$7,500.00
Arimo, City of	$7,500.00
Bancroft, City of	$7,000.00
Bloomington, City of	$4,254.86
Boise City Canal Company	$7,500.00
Bonners Ferry, City of	$7,500.00
Bonneville County Commission	$3,375.00
Bovill, City of	$2,299.42
Buffalo River Water Association	$4,007.25
Butte City, City of	$3,250.00
Cave Bay Community Services	$6,750.00
Central Shoshone County Water District	$7,500.01
Clearwater Regional Water Project Study, City of Orofino et al	$10,000.00
Clearwater Water District	$3,750.00
Cottonwood Point Water and Sewer Association	$7,500.00
Cottonwood, City of	$5,000.00
Cougar Ridge Water & Sewer	$4,661.34
Curley Creek Water Association	$2,334.15
Downey, City of	$7,500.00
Fairview Water District	$7,500.01
Fish Creek Reservoir Company, Fish Creek Dam Study	$12,500.00
Franklin, City of	$6,750.00
Grangeville, City of	$7,500.00
Greenleaf, City of	$3,000.00
Hansen, City of	$7,450.00
Hayden Lake Irrigation District	$7,500.00
Hulen Meadows Water Company	$7,500.00
Iona, City of	$1,425.64
Kendrick, City of	$7,500.00
Kooskia, City of	$7,500.00
Lakeview Water District	$2,250.00
Lava Hot Springs, City of	$7,500.00
Lindsay Lateral Association	$7,500.00
Lower Payette Ditch Company	$5,500.01
Maple Grove Estates Homeowners Association	$5,020.88
Meander Point Homeowners Association	$7,500.00
Moreland Water & Sewer District	$7,500.00
New Hope Water Corporation	$2,720.39
North Lake Water & Sewer District	$7,500.00

Northside Estates Homeowners Association	$4,492.00	
North Tomar Butte Water & Sewer District	$3,575.18	
North Water & Sewer District	$3,825.00	
Parkview Water Association	$4,649.98	
Payette, City of	$6,579.00	
Pierce, City of	$7,500.00	
Potlatch, City of	$6,474.00	
Preston Whitney Irrigation Company	$7,500.00	
Preston & Whitney Reservoir Company	$3,606.75	
Preston & Whitney Reservoir Company	$7,000.00	
Roberts, City of	$3,750.00	
Round Valley Water	$3,000.00	
Sagle Valley Water & Sewer District	$2,117.51	
South Hill Water & Sewer District	$3,825.00	
St Charles, City of	$5,632.88	
Swan Valley, City of	$5,000.01	
Twenty-Mile Creek Water Association	$2,467.00	
Valley View Water & Sewer District	$5,000.02	
Victor, City of	$3,750.00	
Weston, City of	$6,601.20	
Winder Lateral Association	$7,000.00	
TOTAL GRANTS DISBURSED		**($1,632,755.21)**
IWRB Expenditures		
Lemhi River Water Right Appraisals	$31,000.00	
Expenditures Directed by Legislature		
Obligated 1994 (HB988)	$39,985.75	
SB1260, Aquifer Recharge	$947,000.00	
SB1260, Soda (Caribou) Dam Study	$53,000.00	
Sugarloaf Aquifer Recharge Project (SB1239)	$55,953.69	
ESPA Settlement Water Rentals (HB 843 2004)	$504,000.00	
ESP Aquifer Management Plan (SB1496, 2006)	$300,000.00	
ESP Aquifer Management Plan (HB320, 2007)	$801,077.75	
TOTAL IWRB AND LEGISLATIVE DIRECTED EXPENDITURES		**($2,732,017.19)**
WATER RESOURCE BOARD RECHARGE PROJECTS		**($11,426.88)**
CURRENT ACCOUNT BALANCE		**$121,290.57**
Committed Funds:		
Grants Obligated		
Cottonwood Point Water & Sewer Association	$0.00	
Preston - Whintey Irrigation Company	$7,500.00	
Water District No. 1 (Blackfoot Equalizing Reservoir Automation)	$35,000.00	
Legislative Directed Obligations		
Sugarloaf Aquifer Recharge Project (SB1239)	$4,046.31	
ESPA Settlement Water Rentals (HB 843, 2004)	$16,000.00	
ESPA Management Plan (SB 1496, 2006)	$0.00	
ESP Aquifer Management Plan (HB320, 2007)	$48,829.24	
TOTAL GRANTS & LOANS OBLIGATED & UNDISBURSED		**$111,375.55**

Loans Outstanding:	Amount Loaned	Principal Outstanding	
Arco, City of	$7,500	$0.00	
Butte City, City of	$7,425	$0.00	
Roberts, City of	$23,750	$0.00	
Victor, City of	$23,750	$0.00	
TOTAL LOANS OUTSTANDING			**$0.00**
Uncommitted Funds			**$9,915.02**
CURRENT ACCOUNT BALANCE			**$121,290.57**

Idaho Water Resource Board
Sources and Applications of Funds
as of November 30, 2014
SECONDARY AQUIFER PLANNING, MANAGEMENT, & IMPLEMENTATION FUND

Legislative Appropriation (HB 291, Sec 2)		2,465,300.00
Legislative Appropriation (SB 1389, Sec 5)		1,232,000.00
Legislative Appropriation (HB270, Sec 3)		716,000.00
Legislative Appropriation (HB479, Sec 1)		4,500,000.00
Legislative Appropriation (HB479, Sec 1) Managed Recharge Infrastructure Expenses		(2,818.86)
Interest Earned State Treasury (Transferred)		64,578.38
Water Users Contributions		100.00
Conversion project (AWEP) measurement device payments		(16,455.21)
Contribution from GWD's for 2011 ESPA Managed Recharge		71,893.16
Contribution from GWD's for Revenue Bond Prep Expenses		14,462.50
American Falls Res. Dist#2 - MP31 Recharge Site Engineering		(1,593.75)
American Falls Res. Dist#2 - MP31 Recharge Site Construction		(34,435.44)
Bond issuer Fees		(3,500.00)
Payments for 2012 Recharge		(260,031.02)
Payments for 2013 Recharge		(8,133.00)
Payments for 2014 Recharge		(16,404.00)
Payment for Recharge		(80,000.00)
Payment for High Country RC&D Cloud Seeding		(20,000.00)
Payment for Idaho Irrigation District		(13,200.00)
Payment for Magic Valley GWD and A&B Irrig. Dist. - Walcott Recharge Engineering		(85,644.00)
Aquifer Monitoring, Measurement, and Modeling Sub-Account		
Legislative Appropriation/Funds Transfer (HB618, Sec 3)		716,000.00
Interest Earned State Treasury (Transferred)	441.75	
Personnel Costs	(65,477.60)	
Professional Services	(123,978.00)	
Equipment Purchases	(1,435.69)	
Travel Expenses	(2,086.48)	
Supplies	(594.43)	
Miscellaneous Expenses	(411.09)	
Total Expenses	(193,983.29)	
Balance Aquifer Monitoring, Measurement, and Modeling Sub-Account		**$522,458.46**
Committed Funds		
Legislative Appropriation (HB479, Sec 1, 2014)		
ESPA Managed Recharge Infrastucture (HB479)		3,997,181.14
Northern Idaho Future Water Needs Studies (HB479)		500,000.00
Loan - Magic Valley & North Snake GWDs (Magic Springs Pipeline)		1,260,000.00
Measurement devices for AWEP conversion projects		183,544.79
High Country RC&D Cloud Seeding		20,000.00
Cooperative Weather Modification Program (Cloud Seeding)		492,000.00
American Falls Res. Dist#2 - MP31 Recharge Site Engineering		4,406.25
American Falls Res. Dist#2 - MP31 Recharge Site Construction		564.56
Magic Valley GWD and A&B Irrig. Dist. - Walcott Recharge Engineering		0.00
Five-Year Managed Recharge Pilot Program		1,215,431.98
Contribution from GWD's for 2011 ESPA Managed Recharge		(8,106.84)
GWD Bond Prepatory Expenses		37,500.00
Fremont-Madison Irrigation District Egin Recharge		40,000.00
Total Committed Funds		**$7,742,521.88**
TOTAL UNCOMMITTED FUNDS		**$779,596.88**
CURRENT ACCOUNT BALANCE		**$9,044,577.22**

Idaho Water Resource Board
Water Resource Sustainability & Aquifer Stabilization Initiative
Progress Report
November 2014 - January 2015

Project	Major Milestones Completed	Recent Progress & Upcoming Work	Project Schedule
ESPA Stabilization: Managed Aquifer Recharge below American Falls (Milner-Area Efforts)			
Delivery Contracts through Existing Canal Systems (Non-Irrigation Season/Winter Recharge)			
Participating Canal Systems: Twin Falls Canal Company (TFCC), American Falls Reservoir District No. 2 (AFRD2), Southwest Irrigation District (SWID), North Side Canal Company (NSCC)		• 5-year contracts in place or under development	• Winter 2015 is a "trial run" for operational activities. • 28,320 af recharged as of Jan 9, 2015
Infrastructure Modifications (associated with non-irrigation season delivery from Milner)			
Twin Falls Canal Company (TFCC): Milner-Murtaugh Reach	• Engineering study to identify necessary improvements to allow winter recharge complete	• Engineering study underway - options for keeping ice off gates at Murtaugh Lake • Review priority improvements proposed in engineering study (e.g. Point Spill Structure)	
American Falls Reservoir District No. 2 (AFRD2): Milner-Gooding Canal		• Winter-capable road to MP31 under construction • Engineering study for replacement of deteriorated concrete flume at Shoshone underway	• Jan 2015 – Resolution before the IWRB to fund construction of bypass wall to protect MP 28 hydropower plant
Southwest Irrigation District (SWID): West Cassia Pipeline		• Engineering study for making West Cassia Pipeline winter-capable proposed	• Proposals under development
Mile Post 31	• Initial construction phase complete (spring 2013) – operational to 125 cfs	• Dye tracer test performed Oct	• Expansion on hold pending results of 2014 winter recharge activity
Northside Canal Company (NSCC)		• Engineering study to Wilson Lake allow winter flows to bypass power plants (3)	• Proposal under development

Project	Major Milestones Completed	Recent Progress & Upcoming Work	Project Schedule
Direct Pumping to Injection Systems			
Direct Pumping to injection Activities		• Pursuing test well drilling and injection at A&B Pump Plant, NSCC Pump Plant, SWID pump plant, Nightengale private site, 2 USBOR sites, A&B at Milner pumping plant	• Several injection well permits completed • Fall 2014-Spring 2015 - Drilling and test injections at several locations
Other ESPA Stabilization Efforts			
Conversion Projects: Ground Water to Surface Water			
A&B Irrigation District Pipeline	• Project will provide new pumping plant and associated pipeline to offset ground water pumping • Partially funded through AWEP and land owners	• Estimated project costs increased from $7.8 mil to $12.5 mil • July 2014 – IWRB passed Resolution approving loan not to exceed $7 million	• Fall 2015 – begin project construction
Demand Reduction			
End Gun Removal/Conversion to Dryland Farming Program	• First of 2-3 yr contracts complete	• Approximately 10 contracts in Teton Valley area	• Contracts expire in 2016 or 2017
Conservation Reserve Enhancement Program (CREP)	• 17,227 ac currently enrolled (goal of 100,000 ac or 200,000 af) in 10 counties	• On-going compliance review and review of new applications	• Contracts begin expiring 2021
Other Activities/Projects			
Regional Conservation Partnership Program (RCPP) Projects	• Invited to submit full proposal (targets conversion and demand reduction projects)	• Proposal submitted in coordination with contributing partners	• Project $1 million award over 2015-2016 • NRCS encouraged IWRB to reapply for additional funding for 2017-2019
Hagerman Valley (Below-the-Rim)			
Aqualife Hatchery Acquisition	• Executed a lease and loan agreement with IGWA	• IWRB obtained ownership and use of adjacent land	
Pristine Springs	• Pristine Springs purchased by the IWRB 2008 • Agreements to sell water supplies to IGWA and City of Twin Falls executed	• Twenty-year lease executed with SeaPac	

Project	Major Milestones Completed	Recent Progress & Upcoming Work	Project Schedule
Cloud Seeding			
Expansion of Upper Snake cloud seeding program into tribs above Palisades Reservoir	• Existing program-19 remote operated ground generator stations installed since 2009 to supplement High Country RC&D efforts	• IWRB passed resolution at Sept meeting to fund portion of infrastructure for program expansion	
Establishment of program in Boise and Big Wood River basins		• IWRB passed resolution at Sept meeting to fund portion of infrastructure for proposed program	
Statewide Aquifer Modeling, Monitoring and Measurement			
Enhanced Snake Plain Aquifer Model (ESPAM)	• ESPAM Version 2.1 completed 2013	• Recommended enhancements have been issued by Eastern Snake Hydrologic Modeling Committee (ESHMC)	• Review by ESHMC ongoing
ESPA Well Depth Measurement Program	• Measurement sites include: ground water, managed recharge, geothermal, ground water quality, water level measurements • FY 2013 Water level mass measurement synoptic include wells across ESPA, Wood River Valley, Thousand-Springs area	• Investigating expansion of continuous monitoring network in Milner Dam area using existing USBOR wells	• Annual measurement activities on-going
ESPA Spring and Return Flow Measurement Program	• FY 2013 Surface Water measurement sites (USGS gages and return flow sites)	• Investigating expansion of return flow network between Blackfoot and Idaho Falls • Installing 3 new recorders in Little Lost Valley	• Annual measurement activities on-going
Hagerman Valley (Below-the-Rim)		• 3 new monitoring sites identified and equipment purchased	• Fall 2014 - Installation to be complete
Wood River Valley Groundwater Flow Model Project	• Spring 2013 - Modeling Tech Advisory Committee (MTAC) formed • April 2014 – Model framework constructed	• Ongoing model calibrations activities • Ongoing MTAC meetings	• End 2015 – Model completion

Project	Major Milestones Completed	Recent Progress & Upcoming Work	Project Schedule
Statewide Aquifer Modeling, Monitoring and Measurement			
Treasure Valley Groundwater Model	• Treasure Valley Hydrologic Project (TVHP) Model completed (2004) • 2010 IWRB funded evaluation of groundwater models for TV CAMP • 2013 USBOR completed Time-Dependent Model of the TV	• A technical advisory committee for the Treasure Valley Groundwater Model provided comments on the existing models	• 2014 – IDWR to complete evaluation of BOR time-dependent model to direct further model development
North Ada County Hydrogeologic Investigation	• Detailed investigation of hydrogeology to characterize the aquifer in North Ada County (initiated 2007) • Data used to quantify water supply availability in areas of proposed new development	• Ongoing monitoring and measurement efforts • Data integrated into TV Groundwater Model • Expanded to include new developments	
East Ada County Hydrologic Project	• Detailed investigation of aquifer system in East Ada County (initiated 2007) • Data used to quantify water supply availability in areas of proposed new development	• Ongoing monitoring and measurement efforts • Data integrated into TV Groundwater Model	
Spokane Valley Rathdrum Prairie (SVRP) Model	• Phase 1 – Data Collection and Groundwater flow model completed 2004-2008 • Phase 2 – Additional technical studies and modeling 2008-2010 • Data used to develop spreadsheet tool to evaluate gw pumping effects on Spokane River flows on the RPA	• Monitoring and measurement activities are ongoing • Additional data collected when available to expand network for model calibration	
Lewiston Plateau Ground Water Management Area	• Ground Water Management Plan (August 2014)	• Developing a monitoring network in deep aquifer; data availability is limited	

Project	Major Milestones Completed	Recent Progress & Upcoming Work	Project Schedule
Surface Water Storage			
Weiser-Galloway Project (Weiser River Basin)	• Gap Analysis of previous project studies completed • Foundation and Geotechnical analysis completed	• Operations Analysis& Hydropower Integration Study – ongoing • Initiating reservoir optimization, economic analyses • FERC preliminary permit requirements and project timeline dev - ongoing	• Spring 2015 – Completion of Operations Analysis & Hydropower Integration • Fall 2015 – Completion of reservoir optimization, economic analyses, Weiser River Trail Relocation study
Boise River Feasibility Study – Arrowrock Raise	• Storage project screening analysis completed; (Aug 2010) • Preliminary evaluation of Arrowrock Dam raise completed (Oct 2011)	• Corps finalizing SOW • Hydrologic modeling of Arrowrock raise ongoing • EIS activities analysis ongoing • IDWR staff coordinating additional water supply needs estimates w/ Corps • Agreement amended to full Feasibility Study	• Fall 2015 – Draft feasibility rpt and EIS for public review • Summer 2017 - Final Feasibility Rpt/EIS for public review • Fall 2017 – Signed Record of Decision
Island Park Reservoir Enlargement (Henrys Fork Basin)	• Henrys Fork Basin Study complete (July 2014)	• Coordinating with BOR to initiate Real estate/lands assessment study	• Spring 2015 - Issue RFP to complete lands assessment and execute MOA b/w BOR and IWRB
Other Water Management Projects			
Mountain Home Water Rights	• Purchase and sale agreement executed	• Begin discussions with US Air Force Base.	
Water District 2 Measurement Project (WaterSMART Grant)	• 15 projects at various stages of completion • New grant (phase 2) approved to install measurement equip at 40+ sites • Phase 2 financial assistance with BOR in place	• Phase 1 - Ongoing coordination with water users, equip purchasing and installation • Phase 2 – Ongoing coordination, measurement device purchasing, dev of reimbursement contracts	• End 2015 – Complete Phase 1 • End 2016 – Complete phase 2
North Idaho Future Water Demand Study	• Executed contract for future demands study between U of I and IWRB	• Aquifer Future Water Demand Report completed Dec 2014	• May 2015 - Integrated Water Resource Management Plan complete
IWRB Financial Program New Applications			
Pinehurst Water District		• New loan application to purchase backup generator ($100,000)	• Jan 2015 – Resolution before the IWRB

Program	Major Milestones Completed	Recent Progress & Upcoming Work	Project Schedule
Water Supply Bank			
IT Infrastructure Development	• April 2014 – Development Scope of Work Complete	• IT Development plan near completion - Sept 2014 • Generation of development documentation ongoing	• Feb 2015 – Expect to issue RFQ • Summer 2016 – Complete launch of WSB IT platform
Idaho Water Transactions Program			
Columbia Basin Water Transactions Program	Since program initiation in 2003: • 81 transactions • 23 Streams with Flow Restoration • 140 cfs/750k AF • 4 of10 Lemhi reconnects • 18.25 cfs of 35 cfs permanently protected in Lower Lemhi River • Over 266 miles of stream with increased flow.	• Nov. 3, 2014 Submitted Beaver Creek, Carmen Creek, and Badger Creek transactions for CBWTP funding • Continued approval and development of FY 2015 transactions on Pole Creek, Carmen Creek, Morgan Creek, Bohannon Creek and others.	• Nov. 3, 2014 - Propose 2015 transactions • Dec. 1, 2014 – Compliance Monitoring Due • Spring 2015 - Research, Monitoring, and Evaluation Reporting
Idaho Fish Accord	• Lower Lemhi 2014-2015 delivering 15.56 cfs instream	• Continued development of Bohannon Creek transactions	• March 15, 2015 - Annual Progress Report due

Memorandum

To: Idaho Water Resource Board

From: Neeley Miller, IDWR Planning and Projects Bureau

Date: January 12, 2014

RE: Rathdrum Prairie Future Water Demand Study

Background

House Bill 479 authorized the one-time appropriation in the amount of $15 million to the Idaho Water Resource Board. Projects identified for the $15 million included $500,000 to conduct joint water need studies to determine extent of future water needs in coordination with Northern Idaho communities prior to any interstate water dispute with the State of Washington to ensure water availability for future economic development.

The Rathdrum Prairie Comprehensive Aquifer Management Plan (RP CAMP) identifies "studies necessary to support RAFN water right applications" as a critical action item for RP CAMP implementation. The Idaho Water Resources Research Institute (IWRRI) was asked by Rathdrum Prairie municipal water providers to develop a proposal to determine extent of future water needs to ensure availability for future economic development. IWRRI staff developed a proposal and shared it with IWRB and IDWR staff. Board staff determined that the proposal meets the Legislature's intent included in HB 479. IDWR staff familiar with RAFN applications indicated the tasks identified in the proposal appear to be useful for obtaining necessary information for RAFN applications.

The Board passed a resolution at the July 2014 Board meeting approving the expenditure of a total of $201,000 from the IWRB Secondary Aquifer Management Account for the Rathdrum Prairie Future Water Demand Study. The contract between IDWR and IWRRI was executed on September 8, 2014 and ends on May 30, 2015.

Update

Task #1-4: Rathdrum Prairie Aquifer Future Water Demand Report
Work on Tasks 1-4 has been completed (Task #1 Service Area Mediation, Task #2 Update of Existing Demand Study, Task #3 30-year RPA Population Projection/Water Demand Projection, and Task #4 Water Rights Gap Analysis).

The Rathdrum Prairie Aquifer Future Water Demand Report was delivered to IWRB staff, IDWR and RPA municipal water providers on schedule on 12/15/14. A stakeholder meeting was held to present the report the same day, attended by providers, IDWR, and consulting engineers. Two minor revisions have been made and distributed correcting an initial population estimate for two providers service areas and a mapping error for the current service area of two other providers.

The Executive Summary from the report is attached to this memo. The RPA Future Water Demand report is posted on the University of Idaho Community Water Resource Center website and is available for download at:

http://www.uidaho.edu/cda/cwrc/rafn

Task #5: Integrated Water Resource Management Plan:
Work is now beginning on the final task of this study: development of an Integrated Water Resource Management Plan. IWRRI is negotiating a subcontract for updating of the 2008 Rathdrum Prairie Wastewater Master Plan with J-U-B Engineering as the first step in that process.

Mark Solomon (IWRRI) is here today to provide you with a presentation on Rathdrum Prairie Aquifer Future Water Demand Report.

EXECUTIVE SUMMARY - RATHDRUM PRAIRIE AQUIFER FUTURE WATER DEMAND REPORT

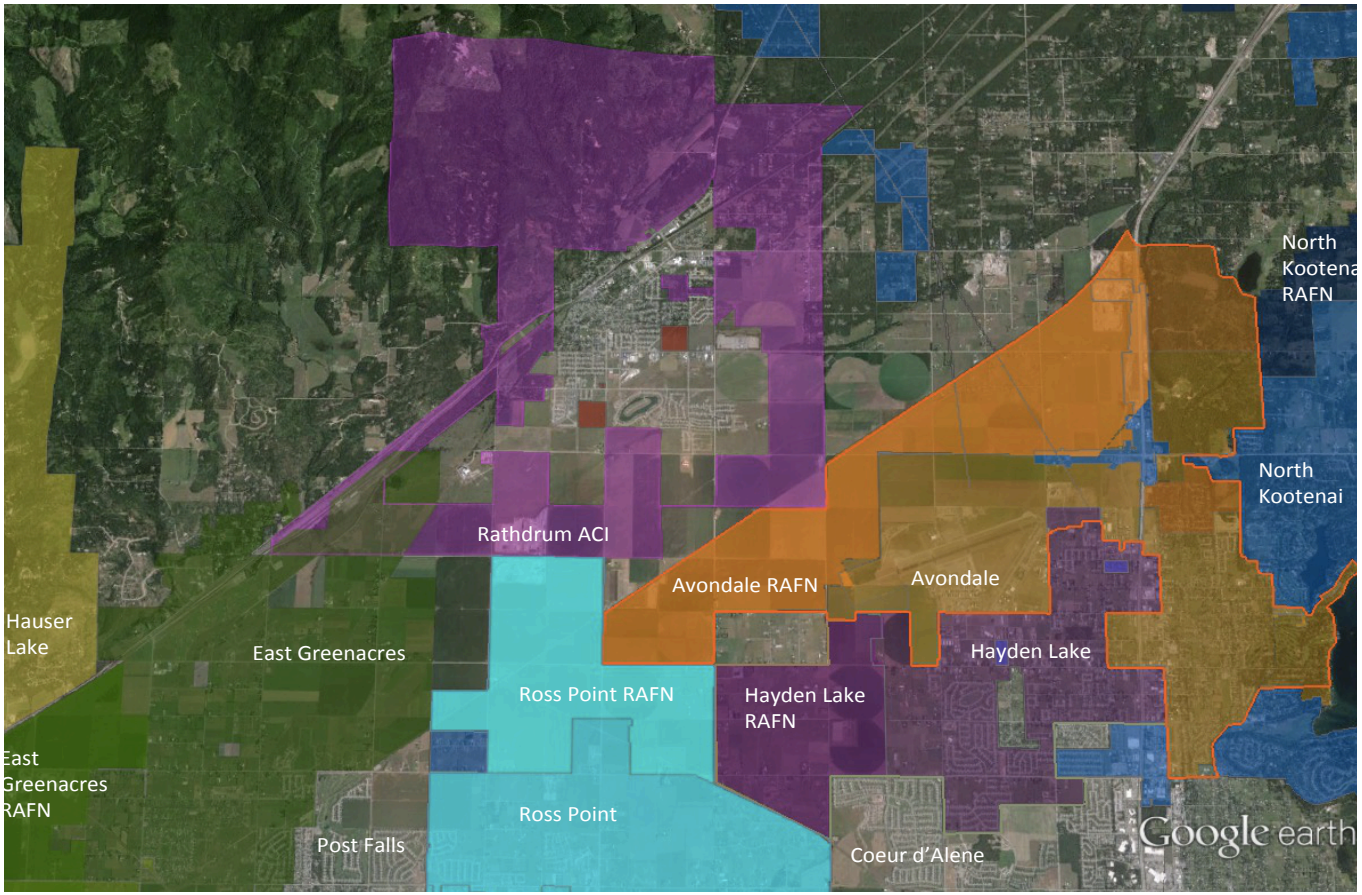
Thirty-one municipal water providers deliver groundwater to 107,660 people over and adjoining the Rathdrum Prairie Aquifer (RPA) in northern Idaho. In 2014, the Idaho Legislature appropriated $500,000 to the Idaho Water Resources Board (IWRB) “to conduct joint water need studies in coordination with Northern Idaho communities to ensure water availability for future economic development”. The Idaho Water Resources Research Institute (IWRRI) was contracted to conduct the studies and report to IWRB and RPA municipal providers. The goal of the contract and this report is to provide underlying information necessary to support potential Reasonably Anticipated Future Need (RAFN) water right applications from RPA municipal providers.

Idaho Code authorizes municipal water providers to hold RAFN water rights to provide for future growth and economic development. There are four components of an application for a RAFN right: delineation of the future service area, a planning horizon, a future water demand projection, and a water right gap analysis to determine the extent of the RAFN right to be applied for.

Approximately 85,000 acre foot (AF) annually is withdrawn from the RPA for municipal, domestic, commercial, industrial, and agricultural use. Of that, 36,400 AF is withdrawn by RPA municipal providers with eleven providers supplying water to 95% of the RP population. Ten providers anticipate either applying for RAFN rights, or identified potential service area overlaps with other providers. After mediated resolution of overlaps and terms of service, a Memorandum of Understanding identifying future RPA municipal water provider service areas was negotiated and signed by all ten municipal providers.

Population served by the eleven major RPA municipal providers is projected to increase by 87,671 over the 30-year planning horizon. The area served will increase from 78.9 square miles to 156.9 square miles. Relatively low to medium density (<1-4 units/acre) development of both ACI and rural areas is likely to constitute roughly 80-85% of new residential development. Existing cities and their Areas of City Impacts (ACI), along with urban reserves, will likely see a small amount (up to 5%) of higher intensity, compact development both within the city centers and at nodes along existing arterial and collector corridors within ACIs and in rural portions of the county. The Maximum Daily Demand will increase by 61.53 cfs, and the Peak Hourly Demand will increase by 171.81 cfs.

RAFN rights totaling 58.86 cfs are required to meet the 2045 MDD of five RPA municipal providers. The rights are offset by a decrease of 103.74 in MDD required rights among six other RPA municipal providers. RAFN rights totaling 264.69 cfs are required to meet the 2045 PHD of ten RPA municipal providers. The RAFN rights are offset by a decrease of 32.86 cfs in PHD required rights for one RPA municipal provider. Storage may offset some or all of the PHD RAFN needs of four providers with above ground storage capacity depending on individual provider water storage Management Policy.



RATHDRUM PRAIRIE AQUIFER FUTURE MUNICIPAL WATER DEMAND

IWRRI Report 201404

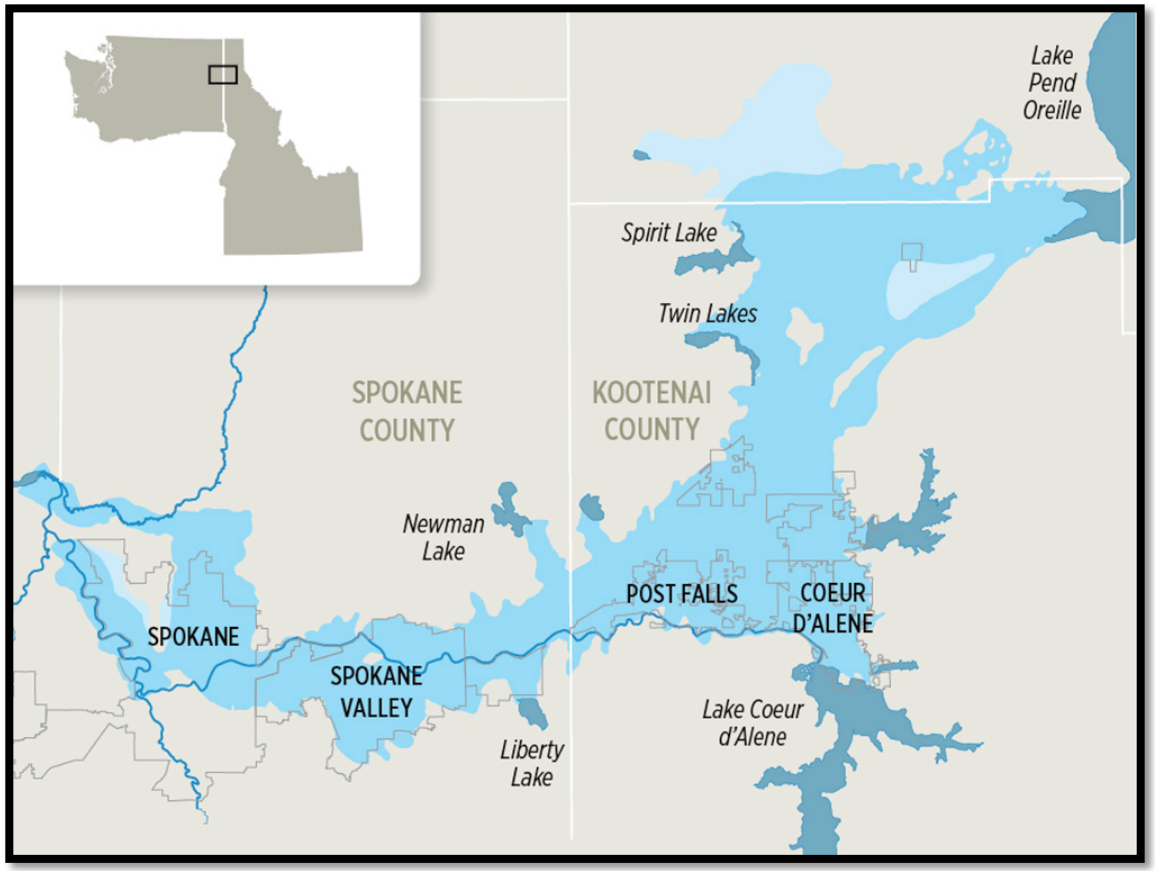
Idaho Water Resources Research Institute:
Dr. Mark Solomon, Water Research Scientist

MEETING MUNICIPAL DEMAND

- Municipal Water Rights
  - Future growth
  - Economic development
- Inchoate rights
- Reasonably Anticipated Future Need (RAFN) rights (§42-202B)

RATHDRUM PRAIRIE AQUIFER (RPA)

- Bi-state Spokane Valley-Rathdrum Prairie Aquifer
  - Aquifer and Spokane R. hydraulically connected



Lisa Waananen

RPA RAFN TIMELINE

- 1/14: WADOE proposes Spokane R. instream flow rule
  - 1/15: Target effective date
- 3/14: ID Legislature earmarks funds for RPA research
- 5/14: RPA municipal providers request IWRRI assistance
  - 8/14: IWRB funds IWRRI RAFN research
  - 12/14: IWRRI delivers RAFN report
- 12/14: First RPA RAFN application submitted

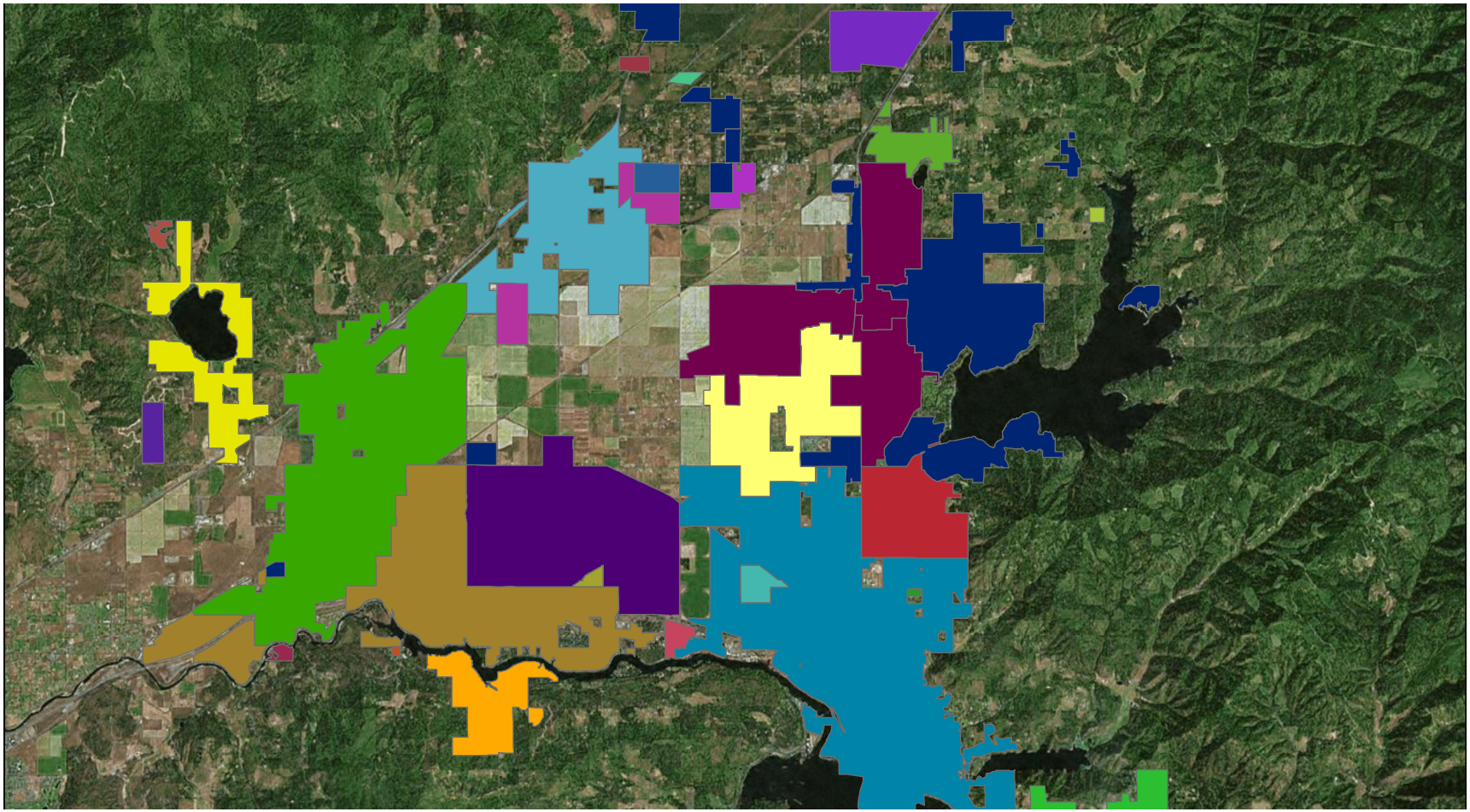
RAFN WATER RIGHTS

- Four Components
  - Service Area
  - Planning Horizon
  - Future Demand
  - Water Right Gap Analysis

SERVICE AREA

- Service areas of municipal providers
  - Incorporated cities
    - City limits plus Area of City Impact (ACI)
  - Irrigation Districts, Water Districts, Associations, etc.
    - District or corporate boundaries plus area "authorized or obligated" to serve
- RAFN application must demonstrate future service area does not overlap any other provider service area

RPA CURRENT SERVICE AREA



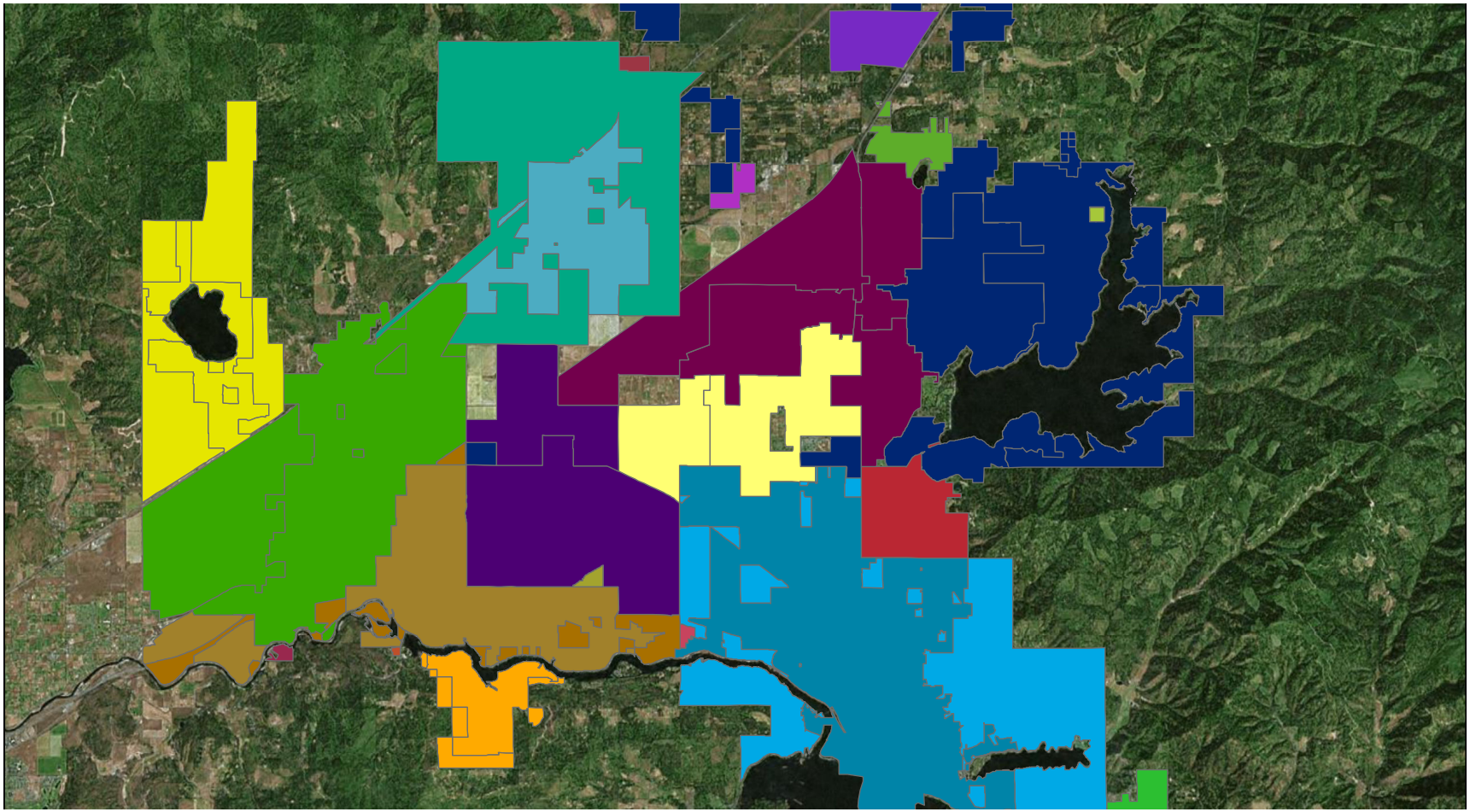
Central RPA Current Service Areas

FUTURE SERVICE AREA

Mediation Process

- Identify existing and projected overlaps
- Mediate resolution of identified overlaps
- Draft and circulate Memorandum of Understanding
  - Service area boundaries
  - Terms of service
- RPA Future Municipal Water Service Area MOU signed by all parties 12/11/2014

RPA FUTURE SERVICE AREA



Central RPA Future Service Areas

FUTURE WATER DEMAND

Components

- Current Water Demand
- Population/Economic Projection
- Forecast Methodology

CURRENT WATER DEMAND

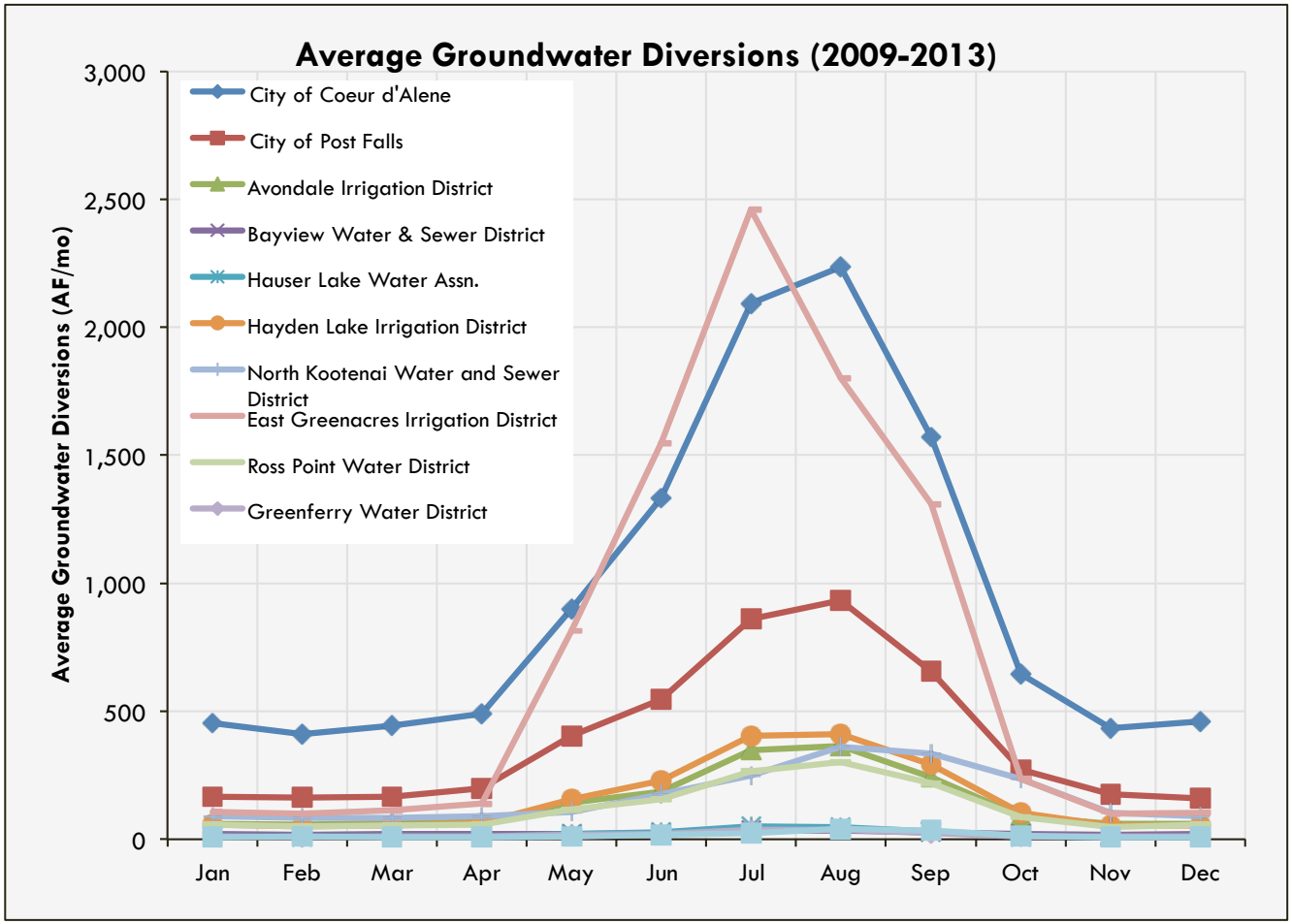
Estimate of Total Rathdrum Prairie Water Use			
Sector	**Non-Irrigation Use (AFA)**	**Irrigation Use (AFA)**	**Total Use (AFA)**
Purveyor Areas	13,600	22,800	36,400
Self-Supplied Domestic	3,100	8,400	11,500
Self-Supplied Commercial and Industrial	8,300	Assumed Negligible	8,300
Agriculture	Assumed Negligible	28,800	28,800
Estimated Total Ground Water Diversion	25,000	60,000	85,000

CURRENT WATER DEMAND

When is water used?

Peak month is August for providers without significant agriculture irrigation.

Peak month is July for providers with significant agriculture irrigation.



CURRENT WATER DEMAND

How is municipal water use distributed?

- Average estimated indoor per capita: **113 gpd**
- Average estimated irrigation per capita (East Greenacres excluded): **248 gpd**
- Average total municipal diversion 2009-2103: **10,773 MGY**

Estimated Per Capita Total and Indoor Use				
City	**Population**	**Average Diversion (MGA)**	**Estimated Total Use gal/per/day**	**Estimated Indoor Use gal/per/day**
North Kootenai	11,179	652	160	86
Coeur d'Alene	41,240	3,738	248	114
Hayden Lake	6,604	628	261	87
Post Falls	16,006	1,531	262	110
Avondale	5,643	567	275	112
Hauser Lake	677	81	328	150
Ross Point	3,942	477	332	144
East Greenacres	8,632	2,877	913	127
Greenferry	990	68	188	105
Remington	909	63	190	100
Totals	**96,822**	**10,773**		
Population Weighted Average without EGID			**245**	
Population Weighted Average with EGID			**305**	**111**

POPULATION PROJECTION: 2045

Methods

- Current population from 2012 census data
- Current distribution from census data/land use-parcel information/aerial photo verification
- Cohort component projection at census block level
- Land use/zoning to forecast variation from weighted average population distribution
- Economic projection using Idaho Economic Forecast Model, 2012 census data, ID Dept. of Labor, US Bureau of Economic Analysis, national and regional employment trends

POPULATION PROJECTION: 2045

RPA Future Municipal Water Provider Population Summary		
Provider	2014 Population	2045 Population
Remington	909	5989
Hauser Lake	677	2647
Greenferry	990	4800
Avondale	5643	7838
Rathdrum	7016	9545
East Greenacres	8632	14299
North Kootenai	11179	29435
Ross Point	3942	16190
Hayden Lake	6604	11216
Post Falls	16006	24523
Coeur d'Alene	41240	64027
Totals	**102838**	**190509**

POPULATION PROJECTION: 2045

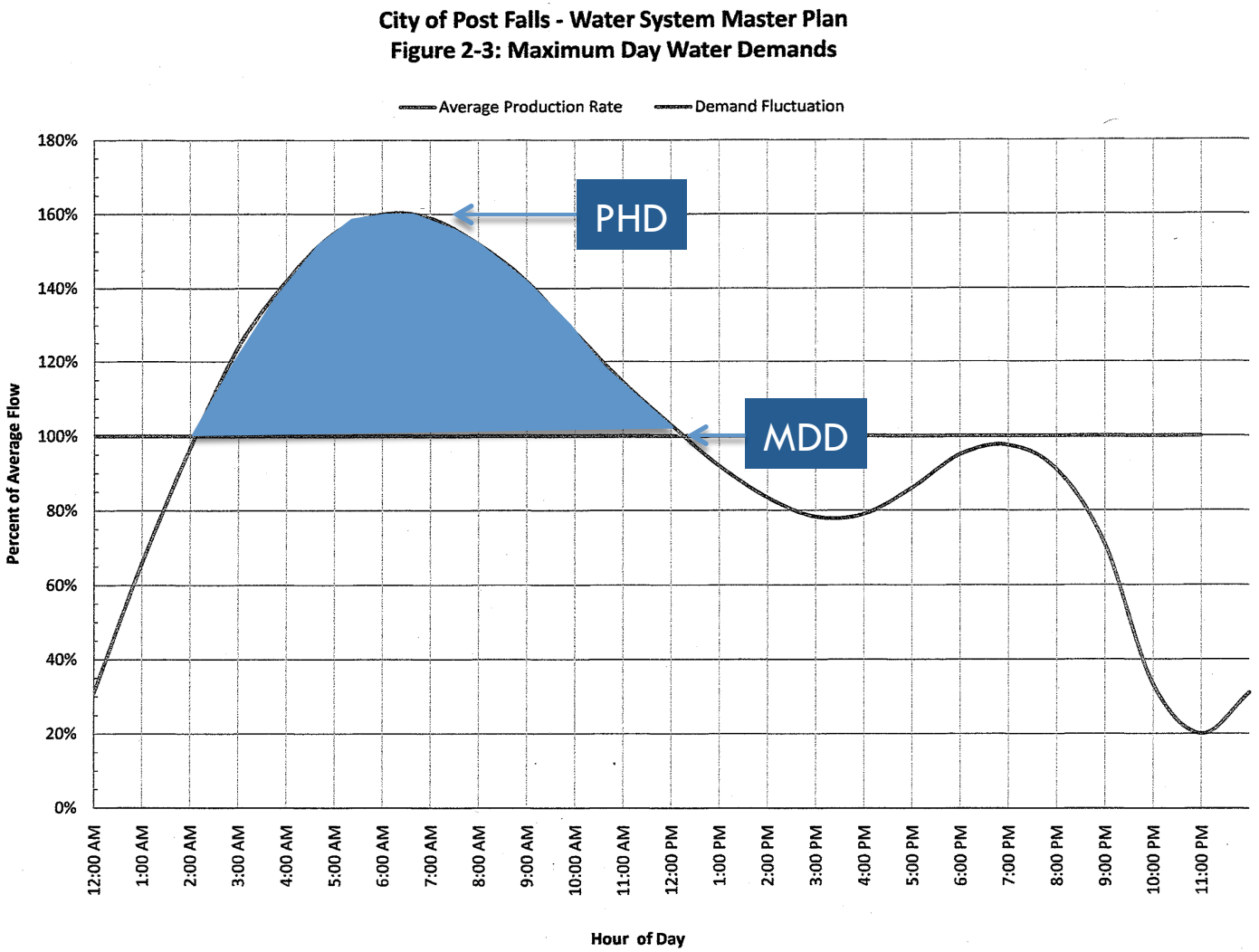
Projection Summary

- Population served by the eleven major RPA municipal providers is projected to increase by 87,671
- Average annual growth rate: 1.4% - 1.8%
- Area served will increase from 78.9 square miles to 156.9 square miles
- Employment is projected to increase by 44,338 jobs

MAXIMUM DAILY DEMAND
PEAK HOURLY DEMAND

- Water rights are based on the maximum diversion rate necessary to support the beneficial use
- Two accepted methods of calculating maximum diversion rates
  - Maximum Daily Demand (MDD)
  - Peak Hourly Demand (PHD)
- Municipal flow rate is highly variable
- Outdoor irrigation is the primary driver of peak demand rates

MAXIMUM DAILY DEMAND
PEAK HOURLY DEMAND



MAXIMUM DAILY DEMAND
PEAK HOURLY DEMAND

- IDWR Guidance
  - MDD
    - PHD supplied from storage
- RPA is an atypical Idaho aquifer
  - 758,000 AF annual recharge
    - 85,000 AF withdrawn
    - 9,120 AF return flow
  - Hydraulic conductivity 12,100-22,100 ft/day
- Above ground storage: $2.6M/1MG (Ross Point)

MAXIMUM DAILY DEMAND
PEAK HOURLY DEMAND

Recommendation

- IDWR should consider approving RPA RAFN rights at MDD flow rates with period-of-use-restricted higher PHD flow rates

Rationale

- Unique RPA hydrogeology
- Comparative expense to the municipal provider and rate payer of pumping versus above ground storage

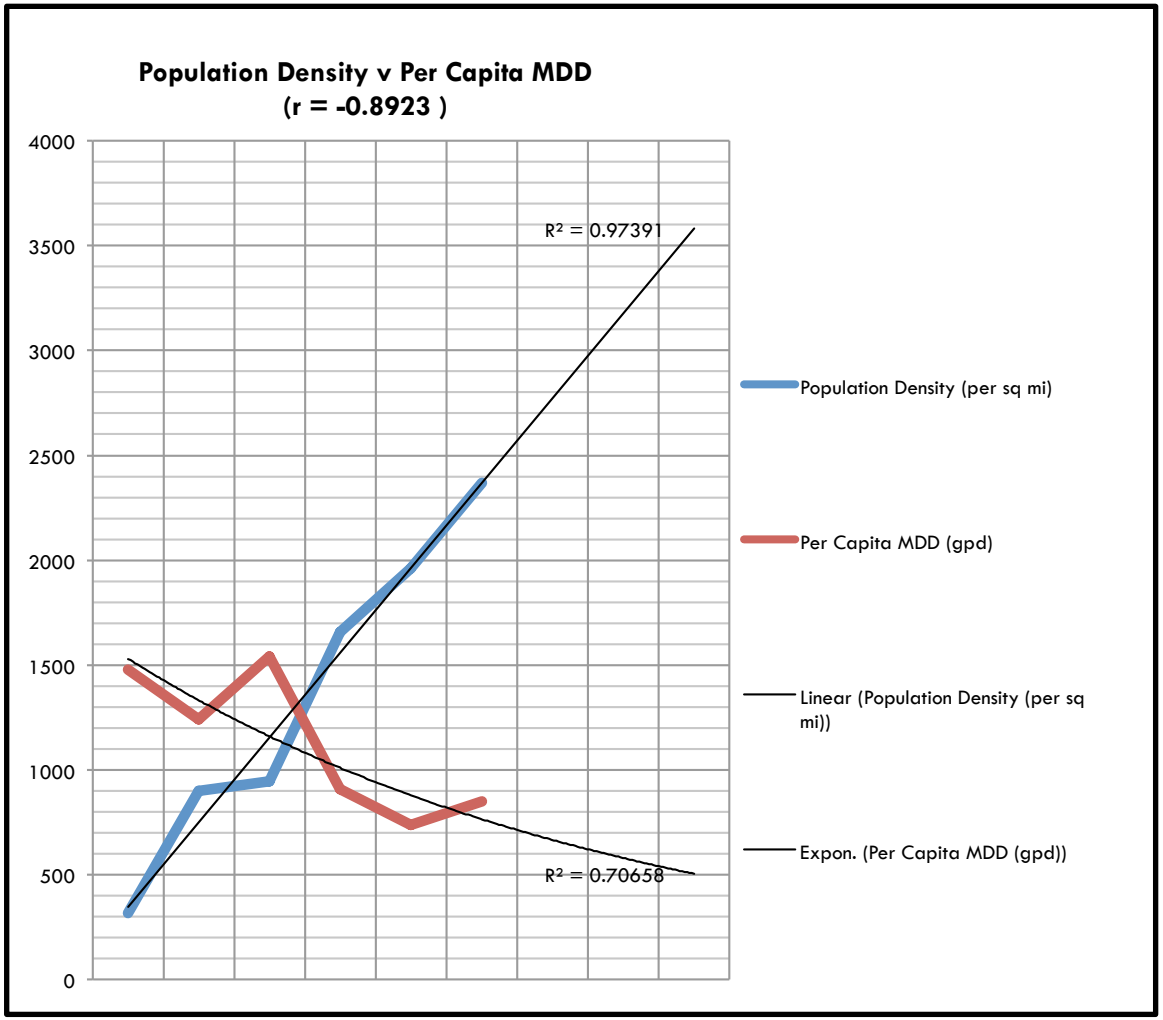
FUTURE DEMAND

Forecast Method

- Standard practice: per capita demand X population
  - Misses change in irrigation use as population density increases
- Irrigation 63% of RPA annual municipal demand
  - Primary factor in MDD and PHD
- This report uses RPA specific correlation between per capita demand and population density to determine future demand

FUTURE DEMAND (MDD)

- Calculate 2014 per capita MDD
- Correlate with 2014 population density
- Forecast 2045 per capita MDD from 2045 population density projection

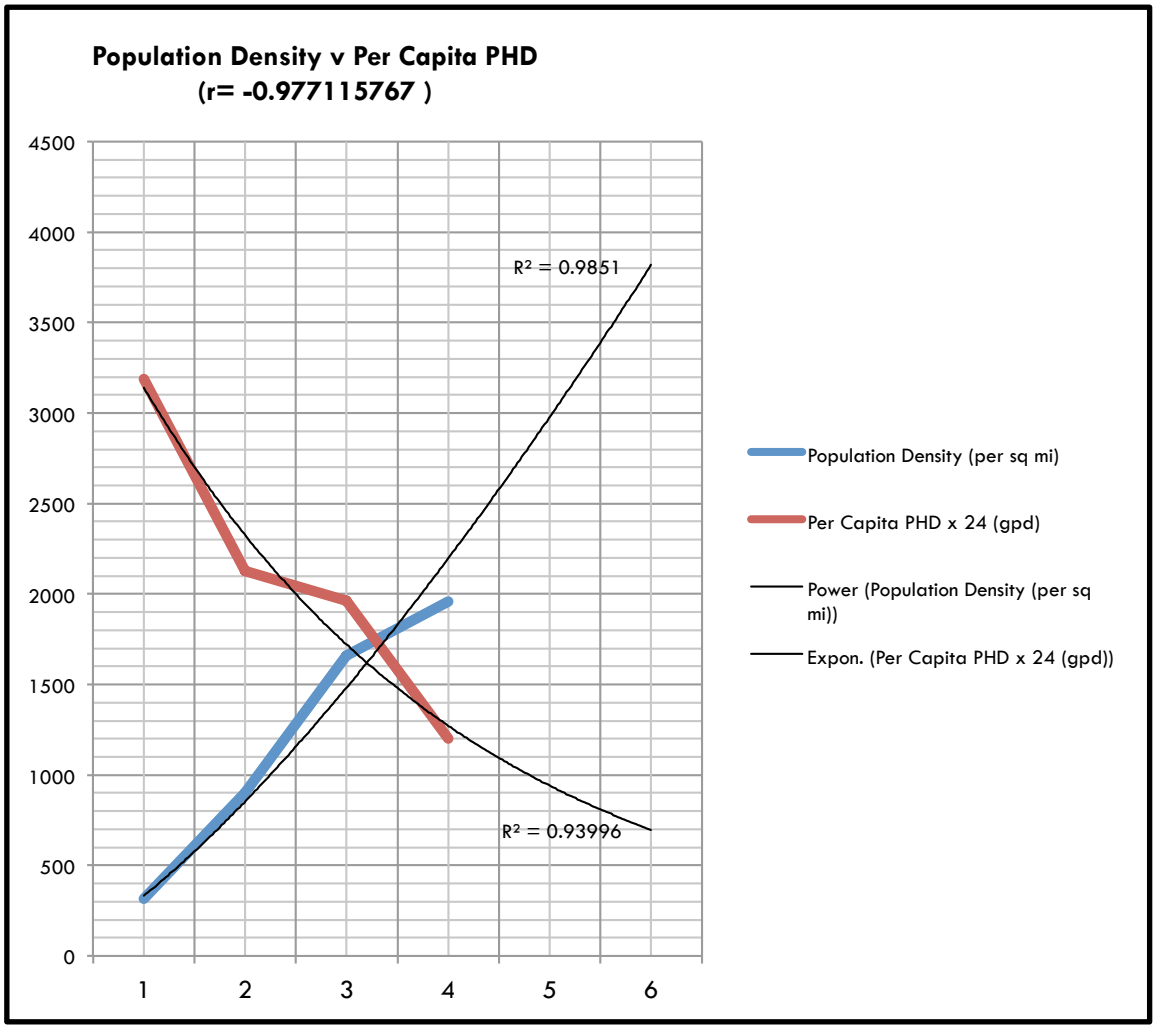


FUTURE DEMAND (MDD)

Maximum Daily Demand (MDD)				
Provider	**2014 MDD (MGD)**	**2045 MDD (MGD)**	**Δ MDD (MGD)**	**Δ MDD (cfs)**
Remington	1.60	9.34	7.74	11.98
Hauser Lake	1.0	4.00	3.00	4.64
Green Ferry	1.44	4.32	2.88	4.46
Avondale	7.0	10.97	3.97	6.15
Rathdrum	7.58	13.65	6.07	9.40
East Greenacres	41.96	19.16	-22.80	-35.28
North Kootenai	17.2	37.09	19.89	30.77
Ross Point	5.68	16.19	10.51	16.27
Hayden Lake	6.0	10.54	4.54	7.03
Post Falls	11.8	15.94	4.14	6.41
Coeur d'Alene	32.19	32.01	-0.18	-0.27
Total	**133.44**	**173.22**	**39.78**	**61.55**

FUTURE DEMAND (PHD)

- Calculate 2014 per capita PHD
- Correlate with 2014 population density
- Forecast 2045 per capita PHD from 2045 population density projection



FUTURE DEMAND (PHD)

2045 Peak Hourly Demand (PHD)				
Provider	**2014 PHD (MGH)**	**2045 PHD (MGH)**	**Δ PHD (MGH)**	**Δ PHD (cfs)**
Remington	0.13	0.85	0.72	32.13
Hauser Lake	0.09	0.34	0.25	11.10
Green Ferry	0.13	0.36	0.23	10.04
Avondale	0.5	0.88	0.38	16.85
Rathdrum	0.52	1.12	0.60	26.61
East Greenacres	2.39	1.46	-0.93	-41.54
North Kootenai	1.07	2.86	1.78	79.55
Ross Point	0.45	1.07	0.62	27.58
Hayden Lake	0.54	0.63	0.09	3.93
Post Falls	0.80	0.93	0.13	5.87
Coeur d'Alene	1.74	1.73	-0.01	-0.60
Total	**8.36**	**12.21**	**3.85**	**171.53**

MDD v PHD

Provider	Δ MDD (cfs)	Δ PHD (cfs)
Remington	11.98	32.13
Hauser Lake	4.64	11.10
Green Ferry	4.46	10.04
Avondale	6.15	16.85
Rathdrum	9.40	26.61
East Greenacres	-35.28	-41.54
North Kootenai	30.77	79.55
Ross Point	16.27	27.58
Hayden Lake	7.03	3.93
Post Falls	6.41	5.87
Coeur d'Alene	-0.27	-0.60
Total	**61.55**	**171.53**

WATER RIGHT GAP ANALYSIS

Provider	Maximum Water Right (cfs)	Additional Water Right Requirement Based on MDD (cfs)	Additional Water Right Requirement Based on PHD (cfs)	Storage (MG)
Remington	5.90	8.55	32.01	~
Hauser Lake	2.65	3.53	12.46	~
Green Ferry	2.05	4.63	14.00	~
Avondale	19.09	-2.11	20.06	~
Rathdrum	16.90	4.22	32.90	1
East Greenacres	97.90	-68.26	-32.86	0.33
North Kootenai	28.20	29.19	99.13	~
Ross Point	16.31	8.74	31.34	1
Hayden Lake	24.00	-7.69	4.01	~
Post Falls	33.84	-9.18	7.72	6.25
Coeur d'Alene	60.98	-11.45	16.11	6
Total	**307.82**	**-39.83**	**236.88**	**12.25**

WATER RIGHT GAP ANALYSIS

- 52.3 cfs RAFN rights to meet 2045 MDD of five municipal providers
  - Offset by decrease of 104.05 in MDD required rights among six other municipal providers
- 247.83 cfs RAFN rights to meet 2045 PHD of ten municipal providers
  - Offset by decrease of 32.86 cfs in PHD required rights for one RPA municipal provider
  - Storage may offset some or all of PHD RAFN needs of four providers with above ground storage capacity

DOCUMENT ACCESS

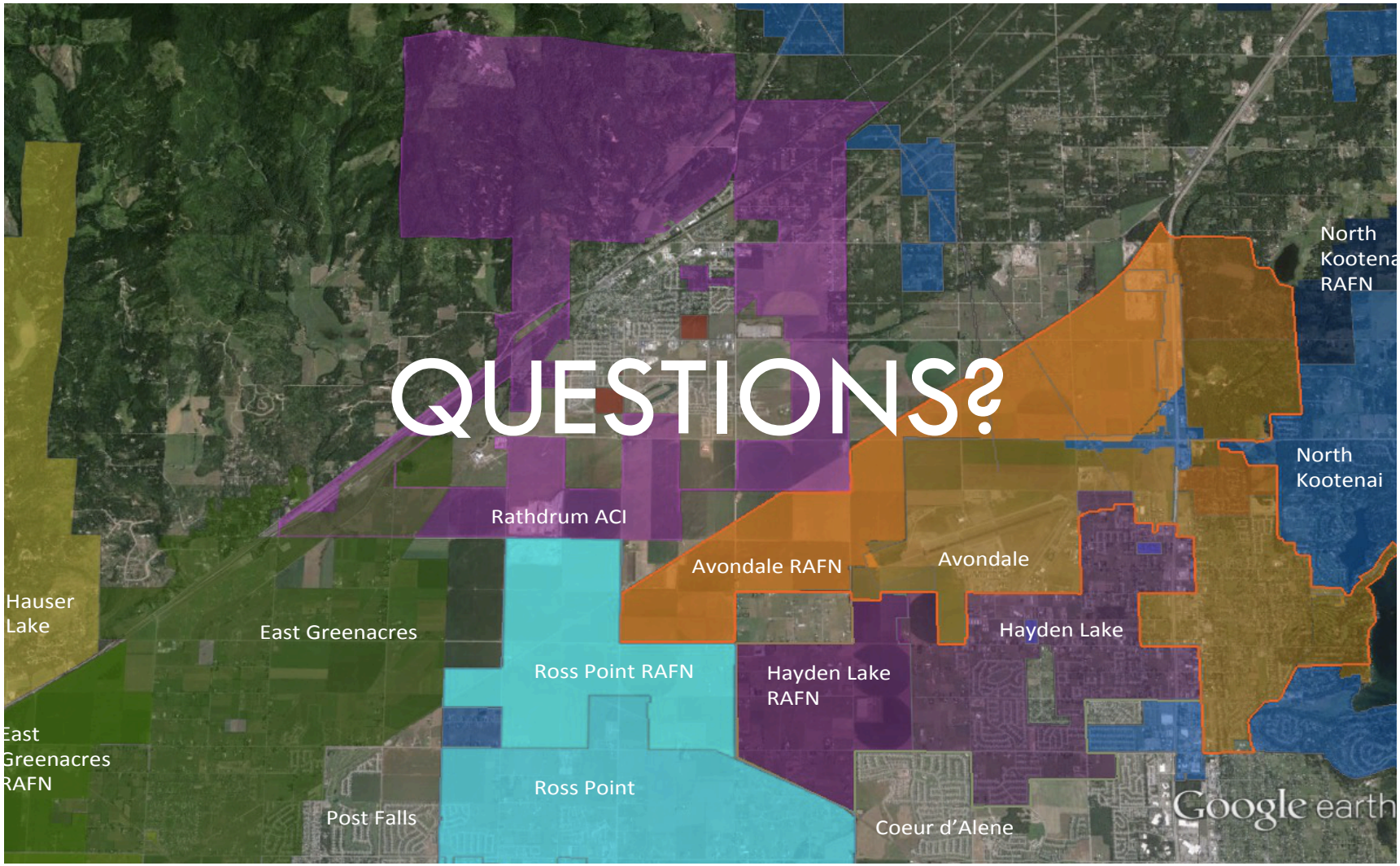
Report

www.uidaho.edu/cda/cwrc/rafn

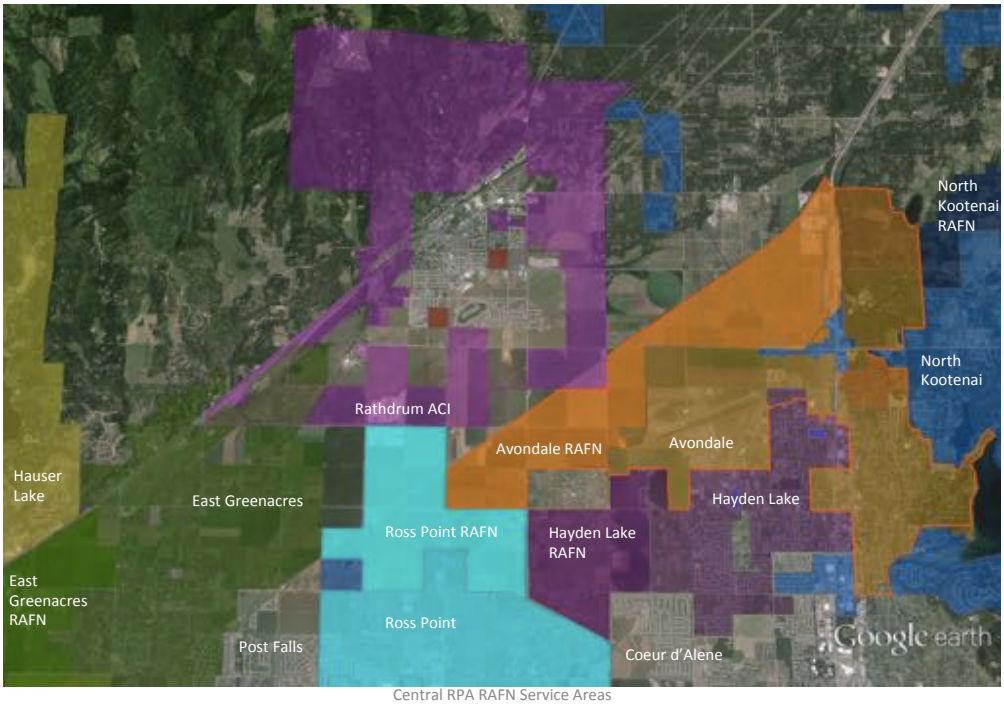
GIS Files

http://inside.uidaho.edu/

RATHDRUM PRAIRIE AQUIFER FUTURE MUNICIPAL WATER DEMAND



RATHDRUM PRAIRIE AQUIFER FUTURE WATER DEMAND



Central RPA RAFN Service Areas

12/15/14

Idaho Water Resources Research Institute
Report #201404: Mark Solomon and Elizabeth Scott

Report to the Idaho Water Resources Board providing information for evaluation of Rathdrum Prairie Aquifer Reasonably Anticipated Future Need municipal provider water right applications.

Rathdrum Prairie Aquifer Future Water Demand

IDAHO WATER RESOURCES RESEARCH INSTITUTE REPORT #201404: MARK SOLOMON AND ELIZABETH SCOTT

EXECUTIVE SUMMARY

Thirty-one municipal water providers deliver groundwater to 107,660 people over and adjoining the Rathdrum Prairie Aquifer (RPA) in northern Idaho. In 2014, the Idaho Legislature appropriated $500,000 to the Idaho Water Resources Board (IWRB) "to conduct joint water need studies in coordination with Northern Idaho communities to ensure water availability for future economic development". The Idaho Water Resources Research Institute (IWRRI) was contracted to conduct the studies and report to IWRB and RPA municipal providers. The goal of the contract and this report is to provide underlying information necessary to support potential Reasonably Anticipated Future Need (RAFN) water right applications from RPA municipal providers.

Idaho Code authorizes municipal water providers to hold RAFN water rights to provide for future growth and economic development. There are four components of an application for a RAFN right: delineation of the future service area, a planning horizon, a future water demand projection, and a water right gap analysis to determine the extent of the RAFN right to be applied for.

Approximately 85,000 acre foot (AF) annually is withdrawn from the RPA for municipal, domestic, commercial, industrial, and agricultural use. Of that, 36,400 AF is withdrawn by RPA municipal providers with eleven providers supplying water to 95% of the RP population. Ten providers anticipate either applying for RAFN rights, or identified potential service area overlaps with other providers. After mediated resolution of overlaps and terms of service, a Memorandum of Understanding identifying future RPA municipal water provider service areas was negotiated and signed by all ten municipal providers.

Population served by the eleven major RPA municipal providers is projected to increase by 87,671 over the 30-year planning horizon. The area served will increase from 78.9 square miles to 156.9 square miles. Relatively low to medium density (<1-4 units/acre) development of both ACI and rural areas is likely to constitute roughly 80-85% of new residential development. Existing cities and their Areas of City Impacts (ACI), along with urban reserves, will likely see a small amount (up to 5%) of higher intensity, compact development both within the city centers and at nodes along existing arterial and collector corridors within ACIs and in rural portions of the county. The Maximum Daily Demand will increase by 61.53 cfs, and the Peak Hourly Demand will increase by 171.81 cfs.

RAFN rights totaling 58.86 cfs are required to meet the 2045 MDD of five RPA municipal providers. The rights are offset by a decrease of 103.74 in MDD required rights among six other RPA municipal providers. RAFN rights totaling 264.69 cfs are required to meet the 2045 PHD of ten RPA municipal providers. The RAFN rights are offset by a decrease of 32.86 cfs in PHD required rights for one RPA municipal provider. Storage may offset some or all of the PHD RAFN needs of four providers with above ground storage capacity depending on individual provider water storage Management Policy.

IWRRI December 2014

ACKNOWLEDGEMENTS

This report is made possible through funding provided by the Idaho Water Resources Board. The authors wish to acknowledge the technical assistance provided by SPF Water Engineering, Idaho Water Engineering and Welch-Comer Engineers, the municipal providers of the Rathdrum Prairie for their vision, support, and supply of water production and demand data, and the University of Idaho – CDA Community Water Resource Center.

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INTRODUCTION

Idaho Code authorizes municipal water providers to hold unperfected water rights to provide for future growth and economic development. The statute and relevant guidance from the Idaho Department of Water Resources (IDWR) outlines four components of an application for a Reasonably Anticipated Future Need (RAFN) right: the future service area, a planning horizon, future water demand projection, and a water right gap analysis to determine the extent of the RAFN right to be applied for.

Thirty-one water providers deliver groundwater to municipal customers over and adjoining the Rathdrum Prairie Aquifer (RPA) in northern Idaho. Legally defined in §42-202B(5)) I.C. as municipal providers, the four incorporated cities, eight water districts, eleven water associations, four irrigation districts and four other corporations are distinguished by service-areas more reflective of incremental growth, geography and customer location than service areas arrived at through a planning process. Several of the providers' service-areas are bounded by others while the rest continue to expand as development occurs and requests for service are made. Market forces have served the providers adequately in the past to settle which would provide service to developments outside existing service area boundaries. The market approach is not compatible, however, with the needs of a RAFN application and its projected population and water demand requirements.

In 2014, the Idaho Legislature appropriated $500,000 to the Idaho Water Resources Board (IWRB) "to conduct joint water need studies in coordination with Northern Idaho communities to ensure water availability for future economic development". The Idaho Water Resources Research Institute (IWRRI) was contracted by IWRB through IDWR to conduct those joint water need studies. The goal of the contract and this report is to provide the underlying information necessary to support potential RAFN applications from municipal providers on the Rathdrum Prairie.

Driving this report's completion timeline has been Washington Department of Ecology's proposed Spokane River instream flow rule, projected to be adopted in mid-December 2014 and to become effective 31 days later. While neither Washington or Idaho consider water rights conflict across the state line a likely scenario, there is still a distinct advantage given to the entity with the earliest appropriation date should unanticipated conflict over water use of the shared aquifer and river resource surface.

To build this report, IWRRI addressed the four RAFN components by: (1) convening water providers in a mediation environment to establish mutually agreed upon provider service areas for developable land likely to be served by groundwater from the Rathdrum Prairie Aquifer (RPA); (2) updating the existing demand section of the 2010 water demand study to reflect current demand for RPA groundwater; (3) developing a thirty-year (2045) Population Projection and Water Demand Projection for the RPA based on the updated existing demand study, current population and economic data, population and economic projections, and developing defensible correlations for projection of future water demand; and (4) establishing an existing water rights portfolio and demand projection based water right gap analysis for RPA service providers.

This report details the findings of IWRRI and its technical consultants. Structurally, it will address each of the four RAFN components and the methodologies utilized to produce each components outcome: service area, planning horizon, future water demand, and gap analysis. Appendices include the full technical reports, Memorandum of Understanding, and a provider-by-provider breakout of information. Much of this reports information has been assembled as Geographic Information System (GIS) layers and will be made publicly available through the Inside Idaho GIS portal.

IWRRI December 2014

STUDY 1: SERVICE AREA

SUMMARY: A MEMORANDUM OF UNDERSTANDING IDENTIFYING FUTURE RPA MUNICIPAL WATER PROVIDER SERVICE AREAS WAS SIGNED BY ALL PARTIES AFTER MEDIATED RESOLUTION OF SERVICE AREA OVERLAPS AND TERMS OF SERVICE.

Approximately 35,000 acres of undeveloped RP agricultural and timber land is situated outside incorporated municipal boundaries or municipal provider service areas, land that could be potentially served by one or more of thirty-one different RPA municipal water providers.

Idaho Code §42-˝202B (9) defines the service area for a municipality as follows:

> "Service area" means that area within which a municipal provider is or becomes entitled or obligated to provide water for municipal purposes. For a municipality, the service area shall correspond to its corporate limits, or other recognized boundaries, including changes therein, after the permit or license is issued. The service area for a municipality may also include areas outside its corporate limits, or other recognized boundaries, that are within the municipality's established planning area if the constructed delivery system for the area shares a common water distribution system with lands located within the corporate limits. For a municipal provider that is not a municipality, the service area shall correspond to the area that it is authorized or obligated to serve, including changes therein after the permit or license is issued.

IDWR RAFN Guidance (2013) states, "For a municipal provider Idaho code requires the RAFN service area to be contained within the municipality's "established planning area" (I.C. §42-˝202B (9)) minus "areas overlapped by conflicting comprehensive land use plans" (I.C. §42-˝202B (8)). "

The intent of the statute and guidance appears to be two-fold: to ensure that there are no double allocations of RAFN rights, and to utilize statutorily required land use planning processes for the establishment of service areas. Meeting the intent of no overlaps is procedurally simple although not necessarily straightforward. Achieving the intent of the second purpose is less direct.

For municipal providers that are incorporated cities, Idaho Code provides several public planning processes that can serve to meet §42-202B (9), most notably the Area of City Impact section of the Local Land Use Planning statute §67-˝6526. There are, however, no similar public planning process requirements for municipal providers who are not incorporated cities to rely on.

To address this procedural gap, IWRRI proposed to identify existing and projected RPA municipal service area overlaps, mediate resolution of identified overlaps, and complete a consensus Memorandum of Understanding between municipal service providers memorializing the mediated solutions and the future service areas of all providers who identified expanded service areas.

Of the thirty-one RPA municipal providers, nine self-identified as planning to expand their service areas or anticipating increased demand within existing service areas over the next thirty years: City of Post Falls, City of Rathdrum, Avondale Irrigation District, East acres Irrigation District, Greenferry Water and Sewer District, Hauser Lake Water Association, Hayden Lake Irrigation District, North Kootenai Water and Sewer District, Remington Recreational Water and Sewer District, and Ross Point Water District. Each of the providers agreed to participate in IWRRI mediated resolution of existing service area overlaps and potential overlaps in projected future service areas on a 30-year planning horizon. IWRRI mediator Dr. Mark Solomon met individually with each of the providers to determine where overlaps might exist and the nature of the overlap, i.e. incorporated city versus irrigation district or irrigation district versus irrigation district. After further IWRRI

fact-finding, duly authorized representatives of overlapping providers engaged in mediated resolution of the overlaps. All overlaps were resolved and are memorialized in the signed Memorandum of Understanding, see Appendix A.

Figure 1. 2014 Municipal Provider Service Areas

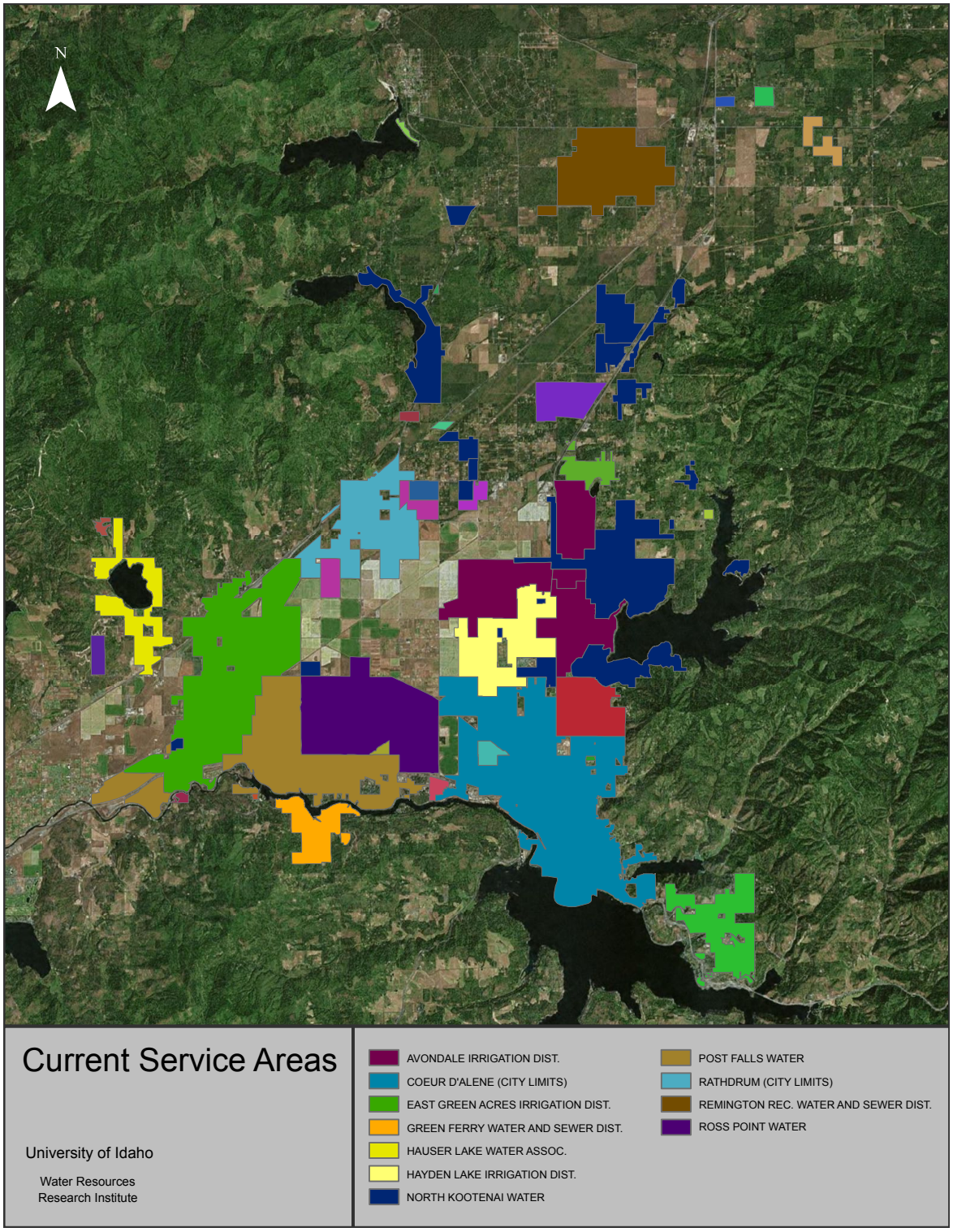

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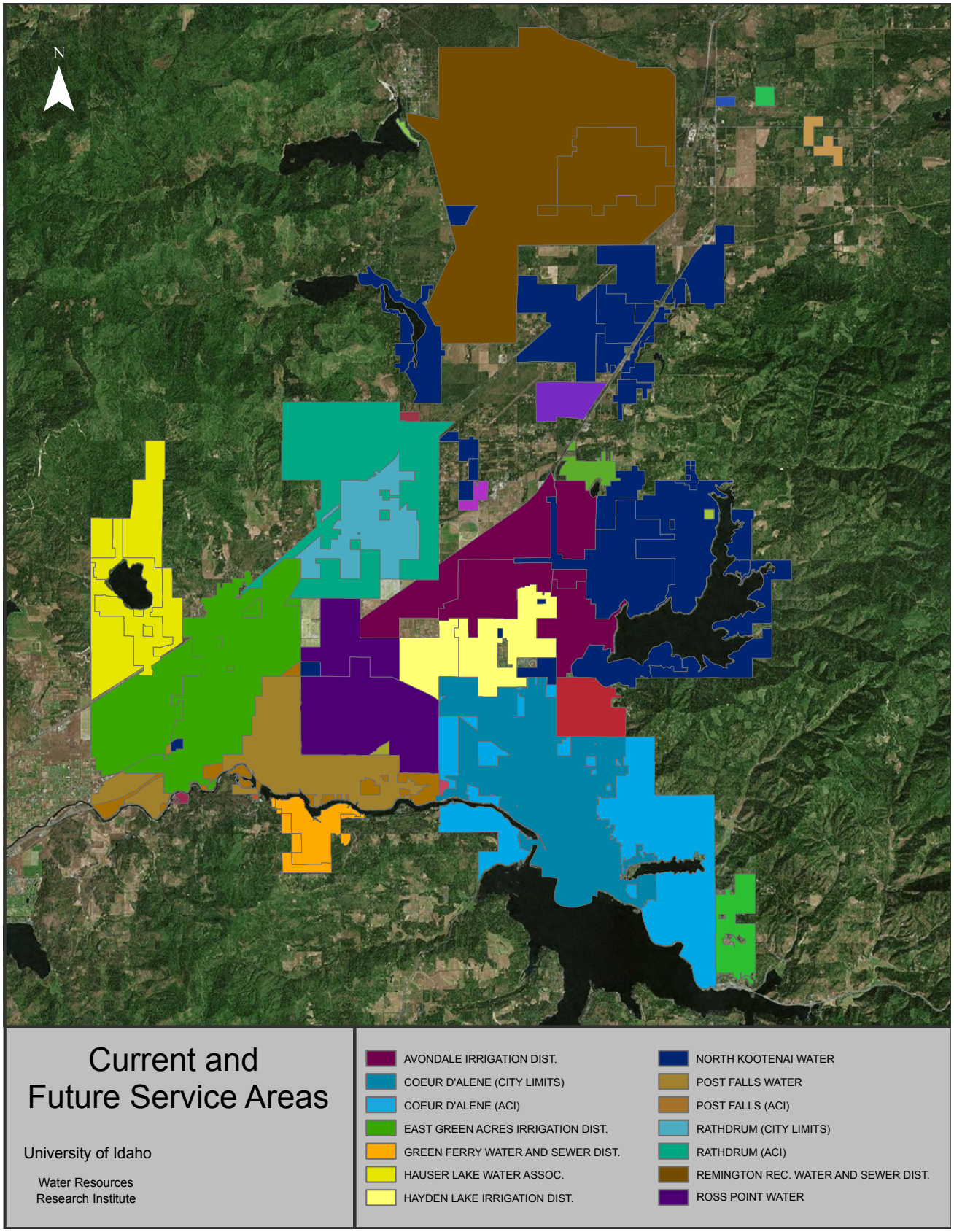
Figure 2. 2045 Municipal Provider Service Areas



IWRRI December 2014

STUDY 2: CURRENT WATER DEMAND

SUMMARY: APPROXIMATELY 85,000 ACRE FOOT (AF) ANNUALLY IS WITHDRAWN FROM THE RPA FOR ALL USES: MUNICIPAL, DOMESTIC, COMMERCIAL, INDUSTRIAL, AND AGRICULTURAL. OF THAT, 36,400 AF IS WITHDRAWN BY RPA MUNICIPAL PROVIDERS.

Water demand on the RPA includes diversion for municipal and self-supplied domestic, commercial, industrial, and agricultural uses. Total current demand for RPA water was estimated as part of the development of the 2010 Rathdrum Prairie Comprehensive Aquifer Management Plan (RPCAMP) as Idaho does not require reporting of annual diversion rates or volumes. RPCAMP includes updating of the total demand estimate as one of the plans continuing action items. The author of the original RPCAMP estimate, SPF Water Engineering, was contracted under this study to update the total current demand estimate. The total accounting aspects of the SPF study set the context for the municipal demand assessment used in the later sections of this report.

Table 1. Total RPA Water Use

Estimated Total Rathdrum Prairie Water Use			
Sector	Non-Irrigation Use (AFA)	Irrigation Use (AFA)	Total Use (AFA)
Purveyor Areas	13,600	22,800	36,400
Self-Supplied Domestic	3,100	8,400	11,500
Self-Supplied Commercial and Industrial	8,300	Assumed Negligible	8,300
Agriculture	Assumed Negligible	28,800	28,800
Estimated Total Ground Water Diversion	25,000	60,000	85,000

SPF also analyzed the current demand for the individual municipal service providers. SPF was tasked to:

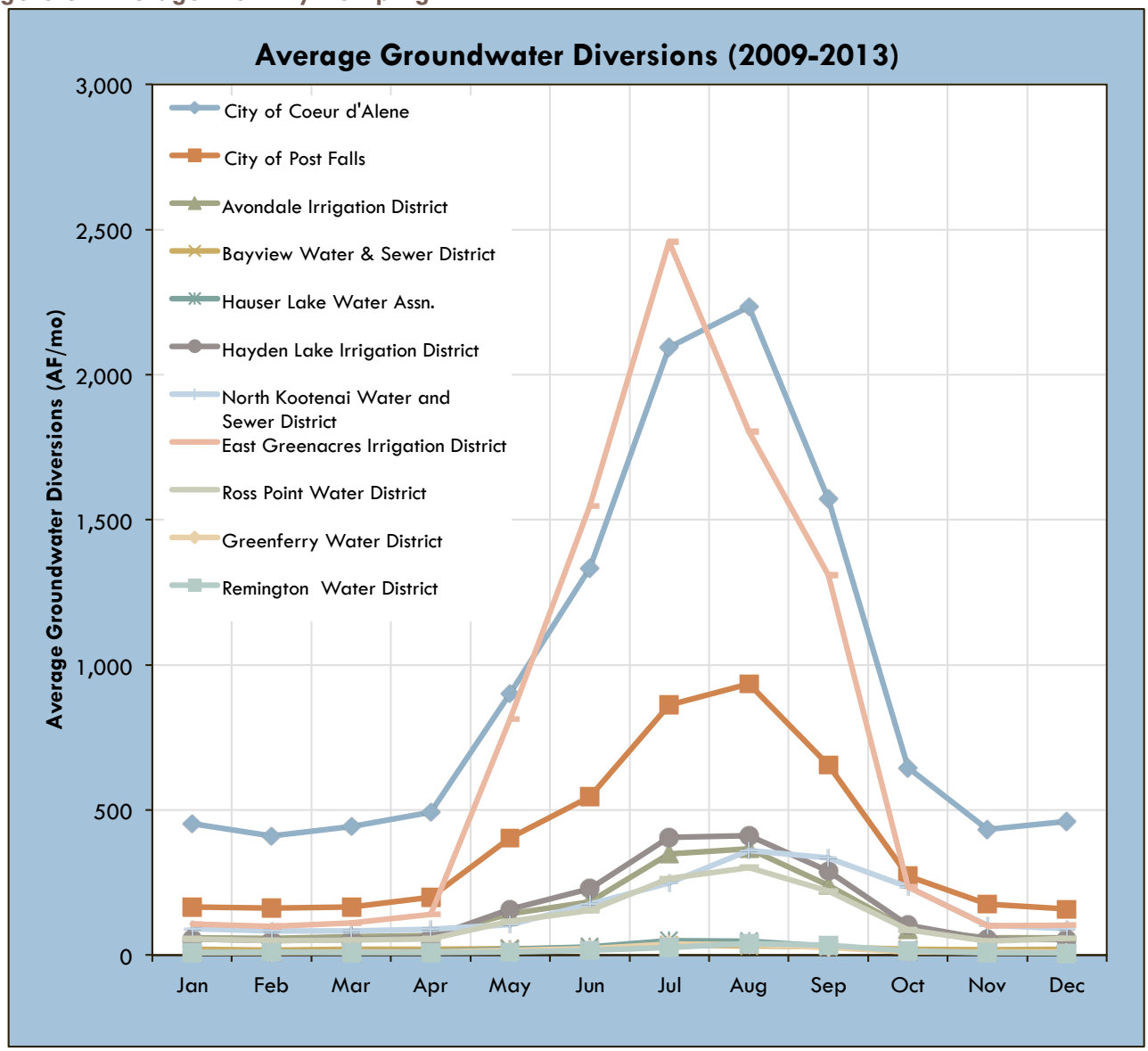
1. Request water-diversion data from Rathdrum Prairie water purveyors (list provided by IWRRI);
2. Compile water purveyor production data from 2009 to 2013;
3. Estimate current indoor (e.g., potable) and outdoor (i.e., irrigation) water use within purveyor service areas;
4. Develop estimates of total per-capita and indoor per-capita water use;
5. Estimate the amount of water use outside of purveyor boundaries for domestic, irrigation, commercial, and industrial purposes based on water- right information;
6. Estimate agricultural irrigation withdrawals outside of purveyor-supplied areas based on water-right information and/or other data;
7. Develop general estimates of "unaccounted-for" system losses based on provider information and national averages.

Eleven providers reported in sufficient detail to be included in their study, representing 89% of the RP population supplied by municipal providers. The City of Rathdrum, accounting for 6% of the RPA population, supplied data to IWRRI after SPF's study was completed. Rathdrum's data is utilized in the next section of this report. SPF's findings are summarized below. Their full study is included in this report as Appendix B. *(Note: revised population data for Greenferry and Remington water districts received after*

the SPF report was completed are incorporated in this report.)

The first aspect of municipal demand needed to build a RAFN forecast is identification of the peak monthly demand (Maximum Monthly Demand). Water rights are not built on average demand, but rather, on the maximum diversion rate necessary to meet the beneficial use demand. For the Rathdrum Prairie municipal providers that equates to the hot days of summer when agricultural and landscape irrigation demand can create hourly demand spikes 5-6 times greater than normal daily demand.

Figure 3. Average Monthly Pumping



The variety in purpose, organizational structure, geographical size, location, and population across the RPA municipal providers makes accurate determination of existing demand by individual water providers a critical component in building a RAFN forecast where the size, location and population variables are likely to change. Per capita demand by provider is the independent variable most useful in forecasting demand. Per capita total, indoor and outdoor use by the eleven providers submitting data is listed in Table 2.

Table 2. Per Capita Water Use

Estimated Per Capita Total and Indoor Use							
Municipal Provider	Population	Average Diversion (MGA)	Average Diversion (AFA)	Average Indoor Use (based on average winter diversions) (AFA)	Estimated Average Irrigation use (AFA)	Estimated Total Use (gpd)	Estimated Indoor Use (gpd)
North Kootenai Water and Sewer District	11,179	652	2,001	1,082	919	160	86
City of Coeur d'Alene	41,240	3,738	11,472	5,250	6,224	248	114
Bayview Water and Sewer District	1,000	91	279	231	48	249	206
Hayden Lake Irrigation District	6,604	628	1,928	646	1,282	261	87
City of Post Falls	16,006	1,531	4,699	1,970	2,725	262	110
Avondale Irrigation District	5,643	567	1,739	710	1,029	275	112
Hauser Lake Water Association	677	81	248	113	135	328	150
Ross Point Water District	3,942	477	1,465	635	830	332	144
East Greenacres Irrigation District	8,632	2,877	8,830	1,231	7,599	913	127
Greenferry Water District	990	68	209	117	92	188	105
Remington Water District	909	63	194	102	91	190	100
Totals	95,912	10,773	33,063	12,087	20,973		
Population Weighted Average without East Greenacres Irrigation District						245	
Population Weighted Average with East Greenacres Irrigation District						305	111

East Greenacres Irrigation District supplies a significant volume of agricultural irrigation water alongside the municipal water they provide the 8632 people in their service area. Population weighted average per capita demand is presented with and without inclusion of East Greenacres.

"Unaccounted-For" Water

A portion of water system production is generally unaccounted for in metered deliveries. This "unaccounted-for" water may result from production or delivery measurement error or water-system leaks. Similarly, many irrigation entities also experience conveyance losses as a result of system linkage, meter variability, and/or evapotranspiration.

Table 3. Unaccounted-For Water

Reported "Unaccounted-For" Production		
Provider	Unaccounted Water	Source of Data or Reported Time Period
Avondale Irrigation District	15-20%	estimated by District
Bayview Water & Sewer District	none provided	
City of Coeur d'Alene	> 10%	2009-2013
City of Post Falls	5.91%	2009 Water System Conservation Plan
East Geenacres Irrigation District	8-12%	estimated by District
Greenferry Water & Sewer District	none provided	
Hauser Lake Water Association	5.59%	2013
Hayden Lake Irrigation District	10-25%	estimated by District
North Kootenai Water District	none provided	
Remington Water District	15%	estimated by District
Ross Point Water District	none provided	

The term “unaccounted-for” water is being redefined by the American Water Works Association (AWWA) as “non-revenue” water. AWWA defines this water as the volume of distributed water that is not reflected in customer billings. It specifically includes the sum of unbilled “authorized consumption” (water for firefighting, flushing, etc.) plus “apparent losses” (customer meter inaccuracies, unauthorized consumption and systematic data handling errors) plus “real losses” (system leakage, storage tank overflows). While there is no comprehensive national policy that limits water loss from a public water supply’s distribution system, most states set limits that fall within the range of 10 to 15 percent as the maximum acceptable value for the amount of water that is lost or “unaccounted-for” (USEPA, 2010). The amount of unaccounted-for water reported by the 11 purveyors supplying data ranged from 5 to 25 percent of water- system production.

STUDY 3: FUTURE WATER DEMAND

SUMMARY: POPULATION SERVED BY THE ELEVEN MAJOR RPA MUNICIPAL PROVIDERS IS PROJECTED TO INCREASE BY 87,671 OVER THE 30-YEAR PLANNING HORIZON. THE AREA SERVED WILL INCREASE FROM 78.9 SQUARE MILES TO 156.9 SQUARE MILES. THE MAXIMUM DAILY DEMAND WILL INCREASE BY 58.86 CFS, AND THE PEAK HOURLY DEMAND WILL INCREASE BY 264.69 CFS. INCREASED MUNICIPAL PROVIDER WITHDRAWAL WILL LARGELY BE OFFSET BY A REDUCTION IN AGRICULTURAL WITHDRAWAL AND DECREASES IN OUTDOOR LANDSCAPE IRRIGATION DEMAND AS POPULATION DENSITY INCREASES.

To accurately estimate future municipal water demand, the forecaster needs a planning horizon and data on the current water demand, population and economic growth projections, future service areas, and the temporal resolution of the diversion rate. The SPF Water Engineering report in the previous section identified the current monthly and annual demand for the entire RPA and by selected provider service areas. Demographic and spatial analysis of existing data was developed to determine current and population and economic statistics and future population and economic projections. As will be more fully detailed later in this section, these two data sets (current water demand, population/economic statistics and projections) were correlated and combined to produce the RPA future municipal water demand.

IDWR's RAFN guidance recommends a 20-year planning horizon as appropriate for RAFN applications. Municipal providers, however, may currently apply for a well permit with a 5-year proof of use period that may be extended by IDWR for up to an additional ten years. They contended that the additional five years offered by a 20-year planning horizon was not sufficient to justify the considerable expenditure of resources involved with applying for RAFN rights. The 30-year planning horizon utilized in this forecast provides the necessary incentive for RPA providers to engage in the resource intensive task of preparing and submitting RAFN applications, while protecting IDWR's obligation to protect Idaho's water resources from speculative use.

POPULATION AND ECONOMIC PROJECTION

Population growth and employment growth projections are necessary components for estimating future water needs. This report updates projections recorded in the 2010 Rathdrum Prairie Aquifer Water Demand Projections report and Comprehensive Aquifer Management Plan (RPCAMP 2010), utilizing a similar hybrid method, but with some important differences. This report uses projections established in the 2010 report as a base. It refines those projections based upon updated information, and applies the projections to water service areas in the following way:

1. Current population estimates for each current water provider service area are calculated from census data (American Community Survey 2012) at the block group level within service provider areas, and at the census tract level outside of service areas. The population distribution is further refined using GIS data for existing land use and parcel information, and aerial photo verification of housing distribution.

2. Current employment estimates are made at the block group and zip code level, using most current data available from American Community Survey (2012), Idaho Department of Labor (2013), US Bureau of Economic Analysis (2013), and Woods and Poole data pamphlet (2014) for the Coeur d'Alene metropolitan statistical area.

3. Population projections for future service areas are based on a cohort component projection model at the census block group level, using data for 2000, 2010, and 2012. Block group projections are then applied to future service areas using a weighted average for census block distribution. Future land use or zoning maps provide another level of detail to determine where future growth is likely to be more intensely concentrated than is suggested by the weighted average distribution method.

4. Employment projections utilize output from the Idaho Economic Forecasting Model presented in the 2010 Rathdrum Prairie Aquifer Water Demand Projections report, but update the projections using ACS 2012, Idaho Department of Labor, US Bureau of Economic Analysis, and Woods & Poole information for years 2008 – 2013. National and regional employment trends through 2040 are extrapolated to 2045.

Future land use and zoning as described in municipal and regional comprehensive and infrastructure plans is also analyzed here to determine areas of increased development intensity as it may affect population distribution or future employment growth.

Population Projections and Growth Distribution

Population growth projections are necessary to perform future water needs analyses. The 2010 RPCAMP report provides baseline projections for both population growth and employment growth. This report updates those projections to include the most recent census and employment information available. Unlike the previous report, this report applies the population forecasts to future water service areas.

As indicated in the 2010 RPCAMP, the Rathdrum Prairie has experienced major growth in the past few decades due to an overall growing economy and increasing employment opportunities in sectors such as healthcare and tourism related industries. The region's reputation for livable communities and rural lifestyles has led to an influx of new residents, and increasing demands for services and amenities to support their needs. Communities such as Post Falls, Hayden and Coeur d'Alene have experienced construction of new residential and commercial developments despite the recent recession. This report discusses key areas for future development potential, building on findings of the 2010 report. This discussion takes into consideration updates to comprehensive and major infrastructure plans, as well as input from stakeholders involved with land planning, management and development within the Rathdrum Prairie Aquifer water service areas.

CURRENT POPULATION ESTIMATES

Kootenai County has been one of the fastest growing areas of Idaho for several decades. The bulk of this growth has and continues to be from migration into the region for the quality of life and employment opportunities it offers. Table 4 shows growth in selected cities in the Rathdrum Prairie Aquifer service area over the past 50 years. The annual growth rate throughout Kootenai County for the period 2008-2012 averaged 1.5%, down from an average annual rate of 3.0% for the period 1980-2007. Although the recent recession may explain slower growth over the period of 2008-2012, growth has continued, and is likely to continue at moderate rates of 1.4 – 1.8% for the next 30 years.

Estimates of current population distribution in current water provider service areas is given in Table 5, and shown in Figure 4. Table 6 provides an estimate of the total population of the Rathdrum Prairie that lies outside of the listed provider areas. These estimates are derived from population distribution at the census tract level (American Community Survey 2012), and further refined by comparison to existing parcel and land use maps, and aerial photos. Figure 5 shows population density in the census tracts listed in Table 6 in relation

to current service areas. The estimate for population lying outside of current service areas may be slightly higher than expected because it takes into account a small number of people living in rural areas not served by the RPA. There may also be a small amount of overlap with existing service areas.

Table 4. 50-Year Population Growth for Communities as Percentage of Total Kootenai County Population

Population Growth in Kootenai County Communities							
County/City	Year						
	1950	1960	1970	1980	1990	2000	2010
Kootenai County	24,947	29,556	35,332	59,770	69,795	108,685	138,494
Athol	0.9%	0.7%	0.5%	0.5%	0.5%	0.6%	0.5%
Coeur d'Alene	48.9%	48.4%	45.9%	33.3%	35.2%	31.8%	31.9%
Dalton Gardens		3.7%	4.4%	3.0%	2.8%	2.1%	1.7%
Fernan Lake		0.5%	0.5%	0.3%	0.2%	0.2%	0.1%
Harrison	1.3%	0.8%	0.7%	0.4%	0.3%	0.2%	0.1%
Hauser	0.3%	0.4%	1.0%	0.5%	0.5%	0.6%	0.5%
Hayden		3.0%	3.6%	4.3%	5.4%	8.4%	9.6%
Hayden Lake	0.2%	0.8%	0.7%	0.5%	0.5%	0.5%	0.4%
Huetter	0.3%	0.4%	0.1%	0.1%	0.1%	0.1%	0.1%
Post Falls	4.3%	6.7%	6.7%	9.6%	10.5%	15.9%	19.9%
Rathdrum	2.4%	2.4%	2.1%	2.3%	2.9%	4.4%	4.9%
Spirit Lake	3.3%	2.3%	1.8%	1.4%	1.1%	1.3%	1.4%
State Line	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%
Balance of Kootenai County	**37.0%**	**28.9%**	**31.1%**	**43.4%**	**38.0%**	**33.7%**	**28.8%**
Source: U.S. Census Bureau and American Community Survey.							

Table 5. Current Population Estimates for Water Provider Service Area

Population Estimates by Provider Service Area			
Provider	Service Area (SqMi)	Population Density (per SqMi)	Service Area Population Estimate
Alpine Meadows Water And Sewer District	15.993	102	88
Avondale Irrigation District	0.079	900	5643
Bayview Water And Sewer District	0.318	490	600
Coeur D'Alene (ACI)	11.449	250	3368
Coeur D'Alene (City Limits)	0.126	2368	37872
Diagonal Road Water District No. 1	0.332	152	12
Dry Acres Water And Sewer District	1.771	245	78
East Greenacres Irrigation District	0.254	754	8632
Emerald Estates Water Association, Inc.	0.001	2850	358
Forest Nursery Water	2.142	12	4
Greenferry Water And Sewer District	3.983	229	990
Hackney Water And Sewer District	0.563	485	123
Harborview Water System, Inc.	0.209	133	10
Hauser Lake Water Association	1.131	316	677
Hayden Lake Irrigation District	11.818	1658	6604
Highway 54 Water Association, Inc.	1.443	149	84
Huetter (ACI And City Limits)	0.019	490	102
Idaho Irrigation, Inc.	0.127	26	29
North Kootenai Water and Sewer District	8.167	946	11179
Ohio Match Road Water	12.845	93	134
Parkview Water Association	5.170	3771	73
Pineview Estates Water	4.951	2998	382
Post Falls Water	0.097	1960	16006
Rathdrum (ACI)	7.167	222	2852
Rathdrum (City Limits)	0.100	1357	7016
Remington Recreational Water And Sewer	0.129	118	909
Rocky Beach Water And Sewer District	0.062	897	87
Ross Point Water	0.376	550	3942
Royal Highlands Water (Valley Water	0.108	2802	280
Russell Water Association, Et Al	0.125	186	24
Schaeffer Additions Water Association, Inc.	15.993	1244	77
Singer Ranch Water Association	0.079	122	46
Troy Hoffman Water Corp, Inc.	0.318	2400	259
Westwood North Water Association	11.449	232	29
TOTAL			**107,660**

Figure 4. Current Water Provider Service Areas

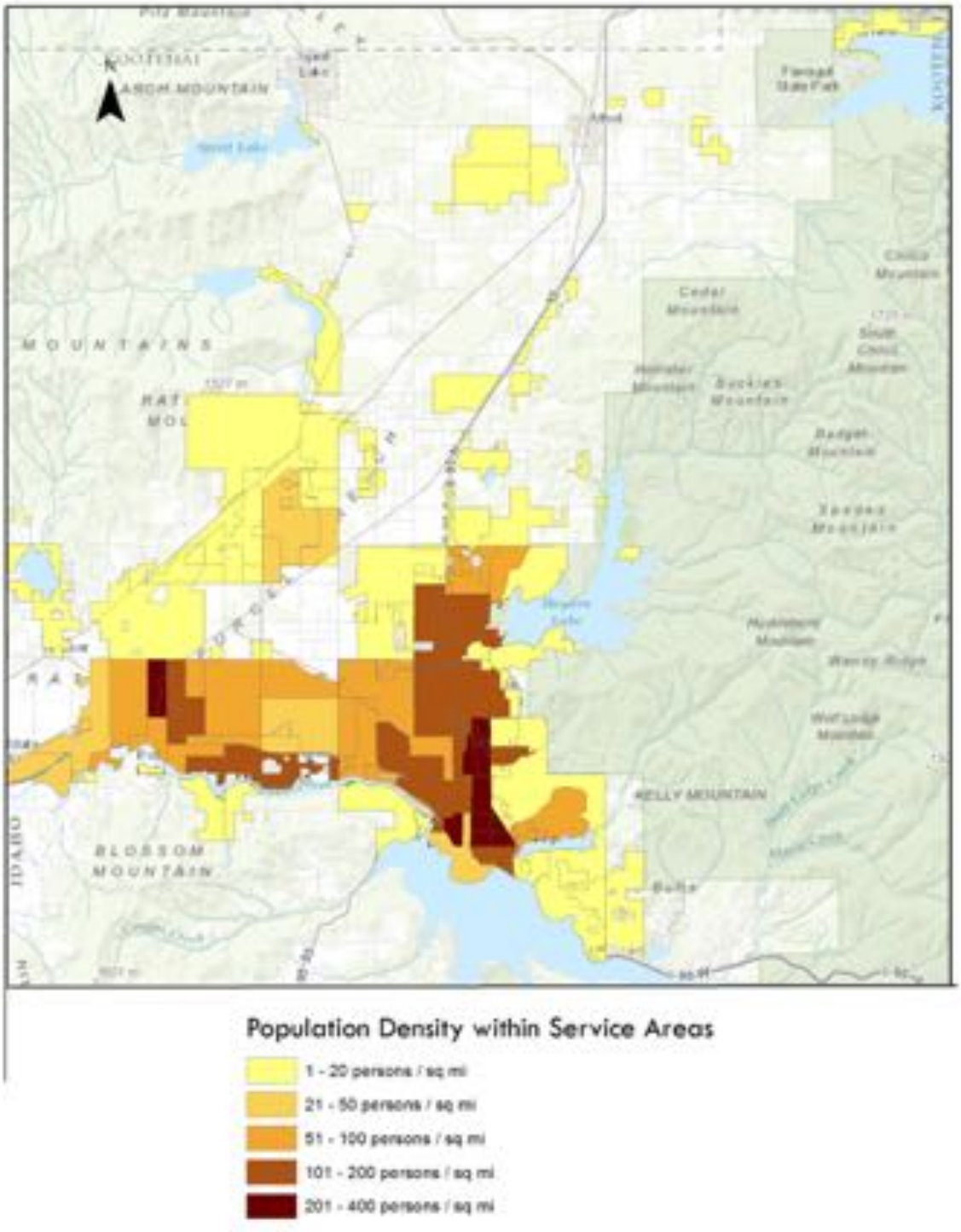


Figure 5. RPA Census Tracts with Population Outside Current Service Areas

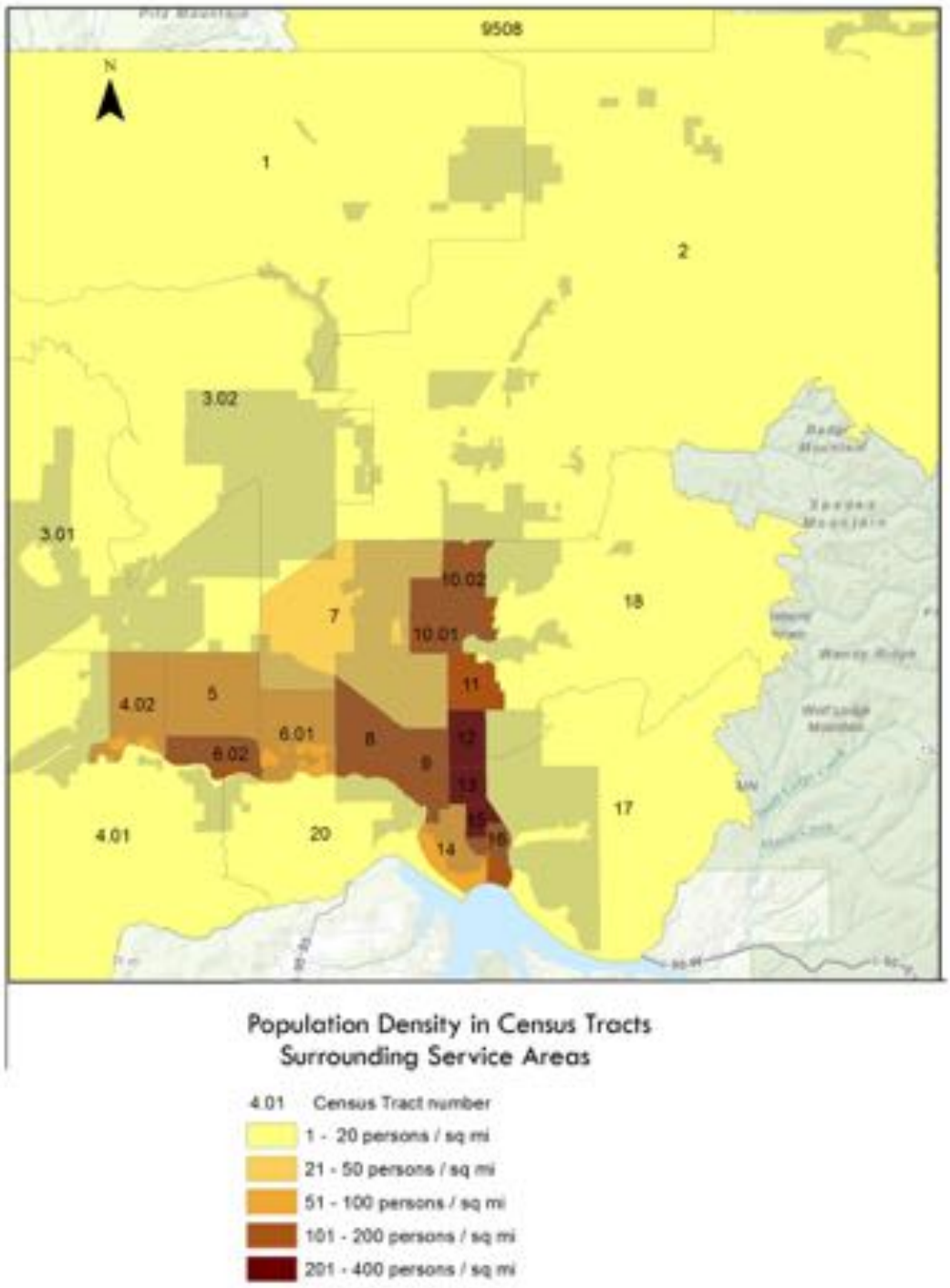


Table 6. Estimated Population Outside of Current Service Area

Population Outside Current Service Area		
Census Tract	Block Group	2012 ACS Population
1		5,174
2		6,065
3	1	335
3	2	562
4	1	2,340
4	2	444
6	1	1,381
6	2	701
7		2,082
10	1	148
17	1	61
18	1	988
20		1,658
Total Population		**21,939**
Percentage of Kootenai County Population		**15.5%**

Population Projections

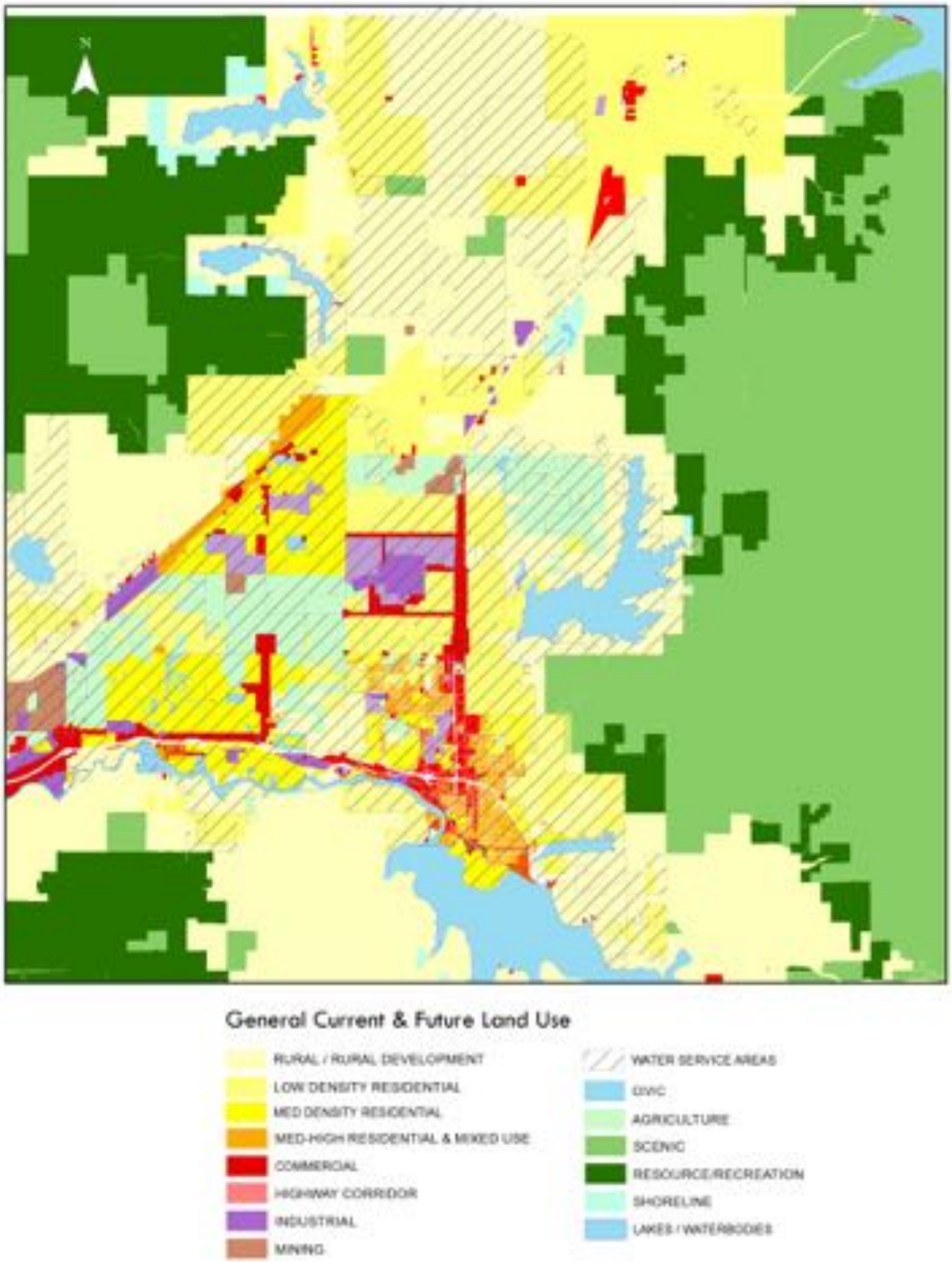
Population projections for future service needs are dependent on the definition of new service area boundaries. Population growth for these regions is first calculated at the census block group level, using a cohort component method. This method takes into account natural birth and death rates, and net migration rates for 5-year age cohorts. The cohort component model uses observed values from 2000 and 2010 decadal census data, and 2012 American Community Survey data. The population is projected through 2045 using this method. As with current population estimates, service area population projections are derived from weighted averages of block group estimates, refined by analysis of future land use and infrastructure planning designations.

Table 7 summarizes population projections for the future service areas shown in Figure 6. Growth rates vary somewhat from area to area, from an average mid-term (through 2025) low of about 0.9% per year to a high of about 1.8% per year. However, most of the area reflects a moderate overall growth rate of 1.4 – 1.7% per year through 2045. Areas of faster growth are anticipated in regional transportation corridors and other priority growth areas defined in municipal comprehensive plans. These will be discussed in more detail below.

Table 7. Population Estimates for Future Water Provider Service Areas

Total Populations by Year								
Service Area	2010	2015	2020	2025	2030	2035	2040	2045
Avondale	6236	6588	6777	7037	7278	7499	7669	7838
Coeur d'Alene	45641	49162	51385	54175	56779	59246	61621	64027
East Greenacres	9535	10338	10945	11581	12215	12873	13564	14299
Greenferry	586	909	1087	1512	2158	3231	4800	4800
Hauser Lake	1961	2095	2192	2311	2415	2502	2575	2647
Hayden Lake	7132	7690	8168	8717	9295	9913	10549	11216
North Kootenai	9699	11519	13232	15554	18313	21501	25156	29435
Post Falls	18474	19530	20304	21210	22057	22867	23666	24523
Rathdrum	7528	7926	8191	8538	8871	9150	9363	9545
Remington	3479	3701	4071	4399	4757	5139	5555	5989
Ross Point	3502	4866	5540	6907	8527	10518	13018	16190
Total	**113773**	**122400**	**131892**	**141938**	**152666**	**164438**	**172735**	**190509**

Figure 6. Kootenai County Future Land Use



Employment

Population forecasts also take into account economic trends. As with the Idaho Economic Forecasting Model used in the 2010 RPCAMP, the economic model used for employment projections is based on a simultaneous equation method that interprets regional and national economic trends. Some sectors of the economy are more dependent on national or international trade, including mining and manufacturing (basic industries). Sectors that rely on regional or local trade are considered secondary industries. The majority of current and projected future employment is attributable to these secondary industries. National and regional trend information is available through 2040. This information was extrapolated through 2045 for the purposes of this report.

CURRENT EMPLOYMENT

Table 8 summarizes current employment by zip code and municipal area through 2012 (ACS 2012). These reflect differences from base employment forecasts reported in the 2010 RPCAMP that are related to effects of the recent recession. Industry sectors that showed slower than expected growth or declines in the 2008-2012 period include:

- Agriculture, Forestry, Fishing, Mining
- Arts, Entertainment, Accommodation and Food services
- Construction
- Information
- Other services

The biggest dip in employment occurred in 2010, and most sectors showed improvement starting in 2011. Arts, entertainment, and related industries showed slower recovery, but recent reports (Idaho Dept. of Labor) indicate a steady increase in these areas as well.

Employment Forecasts

Employment forecasts provided by state and national agencies (Idaho Department of Labor, US Bureau of Economic Analysis) for the Coeur d'Alene metropolitan statistical area were used as the basis for employment forecasts for the RPA future service areas. These are compared to other forecasts (Woods & Poole 2014), as well as information from local planning agencies, to assess overall industry trends for the region. Table 9 shows employment projections by industry sector through 2045.

Table 8. Current Employment by Zip Code and Municipal Area for Major Industry Sectors

Current Employment by City and Zip Code											
Employment Sector	Industry Code	Athol 83801	Bayview 83803	Coeur d'Alene 83814	Dalton Gardens 83815	Hayden 83835	Hauser 83854	Hayden Lake 83835	Post Falls 83854	Rathdrum 83858	Spirit Lake 83869
All Occupations	00	264	251	21008	935	5883	389	214	13065	2921	703
Agriculture, Forestry, Fishing, Mining	11, 21	11	12	285	28	181	9	4	140	20	17
Construction	23	41	12	2260	106	632	40	5	1346	366	60
Manufacturing	31	44	24	1317	72	380	42	15	1305	377	72
Wholesale Trade	42	0	11	575	7	263	16	5	657	167	23
Retail Trade	44	44	14	2810	129	931	71	28	1755	286	141
Transportation, Warehousing, Utilities	48, 22	14	19	690	18	157	10	8	451	179	48
Information	51	0	12	380	22	45	13	6	145	39	27
Finance, Insurance, Real Estate	52 -53	0	41	1571	62	367	8	24	1284	69	16
Professional, Scientific, Management, Administrative, Waste Mgt.	54 - 56	7	24	2159	72	614	47	23	1072	115	31
Educational, Health Care and Social	61, 62	26	34	4129	280	1245	61	60	2737	720	105
Arts, Entertainment, Recreation, Accom., Food Service	71, 72	44	67	3129	70	555	56	16	1356	295	93
Other Services	81	13	46	1047	30	209	7	6	283	115	61
Public Administration	82	20	0	656	39	304	9	14	537	173	9

Table 9. Employment Forecast for the Coeur d'Alene Metropolitan Statistical Area by Industry, 2015-2045

Employment Forecasts by Industry							
Employment Sector	2015	2020	2025	2030	2035	2040	2045
All Occupations	79,648	86,388	93,674	101,555	110,089	119,332	129,188
Agriculture, Forestry, Fishing, Mining	1,695	1,769	1,844	1,921	1,998	2,074	2,1727
Construction	5,650	5,908	6,163	6,414	6,660	6,900	7,164
Manufacturing	4,925	5,069	5,204	5,327	5,439	5,539	5,655
Wholesale Trade	1,715	1,770	1,862	1,955	2,047	2,139	2,230
Retail Trade	10,468	11,061	11,655	12,248	12,838	13,423	14,070
Transportation, Warehousing, Utilities	1,417	1,48	1,541	1,601	1,660	1,718	1,787
Information	930	943	954	964	972	978	986
Finance, Insurance, Real Estate	9,000	9,893	10,846	11,858	12,929	14,059	15,326
Professional, Scientific, Management, Administrative, Waste Mgmt.	10,120	10,921	11,764	12,651	13,582	14,561	15,469
Educational, Health Care and Social	9,342	11,032	12,981	15,221	17,788	20,718	24,449
Arts, Entertainment, Recreation, etc.	8,939	9,726	10,558	11,433	12,355	13,321	14,282
Other Services	4,605	5,575	6,717	8,054	9,611	11,414	13,611
Public Administration	10,787	11,149	11,492	11,816	12,118	12,397	12,484

Although all industries show absolute growth through the forecast period, there is a decrease in federal civilian employment, with essentially flat or very low growth in agriculture/forestry/mining and information sectors.

Taking into account the relative distribution of service areas, a normalized projection of total employment for the same period by service area is given in Table 10. This normalization is based in part on current population distribution, and may over or underestimate the allocation of employment to portions of service areas that fall in or near a shared municipal boundary. Examples of this include East Greenacres and Ross

Point (Post Falls municipal area) and Avondale and Hayden Lake (Hayden municipal area).

Table 10. Normalized Distribution of Future Employment by Future Service Area

Total Employment Projection by Future Service Area							
Service Area	2015	2020	2025	2030	2035	2040	2045
Avondale	3,891	4,100	4,303	4,505	4,702	4,870	5,018
Coeur d'Alene	29,036	31,088	33,125	35,142	37,146	39,131	40,991
East Greenacres	6,106	6,622	7,081	7,561	8,071	8,614	9,154
Greenferry	348	390	411	432	450	463	474
Hauser Lake	1,237	1,326	1,413	1,495	1,568	1,635	1,695
Hayden Lake	4,542	4,942	5,330	5,753	6,215	6,699	7,181
North Kootenai	6,803	8,005	9,510	11,334	13,481	15,975	18,845
Post Falls	11,535	12,284	12,969	13,652	14,337	15,029	15,700
Rathdrum	4,681	4,956	5,221	5,491	5,737	5,945	6,111
Remington	2,223	2,413	2,594	2,789	2,980	3,159	3,320
Ross Point	2,874	3,351	4,223	5,278	6,595	8,267	10,365
Total - all areas	**73,276**	**79,477**	**86,180**	**93,431**	**101,282**	**109,785**	**118,853**

Spatial Distribution of Growth within the RPA

Analysis of growth for municipal and unincorporated areas within the RPA area utilized comprehensive plans from municipal planning agencies and Kootenai County, as well as major infrastructure plans. Although existing and future land use or zoning maps are useful in determining areas of future growth, they do not represent ongoing new construction. To address this issue, aerial imagery and existing parcel boundaries were used to refine understanding of existing conditions. Discussions with regional planners, developers, and land managers provided insight to growth trends in various parts of the region.

ANALYSIS METHOD FOR RESIDENTIAL DENSITY, FUTURE COMMERCIAL/INDUSTRIAL LAND USE

Zoning Ordinances: County and municipal zoning ordinances associated with the most recent available comprehensive plans are used as the basis of build-out projections. The principal focus for analysis is residential use and densities allowed by each jurisdiction's zoning code. The future land use map provided here (Figure 6) shows simplified land use designations for residential, commercial, and industrial uses. It gives a sense of where the greatest amount of new development is likely to occur over the next 30 years.

Future Land Uses: The compiled future land use maps utilize data and imagery provided by the County and municipal planning agencies, Google Earth, and *Inside Idaho*. GIS files were created to represent undeveloped parcels zoned as residential. The potential density range for each area was calculated based on the associated zoning or use code. In keeping with approaches used in other planning documents, a projection of three (3) people per unit was used to determine population increases of each city and adjacent identified growth area. Densities of 12 persons per acre and 20 persons per acre were used in areas not covered by comprehensive plans, but identified as growth areas in the regional wastewater and transportation plans. In remaining rural areas not associated with identified growth potential, rural densities

as defined in the Kootenai County Comprehensive plan were used. Identified commercial or industrial growth areas use a simplified aggregate range of land uses based on future or adjacent zoning codes.

Aerial Imagery: Aerial imagery used in this study comes from *Inside Idaho* geospatial data portal and Google Earth.

Future Growth Areas

The 2010 RPCAMP reviewed existing planning documents, and identified changing land use and growth areas in the following locations:

1. Existing city boundaries and Areas of City Impact (ACI)
2. Exclusive Tier and Shared Tier areas in Kootenai County adjacent to Post Falls, Hayden, and Rathdrum
3. Along transportation corridors within and extending outward from city ACIs, particularly within the Exclusive Tier areas, as well as into unincorporated portions of the county
4. Rural Dispersed Villages (e.g. Bayview on Lake Pend Oreille)
5. Low density residential/rural development in areas not served by municipal water treatment facilities

Figure 6 shows a simplified distribution of future residential, rural and commercial/industrial land uses as depicted in existing planning documents. Several growth areas identified on this map are worth noting. Major commercial and mixed uses allowed under various versions of smart codes are indicated primarily along major arterial and collector roads including Highway 95 extending northward from Hayden, Highway 41 between Post Falls and Rathdrum, Huetter Road between I-90 and Hayden Avenue, and Highway 53 between Hauser (state line) and Rathdrum. At this point in time, major development is expected primarily along the US 95 and SH 41 corridors, with development along the other routes concentrated primarily at major intersections and similar high-use nodes. However, planned communities are likely to extend outside of existing ACI boundaries, particularly in the following areas:

- Between Spirit Lake and Athol, as indicated by the expanded Remington and North Kootenai service areas
- North and east of Hayden/Hayden Lake
- On the margins of Post Falls and Rathdrum

Residential growth within ACIs or municipal boundaries is expected to follow patterns of development seen in the early 2000s. Some exceptions to this include areas covered by recent "smart code" or similar designations that allow for mixed residential and a variety of commercial or other uses, in some cases at slightly higher densities than typically seen in the area. One example is an area along Prairie Avenue, west of Idaho Road in Post Falls. Existing plans anticipate nodal development here with a mix of uses and housing types that may reach densities of 20 dwelling units per acre (approximately 60 persons per acre). However most of the smart code or similarly identified areas lie within the city centers of Coeur d'Alene, Post Falls and Hayden. It is unlikely that extensive higher intensity residential development will occur outside of current ACIs.

An area that may experience intensification of commercial/industrial development lies within the Shared Tier designation west of the Coeur d'Alene airport. This area is primarily covered by Avondale, Hayden Lake, and Ross Point future service areas. It is entirely possible that growth pressures over the next 30 years will increase the pressure for this currently unincorporated area to be annexed by one or more of the adjacent cities. In part because of its location with respect to current and future infrastructure, it is one of the more attractive areas for future commercial or industrial development.

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In summary, relatively low to medium density (<1 – 4 units per acre) development of both ACI and rural areas is likely to constitute roughly 80-85% of new residential development over the next 30 years. However, existing cities and their ACIs, along with urban reserves, will likely see a small amount (5%-10%) higher intensity compact development both within the city centers and at nodes along existing arterial and collector corridors within ACIs and in rural portions of the county. This is a growing national trend, reflecting a changing demographic distribution with a desire to be near health care and urban amenities, as well as access to a range of transportation choices. It is also likely that ongoing economic recovery will drive new development of second homes and other high-end residential development in rural areas with access to recreation and scenic resources. Some of this may be medium density (up to 3 units per acre) as individual planned communities (PUDs and similar) are approved. However, this type of development will likely constitute no more than approximately 5% of total development for the area over the next 30 years.

FUTURE WATER DEMAND

RAFN Rights: Maximum Daily Demand or Peak Hourly Demand?

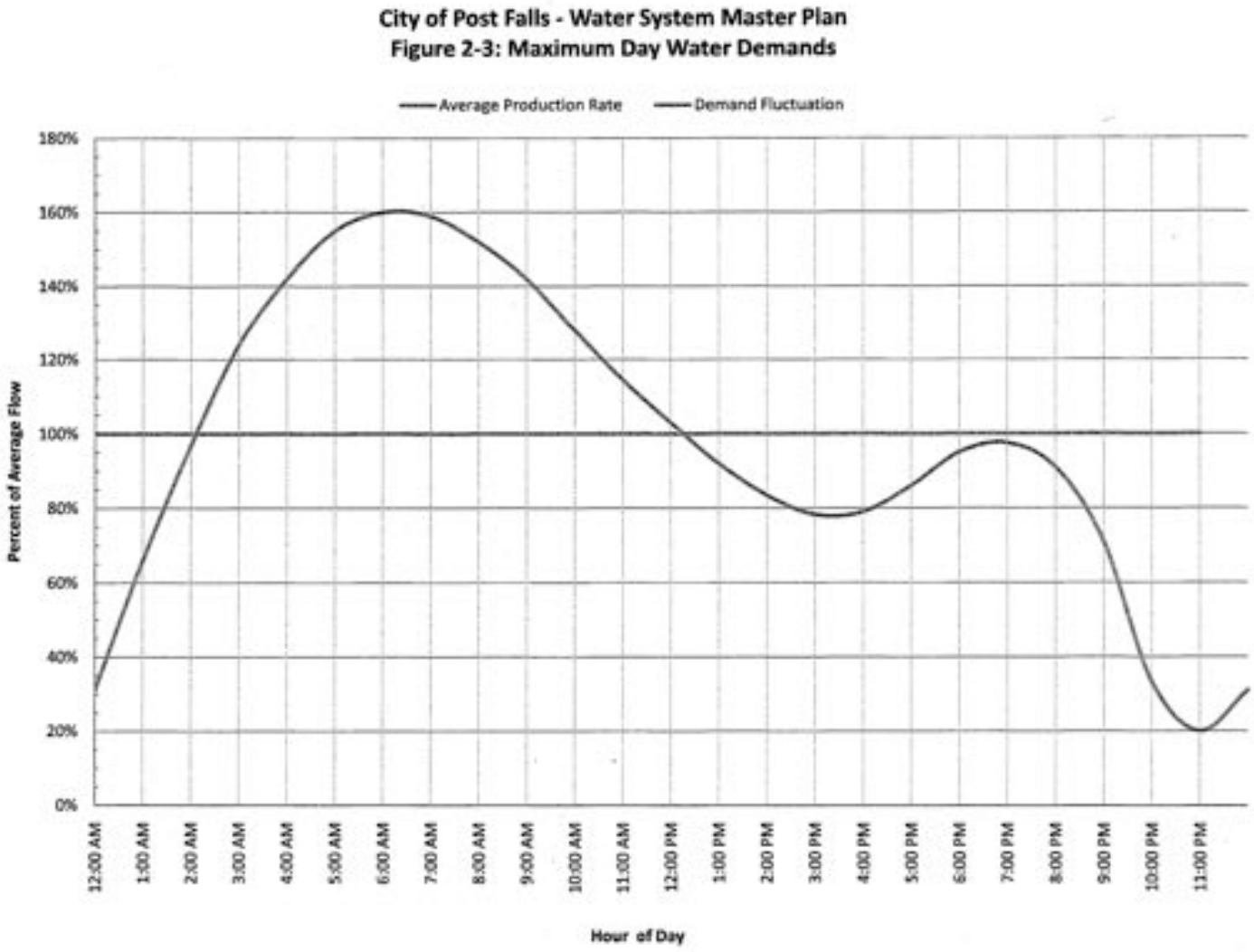
RECOMMENDATION: IDWR SHOULD CONSIDER APPROVING RPA RAFN RIGHTS AT MDD FLOW RATES WITH PERIOD-OF-USE RESTRICTED HIGHER PHD FLOW RATES.

RATIONALE: THE UNIQUE HYDROGEOLOGIC ATTRIBUTES OF THE RPA COMBINED WITH THE EXPENSE TO THE PUBLIC OF PUMPING VERSUS ABOVE GROUND STORAGE PROVIDE THE BASIS FOR DIVERGENCE FROM IDWR GUIDANCE.

IDWR is charged with appropriating the state's water to maximize their beneficial use. As such, the amount of water appropriated must match its intended use - no more no less - preserving the state's option to appropriate remaining water for future beneficial uses while protecting senior users. New applications for water rights in Idaho are generally reviewed with four questions in mind: (1) is the proposed diversion a beneficial use of the state's water, (2) is the flow proposed for diversion the minimum necessary to support the beneficial use, (3) is the water resource available for appropriation, and (4) will diversion injure a senior water user. The Legislature has declared RAFN rights to be a beneficial use of the state's waters, affirmatively answering Question 1. USGS estimates over 758,000 AF recharge annually to the RPA, well over the estimated 85,000 AF annual withdrawal, affirmatively answering Question 3. Question 4 is largely moot as RAFN rights are inchoate rights not tied to a specific location. The unique hydrogeological attributes of the RPA militate against injury. Question 2 then becomes the de facto review criteria for RPA RAFN applications and will be discussed in detail below.

Water demand rates generally exhibit temporal variability. Agricultural irrigation demand characteristically peaks in the early morning hours of hot summer days as producers move water to crops prior to the heat of the day. Municipal providers with a large landscape irrigation component of their demand see a similar pattern. See Figure 7.

Figure 7. Peak Hourly Demand



IDWR RAFN guidance recommends basing RAFN applications on the applicant's Maximum Daily Demand (MDD), with the Peak Hourly Demand (PHD) component of the daily cycle supplied by drawing from storage rather than diversion. The assumption appears to be that permitting municipal water rights based on the Peak Hourly Demand would be injurious to the conservation of the state's water for other beneficial uses, and possibly be injurious to senior water users though well interference. In most other locations in the state, these assumptions are appropriate. The Rathdrum Prairie Aquifer, however, is atypical with both sufficient flow and hydraulic conductivity to merit IDWR consideration of utilizing the aquifer itself as storage.

Total diversion for all RP uses is 85,000 AF annually with 36,400 AF withdrawn by RP municipal providers. 22,800 AF of the municipal withdrawals is used for irrigation at 60% efficiency, returning 9,120 AF to the aquifer (USGS, 2007b)). Annual recharge of the RPA from surface water and precipitation exceeds 758,000 AF (RPCAMP). The hydraulic conductivity in the primary municipal production well zone is 12,100-22,100

ft./day (USGS, 2007b). Approximately 90% of RPA water flows across the state line to the State of Washington.

Four municipal providers have constructed above ground storage: City of Post Falls - 6.25 MG; City of Coeur d'Alene - 6 MG; City of Rathdrum – 1 MG; Ross Point Water District - 1 MG. Ross Point's 1 MG tank was recently completed at a cost of $2.6M to Ross Point water users. The remaining providers rely on the aquifer for storage, sizing their production wells, pumps and electrical back-up systems to handle peak hourly demand and utilizing small, elevated tanks for system pressure equalization.

Water Demand Forecasting Methodology

A commonly accepted method of forecasting future water demand is application of per capita usage to the projected population number. Utilization of per capita population change to underpin future municipal water demand forecasting, however, misses an important driver of municipal water demand: change in outdoor irrigation use. There is a direct relationship between increasing population density and decreasing absolute and per capita water demand (Shawley 2008; Grayman et al 2012). Irrigation makes up 63% of the RPA annual demand and is the primary factor in daily and hourly peak demand flows, yet the per capita approach to demand forecasting is unable by itself to capture change in irrigation demand created by changes in building pattern and density.

This report advances the per capita forecasting method by correlating per capita demand and population density. First, current per capita MDD was calculated from those providers who submitted actual MDD production data. Population density was obtained using government census data manipulated as shaped Geographic Information System (GIS) files overlain on current service provider areas.

Table 11. Rathdrum Prairie Aquifer Future Municipal Water Provider Population Summary

RPA Future Municipal Water Provider Population Summary						
Provider	2014 Population	2045 Population	2014 Service Area (SqMi)	2045 Service Area (SqMi)	2014 Population Density (per SqMi)	2045 Population Density (per SqMi)
Remington	909	5989	5.0	34.9	186	159
Hauser Lake	677	2647	2.1	8.7	316	304
Greenferry	990	4800	1.8	2.5	552	1920
Avondale	5643	7838	6.3	12.8	900	612
Rathdrum	7016	9545	5.2	18	1357	530
East Greenacres	8632	14299	11.5	17.2	754	831
North Kootenai	11179	29435	11.8	29.6	946	994
Ross Point	3942	16190	7.2	10.3	550	1572
Hayden Lake	6604	11216	4.0	6	1658	1869
Post Falls	16006	24523	8.2	8.4	1960	2919
Coeur d'Alene	41240	64027	16.0	17.2	2368	3722
Totals	**102838**	**190509**	**78.9**	**165.6**		

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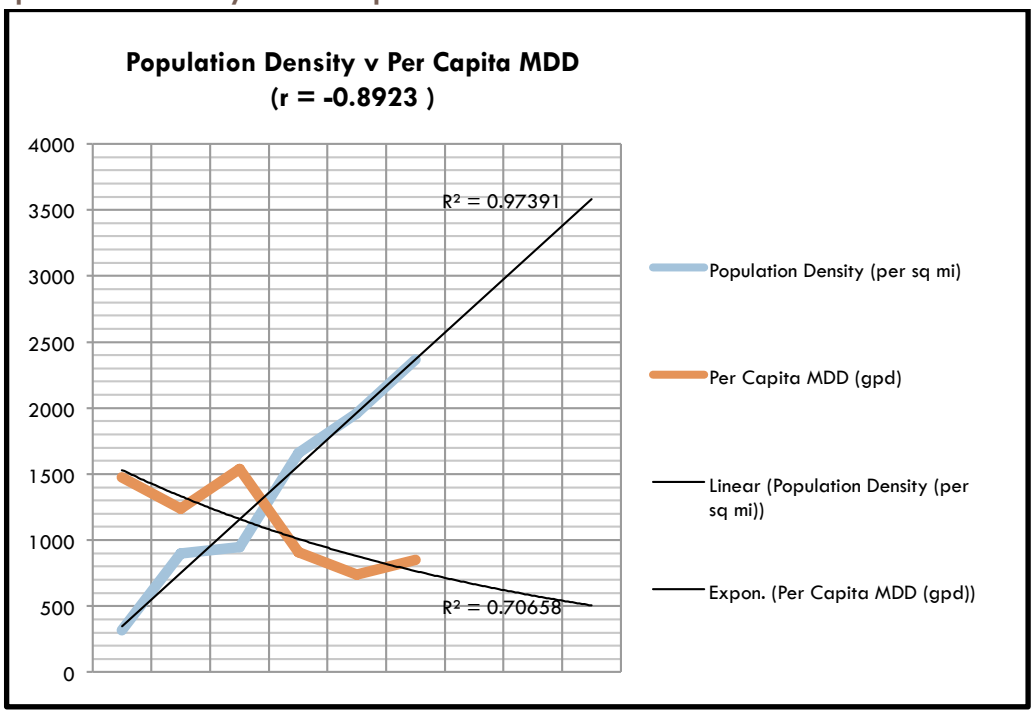
Provider specific per capita MDD and population density was then graphed and correlated (r= -0.8923).

Table 12. Maximum Daily Demand Correlation

Population Density v Per Capita MDD				
Provider	2012 Population Density (SqMi)	Per Capita MDD (gpd)	MDD Source	r value
Hauser	316	1477	Water System Master Plan 2011, Welch-Comer Engineers	-0.8923305
Avondale	900	1240	SCADA	
North Kootenai	946	1539	Welch-Comer Engineers 2014	
Hayden Lake	1658	909	SCADA	
Post Falls	1960	737	Water System Master Plan 2011, J-U-B Engineers	
Coeur d'Alene	2368	850	Comprehensive Plan, 2011	

Trend lines were fitted to the curves allowing for estimation of the per capita MDD of providers that were not able to submit actual MDD production data.

Figure 8. Population Density v Per Capita MDD



Once established, the correlation was applied to the 2045 population density from the population projection report to derive the 2045 MDD.

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Table 13. Maximum Daily Demand

Maximum Daily Demand (MDD)							
Provider	2045 Population	2045 Density (per SqMi)	2045 Derived Per Capita MDD (gpd)	2045 MDD (MGD)	2014 MDD (MGD)	Δ MDD (MGD)	Δ MDD (cfs)
Remington	55989	159	1560	9.34	1.60	7.74	11.98
Hauser Lake	2647	304	1510	4.00	1.0	3.00	4.64
Greenferry	4800	1920	900	4.32	1.44	2.88	4.46
Avondale	7838	612	1400	10.97	7.0	3.97	6.15
Rathdrum	9545	530	1430	13.65	7.58	6.07	9.40
East Greenacres	14299	831	1300	19.16	41.96	-22.80	-35.28
North Kootenai	29435	994	1230	37.09	17.2	19.89	30.77
Ross Point	16190	1572	1000	16.19	5.68	10.51	16.27
Hayden Lake	11216	1869	940	10.54	6.0	4.54	7.03
Post Falls	24523	2919	650	15.94	11.8	4.14	6.41
Coeur d'Alene	64027	3722	500	32.01	32.19	-0.18	-0.27
Total				**173.22**	**133.44**	**39.78**	**61.55**

A similar process was used to establish the correlation between population density and per capita PHD. Per capita PHD was multiplied by a factor of 24 to create comparable scale between the two data sets for graphing purposes.

Table 14. Peak Hourly Demand Correlation

Population Density v Per Capita PHD				
Provider	Population Density (SqMi)	Per Capita PHD x 24 (gpd)	PHD Source	r value
Hauser	316	3191	Water System Master Plan, 2011, Welch-Comer Engineers	-0.9771158
Avondale	900	2127	SCADA, 2014	
Hayden Lake	1658	1635	SCADA, 2014	
Post Falls	1960	1200	Water System Master Plan, 2011, J-U-B Engineers	

The correlations were validated by checking derived values against engineering reports submitted by the City of Post Falls identifying a MDD to PHD ratio of 1:1.60 (Figure 8). The actual value for Post Falls per capita MDD (normalized to a one-hour period) is 30.7 gpd and the derived value for Post Falls per capita PHD is 49.7 gpd, a ratio of 1:1.62. Trend lines were fitted to the curves allowing for estimation of the per capita PHD of providers that were not able to submit actual PHD production data.

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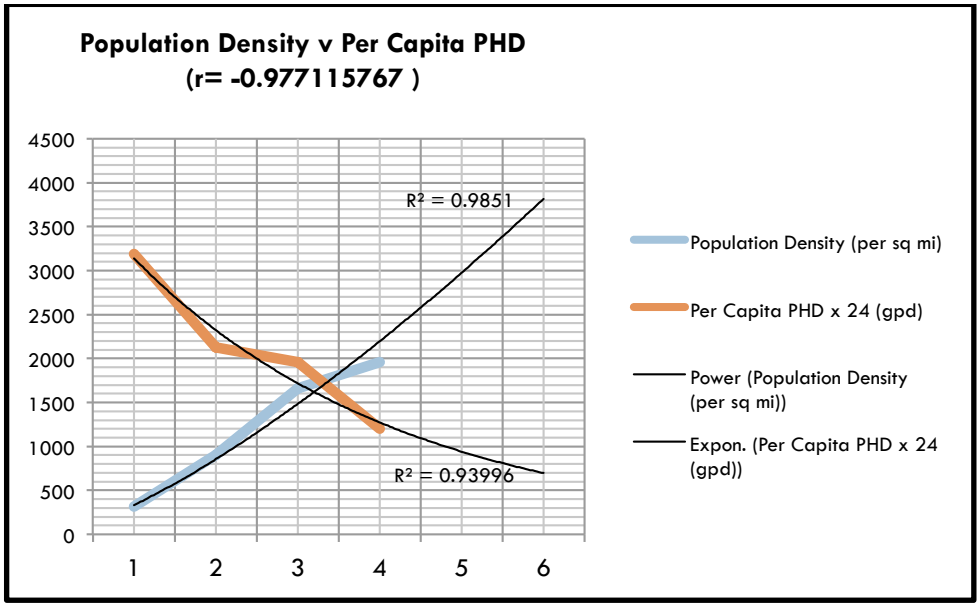
Figure 9. Population Density v Per Capita PHD



Once established, the correlation was applied to the 2045 population density from the population projection report to derive the 2045 PHD.

Table 15. Peak Hourly Demand

Peak Hourly Demand (PHD)							
Provider	2045 Population	2045 Density (per SqMi)	2045 Derived Per Capita PHD (gph)	2045 PHD (MGH)	2014 PHD (MGH)	Δ PHD (MGH)	Δ PHD (cfs)
Remington	5989	159	142	0.85	0.13	0.72	32.13
Hauser Lake	2647	304	128	0.34	0.09	0.25	11.10
Greenferry	4800	1920	74	0.36	0.13	0.23	10.04
Avondale	7838	612	112	0.88	0.5	0.38	16.85
Rathdrum	9545	530	117	1.12	0.52	0.60	26.61
East Greenacres	14299	831	102	1.46	2.39	-0.93	-41.54
North Kootenai	29435	994	97	2.86	1.07	1.78	79.55
Ross Point	16190	1572	66	1.07	0.45	0.62	27.58
Hayden Lake	11216	1869	56	0.63	0.54	0.18	3.93
Post Falls	24523	2919	44	1.08	0.80	0.13	12.47
Coeur d'Alene	64027	3722	53	1.73	1.74	-0.01	-0.50
Total				**12.21**	**8.36**	**3.85**	**171.53**

Future RPA municipal water demand for the eleven major providers is summarized below.

Table 16. RPA Future Municipal Water Demand Summary

Rathdrum Prairie Aquifer Future Municipal Provider Water Demand Summary											
Provider	2014 Annual Volume (MGY)	2045 Annual Volume (MGY)*	2014 MDD (MGD)	2045 MDD (MGD)	2045 MDD (cfs)	2014 PHD (MGH)	2045 PHD (MGH)	2045 PHD (cfs)	Δ Annual Volume (MGY)	Δ MDD (cfs)	Δ PHD (cfs)
Remington	63	415	1.60	9.34	14.45	0.13	0.85	37.91	352	11.98	32.11
Hauser Lake	81	317	1.0	4.00	6.18	0.09	0.34	15.11	236	4.64	11.10
Greenferry	68	330	1.44	4.32	6.68	0.13	0.36	16.05	262	4.46	10.26
Avondale	567	788	7.0	10.97	16.98	0.5	0.88	39.15	221	6.15	16.85
Rathdrum	566	770	7.58	13.65	21.12	0.52	1.12	49.80	204	9.40	26.61
East Greenacres	2877	4766	41.96	19.16	29.64	2.39	1.46	65.04	1889	-35.28	-41.54
North Kootenai	652	1717	17.2	37.09	57.39	1.07	2.86	127.33	1065	30.77	79.55
Ross Point	477	1959	5.68	16.19	25.05	0.45	1.07	47.65	1482	16.27	27.58
Hayden Lake	628	1067	6.0	10.54	16.31	0.54	0.63	28.01	439	7.03	3.93
Post Falls	1531	2346	11.8	15.94	24.66	0.80	0.93	41.56	815	6.41	5.87
Coeur d'Alene	3738	5803	32.19	32.01	49.53	1.74	1.73	77.09	2065	-0.27	-0.50
Totals	**11248**	**20278**	**133.45**	**173.21**	**267.99**	**8.36**	**12.23**	**544.7**	**9030**	**61.56**	**171.82**

*Calculated by applying 2014 per capita use to 2045 population data. Does not account for change in per capita use over time.

Future RPA municipal water demand will increase by approximately 9000 MGY. It is likely that much of the increase will be offset by conversion of irrigation water to municipal water as agricultural land is converted to municipal use. Additional offset will occur due to decreases in outdoor landscape irrigation use as population densification reduces the amount of irrigable area in the City of Coeur d'Alene and select areas of the City of Post Falls and City of Hayden.

STUDY 4: WATER RIGHT GAP ANALYSIS

SUMMARY: ADDITIONAL RAFN RIGHTS TOTALING 52.3 CFS ARE REQUIRED TO MEET THE 2045 MDD OF FIVE RPA MUNICIPAL PROVIDERS. THE ADDITIONAL RIGHTS ARE OFFSET BY A DECREASE OF 104.45 IN MDD REQUIRED RIGHTS AMONG SIX OTHER RPA MUNICIPAL PROVIDERS. ADDITIONAL RAFN RIGHTS TOTALING 247.83 CFS ARE REQUIRED TO MEET THE 2045 PHD OF TEN RPA MUNICIPAL PROVIDERS. THE ADDITIONAL RAFN RIGHTS ARE OFFSET BY A DECREASE OF 32.86 CFS IN PHD REQUIRED RIGHTS FOR ONE RPA MUNICIPAL PROVIDER. STORAGE MAY OFFSET SOME OR ALL OF THE PHD RAFN NEEDS OF FOUR PROVIDERS WITH ABOVE GROUND STORAGE CAPACITY DEPENDING ON INDIVIDUAL PROVIDER WATER STORAGE MANAGEMENT POLICY.

The information for assembling the water rights portfolio for each provider was taken from searching the Idaho Department of Water Resources (IDWR) website for water right records in the name of the respective provider. Because of the ongoing adjudication of water rights in the basin, some possible uncertainty may exist with regard to some of the rights. With the single exception of 95-4027 in the name of North Kootenai Water District, all rights claimed by the various providers were taken at face value. 95-4027 is a Statutory Claim to a Water Right which states a priority date that would have required it to have been established by first obtaining a Permit to Appropriate Water from IDWR. This was not done and this claim will likely be rejected in the adjudication process. In the process of evaluating the water rights for the Avondale Irrigation District what appears to be an error the combined limits for licenses 95-8687, 95-8774, 95-8867 and 95-8909 was discovered. Avondale has petitioned IDWR to modify the combined limits from 13.94cfs to 19.09cfs. Since IDWR has indicated a willingness to consider amending those licenses, 19.09cfs was assigned as the combined limit for purposes of the Gap Analysis.

Table 17. Water Right Gap Analysis

Water Right Gap Analysis						
Provider	Maximum Water Right (cfs)	2045 MDD (cfs)	Additional Water Right Requirement Based on MDD (cfs)	2045 PHD (cfs)	Additional Water Right Requirement Based on PHD (cfs)	Storage (MG)
Remington	5.90	14.45	8.55	37.91	32.01	~
Hauser Lake	2.65	6.18	3.53	15.11	12.46	~
Greenferry	2.05	6.68	4.63	16.05	14.00	~
Avondale	19.09	16.98	-2.11	39.15	20.06	~
Rathdrum	16.90	21.12	4.22	49.80	32.90	1.0
East Greenacres	97.90	29.64	-68.26	65.04	-32.86	0.325
North Kootenai	28.20	57.39	29.19	127.33	99.13	~
Ross Point	16.31	25.05	8.74	47.65	31.34	1.0
Hayden Lake	24.00	16.31	-7.69	28.01	4.01	~
Post Falls	33.84	24.66	-14.23	41.56	2.67	6.25
Coeur d'Alene	60.98	49.53	-11.45	77.09	16.11	6.0
Total	**307.82**	**267.99**	**-44.88**	**544.7**	**231.83**	**12.25**

The purpose of some of the water rights in this analysis is other than municipal and, as such, the conditions on those rights may carry a volume limitation. If a provider has irrigation rights in their portfolio, the assumption in this analysis is made that the provider will have at least as many acres to which water is applied as the sum total for the acres of irrigation in the original water rights.

Unaccounted-for-water is embedded in the future demand projections in this analysis as the projections are derived from production, not consumption, data. Consequently, no adjustment to the demand and water right analysis is necessary.

Four providers - Coeur d'Alene, Post Falls, Rathdrum and Ross Point – have above ground storage capacity that may offset their need for additional water rights based on PHD. This analysis did not investigate the storage management policies of the four providers and draws no conclusions whether or how much of above ground storage is available for peak flow supply.

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MATERIALS FOR THIS SECTION WILL BE PROVIDED AT THE MEETING.

TO: Idaho Water Resource Board

FROM: Neeley Miller, IDWR Planning and Projects Bureau

DATE: January 12, 2015

RE: Sustainability Policy Development

Background

On September 5, 2012, Governor Otter sent a letter to the Idaho Water Resource Board ("Board" or "IWRB") requesting the Board develop a statewide water sustainability policy to assist with enhancing the reliability of water supplies into the future. On June 7, 2013 the Board replied to the Governor's request with a letter indicating the Board would develop this policy through the Board's Water Resource Planning Committee in conjunction with other potential Legislative-requested amendments to the Idaho State Water Plan.

Between November 2013 and May 2014 the Water Resource Planning Committee met several times to develop a recommendation for integrating water sustainability into the Idaho State Water Plan. These meetings included presentations and panel discussions from experts on the topic of sustainability. Panel members included: Mariel Platt, City of Hailey; Shelley Zimmer, Hewlett-Packard; John Bernardo, Idaho Power Company; Randy MacMillan, Clear Springs Foods; David Miles, City of Meridian; Alex LaBeau, Idaho Association of Commerce and Industry; Mark Davidson, Trout Unlimited; Paul Kjellander, Idaho Public Utilities Commission; Barry Burnell, IDEQ; Alan Prouty, J.R. Simplot Company; Greg Wyatt, United Water.

At the May 2014 IWRB meeting, the Board reviewed a draft "Vision for Sustainability of Idaho's Water Resources" developed by the staff in working with the Water Resource Planning Committee. A copy of this draft language is attached to this memo. There was discussion among the Board members as to whether the draft was responsive to the Governor's request for a sustainability policy. Board members requested that the sustainability policy language be remanded back to the Water Resource Planning Committee for additional work and consideration.

Next Steps

Staff requests the sustainability policy language be taken up in a Water Resource Planning Committee to be scheduled in February 2015.

VISION FOR SUSTAINABILITY OF IDAHO'S WATER RESOURCES

Draft May 2014

Water is the foundation of Idaho's economy and culture; the lives and livelihoods of Idahoans depend on a reliable supply of water. Sustainable water management strategies that meet current and future needs must be based on adequate knowledge regarding available supplies, existing use, competing economic and social demands, and future needs. Planning and management actions that promote water sustainability will provide certainty that existing water rights are protected and the economic vitality of Idaho is optimized.

The policies and actions set out in the Idaho State Water Plan address a range of current and future water supply needs. The implementation strategies are designed to meet multiple water supply management goals. Their effectiveness in achieving water sustainability will be evaluated on an ongoing basis. An inclusive process with stakeholders statewide is fundamental to meeting the ever-increasing challenges associated with sustainable water management in Idaho.

Fundamental Strategies for a Sustainable Water Future in the State Water Plan

- Ensure that all actions taken toward a sustainable water future protect and respect private property rights.
- Inventory Idaho's water supply, current uses, and future water supply needs.
- Identify management alternatives and projects that optimize existing and future water supplies.
- Prioritize and implement management alternatives and projects where competing demands and future needs are most critical.
- Use adaptive management processes to anticipate future uncertainties and design projects that can be adapted to changing conditions.
- Prioritize allocation of funds for projects that ensure water sustainability.

C.L. "BUTCH" OTTER

GOVERNOR

September 5, 2012

Idaho Water Resource Board
322 East Front St.
Boise, ID 83720-0098

Chairman Uhling and Board Members,

I want to first and foremost thank you for your hard work and dedication to protecting the precious water resources of the State of Idaho.

The lives and livelihoods of Idahoans depend upon a reliable supply of water. Pre-statehood development along Idaho's vast river valleys and canyons began a dependence on water and reliance on property rights that created a foundation for the economic growth Idahoans have enjoyed for over 120 years. Looking ahead to the future, economic development and job creation is dependent upon the sustainability of our water supply.

The responsibility for planning for the optimum use of Idaho's water resources is constitutionally vested in the Idaho Water Resource Board. By developing visionary procedures and policies that will sustain the reliability of water supplies in the future, the Board can ensure water is available to meet both present and future needs. As an Idahoan, I believe we should never forget where we came from or the values such as property rights that are the backbone of our Idaho way of life.

Therefore, I request that the Idaho Water Resource Board define water sustainability in a way that ensures our values are respected and the unique qualities of our resources are protected. It is my hope that the Board will develop and adopt a policy to guide management and development of Idaho's water resources to maximize their sustainability. The Board's activities should be an inclusive process which involves stakeholders statewide. I will commit my office to assist and participate throughout this very important project.

I believe that formally incorporating such a policy will enable the Board to identify areas in Idaho where achieving sustainability needs more focused attention. Once identified, the Board can recommend activities that will enhance the reliability of water in these areas. The State, through the Idaho Water Resource Board, needs to proactively establish long-term goals to address today's issues and tomorrow's challenges.

Again, thank you for your dedicated service to the State of Idaho and I look forward to working with you as we address this important issue.

As Always – Idaho, "Esto Perpetua"

C.L. "Butch" Otter
Governor of Idaho

CLO/sg

STATE CAPITOL • BOISE, IDAHO 83720 • (208) 334-2100

TO: Idaho Water Resource Board

FROM: Brian Patton

DATE: January 12, 2015

RE: Sustainability of the Eastern Snake Plain Aquifer

Attached are four (4) charts for your consideration:

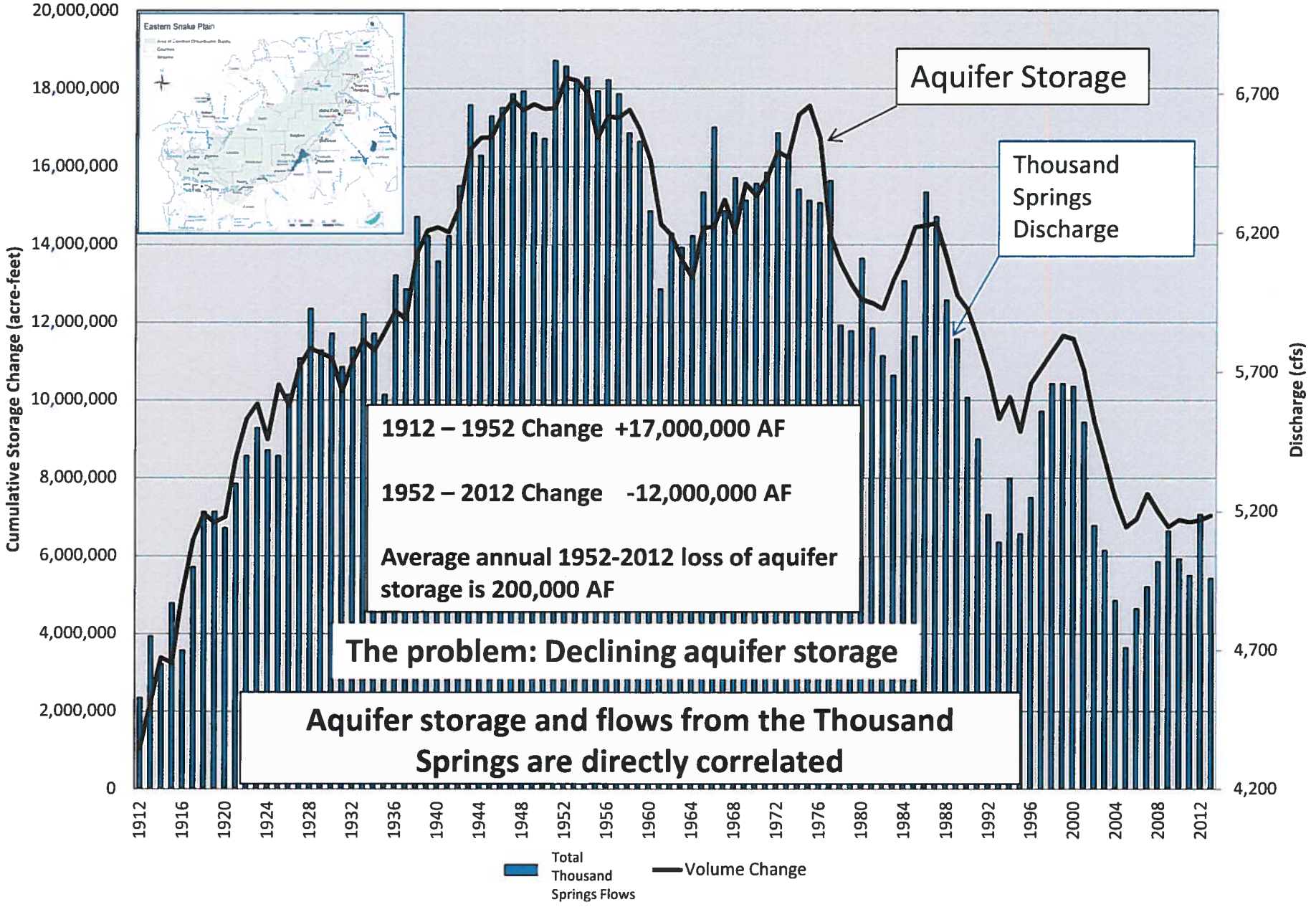
1) Aquifer Storage Within the ESPA and Thousand Springs Discharge – although the 1952-2012 trend is downward with an average annual loss of 200,000 AF from aquifer storage, there appears to be a leveling off in the last few years of the chart. This seems consistent with aquifer management measures starting to take effect.

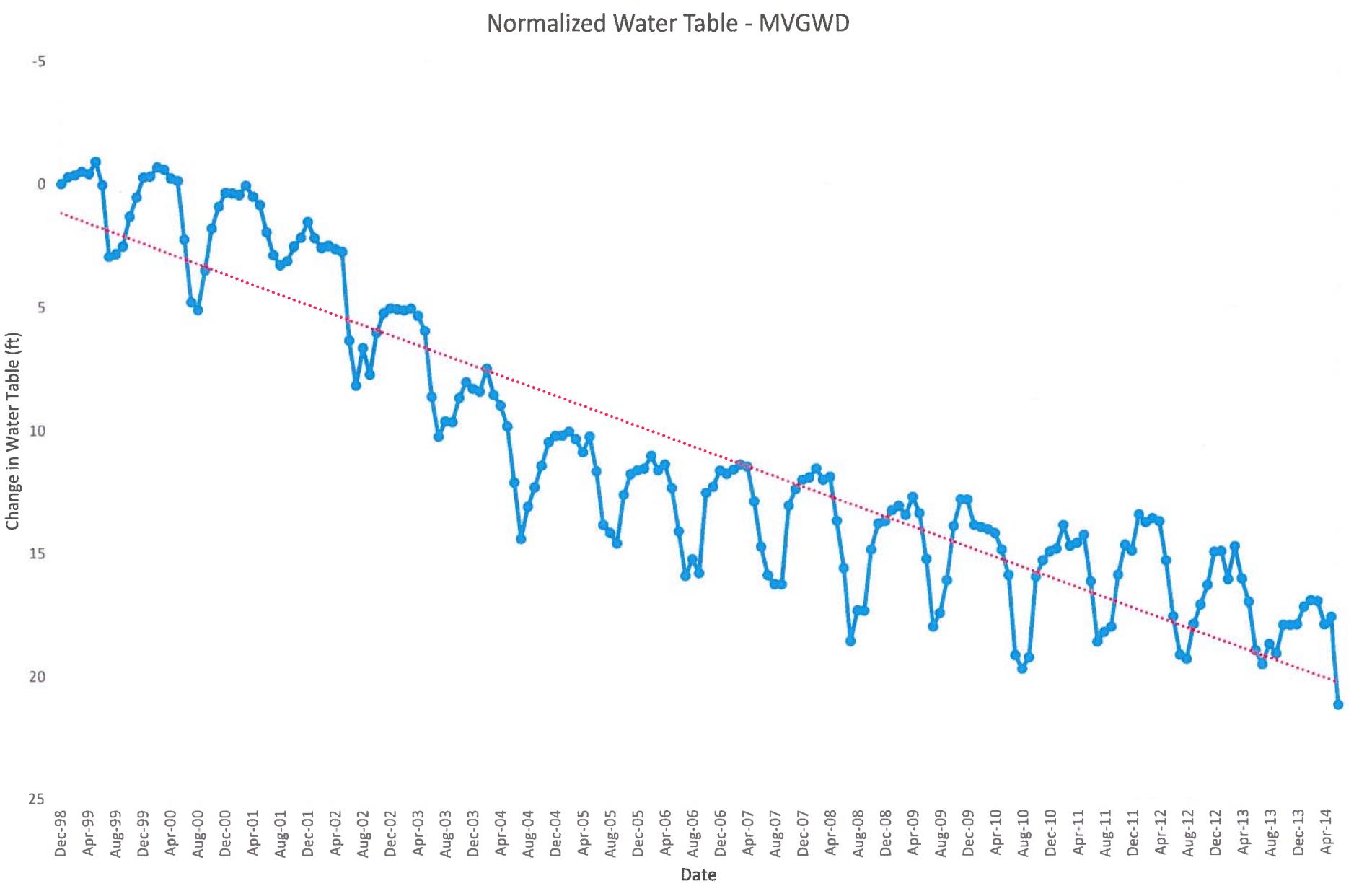
2) Normalized Water Table – MVGWD – this chart was provided by the Magic Valley Ground Water District (MVGWD). It shows ground water level declines within the MVGWD between 1998 and 2014. Consistent with the "Aquifer Storage Within the ESPA" chart, the rate of ground water level decline appears to slow after about 2006, although it is still declining.

3 & 4) Crop Survey Data for Minidoka and Cassia Counties – these charts are also provided by the Magic Valley Ground Water District from USDA crop survey data. These charts show, over time, a reduction in acres of low water-use crops (wheat, beans) and an increase in acres of high water-use crops (alfalfa, corn).

The take-away from these charts is that we are experiencing increasing water use on existing acres through shifting crop patterns to higher water-use crops. This trend will have to be considered in the Water Board's efforts to stabilize the Eastern Snake Plain Aquifer.

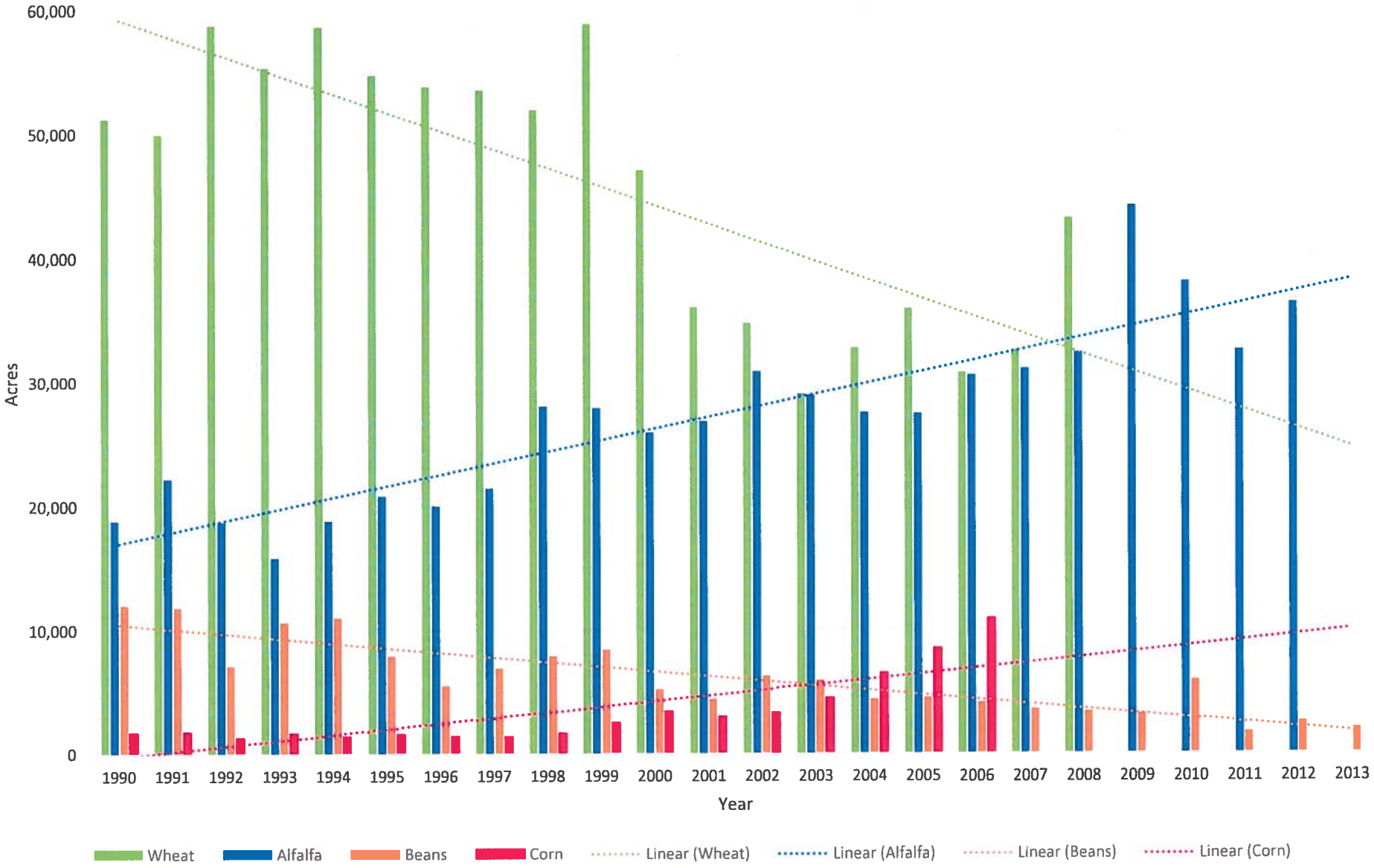
Cumulative Volume Change of Water Stored Within ESPA and Thousand Springs Discharge





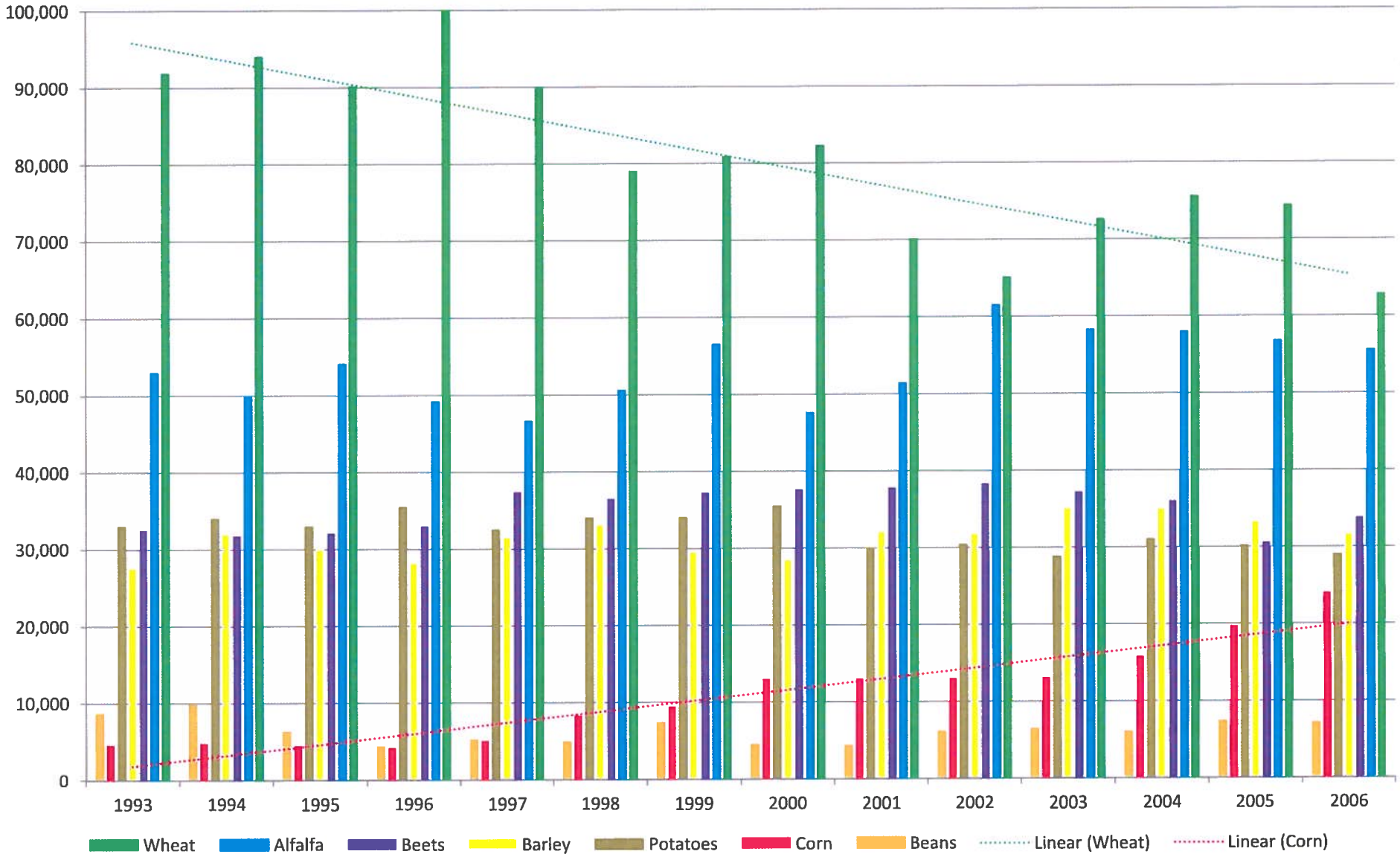
*Data collected by WWC Inc. for Magic Valley Ground Water District

Minidoka County Crop History (USDA Survey)



*NRCS Crop Survey Data - quickstats.nass.usda.gov

Cassia County Crop Survey Data



*NRCS Crop Survey Data - quickstats.nass.usda.gov

AGENDA

IDAHO WATER RESOURCE BOARD
MEETING NO. 1-15

January 23, 2015 at 8:00 am

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

1. Roll Call
2. Executive Session – Board will meet pursuant to Idaho Code § 67-2345 (1) subsection (f), for the purpose of communicating with legal counsel regarding legal ramifications of and legal options for pending litigation, or controversies not yet being litigated but imminently likely to be litigated. Executive Session is closed to the public. Topic: conjunctive management litigation.

   Following adjournment of Executive Session -- meeting reopens to the public
3. Agenda and Approval of Minutes 11-14, 12-14, and 13-14
4. Public Comment
5. Board Elections
6. Legislative Update
7. Water Transactions- Carmen Creek Reconnect
8. Regional Conservation Partnership Program
9. Storage Studies Update
10. ESPA Recharge
11. Pinehurst Water District Loan Request
12. Water Supply Bank
13. Public Information Support
14. Aqua Life Lease and Magic Springs Project Update
15. IDWR Director's Report
16. Other Non-Action Items for Discussion
17. Next Meetings and 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 Mandi.Pearson@idwr.idaho.gov or by phone at (208) 287-4800.

MATERIALS FOR THIS SECTION WILL BE PROVIDED AT THE MEETING.

IDAHO WATER RESOURCE BOARD

MEETING MINUTES 11-14

Idaho Water Center
Conference Rooms 602 B,C,D
322 East Front Street, Boise, Idaho 83702

November 4, 2014
Work Session

Chairman Roger Chase called the meeting to order at approximately 8:00 am. All other Board members were present.

During the Work Session the following items were discussed:

- Financial Status Report by Brian Patton
- Project and Program Tracking and Reporting by Cynthia Bridge Clark
- UIC Rule Change by Brian Ragan
- Rathdrum Prairie Groundwater Pumping Study by Ken Neely, Dale Ralston, and Gary Johnson
- Rathdrum Prairie Future Demand Study by Neeley Miller
- Clearview Water Co. Loan by Brian Patton
- Storage Studies by Cynthia Bridge Clark and Tim Fleeger
- Water Transactions by Morgan Case and Sarah Lien
- Water Supply Bank by Remington Buyer
- Mountain Home Water Right Acquisition by Brian Patton and Jack Peterson
- Regional Conservation Partnership Program Update by Neeley Miller
- ESPA Recharge by Brian Patton
- Statewide Aquifer Stabilization Effort Prioritization by Neeley Miller

No action was taken by the Board during the Work Session.

November 5, 2014
IWRB Meeting

Chairman Roger Chase called the meeting to order at approximately 8:00 am. Mr. Albert Barker was absent. All other Board members were present. (Mr. Barker joined the meeting for a short time during the Executive Session.)

Agenda Item No. 1, Roll Call

Board Members Present

Roger Chase, Chairman	Peter Van Der Meulen, Vice-Chairman
Bob Graham, Secretary	Jeff Raybould
Vince Alberdi	Bert Stevenson
Chuck Cuddy	Albert Barker

Staff Members Present

Gary Spackman, IDWR Director	Mat Weaver, Deputy Director
Brian Patton, Bureau Chief	Cynthia Bridge Clark, Section Manager
Neeley Miller, Senior Planner	Morgan Case, Biologist
Mandi Pearson, Admin. Assistant	Remington Buyer, Water Supply Bank Coordinator
Brian Ragan, Hydrogeologist	Clive Strong, Deputy Attorney General
Harriet Hensley, Deputy Attorney General	John Homan, Deputy Attorney General
Garrick Baxter, Deputy Attorney General	

Guests Present

Sarah Higer, Idaho Power	Walt Poole, Idaho Dept of Fish & Game
Richard Kindall, Clearview Water Co.	Julia Page, ID Org. of Resource Councils
Ron Poches, Clearview Water Co.	Doug Paddock, ID Org. of Resource Councils
Peter Anderson, Trout Unlimited	John J. Williams, Bonneville Power Admin.
Liz Paul, Idaho Rivers United	Mary Sue Roach, Weiser River Resource Council
Shelly Davis, Barker Rosholt & Simpson	Bill Richey, Elmore County
Tim Fleeger, US Army Corps of Engineers	Lynn Tominaga, Idaho Groundwater Appropriators

Agenda Item No. 2, Executive Session

At approximately 8:00 am the Board resolved into Executive Session by unanimous consent pursuant to Idaho Code Section 67-2345 (1) subsections (d) and (f), for the purposes of considering records that are exempt from disclosure under Idaho Code § 9-340D, and to communicate with legal counsel regarding legal ramifications of and legal options for pending litigation, or controversies not yet being litigated but imminently likely to be litigated. Topics discussed were Owyhee Federal Reserved Water Right Claims and Basin 36 Conjunctive Management Litigation. No action was taken by the Board during the Executive Session. The Board resolved out of Executive Session and into Regular Session at approximately 9:15 am.

Agenda Item No. 3, Agenda and Approval of Minutes

Mr. Raybould made a motion that the minutes for meeting 10-14 be approved as printed. Mr. Stevenson seconded the motion. Voice Vote. All were in favor. Motion passed. Mr. Patton noted that Representative Moyle and Speaker Bedke would be addressing the Board at some point during the meeting, so Public Comment may be re-opened later during the meeting if needed.

Agenda Item No. 4, Public Comment

Chairman Chase opened up the meeting for public comment. Ms. Julia Page of the Idaho Organization of Resource Councils expressed opposition to building a high dam on the Weiser River.

Mr. John J. Williams of the Bonneville Power Administration (BPA) provided an update to the Board. He discussed management/personnel changes, the Columbia River Treaty, BPA's fiscal status,

BPA's rates, the Albany Falls lake level, the biological opinion, and an agreement with Oregon regarding a spill test. There was discussion among the parties regarding Lake Pend Oreille lake levels.

Ms. Liz Paul of Idaho Rivers United discussed soil health as an option for water efficiency, and encouraged the Board to be more proactive in regards to water conservation and water quality. There was discussion among the parties regarding evapotranspiration and drought-resistant plants.

Ms. Mary Sue Roach of the Weiser River Resource Council expressed concerns regarding the Galloway Dam project, specifically in regards to sediment loss and dam safety.

Mr. Lynn Tominaga of Idaho Groundwater Appropriators thanked the Board for its participation in the Weiser-Galloway studies and expressed interest in being a potential space holder within the Galloway project. He discussed Galloway as a potential tool to relieve water delivery calls that occur in the Eastern Snake Plain. There was discussion among the parties regarding water efficiency in irrigated agriculture.

Agenda Item No. 5, Update on Negotiated Rule Making Process for Rule 50

Mr. Garrick Baxter briefed the Board on the Negotiated Rule Making Process for Rule 50. He provided a map of the Eastern Snake Plain Aquifer (ESPA). Rule 50 relates to the area of common ground water. The Director proposed to repeal Rule 50 and allow such decisions on the area of common ground water to be cited on a case by case basis in future delivery calls. He discussed the effect of this possible rule change to existing delivery calls. There was discussion among the parties regarding the area of impact determined by the Director for future calls.

Agenda Item No. 6, UIC Rule Change

Mr. Brian Ragan discussed a pending rule change to the Underground Injection Control rules of IDAPA 37.03.03. This Pending Rule change is being proposed in order to make the reinforcing regulation match the statute adopted in 2014 to avoid any conflict between the statute and the rule. The proposed revision will replace the term "drilled" with the term "used."

Mr. Raybould moved to adopt the resolution adopting the pending UIC rule change. Mr. Cuddy seconded the motion.

Roll Call Vote: Mr. Cuddy: Aye; Mr. Alberdi: Aye; Mr. Stevenson: Aye; Mr. Raybould: Aye; Mr. Van Der Meulen: Aye; Mr. Graham: Aye; Mr. Barker: Absent; Chairman Chase: Aye. Motion passed.

Agenda Item No. 7, Clearview Water Co. Loan

Clearview Water Company, Inc. is requesting a residential irrigation project construction loan in the amount of $50,000 to replace the existing mainline, hookups and pump. The water delivery system for the irrigation water was originally built in the 1950's and has since deteriorated and in need of replacement. The project will also help relieve the municipal water system of the burden of providing high-quality treated water for irrigation uses for these homes. Staff recommends a loan for $50,000 for the Clearview Water Company Inc. for a term of 10 years at 3.5% interest. Mr. Richard Kindle of the Clearview Water Company discussed the value of the system to the homeowners in the subdivision. There was discussion among the parties regarding a reserve account.

Mr. Alberdi moved to adopt the resolution in the matter of a funding commitment to Clearview Water Company. Mr. Van Der Meulen seconded the motion.

Roll Call Vote: Mr. Cuddy: Aye; Mr. Alberdi: Aye; Mr. Stevenson: Aye; Mr. Raybould: Aye; Mr. Van Der Meulen: Aye; Mr. Graham: Aye; Mr. Barker: Absent; Chairman Chase: Aye. Motion passed.

Agenda Item No. 8, Water Transactions

Ms. Morgan Case discussed the Beaver Creek Lease Renewal water transaction. This is a 20-year renewal. The Board has leased and rented these water rights for the past 10 years and the owners

have expressed interest in renewing the transaction. Staff proposes using the same price of $20 per acre for the 2015-2034 rental. The total transaction costs would be $140,039 to be received at a discounted rate from the Columbia Basin Water Transaction Program (CBWTP) and held in the Water Transaction subaccount of the Board's Revolving Development Account for annual payment to the water right owner through the Water Supply Bank (WSB). The Streamflow Committee reviewed this transaction and has recommended that it be approved by the full Board. There was discussion among the parties regarding funding for the transaction.

Mr. Van Der Meulen moved to approve the resolution in the matter of the Beaver Creek Rental for the Water Transaction Agreement. Mr. Raybould seconded the motion.

Roll Call Vote: Mr. Cuddy: Aye; Mr. Alberdi: Aye; Mr. Stevenson: Aye; Mr. Raybould: Aye; Mr. Van Der Meulen: Aye; Mr. Graham: Aye; Mr. Barker: Absent; Chairman Chase: Aye. Motion passed.

Ms. Case discussed the Carmen Creek Reconnect water transaction. This is a set of two 20-year agreements not to divert on Carmen Creek. This transaction proposes moving 4 cfs of water rights from the Carmen Creek 3 diversion downstream, restoring flow in a dewatered reach throughout the irrigation season. Funding is available for this transaction through the CBWTP for a total cost of $148,605, split between the two ranchers.

Mr. Graham moved to approve the resolution in the matter of the Carmen Creek Water Transactions. Mr. Stevenson seconded the motion.

Roll Call Vote: Mr. Cuddy: Aye; Mr. Alberdi: Aye; Mr. Stevenson: Aye; Mr. Raybould: Aye; Mr. Van Der Meulen: Aye; Mr. Graham: Aye; Mr. Barker: Absent; Chairman Chase: Aye. Motion passed.

Ms. Case discussed the South Leigh Creek Water Use Agreement. In 2014, the Board approved a one year lease of 0.74 cfs from South Leigh Creek. Streamflow was maintained down to the Desert Canal diversion throughout the entire irrigation season. Friends of the Teton River (FOTR) is proposing a one-year renewal of the lease at a cost of $87.65 per acre, to be funded by the CBWTP. The total cost would be $4,019 including lease and rental fees and a $250 charge to Water District 01.

Mr. Cuddy moved to approve the resolution in the matter of the South Leigh Creek Water Use Agreement. Mr. Raybould seconded the motion.

Roll Call Vote: Mr. Cuddy: Aye; Mr. Alberdi: Aye; Mr. Stevenson: Aye; Mr. Raybould: Aye; Mr. Van Der Meulen: Aye; Mr. Graham: Aye; Mr. Barker: Absent; Chairman Chase: Aye. Motion passed.

Ms. Case discussed the Badger Creek water transactions. Badger Creek is a tributary to the Teton River located in the upper Teton Valley. The natural stream hydrology and geology of the Badger Creek drainage results in the annual dewatering of the stream, a problem that is exacerbated by irrigation withdraws, endangering Yellowstone cutthroat trout populations. In order to address the situation, FOTR has negotiated a five-year lease with water users on the Badger Splitter. They are proposing 1.91 cfs be leased into the WSB and rented by four water users on the Ricks Ditch in order to call the leased water down to the Ricks Ditch and aid in the upstream fish migration. Rental payments to the water right holder will be made by the Board at $75 per acre plus the applicable lease and rental fees. The Ricks Ditch users will enter into a bypass agreement to spill that 1.91 cfs through a fish ladder downstream of the Ricks Diversion when flows in Badger Creek drop down to that amount. In return they are requesting a $750 payment.

Mr. Raybould moved to approve the resolution in the matter of the Badger Creek Water Transaction. Mr. Alberdi seconded the motion. There was discussion among the parties clarifying the total amount of the transaction.

Roll Call Vote: Mr. Cuddy: Aye; Mr. Alberdi: Aye; Mr. Stevenson: Aye; Mr. Raybould: Aye; Mr. Van Der Meulen: Aye; Mr. Graham: Aye; Mr. Barker: Absent; Chairman Chase: Aye. Motion passed.

Ms. Case discussed the Badger Creek Water Rights Appraisal. FOTR has also negotiated a potential water right purchase to aid in flow restoration in Badger Creek. Kolene Later is interested in selling three stacked water rights authorizing the diversion of 0.48 cfs from Badger Creek and 0.16 cfs from groundwater for irrigation of 10.8 acres. A purchase price of $3,000 per acre has been proposed by the water right holder. This would make for a total purchase price of $32,400. The next step in advancing this transaction proposal is to have the water rights appraised. Mr. Henri LeMoyne of LeMoyne Realty and Appraisals, Inc. has been contacted to conduct the appraisal. It is estimated that the appraisal will cost $7,000. CBWTP funds may be used to cover the cost of the appraisal. There was discussion among the parties regarding the value of the appraisal.

Mr. Stevenson moved to approve the resolution in the matter of the Badger Creek Water Rights Appraisal. Mr. Van Der Meulen seconded the motion.

Roll Call Vote: Mr. Cuddy: Aye; Mr. Alberdi: Aye; Mr. Stevenson: Aye; Mr. Raybould: Aye; Mr. Van Der Meulen: Aye; Mr. Graham: Aye; Mr. Barker: Absent; Chairman Chase: Aye. Motion passed.

There was discussion among the parties regarding a standard progress report that may be developed showing how the water transactions contribute to Board goals and objectives.

Agenda Item No. 9, Water Supply Bank

Mr. Remington Buyer discussed a proposed resolution authorizing an expenditure of funds in support of development of computer infrastructure for the Water Supply Bank.

Mr. Alberdi moved to adopt the resolution in the matter of computer infrastructure for the Water Supply Bank. Mr. Raybould seconded the motion.

Roll Call Vote: Mr. Cuddy: Aye; Mr. Alberdi: Aye; Mr. Stevenson: Aye; Mr. Raybould: Aye; Mr. Van Der Meulen: Aye; Mr. Graham: Aye; Mr. Barker: Absent; Chairman Chase: Aye. Motion passed.

Agenda Item No. 10, Fall River Fishery Enhancement Project

Ms. Harriet Hensley discussed the Fall River Fishery Enhancement Project, which is a proposal for a private fisheries enhancement project on a protected reach of the Fall River. It is designated by law and in the Henrys Fork Basin Plan as a recreational reach. There had been some confusion about whether or not the Board could approve a project like this. There is nothing in Idaho Code or the Plan or the legislative designations of the reach that would authorize the Board to approve stream channel alteration for the purpose of private fishery enhancement. In order to authorize private fishery enhancement projects, the Board would need to follow the formal procedures set out for amending the State Water Plan and the Basin Plan. In addition, private fishery enhancement projects on protected reaches would represent a significant shift in fish management policy, goals, and programs adopted by the Fish and Game Commission. There was discussion among the parties regarding private versus public entities involved in fishery enhancement projects.

Agenda Item No. 11, Hells Canyon Relicensing Update

Ms. Hensley provided an update on fishery issues related to the relicensing at the Hells Canyon complex. A group was formed to take a look at some of the parties' interest in expanding Idaho Power's license responsibilities in three areas: the reintroduction of fall Chinook above the Hells Canyon Complex, the introduction and development of self-sustaining populations of unlisted fish within the Complex, and providing surplus fish to support some put-and-take fisheries for some of the tribes that

aren't currently part of the program. Fish and Game participated in these discussions, but made it clear that State policy opposes the first two goals, and withdrew from the discussions as things progressed. A meeting was held to discuss the settlement outline, and the State's position on these issues was clarified.

Agenda Item No. 12, Aqua Life Update

Ms. Patton provided an update on the Aqua Life facility. The process of acquiring the facility has been completed. The proposed tenant has expressed desire in the land surrounding the facility, and discussions are ongoing regarding this issue.

Agenda Item No. 13, Boise River Feasibility Study

Ms. Cynthia Bridge Clark invited Mr. Bill Richey, a liaison with Mountain Home Air Force Base (AFB), to provide comments to the Board regarding water supply issues in Elmore County and the Board's project to acquire water rights for the AFB. Mr. Richey stated that the Air Force is moving forward in regards to water supply issues at the AFB. He discussed the water issues in Elmore County and stated that Elmore County officials would like to see benefit from the Boise River Feasibility Study. There was discussion among the parties regarding the associated watershed, additional water that may be captured for water users in Elmore County, and staff communication with the County commissioners. There was further discussion regarding previous studies related to this issue, and future opportunities to obtain water for Elmore County. The Board directed staff to consider the interests of Elmore County and the city of Mountain Home as the study continues.

Ms. Clark discussed the resolution authorizing execution of necessary agreements with the US Army Corps of Engineers to carry out the Boise River Feasibility Study, as well as authorizing the expenditure of up to $1.5 million for completion of the Boise River Feasibility Study.

Mr. Raybould moved to adopt the resolution in the matter of the Lower Boise River Feasibility Study. Mr. Graham seconded the motion.

Roll Call Vote: Mr. Cuddy: Aye; Mr. Alberdi: Aye; Mr. Stevenson: Aye; Mr. Raybould: Aye; Mr. Van Der Meulen: Aye; Mr. Graham: Aye; Mr. Barker: Absent; Chairman Chase: Aye. Motion passed.

Agenda Item No. 14, IDWR Director's Report

Director Spackman discussed issues surrounding the Bear River Basin. He has been in communication with local legislators and leaders about commencing an adjudication of water rights in the basin. Public meetings are scheduled in Malad, Preston, Soda Springs and Montpelier to gauge support for legislation that would initiate the adjudication. Director Spackman discussed the proposed legislation and budget for the adjudication, and discussed future adjudications in the Northern Idaho basins.

Director Spackman discussed ongoing negotiations in the Snake River Basin regarding the fill/refill issue. He is expecting a settlement of that dispute in the Upper Snake. There are ongoing contested cases in the Boise River. A public meeting will be held in Star regarding this issue.

Director Spackman discussed delivery calls and curtailments. He is expecting the next few months to be tumultuous due to court decisions, ongoing litigation, and mitigation deadlines.

Public Comment

Chairman Chase reopened the meeting to Public Comment. Speaker Scott Bedke and Representative Mike Moyle addressed the Board. Speaker Bedke discussed the State Legislature's funding to address statewide water issues during the last session. Discussions are ongoing in the Hagerman Valley regarding a term sheet. The goal is to create long-term solutions and address all of the water supply issues, which takes everyone's best efforts to stabilize the aquifer in the Eastern Snake Plain. Speaker Bedke stated that it is important that the Legislature sees success not only in the Magic Valley, but around the state.

Representative Moyle discussed water shortages around the state. He encouraged the Board to

continue looking at other areas around the State with water issues. Speaker Bedke noted that it will take major investments to accomplish aquifer stabilization goals, and that some success in resolving water issues will be needed in order to procure additional funding.

Chairman Chase thanked Speaker Bedke and Representative Moyle for their comments. There was discussion among the parties regarding funding, partnerships, the North Ada County aquifer, aquifer recharge and statewide water issues. Speaker Bedke and Representative Moyle emphasized the need for proactive measures to address water issues statewide.

Agenda Item No. 12, Other Non-Action Items for Discussion

Mr. Graham discussed the Albany Falls issue. Much of the private property around the lake is high value. Residents want higher lake levels through September, and may come to the Board to set a minimum lake level. Mr. Graham also stated that this meeting would be his last meeting. He expressed appreciation for the Board and reminded them that they have an important role to play in statewide water issues. Chairman Chase and the Board expressed appreciation for Mr. Graham.

Agenda Item No. 13, Next Meetings and Adjourn

The next Board meeting is currently scheduled for January 22 - 23, 2015 in coordination with the IWUA convention on January 20-22, 2015. Mr. Raybould made a motion to Adjourn, and Mr. Cuddy seconded the motion. Voice Vote. All were in favor. Motion Carried.

The IWRB Meeting 11-14 adjourned at approximately 12:00 am.

Respectfully submitted this _____ day of January, 2015.

_____

_____, Secretary

_____

Mandi Pearson, Administrative Assistant II

Board Actions:

1. Mr. Raybould made a motion that the minutes for meeting 10-14 be approved as printed. Mr. Stevenson seconded the motion. Voice Vote. All were in favor. Motion passed.
2. Mr. Raybould moved to adopt the resolution adopting the pending UIC rule change. Mr. Cuddy seconded the motion. Roll Call Vote. 7 Ayes, 1 Absent. Motion passed.
3. Mr. Alberdi moved to adopt the resolution in the matter of a funding commitment to Clearview Water Company. Mr. Van Der Meulen seconded the motion. Roll Call Vote. 7 Ayes, 1 Absent. Motion passed.
4. Mr. Van Der Meulen moved to approve the resolution in the matter of the Beaver Creek Rental for the Water Transaction Agreement. Mr. Raybould seconded the motion. Roll Call Vote. 7 Ayes, 1 Absent. Motion passed.
5. Mr. Graham moved to approve the resolution in the matter of the Carmen Creek Water Transactions. Mr. Stevenson seconded the motion. Roll Call Vote. 7 Ayes, 1 Absent. Motion passed.
6. Mr. Cuddy moved to approve the resolution in the matter of the South Leigh Creek Water Use Agreement. Mr. Raybould seconded the motion. Roll Call Vote. 7 Ayes, 1 Absent. Motion passed.
7. Mr. Raybould moved to approve the resolution in the matter of the Badger Creek Water Transaction. Mr. Alberdi seconded the motion. There was discussion among the parties clarifying the total amount of the transaction. Roll Call Vote. 7 Ayes, 1 Absent. Motion passed.
8. Mr. Stevenson moved to approve the resolution in the matter of the Badger Creek Water Rights Appraisal. Mr. Van Der Meulen seconded the motion. Roll Call Vote. 7 Ayes, 1 Absent. Motion passed.
9. Mr. Alberdi moved to adopt the resolution in the matter of computer infrastructure for the Water Supply Bank. Mr. Raybould seconded the motion. Roll Call Vote. 7 Ayes, 1 Absent. Motion passed.
10. Mr. Raybould moved to adopt the resolution in the matter of the Lower Boise River Feasibility Study. Mr. Graham seconded the motion. Roll Call Vote. 7 Ayes, 1 Absent. Motion passed.

IDAHO WATER RESOURCE BOARD

MEETING MINUTES 12-14

Idaho Water Center
Conference Room 648A (Director's Conference Room)
322 East Front St, Boise ID 83720

November 12, 2014

Chairman Roger Chase called the meeting to order at approximately 8:00 am. There were seven Board members present. Mr. Chuck Cuddy was absent. All other Board members were present.

Agenda Item No. 1, Roll Call

Board Members Present

Roger Chase, Chairman
Peter Van Der Meulen, Vice-Chairman
Bob Graham, Secretary
Vince Alberdi
Jeff Raybould
Bert Stevenson
Albert Barker

Staff Members Present

Brian Patton, Planning Bureau Chief
John Homan, Deputy Attorney General
Harriet Hensley, Deputy Attorney General
Jeff Peppersack, Water Allocations Bureau Chief
Neeley Miller, Senior Planner
Mandi Pearson, Administrative Assistant

Guests Present

Mark Solomon, Idaho Water Resources Research Institute
Blain Dawson, Boise State University

Agenda Item No. 2, Aqua Life

Mr. Brian Patton discussed the current status of the Aqua Life Facility. In negotiations with the proposed tenant, it became apparent that acquiring the remainder of the land owned by Idaho Department of Parks and Recreation (Parks) adjacent to the Aqua Life facility would be desirable due to biosecurity reasons with fish production. It appears that Parks is willing to sell to the Board the land for $250,000. There was discussion among the parties regarding the parcel size, the property line, the source of funding for the purchase, the tenant's interest in the additional land which has access to the spring source, and details regarding the lease.

Mr. Raybould moved to adopt the resolution in the matter of the Aqua Life Aquaculture Facility. Mr. Van Der Meulen seconded the motion. There was further discussion among the parties regarding the lease terms and maintenance of the land.

Roll Call Vote: Mr. Cuddy: Absent; Mr. Alberdi: Aye; Mr. Stevenson: Aye; Mr. Raybould: Aye; Mr. Van Der Meulen: Aye; Mr. Graham: Aye; Mr. Barker: Aye; Chairman Chase: Aye. Motion passed.

Agenda Item No. 3, Spokane River

Mr. Neeley Miller provided an introduction and status report on issues surrounding the Spokane River. The proposed Washington Instream Flow Rule will set a flow target for the river throughout the year and is scheduled to be adopted in early 2015. That rule will only have effect in Washington, but there has been question about the impact of the rule on Idaho. At the recent Board meeting, Dr. Dale Ralston and Gary Johnson gave a presentation to the Board on the Spokane River Groundwater Pumping Study. The purpose of this study is to gain an improved understanding of the low flow conditions in the Spokane River from groundwater systems. Mr. Miller discussed the results of the study. Mr. Miller also discussed the Rathdrum Prairie Future Demand Study. It is scheduled to be completed in May 2015. There was discussion among the parties regarding municipalities applying for Reasonably Anticipated Future Needs (RAFN) water right applications and documentation needed for RAFN applications.

Agenda Item No. 4, Adjourn

Mr. Barker made a motion to Adjourn, and Mr. Van Der Meulen seconded the motion. Voice Vote. All were in favor. Motion Carried.

The IWRB Meeting 12-14 adjourned at approximately 8:45 am.

Respectfully submitted this _____ day of January, 2015.

_____

_____, Secretary

_____

Mandi Pearson, Administrative Assistant II

Board Actions:

1. Mr. Raybould moved to adopt the resolution in the matter of the Aqua Life Aquaculture Facility. Mr. Van Der Meulen seconded the motion. Roll Call Vote. 7 Ayes, 1 Absent. Motion passed.

IDAHO WATER RESOURCE BOARD

MEETING MINUTES 13-14

Idaho Water Center
Conference Room 602C
322 East Front St, Boise ID 83720

December 24, 2014

Chairman Roger Chase called the meeting to order at approximately 8:10 am. There were seven Board members present. Mr. Chuck Cuddy was absent. All other Board members were present.

Agenda Item No. 1, Roll Call

Board Members Present

Roger Chase, Chairman
Peter Van Der Meulen, Vice-Chairman
Bob Graham, Secretary
Vince Alberdi
Jeff Raybould
Bert Stevenson
Albert Barker

Staff Members Present

Brian Patton, Planning Bureau Chief
John Homan, Deputy Attorney General
Clive Strong, Deputy Attorney General
Mandi Pearson, Administrative Assistant

Guests Present

Lynn Tominaga, Idaho Ground Water Appropriators
Jon Bowling, Idaho Power
Lynn Carlquist, North Snake Ground Water District
Dean Stevenson, Magic Valley Ground Water District
Randy Budge, Attorney for Districts and IGWA

Agenda Item No. 2, Aqua Life

Mr. Bert Stevenson stated that he owns property in the Magic Valley Ground Water District and requested unanimous consent from the Board that he be able to participate in the discussion and vote on this issue. Chairman Chase asked if any Board member had concerns regarding this, and the Board expressed their consent.

Mr. Brian Patton discussed the proposed lease of the Aqua Life facility to the Idaho Ground Water Appropriators (IGWA) member districts. The 2014 Legislature directed the Board to acquire the Aqua Life Aquaculture Facility

from the Idaho Department of Parks and Recreation, in furtherance of the State's desire to reduce water use conflicts in the Hagerman Valley. The Board is also acquiring additional lands that include the spring water supply for the facility. The proposal contemplates leasing Aqua Life to IGWA's member districts, who will then sublet Aqua Life to Seapac of Idaho. The proposed lease contemplates a base rent amount of $10,000 per year plus a water usage component of $1,644 per cfs per year, for an initial rent of $67,450 per year.

There was discussion among the parties regarding measurement of flows at Aqua Life, lease terms regarding improvements to the property, a first right of refusal clause, forthcoming legislation, and insurance coverage. There was discussion regarding changes to the lease to clarify issues surrounding property improvements.

Mr. Raybould moved to adopt the resolution in the matter of the Aqua Life Aquaculture Facility subject to the discussed changes in the lease. Mr. Barker seconded the motion.

Roll Call Vote: Mr. Cuddy: Absent; Mr. Alberdi: Aye; Mr. Stevenson: Aye; Mr. Raybould: Aye; Mr. Van Der Meulen: Absent; Mr. Graham: Aye; Mr. Barker: Aye; Chairman Chase: Aye. Motion passed.

Agenda Item No. 3, North Snake and Magic Valley Groundwater Districts Loan Request

Mr. Patton discussed a short term loan request from North Snake and Magic Valley Groundwater Districts. They are requesting a short term loan of $2.75 million to build a pumping plant and pipeline in conformance with the approved "Fourth Mitigation Plan" for Rangen. The loan would be limited to $1.26 million until additional borrowing authority is granted. The loan would be repaid no later than September 30, 2015.

Mr. Bert Stevenson noted an error on the resolution on the 6th "Whereas" clause: the word "Minidoka" should be replaced with "Gooding." There was discussion among the parties regarding the districts' finances and collateral.

Mr. Graham moved to adopt the resolution in the matter of the North Snake and Magic Valley Ground Water Districts loan with the discussed change. Mr. Alberdi seconded the motion.

Roll Call Vote: Mr. Cuddy: Absent; Mr. Alberdi: Aye; Mr. Stevenson: Aye; Mr. Raybould: Aye; Mr. Van Der Meulen: Aye; Mr. Graham: Aye; Mr. Barker: Aye; Chairman Chase: Aye. Motion passed.

Mr. Carlquist and Mr. Dean Stevenson expressed their thanks to the Board.

Agenda Item No. 4, Other Items Board Members May Wish to Discuss

Chairman Chase reminded the Board members of the upcoming meeting in January. The agenda will include an item on Sustainability. There was discussion among the parties regarding aquifer stability and the parties involved in sustainability issues.

Agenda Item No. 5, Adjourn

Mr. Raybould made a motion to Adjourn, and Mr. Van Der Meulen seconded the motion. Voice Vote. All were in favor. Motion Carried.

The IWRB Meeting 13-14 adjourned at approximately 9:00 am.

Respectfully submitted this _____ day of January, 2015.

_____

_____, Secretary

_____

Mandi Pearson, Administrative Assistant II

Board Actions:

1. Mr. Raybould moved to adopt the resolution in the matter of the Aqua Life Aquaculture Facility subject to the discussed changes in the lease. Mr. Barker seconded the motion. Roll Call Vote. 6 Ayes, 2 Absent. Motion passed.
2. Mr. Graham moved to adopt the resolution in the matter of the North Snake and Magic Valley Ground Water Districts loan with the discussed change. Mr. Alberdi seconded the motion Roll Call Vote. 7 Ayes, 1 Absent. Motion passed.

MATERIALS FOR THIS SECTION WILL BE PROVIDED AT THE MEETING.

Memorandum

To: Idaho Water Resource Board

From: Morgan Case

Date: January 23, 2015

Re: Water Transactions Program – Carmen Creek Reconnect

Action Item: A funding resolution for $392,200 to enter into twenty-year agreements not to divert up to 4 cfs from Carmen Creek 3. Funds will come through the Columbia Basin Water Transactions Program.

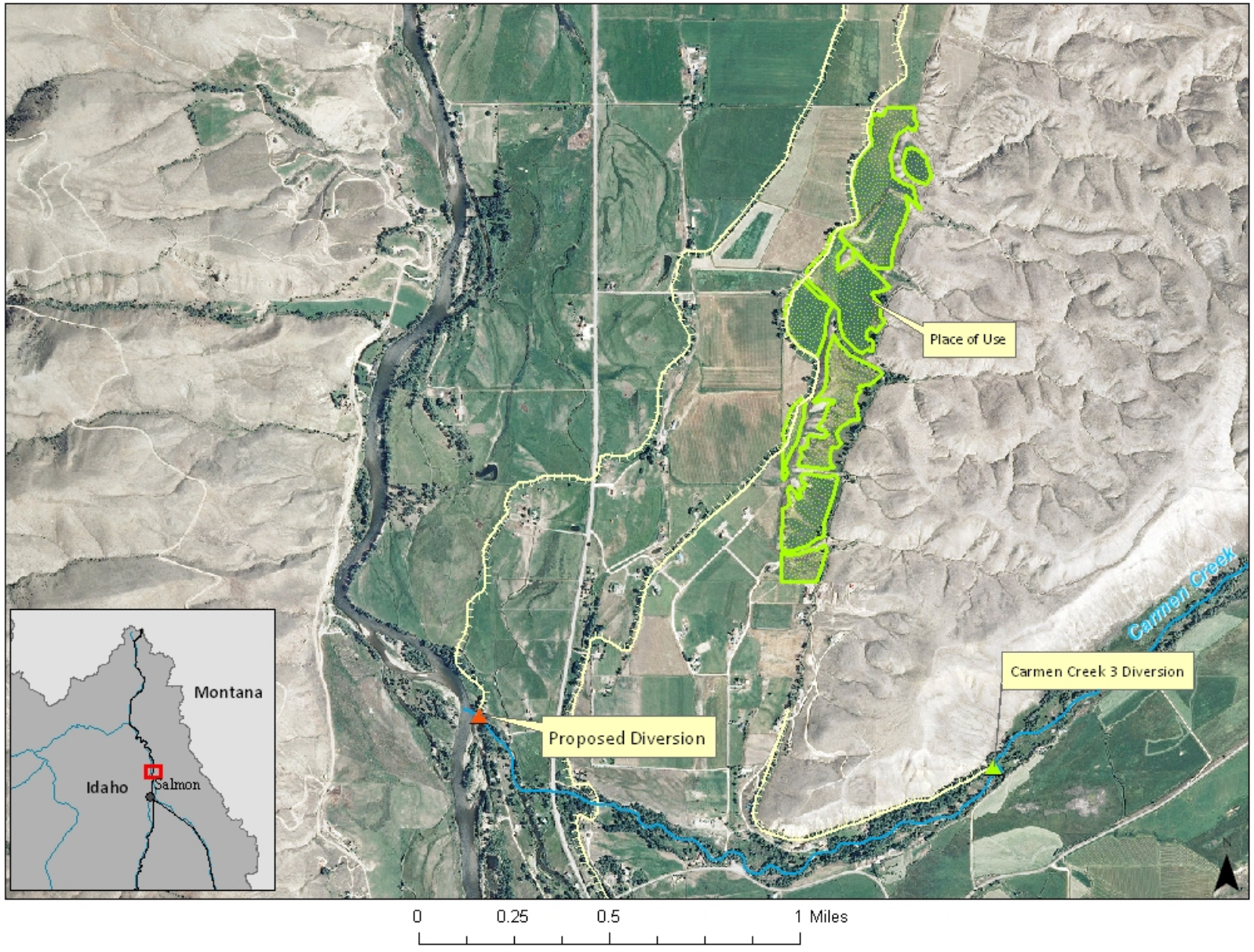
Carmen Creek is a tributary that flows into the Salmon River north of Salmon, Idaho. It is seasonally de-watered due to irrigation withdrawals. It has been identified as a high priority stream for flow restoration efforts, to provide high quality habitat for anadromous Chinook salmon and steelhead and resident bull trout. Partner agencies have been working on a project with water users (William and Derrold Slavin) who divert from the Carmen Creek 3 diversion to move the point of diversion downstream in Carmen Creek to a point just above the confluence with the Salmon River (map below).

Moving the point of diversion would allow up to 4 cfs to remain instream in Carmen Creek from the Carmen Creek 3 diversion to the new diversion near the mouth of Carmen Creek. The lowest reaches of Carmen Creek are not dewatered due to the addition of approximately 1 cfs from a Salmon River diversion fish screen return and the reach gains in the Carmen Slough. Improving flows in the dewatered reach will protect incubating steelhead eggs early in the season and improve habitat for Chinook salmon, steelhead, and bull trout in the basin. Flow improvements would also complement passage, screening, and irrigation efficiency project implemented by partners.

At the November 2014 IWRB meeting, the Board passed a funding resolution that authorized staff to move forward with 2-twenty year agreements not to divert, with Bill and Derrold Slavin. The projected transaction cost was $148,605, with funding to come from BPA through the Columbia Basin Water Transactions Program. After that meeting, staff received additional information about changes to Idaho Power rate structure, detailed demand charge rates, and information from the landowners that conflicted with the season of use provided by the NRCS. The staff engineer then recalculated the power estimates and came up with updated transaction costs.

The updated transactions cost is $392,200 ($151,218 for Derrold Slavin and $240,982 for Bill Slavin) to be received at a discounted rate from CBWTP and held in the Water Transaction Subaccount of the Board's Revolving Development Account for annual payment to the water right owner.

Carmen Creek - POD Transfer



BEFORE THE IDAHO WATER RESOURCE BOARD

IN THE MATTER OF THE CARMEN CREEK WATER TRANSACTIONS	)))	A RESOLUTION TO MAKE A FUNDING COMMITMENT

WHEREAS, Chinook salmon and steelhead habitat in the Carmen Creek basin is limited by seasonally disconnected stream reaches; and

WHEREAS, Carmen Creek has been identified as a high priority stream for flow restoration efforts, to provide high quality habitat for anadromous Chinook salmon and steelhead and resident bull trout, and the 2004 Snake River Water Rights Agreement (Also known as the Nez Perce Agreement) commits the state to providing incentives for improving fish habitat, which includes improving or protecting flow conditions to augment stream flows, and

WHEREAS, it is in the interest of the State of Idaho to reconnect of Carmen Creek to encourage recovery of ESA-listed Chinook salmon, steelhead, and bull trout; and

WHEREAS, staff has developed two twenty-year agreements not to divert up to 4 cfs of water from the Carmen Creek 3 Diversion to reconnect stream flow for anadromous and resident fish; and

WHEREAS, the water users will change the point of diversion to divert from stream reaches that are not flow-limited and the funds paid under the agreement will approximate the power expenses incurred, over a 20-year period, by changing the points of diversion; and

WHEREAS, funds are available from the Bonneville Power Administration through the Columbia Basin Water Transaction Program; and

WHEREAS, staff anticipates the funds being placed into the Idaho Water Resource Board (IWRB) Revolving Development Account for annual payment to the water right owners; and

WHEREAS, this resolution supercedes the Carmen Creek funding resolution approved by the Idaho Water Resource Board at the November 5, 2014 meeting; and

WHEREAS, the Carmen Creek transactions are in the public interest and consistent with the State Water Plan.

NOW THEREFORE BE IT RESOLVED that the IWRB authorizes the Chairman to enter into contracts with Derrold Slavin and William Slavin or subsequent owners for agreements not to divert out of the Carmen Creek 3 diversion in the amount of three hundred ninety-two thousand two hundred dollars ($392,200) over a twenty-year period.

NOW THEREFORE BE IT FURTHER RESOLVED that this resolution is subject to the condition that the IWRB receives the requested funding from the Bonneville Power

Administration through the Columbia Basin Water Transaction Program in the amount of three hundred ninety-two thousand two hundred ($392,200).

DATED this the 23rd day of January, 2015.

ROGER CHASE, Chairman
Idaho Water Resource Board

ATTEST:

Vince Alberdi, Secretary

TO: Idaho Water Resource Board

FROM: Neeley Miller, IDWR Planning and Projects Bureau

DATE: January 12, 2015

RE: Regional Conservation Partnership Program

ESPA RCPP Proposal

At the March 2014 Idaho Water Resource Board ("Board") meeting, Board members were briefed on the Regional Conservation Partnership Program (RCPP) that was included in the 2014 Farm Bill. The RCPP replaced the Agricultural Water Enhancement Program (AWEP) that was authorized under the 2008 Farm Bill. In June 2014, NRCS released the RCPP announcement for program funding and proposal guidelines. The RCPP is a five year program (2015-2019) and projects and strategies similar to what was available through the IWRB's AWEP program are eligible under RCPP.

The RCPP drafting committee met regularly between June and September to develop a full RCPP proposal focused on ESPA stabilization. The Board is the lead partner on the RCPP proposal. There are several collaborating partners, including: Idaho Department of Water Resources, Trout Unlimited, Wood River Land Trust, The Nature Conservancy, Idaho Department of Fish and Game, Ag Spring, Center for Management of Professional and Scientific Work, Idaho Ground Water Appropriators, Ducks Unlimited, Thousand Springs Water Users Association, MillerCoors, General Mills, and Idaho Soil and Water Conservation Commission. These partners have committed to providing approximately $824,000 in financial assistance and technical assistance for RCPP projects each year. These entities all provided letters of support for the RCPP proposal.

The Board's RCPP proposal requested NRCS EQIP funds to target high priority actions identified by the State of Idaho to stabilize and recover ground water levels in the Eastern Snake River Plain Aquifer ("ESPA"), and stabilize and recover spring discharges from the ESPA to help maintain the minimum stream flows in the Snake River.

The projects outlined within the IWRB's proposal to support the State of Idaho's on-going efforts to stabilize and recover the ESPA include: 1) Ground to Surface Water Conversions and Surface Water Delivery Improvements, 2) End Gun Removal and Pivot Enhancements, 3) Flood Irrigation Enhancements, 4) Pump Back and Storage Systems, 5) Fallowing/Conversion to Dryland for Ground Water Irrigated Lands, 6) Thousand Springs Conservation Program.

The Board's RCPP proposal was submitted in October 2014. In December, Board staff met with Jeff Burwell, NRCS State Conservationist for the State of Idaho, and he indicated that the IWRB's RCPP anticipated funding award is $1 million over two years (2015-2016). Of the 600 applicants for RCPP funding, the IWRB's proposal was one of 114 to receive funding and all RCPP funding awards were below the amounts requested by applicants.

NRCS encouraged the IWRB to reapply for additional funding for 2017-2019 and indicated they would assist us in that process.

NRCS plans to complete project cooperative funding agreements by March 2015.

Upper Salmon Basin RCPP Proposal

In addition to the IWRB's RCCP proposal, the Upper Salmon Basin Watershed Program (USBWP) also submitted a proposal for RCPP funds. They requested RCPP program funding to move habitat actions forward in the Upper Salmon Basin Watershed (USB). The Board is a collaborating partner on this RCPP proposal and provided a letter of support for the proposal. Board water transaction activities and expenditures in the Upper Salmon Basin can be counted as financial and technical assistance matching dollars for the RCPP proposal.

The overall goal of the project is to promote water quality and management of water quantity to benefit recovery of Chinook salmon and steelhead through a partnership approach that addresses natural resource concerns as identified by NRCS, USBWP Technical Team, the Salmon Subbasin Management Plan, and the Federal Colombia River Power System Expert Panel. Specific activities to address these resource concerns may include: 1) Improving, eliminating or consolidating irrigation diversions, 2) Screening of irrigation diversions, 3) Converting open ditches to pipe, 4) Converting from flood irrigation to pivots or pods, 5) Replacing road culverts, 6) Creating or rehabilitating riparian habitat, 7) Reconnecting tributaries, 8) Developing new side channels, 9) Increasing instream habitat complexity, 10) Improving floodplain connectivity, 11) Securing instream flow through changes in points of diversion and places of use, 12) Leasing or purchasing water rights, and 13) Securing conservation easements.

The USBWP RCCP proposal did not compete for funding with the IWRB's RCCP proposal. The IWRB's proposal competed under the State Funding pool. The USBWB RCPP qualified to compete for the Columbia River Basin Critical Conservation Area (CCA) RCPP Funding pool.

A funding announcement for USBWP RCCP proposal is expected in mid-January 2015.

Memorandum

To: Idaho Water Resource Board

From: Cynthia Bridge Clark

Date: January 12, 2015

Re: Status of Storage Water Studies

The following is a status report on the surface water storage studies initiated by the Idaho Water Resource Board (IWRB). This memorandum describes activities and progress since the last IWRB meeting in November 2014.

Weiser-Galloway Project

- Operations Analysis: The US Army Corps of Engineers (Corps) is completing the evaluation of potential hydropower integration from the Galloway project with the Northwest power grid. Results of the hydropower integration study will be incorporated into the Operational Analysis and a final report is scheduled for completion spring 2015.
- Galloway Project size optimization study: A Planning Assistance to States cost-share agreement has be executed between the IWRB and the Corps to refine the project size and corresponding design and project costs using the models, hydrologic data, operational constraints, water demands, and total benefits developed for the Operations Analysis. A design charette with the technical team is scheduled for March and completion of the study is scheduled for fall, 2015.
- Evaluation of Weiser River Trail impacts and relocation options: The project as proposed would inundate 15 miles of the Weiser River Trail (WRT). Given the level of concern by the public about potential impacts to the WRT and associated legal obligations, an analysis of potential relocation options will be evaluated to inform the IWRB and stakeholders. A study scope is currently being drafted.
- IDWR staff is reviewing the Federal Energy Regulatory Commission (FERC) preliminary permit requirements, preparing a project schedule/timeline and a plan for stakeholder coordination. Staff also continues to respond to questions and inquires about the project.

REQUIRED ACTIONS: No action is required by the IWRB at this time.

Lower Boise River Feasibility Study

- Reservoir modeling of the Arrowrock Dam raise is ongoing to determine the expected refill frequency which will influence the optimum size of a potential raise. The Corps is coordinating with IDWR and U.S. Bureau of Reclamation (Reclamation) staff in this process. Initial analyses of structural considerations and costs have been conducted and will be expanded through the feasibility study.
- All aspects of the Environmental Impact Statement (EIS) are ongoing.
- IDWR staff is coordinating with the Corps to quantify water supply needs.

REQUIRED ACTIONS: No action is required by the IWRB at this time though staff would like to continue coordination with Elmore County representatives to identify options for addressing water supply needs in the Elmore County and Mountain Home area.

Island Park Reservoir Enlargement Project

IDWR staff and the US Bureau of Reclamation (Reclamation) continue to draft an agreement to coordinate on activities related to the Island Park Enlargement Project. A parallel contract for evaluation of the Island Park Reservoir Enlargement Project Land and Real Estate Assessment is also being drafted. Staff is preparing to issue a Request for Proposal to complete this work.

REQUIRED ACTIONS: No action is required by the IWRB at this time.

Request for Idaho Water Resource Board Support to Aid Eastern Idaho Water Rights Coalition with Recharge Development for the Upper Snake River Plain Aquifer

January 20, 2015

Background and Purpose:

Moratoriums have been imposed by the State of Idaho that continue to pose significant challenges to cities as they seek to expand water supplies to meet growth and new demands for water in incorporated areas, and areas served by city services. While the State statutes contain process under which a municipality can appropriate unappropriated water, moratoriums and administrative requirements have effectively eliminated many options for municipalities especially smaller communities. Beyond these limitations on new water appropriations cities located on the Eastern Snake River Plain (ESP) are vulnerable to water calls by surface water users who seek administrative intervention under the State's Conjunctive Management Rules. Surface water users have long been able to buffer water shortages because of surface storage that can be used when natural flows are not in priority. Municipalities predominately use ground water and absent the establishment of a storage equivalent within the Eastern Snake River Plain Aquifer cities are left with vulnerabilities due to conjunctive administration. The cities on the ESP understand that they could implement a condemnation process but that costly litigation and ill will which would result makes this a not a very attractive option.. The cities and other municipal providers on the ESP believe that resources can be much better spent on a more productive approach that has been shown to work in many other areas of the west. This approach is the creation of private aquifer storage credits through managed recharge. A coalition of cities and municipal providers is proposing to undertake a number of immediate actions in partnership with the Idaho Water Resource Board (IWRB). However, before these actions can be implemented a comprehensive recharge study of the processes, potential projects and hydrologic effects are needed. The Idaho Water Resource Board recently received funding from the Idaho State Legislature to assist in managed recharge efforts within the state. This proposal outlines five specific interdependent tasks this coalition of municipal providers wishes to initiate with IWRB assistance.

Task 1. Potential Recharge Site Reconnaissance and Inventory:

In recognition of the information contained in data documenting reductions in incidental irrigation-related recharge to the ESPA of over 500,000 acre-feet annually over the past six decades, the coalition is seeking the resources to conduct reconnaissance level investigative work on both new and existing recharge sites above American Falls. This work will include the evaluation of site suitability, accessibility and availability. In addition, a review and evaluation of past studies and proposals and other relevant data and literature will be completed. Proposals for managed recharge of the ESPA date back to the 1960's. Under this

Category 1 analysis The Coalition believes it is necessary to understand the work that has been done and not spend resources "reinventing the wheel". The Coalition will seek to both evaluate and rank potential and existing recharge sites. We anticipate that the evaluation and ranking process will include the seeking of comments and information from various interest groups especially those that may be concerned about environmental, fish and wildlife, access and easements, water quality and water rights impacts.

Task 2. Recharge Simulation and Modeling: Conduct modeling runs with the current Eastern Snake Plain Aquifer Model (ESPAM) to determine the short-term and long-term effects of developing recharge projects for sites that have previously been identified and sites that may be proposed as a result of these studies. Modeling will include the tracking of actual recharge over time to identify both annual and long-term effects and water availability. The Coalition has retained modeling experts who to complete task 2.

Task 3. Pilot Recharge Effort: The Coalition believes that the best way to move ahead with establishing an affective recharge program is to implement a pilot recharge project. Difficulties are likely to be both technical and political in nature and likely will be addressed during the pilot effort. Fortunately the Coalition will be assisted by recognized experts in the field of water rights, water distribution, water management, and aquifer recharge. With the help of these experts the Coalition is proposing to evaluate systemic limitations that could impact the feasibility of constructing various sized dedicated recharge facilities. It is anticipated that this evaluation will require delivering available recharge water to known recharge sites, and then tracking storage credits and delivering the credits represented by such recharge efforts. Part of the proposed evaluation process will require the use of private recharge permits that will be made available by specific partnering canal companies and irrigation districts. It is clear that the inclusion of these surface water entities, and the assistance of Water District 1 will be important factors in designing a recharge strategy for the upper portion of the ESP.

Task 4. Preliminary Engineering for High Value Sites: Past studies and subsequent recharge efforts conducted by the USGS, the IDWR and Water District 1 have revealed that there are high value recharge sites that could be supplied from the North Fork, and between Beaver Dick Park and American Falls. In the development of recharge facilities, expansion of the existing canals as surface delivery systems for delivering water to the aquifer has long been recognized and remains an important first step in establishing dedicated recharge facilities above American Falls. The Coalition must rely upon IWRB funding since the kinds of preparatory work needed is difficult to include in city budgets.

Task 5. Final Report: Prepare a final report documenting the results of work accomplished. Because the water issues on the ESP are as much legal and political as they are hydrologic, it is anticipated that the final report will necessarily address all aspects of managing Snake River water supplies through managed recharge. This final report will be critical in getting the associated cities to make commitments for future project funding.

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Proposal Details:

Potential Recharge Site Reconnaissance and Inventory:

The Coalition recognizes that the locations of recharge sites will necessarily be outside of city boundaries. Access to these sites must be acquired. In some cases IWRB statutory authorities may be essential for site acquisition. The Coalition proposes to evaluate recharge strategies that can be developed in a manner that is acceptable and beneficial to all participants. Ultimately recharge sites must be incorporated as state water management facilities. Acquiring the long-term commitments and funds necessary to bring such facilities on line may be an important part of this work effort. Certainly, as a water management tool, maximizing recharge, when water is available, is a key concept in any long-term recharge strategy. The Coalition has consultants who have already initiated the process of reviewing and evaluating available information and data necessary for the identification of potential recharge sites. This process cannot proceed beyond a literature review without outside funding. The fiscal restraints under which a municipal water supplier must operate make IWRB funding a critical first step. Because of the purposes for which the IWRB was created, and the significant management potential associated with the effort the Coalition is undertaking the one must concluded that Board funding is an essential condition for cities to undertake and complete the needed site reconnaissance and inventory. This request presupposes that the IWRB is interested in the goals established by CAMP and in improving management of Snake River water supplies for the benefits of Idaho and its residents.

While the Coalition is aware that there have been numerous recharge projects and recharge studies proposed over the past 45 years, land management policies have changed significantly over time. Sites proposed in the past may be much more difficult to acquire now than they would have been even 25 years ago. In addition there are new sites that have been identified and even recently used to accommodate recharge efforts. The Coalition is aware of work done by the Recharge Development Corporation and others in identifying and employing several recharge sites. These sites need to be evaluated in more detail and perhaps ranked by some yet-to- be- developed criteria. In some cases access to sites must be accomplished through political negotiations and perhaps the implementation of land exchanges.

The Coalition anticipates that the Water District 1 distribution and accounting processes will be a vital part of this work effort. Initial recharge efforts were undertaken in the fall of 2014 and if water supply conditions permit, Coalition supported test-of-concept recharge runs will continue in the spring of 2015. As a part of a reconnaissance level study cities will partner with the Recharge Development Corporation in seeking needed assistance from WD 1 in developing competent processes and strategies through the development of additional pilot recharge studies. These data will be use to evaluate the effects of site specific recharge through modeling and tracking using software owned by the Recharge Development Corporation. The proposed budget for these efforts is estimated to be $247,000. The Coalition is evaluating the potential for some kind of an in-kind match to accomplish this work. The City of Idaho Falls, for example may be able to provide assistance in pump-for-recharge development.

Recharge Simulation and Modeling

The Eastern Snake River Plain Aquifer Model (ESPAM) has acquired legal standing via Idaho state court decisions. ESPAM reflects the current "legal reality" associated with conjunctive administration and conjunctive management. Partnering cities will enter into contracts for the development of data that can be used in estimating and evaluating the hydrologic effects of recharge from selected managed recharge sites. The modeling will allow specific cities to evaluate the conclusions that were reached using older analog modeling techniques employed during studies completed in the 1960s. Because of the legal status for ESPAM that has been established by actions of the courts, modeling will be undertaken under multiple contexts in the work identified in this proposal for Board funding. Specific aspects of the modeling and credit tracking may be appropriate for certain cities to undertake within the constraints of their budgets. However an additional $28,000 in IWRB funding is being sought to complete the work associated with this inventory.

Pilot Recharge Effort

This task contemplates the implementation of a pilot recharge effort above American Falls utilizing existing and anticipated private recharge water rights. The work involved will include physical modifications and improvements of structures including diversion works, canals and certain recharge sites. Any water delivered to these pilot recharge sites will have to be diverted from the river and measured. Automation of the data collection processes will be necessary and will involve the acquisition of some additional equipment. Because the Watermaster has the responsibility for authorizing the diversion of water we anticipate certain costs will be associated with the work we previously identified. The city understands from its advisors and consultants that the delivery of water needed to replace the incidental recharge that has been lost because conversions from surface to sprinkler irrigation must be delivered to the aquifer as surface storage. This water will generally be converted to natural flow when the reservoirs physically fill or in the final year-end WD 1accounting. Because of existing Water Bank Rules and Rental Pool Procedures there are potential costs associated with recharge that the various municipal providers are unable to budget for. We have estimated that these fees and costs, over the term of the work being proposed will be $40,000.

Preliminary Engineering for High Value Sites:

Idaho Falls may have a unique potential to pump water from the river or canals for Recharge. The City may be able to use available resources to cover the costs of pumping water. However, the acquisition and installation of pumping equipment is included in this request to the IWRB. Recharge activities have a long history within the Fremont Madison Irrigation District, the New Sweden Irrigation District and the Aberdeen Springfield Canal Company. Based upon initial modeling runs it is important to have recharge efforts distributed over the ESP. While pumping water for recharge may have some applications, the needed high-volume diversion works will require canal construction or enlargement. Some of these projects are clearly beyond the scope of this request. However, preliminary engineering evaluations and actual smaller-scale construction work are within the scope and will be necessary within the service areas of all three of these entities. The Coalition is seeking funding to do needed engineering and limited site improvement within the service areas of the previously named entities. While the specific work has not been scoped, the pumping facilities and the modest canal enlargements envisioned represent a major portion of this

request. Consultants for the coalition have provided preliminary analyses that confirm the inherent benefits of aquifer storage as an alternative to additional surface storage. It appears that water can be stored in the ESPA and recovered at a fraction of the cost of providing an equivalent amount of water from new surface storage. The benefits are compounded by both the extended storage retention time and the long term systemic and environmental benefits.

Reporting:

A significant element of this proposal is the documentation of actions and activities associated with the work effort the Coalition has identified. Because it is clear that the future of southeastern Idaho is intimately related to the success or failure of managed recharge on the ESP, written documentation, analysis and recommendations are seen as very high-value goals. Documentation of the actual development of recharge facilities and the establishment of aquifer storage credits likely will have long-term scientific, historic and legal implications. Consequently a significant objective in this request is the documentation an analysis. The Coalition anticipates that this reporting will include several elements beyond reporting on recharge, credit tracking, ground water deliveries and modeling. While the Coalition believes that the necessary legal framework is in place to accomplish current goals, the longer term and broader management aspects need significant further review. This review would even include elements like the bias that exist in the current Department of Water Resource permit processing procedures. We believe the Coalition of cities and municipal providers is in a unique position to make suggestions that, if implemented would dramatically improve water management and water availability for the residents of Eastern Idaho. Because this work likely will go beyond the interests of the just the Coalition, the kind of evaluation needed is well suited for IWRB participation and funding. While the Coalition is committed to the efforts that have been described and certainly will be a participant in this effort to the extent possible, initial estimates place the cost of producing this report at approximately $125,000. These costs, which are anticipated to be allocated over a five year period, are reflective of both the time and effort necessary to produce documents that can be used in making managed a part of the budgeting process for municipal providers. The Coalition therefore is seeking a commitment of $25,000 per year for the next five years from the IWRB.

Proposal Summary

The Coalition believes that all of the residents of the state will be benefited by work accomplished and the documented results for this proposal. While the Snake River Basin has large amounts of unappropriated water, this water is largely unavailable to many of the entities that need a sustained and dependable supply for their communities. The Coalition is interested in partnering with IWRB to establish the kind of water management that is needed to assure that a growing population will have a viable water supply for the foreseeable future. In earlier reclamation projects the Bureau of Reclamation used to do a cost – benefit analysis for every project. Our initial estimates indicate that the benefits associated with the Coalitions proposal exceed those for any surface storage project ever built in the state. It seems clear that for less than one million dollars the State of Idaho, though the participation of the Idaho Water Resource Board can launch a public private partnership arrangement to accomplish enhanced water management for the ESP that has been Idaho's goal for the past seven decades.

Potential Recharge Site Reconnaissance and Inventory: $73,000
Recharge Simulation and Modeling: $28,000
Pilot Recharge Effort: $40,000
Preliminary Engineering for High Value Sites: $331,000
Final Report: $125,000
TOTAL IWRB Commitment Requested : $597,000

Memorandum

To: Idaho Water Resource Board

From: Brian Patton, Neal Farmer, Cynthia Bridge Clark

Date: January 12, 2015

Re: ESPA Managed Recharge Status Report

Progress/Status:

Canal System	Volume Recharged (Acre-feet) (10/27/2014-1/12/2015)	Conveyance Costs
Twin Falls Canal Company	7,194 af	$33,856
American Falls Reservoir District No. 2 (Milner-Gooding Canal)	22,197 af	$104,842
Total	**29,391 af**	**$138,698**

- Twin Falls Canal Company has diverted 38 cfs for recharge since 10/27/2014.
- American Falls Reservoir District No. 2 (AFRD2) has delivered flows varying from 120-190 cfs with a couple of shutdowns since 10/27/2014.

Goal: Develop program to recharge 250,000 acre-feet on average annual basis to stabilize the Eastern Snake Plain Aquifer. The metric of success is sustaining aquifer volumes and spring discharges. (Since 2009 ESPA recharge has averaged approximately 74,000 af/yr. This has been achieved on an opportunistic basis and not all accomplished recharge has taken place at locations expected to provide long-term aquifer storage.)

Problem: The Eastern Snake Plain Aquifer is currently losing approximately 200,000 acre-feet per year from aquifer storage. The total loss from storage since 1952 is 12 million acre-feet. This has resulted in declining aquifer levels and spring flows from the aquifer, in turn leading to conjunctive administration water delivery calls and uncertainty as to whether the Swan falls Agreement minimum flows can be maintained.

Strategy:

1. Maximize diversion of flows spilling past Milner during non-irrigation season, including winter-time diversions, which are available for recharge under the IWRB's current recharge water right and will provide a "base-load" for recharge. Develop non-irrigation season delivery agreements to include the winter period with canals that divert from Milner and assist with significant infrastructure modifications to facilitate winter recharge delivery. This may also require development of dedicated, winter-operational recharge facilities diverting from the Milner Pool that operate independent of canal companies (direct pump-to-injection wells).
2. Develop a winter-operational facility to utilize the Little Wood River water supplies.
3. In above-average water years when recharge will not interfere with filling the reservoir system, recharge at upper valley locations (above American Falls). Natural flow for recharge in the upper valley will likely only be available during some spring run-off periods.
4. Continue current opportunistic recharge efforts throughout the basin and manage adaptively to address changing circumstances.

Water Availability (natural flow) for Recharge: The available water supply for recharge occurs as winter-time flows (November-March) and as spring run-off flows (March-April). The Snake River winter-time flows are usually a minimum of 500 cfs and are available for diversion from the Milner Pool. There is also some winter-time flow in the Little Wood River. (Median annual volumes: Snake River at Milner = 500,000 af, Snake River above American Falls = 6,000 af, and Wood River system = 10,000 af).

IWRB Funds Available for ESPA Recharge:

$1,215,432	Currently committed for delivery costs
$3,823,222	Currently committed for infrastructure costs
$337,594	Currently committed for preliminary development
$5,000,000/yr	Ongoing annual funds from Cigarette for "statewide aquifer stabilization" (beginning July 2015)

Action Items:

1. AFRD2 MP 28 hydropower plant turnout modifications: The IWRB has agreed to assist with infrastructure improvements and modifications necessary to facilitate winter recharge water delivery. AFRD2 has delivered recharge water during the non-irrigation season in accordance with a 5-year delivery agreement with the IWRB under the incentivized payment plan. In the course of winter deliveries, water flowing through a hydropower plant at MP28 has created a number of issues including: potentially freezing parts in the power plant, debris filling the turnout area, and deformities in the trash rack resulting from freezing and thawing action.

   AFRD2 and the power plant owner propose construction of a 7-foot high wall across the turnout to divert winter recharge flows below 400 cfs past the power plant. There is interest in constructing the wall as soon as possible, to be completed before March. Therefore, construction costs were developed by IDWR staff in coordination with AFRD2 and the power plant owner to put before the IWRB. Expenditures will be limited to actual costs.

   A draft resolution authorizing expenditure of up to $60,000 is before the IWRB for consideration.

2. Payment Structure for Canals above American Falls Reservoir: The incentivized payment structure was approved only for those canals that divert from the Milner Pool, as there is water supply available for recharge at Milner during the non-irrigation season that has not been utilized. The water availability in the Upper Valley has different characteristics (available intermittently and usually in large volumes for short durations when available). Therefore, the payment structure designed to encourage winter deliveries at Milner may not work for the Upper Valley.

   Based on available water supply information for the Upper Snake River and Water District 1, there may be an opportunity to recharge in above American Falls Reservoir in 2015. As such, the IWRB may need to discuss options for a payment structure in the Upper Valley prior to potential spring recharge activities.

3. Creation of IWRB Recharge Committee: Given the complexity and interest in managed recharge in the ESPA and across the state, staff recommends creation of a IWRB committee dedicated to administration of managed recharge activities.

Summary of ESPA Recharge Delivery Operations

- TFCC and AFRD2 (Milner-Gooding Canal) started recharge on Oct. 27th, 2014. A total volume of 29,391 af was recharged as of January 12, 2015.
- TFCC has diverted 38 cfs since October 27, 2014. A total volume of 7,194 af was recharged as of Jan 12, 2015; delivery costs are $33,856. This low flow rate was confirmed by testing the gauging station at TFCC's weir with other methods of flow rate measurement. TFCC expects to continue winter recharge as long as conditions allow.
- AFRD2 had two brief shutdowns since Oct. 27, 2014 for about a week each. Flows varied from approximately 120 to 190 cfs. A total volume of 22,197 af was recharged as of Jan 12, 2015; delivery costs $104,842. During one shutdown period, the MP31 recharge basin drained within 4 days after the gates were closed into the basin. AFRD2 plans to shut down recharge diversions on January 19, 2015.
- Southwest Irrigation District (SWID) plans to divert recharge water in early March.
- North Side Canal Company (NSCC) plans to divert recharge water in early March to fill Wilson Lake.
- Staff plans to contact major canal systems above American Falls Reservoir to gauge interest in recharge this spring. Current snow pack and reservoir fill conditions may result in available water supply for recharge in the Upper Valley.

Snake River below American Falls Reservoir (Milner-Area Efforts)

Existing Canal Systems (Non-Irrigation Season Delivery)

Payment Structure

Number of Days Recharge Water Delivered *	Payment Rate per AF Delivered
1-to-25 days	$3/AF
26-to-50 days	$5/AF
51-to-80 days	$7/AF
81-to-120 days	$10/AF
More than 120 days	$14/AF

New incentivized payment structure has been put in place to encourage canals to divert recharge water as long as possible during the non-irrigation season.

* Number of days between when recharge permit turns on in fall and when it turns off following spring.

Delivery Contracts Summary

Canal System	Contract Status	Expected Recharge Rate	Aquifer Retention
Twin Falls Canal Company (TFCC): Milner-Murtaugh reach	In place with 5-year term	50 cfs	~50% after 5 years
American Falls Reservoir District No. 2 (AFRD2): Milner-Gooding Canal	In place with 5-year term	250 cfs in canal and in MP31	~40% after 5 years
Southwest Irrigation District (SWID): West Cassia Pipeline	In place with 5-year term	25 cfs through pipeline to injection wells	~55% after 5 years
North Side Canal Co.	In progress-expect to be signed with 5-year term	250 cfs in canal and possible off canal sites.	~40% after 5 years
Big Wood C.C.	In place with 5-year term	50 cfs off canal and 25% in canal leakage.	40% after 5 years

Infrastructure Modification Activity Summary			
Location	**Activity ***	**Cost**	**Status**
American Falls Reservoir District No. 2	Mile Post 28 Hydro-Power Plant has experiences complications from winter recharge flows. Construction of a wall across turnout to plant recommended	$52,000 (initial estimate by staff)	Resolution before IWRB to fund construction of wall at plant turnout (see IWRB Action Items)
	Winter-capable road to MP31	$177,000	Ongoing
	Engineering study for replacement of deteriorated concrete flume at Shoshone	$18,571.43	Ongoing
	Complete replacement of concrete flume at Shoshone (would open up more canal and Shoshone Recharge Site to winter deliveries and increase capacity by ~250 cfs)	To be determined (total cost could be about $4M for 2 miles of flume)	To be determined
Twin Falls Canal Company	Engineering study for keeping ice off gates at Murtaugh Lake	$20,000	Engineering report received
	De-icing bubblers at Murtaugh gates	To be determined	To be determined
	Engineering study to identify necessary improvements to allow for winter recharge	$30,000	Engineering report received
Southwest Irrigation District	Engineering study for making West Cassia Pipeline winter-capable	$50,000	Can be executed under IWRB authorization to support engineering work. In progress.
	Execute actions required to make West Cassia winter-capable	To be determined	To be determined
Northside Canal Company	Engineering study to allow winter flows to Wilson Lake (3 existing system hydropower plants will require modifications)	To be determined	Engineering study contract and agreement between IWRB and NSCC under review

***The IWRB has offered to help pay for infrastructure modifications needed for winter recharge deliveries. Standard clause inserted in agreements through which IWRB funds infrastructure modifications: If the canal system fails to deliver a specified amount of recharge over the 5-year contract term, the IWRB's infrastructure investment becomes repayable to the IWRB at loan terms.

Direct Pump-to-Injection Well Activities	
A&B Pumping Plant Location	• Test injection is complete. Report by IDWR submitted December 2014. • Water quality monitoring continues.
NSCC Pumping Plant	• BOR permit received. Drilling not yet started.
Southwest Irrigation District Pumping Plant	• IDWR reviewing injection well application. • Engineering study of SWID system to accommodate winter recharge anticipated.
Nightengale Private Property Site	• Test injection well completed down to 506 foot depth. • Test injection planned for spring 2015 if geologic conditions are favorable.
US BOR Site Upstream from A&B Pump Plant	• Drilling application under review by BOR. • IDWR is processing a permit for an injection well test.
3rd Site – BOR Land	• Potential test well site identified - located on north side of reservoir downstream of A&B's pumping plant.
A&B Test Well at Milner Pumping Plant	• A&B will evaluate test injection data from the BOR well to determine where to drill a test well at their Milner pumping plant.
State Land South of Richfield (Little Wood Recharge Site)	• A permit to drill a test injection well on state land south of the city of Richfield is complete. LSRARD is assisting with the permit and drilling process.

Snake River above American Falls Reservoir (Upper Valley Recharge)

Recharge upstream of American Falls Reservoir is anticipated to have an important place in ESPA recharge efforts, but on an intermittent basis as our analysis indicates water is available for recharge only about 50% of years and that most locations have shorter retention characteristics than areas near the Milner Pool. Regardless, the recharge capacity in the Upper Valley is considered to be important during high flow years.

Considerations/actions for recharge in the Upper Valley include:

1) Reservoir Re-fill: The re-fill issue currently complicates recharge above American Falls Reservoir, because recharge diverting in priority could potentially intercept water that historically has been used to re-fill storage space evacuated for flood control and other reservoir operations. Negotiations are on-going to resolve this issue and define "re-fill water rights". These refill WRs include elements and conditions that, if decreed, will clearly establish when natural flow water is available for recharge above the Minidoka Dam. The IWRB's position has been that it will support maximum reservoir fill by ensuring that recharge does not occur at the expense of reservoir fill.

2) Payment Structure for Upper Valley Canals: The incentivized payment structure was approved only for those canals that divert from the Milner Pool, as there is water supply available for recharge at Milner during the non-irrigation season that has not been utilized. The IWRB may discuss options for a payment structure in the Upper Valley at the January 2015 IWRB meeting (see action items).

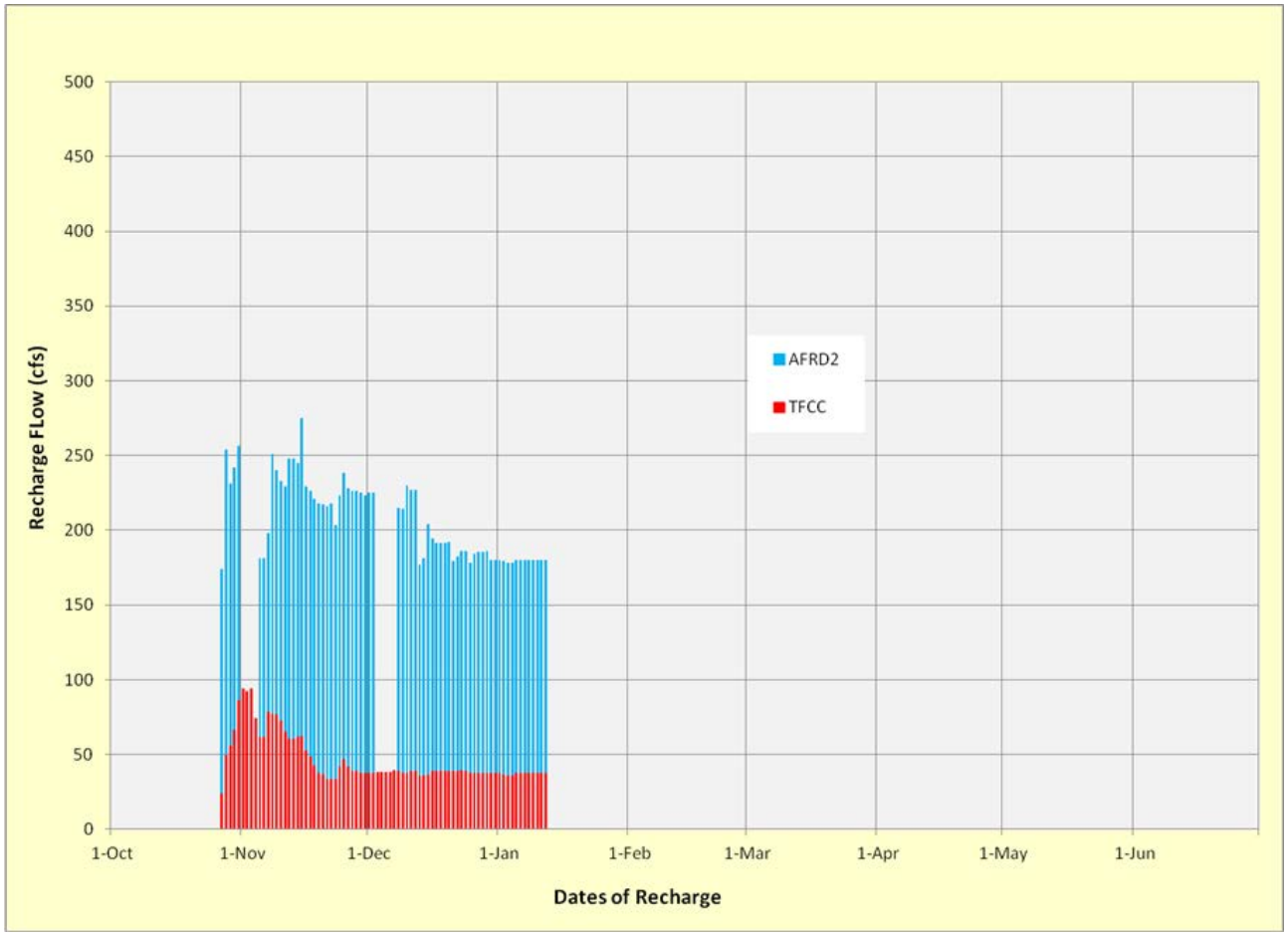
3) Spring Recharge 2015: Given current snow pack and reservoir fill conditions, staff is anticipating potential water supply availability for recharge above American Falls Reservoir. Staff plans to contact major canal systems in the Upper Valley to gauge interest in recharge this spring (see attached maps).

4) Proposal from the Great Feeder system for recharge improvements: Representatives of the Great Feeder system have been working with the IWRB on a proposal for recharge conveyance and capacity improvements in their system.

5) Staff has been informed that Mayor Casper, of Idaho Falls, may attend the January IWRB meeting representing a coalition of parties interested in discussing recharge in the Idaho Falls area.

General ESPA Recharge Activities

- Quality assurance and control of recharge flow measurements has been completed with assistance by TFCC, AFRD2, Idaho Power and IDWR staff.
- Water quality sampling at MP31 has been improved by installing pumps into two monitor wells. Most recent test results using the pumps show no bacteria in the samples collected from the wells.
- Pressure transducers have been installed at the MP31 headgate to develop a flow rating curve, and installed into the floor of the basin to record pool levels. Transducer data shows that the basin drains in 4 days after the gates are shut.
- A draft water quality measurement agreement with the State Lab is under review.



Volume of water recharged from 10/27/2014 – 1/12/2015 by AFRD2 (Milner-Gooding Canal) and TFCC

Ice conditions at Murtaugh Lake gates

Submersible pump to reduce icing at Murtaugh Lake dam gates

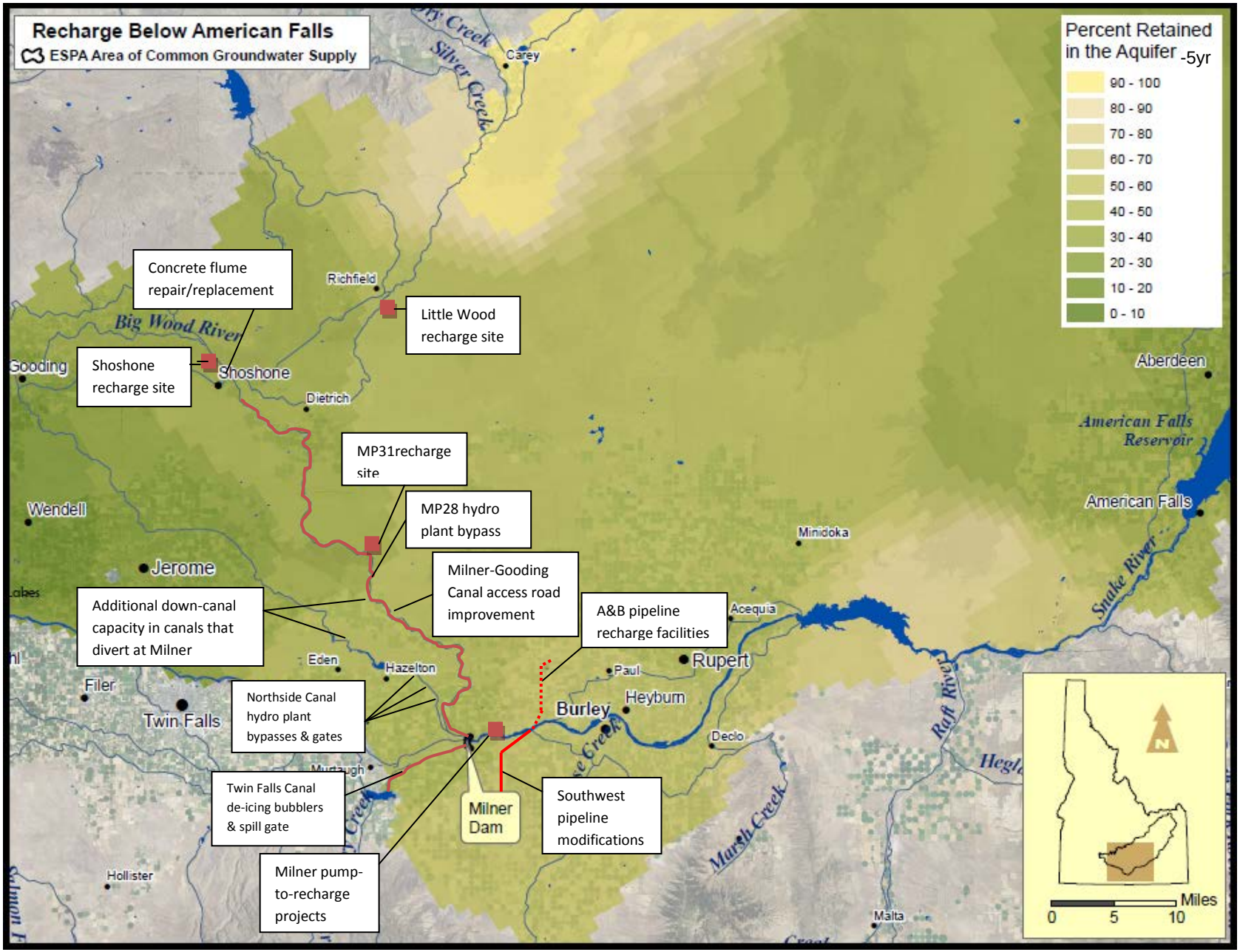
Icing at MP31 gates and check dam

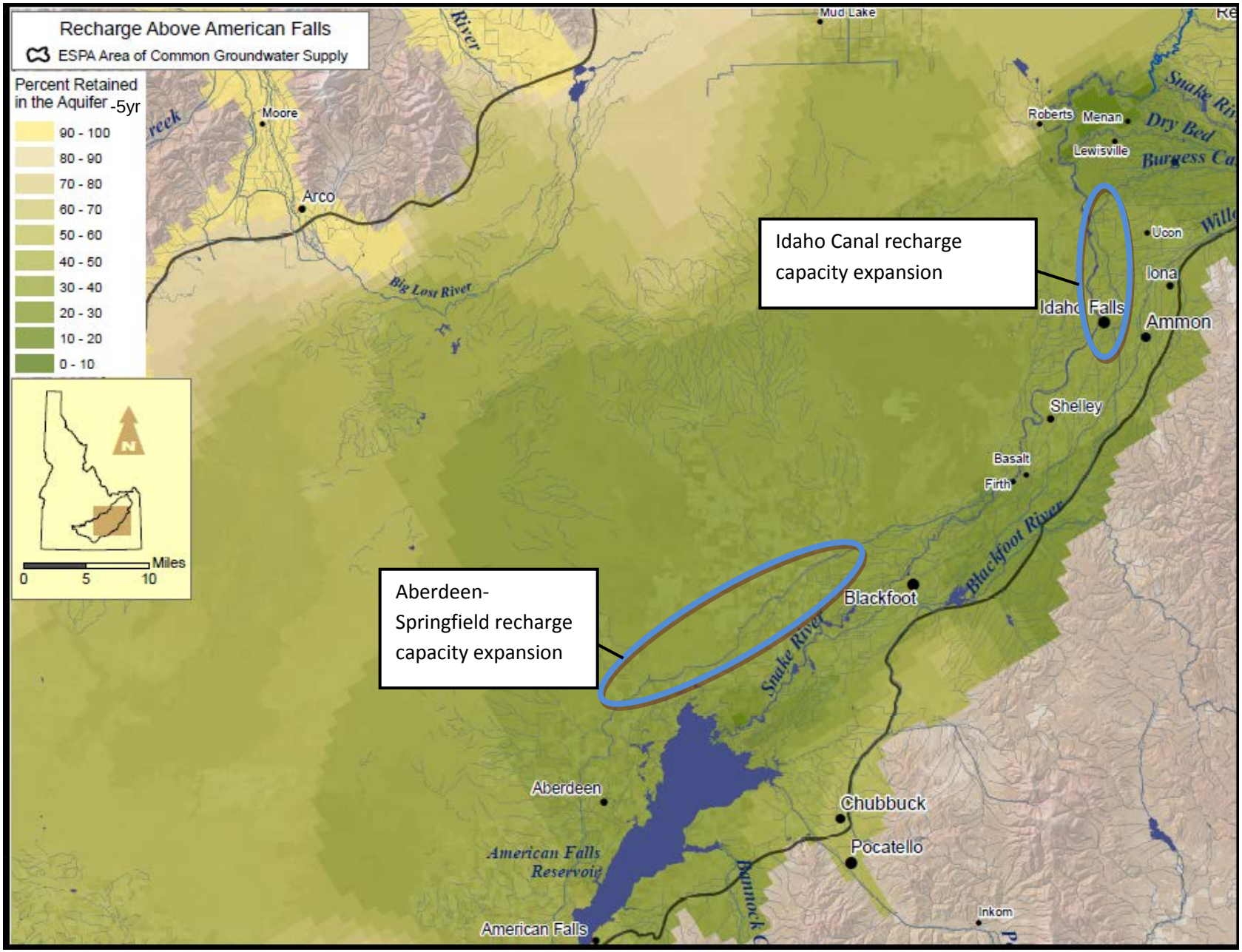
QA/QC flow rate measurements at the BOR gage on the Milner-Gooding Canal

QA/AC flow rate measurements at MP31 headgate (right and below)

Icing conditions at MP 31 entrance, January 8, 2015

'Ship Rock Island' at MP 31. Conditions in November 2014 (left) and January 8, 2015 (below)


Recharge Below American Falls
ESPA Area of Common Groundwater Supply
Percent Retained in the Aquifer -5yr
90 - 100
80 - 90
70 - 80
60 - 70
50 - 60
40 - 50
30 - 40
20 - 30
10 - 20
0 - 10
Concrete flume repair/replacement
Little Wood recharge site
Shoshone recharge site
MP31recharge site
MP28 hydro plant bypass
Milner-Gooding Canal access road improvement
A&B pipeline recharge facilities
Additional down-canal capacity in canals that divert at Milner
Northside Canal hydro plant bypasses & gates
Twin Falls Canal de-icing bubblers & spill gate
Milner pump-to-recharge projects
Southwest pipeline modifications
Milner Dam
Carey
Richfield
Gooding
Shoshone
Dietrich
Wendell
Jerome
Aberdeen
American Falls Reservoir
American Falls
Minidoka
Acequia
Rupert
Paul
Heyburn
Burley
Declo
Eden
Hazelton
Filer
Twin Falls
Hollister
Malta
Big Wood River
Silver Creek
Snake River
Raft River
Marsh Creek
N
Miles
0
5
10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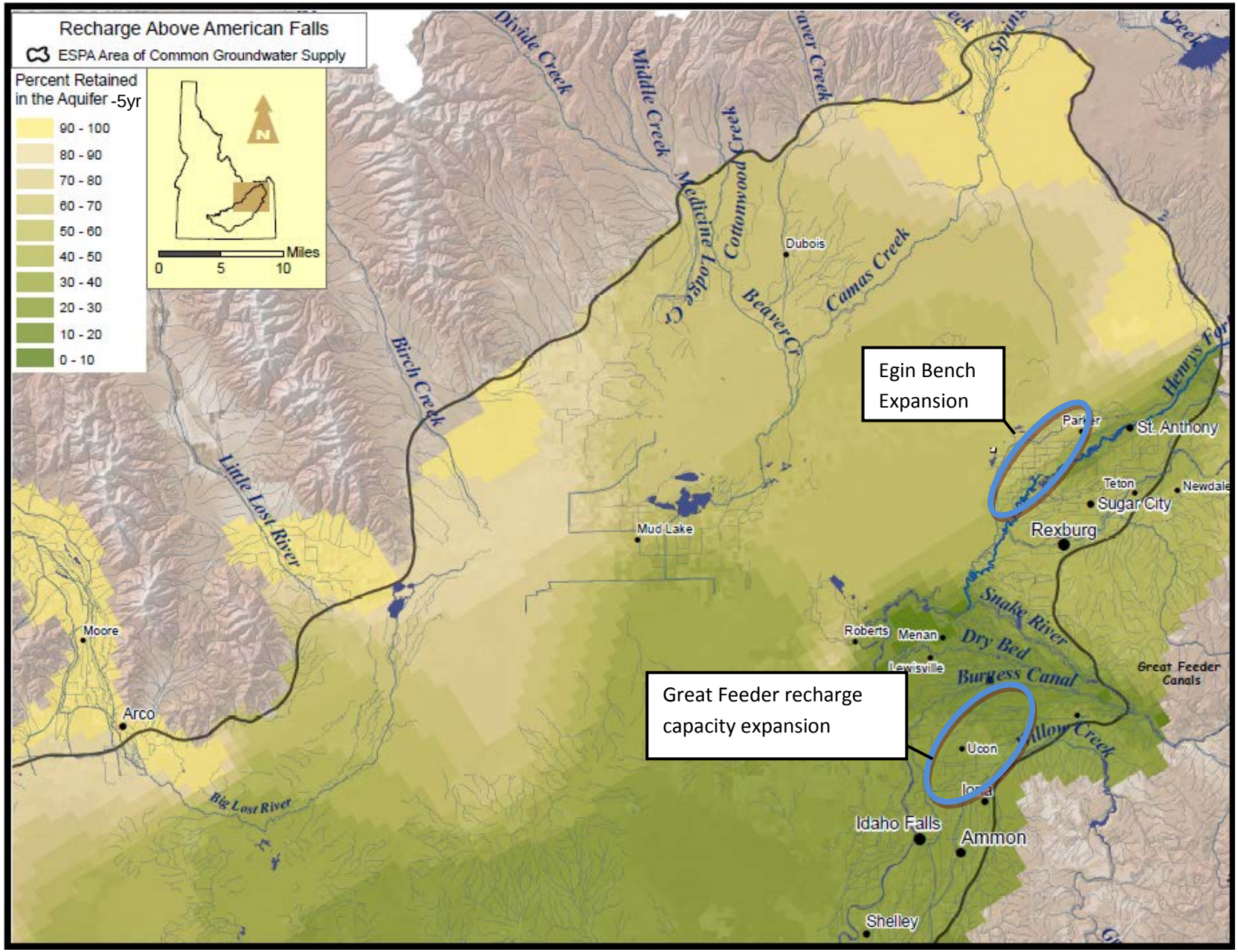
Percent Retained in the Aquifer -5yr
90 - 100
80 - 90
70 - 80
60 - 70
50 - 60
40 - 50
30 - 40
20 - 30
10 - 20
0 - 10
N
Miles
0 5 10
Idaho Canal recharge capacity expansion
Aberdeen-Springfield recharge capacity expansion
Mud Lake
Moore
Arco
Big Lost River
Roberts
Menan
Lewisville
Dry Bed
Ucon
Iona
Idaho Falls
Ammon
Shelley
Basalt
Firth
Blackfoot River
Blackfoot
Snake River
Aberdeen
American Falls Reservoir
American Falls
Chubbuck
Pocatello
Inkom


Recharge Above American Falls
ESPA Area of Common Groundwater Supply
Percent Retained in the Aquifer -5yr
90 - 100
80 - 90
70 - 80
60 - 70
50 - 60
40 - 50
30 - 40
20 - 30
10 - 20
0 - 10
N
Miles
0
5
10
Egin Bench Expansion
Great Feeder recharge capacity expansion
Divide Creek
Middle Creek
Medicine Lodge Cr
Cottonwood Creek
Beaver Creek
Camas Creek
Birch Creek
Little Lost River
Big Lost River
Dubois
Mud Lake
Moore
Arco
Rexburg
Sugar City
Teton
Newdale
St. Anthony
Henrys Fork
Snake River
Dry Bed
Burgess Canal
Great Feeder Canals
Roberts
Menan
Lewisville
Ucon
Idaho Falls
Ammon
Shelley

BEFORE THE IDAHO WATER RESOURCE BOARD

IN THE MATTER OF AQUIFER STABILIZATION AND EASTERN SNAKE PLAIN AQUIFER RECHARGE	)))	A RESOLUTION TO APPROVE FUNDS FOR RECHARGE INFRASTRUCTURE IMPROVEMENTS

WHEREAS, House Bill 547 passed and approved by the 2014 legislature allocates $5 million annually from the Cigarette Tax to the Idaho Water Resource Board (IWRB) for statewide aquifer stabilization, with the funds to be deposited into the Secondary Aquifer Planning, Management, and Implementation Fund; and

WHEREAS, House Bill 479 passed and approved by the 2014 legislature allocated $4 million in one-time funds for managed aquifer recharge infrastructure on the Eastern Snake Plain; and

WHEREAS, managed aquifer recharge was identified as a key strategy in the Eastern Snake Plain Aquifer Comprehensive Aquifer Management Plan (ESPA CAMP) which has stabilization and recovery of the ESPA as a goal; and

WHEREAS, on August 20, 2014, the Idaho Water Resource Board (IWRB) adopted an incentivized recharge water delivery payment plan for those canals that divert from the Milner Pool in order to encourage them to deliver water that is available under the IWRB's recharge water right at Milner during the non-irrigation season; and

WHEREAS, the American Falls Reservoir District No. 2 (AFRD2), which owns and operates the Milner-Gooding Canal, is expected to enter into a 5-year recharge water delivery agreement with the IWRB under the incentivized payment plan; and

WHEREAS, AFRD2 is delivering recharge water during the non-irrigation season through seepage from the Milner-Gooding Canal and at the Milepost 31 Site; and

WHEREAS, the hydropower plant at Milepost 28 is experiencing negative effects from winter recharge flows as a result of the freezing and thawing action on different plant components and the buildup of debris at the site; and

WHEREAS, in order to avoid impacting power plant operations further and to accomplish non-irrigation season recharge in the Milner- Gooding Canal past the Milepost 28 hydropower plant, improvements will consist of analysis and construction of a wall (approximately 7 foot high) at an estimated cost of $60,000 to allow winter recharge flows to bypass the plant turnout; and

NOW THEREFORE BE IT RESOLVED that the IWRB authorizes the expenditure of up to $60,000, not to exceed actual costs, from the legislative appropriation for ESPA recharge infrastructure in Secondary Aquifer Planning, Management, and Implementation Fund, for analysis and construction of a wall to bypass recharge deliveries during the non-irrigation season.

BE IT FURTHER RESOLVED that if AFRD2 does not accomplish the delivery of at least 60,000 acre-feet of recharge water over in accordance with the 5-year conveyance contract dated October 24, 2014, the IWRB's expenditure authorized by this resolution shall become repayable to the IWRB, however, in this event, AFRD2 may elect repay these funds over a 10-year period at 3.5% interest.

DATED this 23rd day of January, 2015.

Roger Chase

ROGER CHASE, Chairman
Idaho Water Resource Board

ATTEST _____

Vince Alberdi, Secretary

TWIN FALLS CANAL COMPANY

357 6TH AVE WEST
POST OFFICE BOX 326
TWIN FALLS, IDAHO 83303-0326

October 2, 2014

Roger Chase, Chairman
Idaho Water Resource Board
322 East Front Street
P.O. Box 83720
Boise, Idaho, 83720-9098

RE: Murtaugh Lake Managed Recharge

Dear Roger,

Pursuant to Contract CON01023 between The Idaho Water Resource Board and Twin Falls Canal Company, we have contracted the services of JUB Engineers to perform a needs assessment for fall/winter recharge at TFCC's Murtaugh Lake facilities. We assigned them to study the existing facilities, develop a scope of work, and begin cost assessment for infrastructure improvements necessary for off–season recharge at these facilities. The attached letter is their summary of initial findings as required by October 15 in Paragraph 4 of the contract. I have not received an invoice from JUB yet for this initial work, but will forward it to you as soon as I do.

If you have any questions or need more information, please call me at 208-733-6731, or if you have questions about the JUB initial report call Tracy Ahrens at JUB Engineers, 208-733-2414.

Sincerely,

Brian Olmstead
General Manager

Cc: Brian Patton, IDWR
Neal Farmer, IDWR

J-U-B

J-U-B ENGINEERS, INC.

J-U-B COMPANIES THE LANGDON GROUP GATEWAY MAPPING INC.

September 25, 2014

Brian Olmstead, General Manager
Twin Falls Canal Company
P.O. Box 326
Twin Falls, ID 83303-0326

RE: Twin Falls Canal Company Recharge During Off Irrigation Season

Dear Brian:

Following is a summary of the findings to date in regard to the investigation of providing off irrigation season recharge water in the Twin Falls Canal Company (TFCC) system. It is anticipated that the main canal would be charged with water in the off season from the stretch starting at the inlet gates at the Milner pool through and including Murtaugh Lake. Groundwater recharge would be accomplished through two means: 1) Recharge through direct infiltration from having water in the main canal and Murtaugh Lake and 2) Recharge through the Southwest Irrigation District's two pump stations at Murtaugh Lake. TFCC does not know at this time what the direct infiltration rate will be from the proposed recharge stretch of the canal system. A controlled test will be conducted by TFCC towards the end of October when the system would normally be in shut down mode. The results of the infiltration test will be summarized in the final report. Randy Brown with the Southwest Irrigation District has reported that they can comfortably handle 30 cfs through their pump stations during normal recharge operation.

Both the Twin Falls Canal Company and the Southwest Irrigation District agreed that the recharge operation would only be feasible on the "shoulders" of the irrigation season and would have to be shut down during the coldest parts of the winter. The recharge operation would be weather dependent and would be run as late in the fall as possible and start as early in the spring as possible with the recharge operation being shut down generally from mid to late November and starting up again in mid-February.

The operation of the system would be such that Murtaugh Lake would be maintained at approximately the 9' level which would be slightly less than the normal operating level of 10' (as measured at the outlet gates). Southwest Irrigation District has reported that in order to operate their pump stations they would need the Murtaugh Lake at the 9' level. Flow to Murtaugh Lake would be controlled at the inlet gates at Milner pool by level sensors at the broad crested weir downstream of the inlet gates.

We have identified the following concerns for off irrigation recharge at each of the affected TFCC structures:

1. **Canal Inlet Gates Structure at Milner Pool**
   At the inlet structure at Milner pool there are three radial gates. For the recharge operation only one gate would need to be operated with the remaining two gates being closed. The normal winter operation for the canal inlet gates has always been closed during the winter with ice building up against the face of the gates from the Milner pool. There are currently no provisions incorporated at this structure for winter operation. Under existing conditions the gates could not be operated once ice builds up on the face of the gate. The downstream sides of the radial gates have not been exposed to ice conditions in the past. During winter operation the steel structure of the gates would be fully exposed to the water and would be susceptible to damage from ice.

J-U-B ENGINEERS, Inc. celebrates 60 YEARS

a 115 Northstar Avenue, Twin Falls, ID 83301 p 208 733 2414 f 208 733 9455 w www.jub.com

2. **Broad Crested Weir (Flow Measurement) Structure**
   A broad crested weir in located approximately 750 feet down stream of the inlet canal gates. The flow in the canal is measured at the weir and is used to control the inlet gates to provide the required flow. There are currently no provisions at this site for winter operation. Because the level monitoring system at the broad crested weir is much more susceptible to freezing, a heating and insulation system would most likely need to be incorporated into the flow measurement station. Power could potentially be brought to the site from the inlet gate structure. The gate structure currently has a standby generator operated on propane for power outages.

3. **Highway 30 Bridge Canal Crossing**
   It is not anticipated that improvements would be required at the highway canal crossing.

4. **Murtaugh Lake Dry Creek Overflow Structure**
   There are two canal gates at the overflow structure. It is anticipated that the canal gates will not be operated during the recharge operation but provisions may need to be made to protect the canal gate stems from ice damage.

5. **Murtaugh Lake Outlet Gates Structure**
   The Murtaugh Lake outlet structure consists of five radial gates. Under normal recharge operation the gates at the outlet structure would be closed and water would not go past this point. TFCC will, however, need to be able to operate the gates at the outlet structure in order to release the water from Murtaugh Lake in emergency situations. There are currently no provisions incorporated at this structure for winter operation. The radial gates will need to be maintained free of ice to be operable if and when needed.

6. **Point Spill Structure**
   The Point Spill is a structure on the canal system approximately 8.2 miles below the Murtaugh Lake outlet gates that allow the TFCC to spill water out of the main canal when needed. Should Murtaugh Lake need to be lowered or drained in an emergency, the water drained out of the lake would need to be diverted out of the canal system at this point. During the off season TFCC is conducting maintenance operations on the canal system and on the hydroelectric plants and cannot allow water below Point Spill. Water is currently backed up to the spill structure by rocks placed in the canal approximately 530 below Point Spill. The rock structure would not keep water from going past the point spill location so an improved check structure may need to be installed. Because the canal system at point spill would normally be drained during the off season freezing at the site is not a concern.

Please feel free to provide any comments or questions.

Sincerely,

J-U-B ENGINEERS, Inc.

Tracy Ahrens, P.E.
Project Manager

cc: Jay Barlogi, TFCC
Louis Zamora, TFCC

ASSESSMENT OF NEEDS AND COSTS
for
CONDUCTING AQUIFER RECHARGE DURING THE OFF IRRIGATION SEASON

TWIN FALLS CANAL COMPANY

PREPARED BY

J·U·B ENGINEERS, INC.

December 2014
Project No. 60-14-057

ASSESSMENT OF NEEDS AND COSTS
for
CONDUCTING AQUIFER RECHARGE DURING THE OFF IRRIGATION SEASON

TWIN FALLS CANAL COMPANY

PREPARED BY

J·U·B ENGINEERS, INC.

December 2014

Twin Falls Canal Company-Aquifer Recharge During Off Irrigation Season

Purpose of the Study:

The purpose of this study is to investigate the needs and costs of providing off irrigation season recharge water in the Twin Falls Canal Company (TFCC) system. It is anticipated that the main canal would be charged with water in the off season from the stretch starting at the inlet gates at the Milner pool through and including Murtaugh Lake. Groundwater recharge would be accomplished through two means: 1) Recharge through direct infiltration from having water in the main canal and Murtaugh Lake and 2) Recharge through the Southwest Irrigation District's two pump stations at Murtaugh Lake. A preliminary summary of findings was previously prepared by J-U-B ENGINEERS, Inc. (J-U-B) in a letter to TFCC dated September 25, 2014. This study expands on the preliminary findings.

Recharge:

A controlled test is currently being conducted by TFCC to determine the rate of recharge. The test started in mid October of 2014 following the end of normal irrigation delivery season when the system would normally be in shut down mode and is continuing on as of the writing of this report in mid December. The test period includes a cold spell in which a period of 8 of the 9 consecutive days had a low below 15 degrees. The recharge test continued through this cold period. The TFCC has real time monitoring of the water level at Murtaugh Lake and at the Milner pool along with flow rate at the broad crested weir just downstream of the canal inlet gates at the Milner pool. Louis Zamora with the TFCC reported that the infiltration rate during the study period has stabilized in the range of 38 to 40 cfs excluding the Southwest Irrigation District. The data recorded by TFCC during the recharge test is attached as Exhibit A. Louis reported that Murtaugh Lake was held at a level of approximately 9.2 feet above the invert of the lake outlet gates. Normal irrigation season lake level would be approximately 10 feet above the invert of the lake outlet gates. The TFCC felt that the 9.2 foot lake level is an acceptable level for off season recharge when Southwest Irrigation District is running their pumps but will operate at a lower lake level when the Southwest Irrigation District is shut down.

As indicated in the preliminary review letter, Randy Brown with the Southwest Irrigation District has reported that they can comfortably handle 30 cfs through their pump stations during normal recharge operation and that in order to operate their pump stations they would need Murtaugh Lake at the 9' level. The Southwest Irrigation District recharge program was not reviewed as part of the study but is being provided for information purposes only. The Southwest Irrigation District has two pump stations at Murtaugh Lake for the sake of this report will be labeled as the east pump station and the west pump station. Louis reported that during the initial part of the recharge test the west pump station was running at approximately 7 cfs but was shutdown during the initial spell of freezing weather due to issues with the air valves freezing and has not started back up. The east pump station was not operated as part of the recharge due to silting issues in the channel to the pump station such that at the lower lake level sufficient water could not be provided to the pumps for proper operation.

Both TFCC and the Southwest Irrigation District agreed that the recharge operation would only be feasible on the "shoulders" of the irrigation season and would have to be shut down during the coldest parts of the winter. The recharge operation would be weather dependent and would be run as late in the fall as possible and start as early in the spring as possible with the recharge operation being shut down generally from mid to late

November and starting up again in mid-February. However, during this initial recharge test, the TFCC has been able to continue to recharge to the time of this report.

Assessment of Needs and Costs:

As a result of the preliminary investigation and the current recharge test, J-U-B in conjunction with the TFCC have identified the following concerns and estimates of cost for off irrigation recharge at each of the affected TFCC structures:

1. **Canal Inlet Gates Structure at Milner Pool**
   At the inlet structure at Milner pool there are three radial gates. The canal inlet gate structure is shown in Photo #1 as taken during the irrigation season. For the recharge operation only one gate would need to be operational with the remaining two gates being closed. The normal winter operation for the canal inlet gates has always been closed during the winter with ice building up against the face of the gates from the Milner pool. There are currently no provisions incorporated at this structure for winter operation. Under existing conditions the gates could not be operated once ice builds up on the face of the gate. The downstream sides of the radial gates have not been exposed to ice conditions in the past. During winter operation the steel structure of the gates would be fully exposed to the water and would be susceptible to damage from ice. The gate structure currently has a propane powered standby generator for power outages.

Photo #1- Downstream side of Canal Inlet Gates at Milner Pool

During the recharge test, ice formed on Milner pool on the upstream side of the radial gates but not to the extent as to affect the operation of the gate. During recharge only one radial gate will be open. TFCC will monitor the ice on the upstream side of the radial gates and will shut down the recharge if appears to be an issue. TFCC will also have a portable pump system available to manually de-ice the front of the gate in the event that it is needed.

For the flows experienced during the recharge test, ice did not appear to be an issue on the downstream side of the radial gates as they were generally above the flow. During recharge, the downstream side would be closely monitored and the recharge shutdown if ice started to build up.

Additional Maintenance Requirement:
TFCC-Additional monitoring during off irrigation season recharge.

Modifications Requirement and Costs:
No modifications will be required to the canal inlet gates at Milner Pool.
By TFCC-Ice prevention system installed at one of the canal gates.
Estimate of Probable Cost - $700.

2. Broad Crested Weir (Flow Measurement) Structure

A broad crested weir is located approximately 750 feet down stream of the inlet canal gates. The flow in the canal is measured at the weir by means of level measuring equipment housed in a corrugated metal pipe stilling well. Photo #2 shows that stilling well at the broad crested weir. There are currently no provisions at this site for winter operation.

The level measuring equipment and the broad crested weir were not affected during the recharge test. As the recharge is going to be shut down during the colder period of winter it is felt that a heat source in the lower section of the stilling well will adequately protect the system from freezing without additional insulation. Power will be brought to the stilling well from the electrical panels at the canal inlet gate structure. A range of costs is provided in the estimate below due to the potential variables in trenching in a constructed embankment. If no rock is encountered in the trenching the costs will be at the lower end. If rock is encountered the costs will be at the upper end depending on the severity of the rock. These costs are based on having an outside contractor do the work. There is potential cost savings if rock is encountered by having TFCC do the trenching.

Photo #2- Stilling Well at Broad Crested Weir

Additional Maintenance Requirement:
TFCC-Additional monitoring during off irrigation season recharge.

Modifications Requirement and Costs:
Electrical Contractor-Trenching, conduit, wire and heat source. Note: A range of costs is provided due to variables in trenching – See the discussion above.
Estimate of Probable Cost - $8,400 to $15,100.

3. **Highway 30 Bridge Canal Crossing**
   It is not anticipated that improvements would be required at the highway canal crossing.

4. **Murtaugh Lake Dry Creek Overflow Structure**
   There are two canal gates at the overflow structure. It is anticipated that the canal gates will not be operated during the recharge operation but provisions may need to be made to protect the canal gate stems from ice damage.

   Additional Maintenance Requirement:
   TFCC-Additional monitoring during off season recharge.

   Modifications Requirement and Costs:
   By TFCC-Ice prevention system installed at the canal gates.
   Estimate of Probable Cost - $700.

5. **Murtaugh Lake Outlet Gates Structure**
   The Murtaugh Lake outlet structure consists of five radial gates. The outlet gate structure is shown in Photo #3 taken during the irrigation season. Under normal recharge operation the gates at the outlet structure would be closed and water would not go past this point. TFCC will, however, need to be able to operate the gates at the outlet structure in order to release the water from Murtaugh Lake in emergency situations. There are currently no provisions incorporated at this structure for winter operation. A de-icing pump system will be incorporated at the radial gates to maintain them free of ice.

Photo #3- Outlet Gates at Murtaugh Lake

   Additional Maintenance Requirement:
   Additional monitoring during off irrigation season recharge.

   Modifications Requirement and Costs:
   By TFCC-Ice prevention system with thermo switch installed at the face of the outlet gates.
   Estimate of Probable Cost - $3,100.

6. Point Spill Structure

The Point Spill is a structure on the canal system approximately 8.2 miles below the Murtaugh Lake outlet gates that allow the TFCC to spill water out of the main canal when needed. Should Murtaugh Lake need to be lowered or drained in an emergency, the water drained out of the lake would need to be diverted out of the canal system at this point. During the off season TFCC is conducting maintenance operations on the canal system and on the hydroelectric plants and cannot allow water below Point Spill. Water is currently backed up to the spill structure by rocks placed in the canal approximately 530 feet below Point Spill. The rock check structure would not keep water from going past the point spill location so an improved check structure will need to be installed. Because the canal system at Point Spill would normally be drained during the off season freezing at the site is not a concern.

Two alternatives have been explored in providing a check structure at point spill:

1) Short Term-For the recharge test, the TFCC constructed a temporary berm across the canal at the existing rock structure to prevent water in the canal from traveling past Point Spill. This berm is shown in Photo #4 with Point Spill gate structure in the background. TFCC felt that this was a fairly easy thing to do and could be placed each fall after the irrigation season and removed before the start of the irrigation season in the spring. TFCC has the necessary equipment and materials to complete this task and has recently purchased land at Point Spill which could be used to stockpile the material when not used.

Photo #4- Temporary Berm at Point Spill

2) Long Term – For a long term solution, a check structure would be constructed at the existing rock check structure. The new check structure would need to be able allow water to pass during the normal irrigation season but prevent water from passing during the recharge operation. Initial evaluation would indicate an inflatable rubber dam system or a stop log system. A detailed survey and engineering analysis which is beyond the scope of this study would be needed to determine the required layout and height of the structure that would best meet the needs. Because of the unknown parameters the check structure along with potential difficulties due to rock in trenching in a constructed embankment a range of estimated costs are provide for this alternative.

Additional Maintenance Requirement:
TFCC-Additional monitoring of the temporary berm during off season recharge.

Modifications Requirement and Costs:
For the short term alternative:
By TFCC-Annual construction and removal of a temporary berm across the canal.
Estimate of Probable Cost - $5,000 Annually.
For the long term alternative:
Engineering Analysis and Design/General Contractor Construction-Permanent Check Structure
Estimated of Probable Cost -$560,000 to $910,000.

EXHIBIT A

Twin Falls Canal Company

Aquifer Recharge Data

Peroid 10/27/14 through 12/23/14

	Milner Gate2 Control Cur_CFSP			
Date/Time	Avg	Acre Feet		
10/27/2014 0:00	24	48		
10/28/2014 0:00	50	99		
10/29/2014 0:00	56	111		
10/30/2014 0:00	67	133		
10/31/2014 0:00	87	173		
11/1/2014 0:00	94	186		
11/2/2014 0:00	92	182		
11/3/2014 0:00	94	186		
11/4/2014 0:00	74	147		
11/5/2014 0:00	62	123		
11/6/2014 0:00	62	123		
11/7/2014 0:00	79	157		
11/8/2014 0:00	78	155		
11/9/2014 0:00	77	153		
11/10/2014 0:00	73	145		
11/11/2014 0:00	66	131		
11/12/2014 0:00	61	121		
11/13/2014 0:00	61	121		
11/14/2014 0:00	62	123		
11/15/2014 0:00	63	125		
11/16/2014 0:00	53	105		
11/17/2014 0:00	49	97		
11/18/2014 0:00	43	85		
11/19/2014 0:00	38	75		
11/20/2014 0:00	37	73	First 25 day period - acre feet total:	3,178
11/21/2014 0:00	34	67		
11/22/2014 0:00	34	67		
11/23/2014 0:00	34	67		
11/24/2014 0:00	42	83		
11/25/2014 0:00	47	93		
11/26/2014 0:00	42	83		
11/27/2014 0:00	39	77		
11/28/2014 0:00	39	77		
11/29/2014 0:00	38	75		
11/30/2014 0:00	38	75		

12/1/2014 0:00	38	75		
12/2/2014 0:00	38	75		
12/3/2014 0:00	38	75		
12/4/2014 0:00	38	75		
12/5/2014 0:00	38	75		
12/6/2014 0:00	38	75		
12/7/2014 0:00	39	77		
12/8/2014 0:00	39	77		
12/9/2014 0:00	38	75		
12/10/2014 0:00	38	75		
12/11/2014 0:00	39	77		
12/12/2014 0:00	39	77		
12/13/2014 0:00	36	71		
12/14/2014 0:00	36	71		
12/15/2014 0:00	37	73	Second 25 day period - acre feet total:	1,896
12/16/2014 0:00	39	77		
12/17/2014 0:00	39	77		
12/18/2014 0:00	39	77		
12/19/2014 0:00	39	77		
12/20/2014 0:00	39	77		
12/21/2014 0:00	39	77		
12/22/2014 0:00	39	77		
12/23/2014 0:00	40	79	Third 25 day period - acre feet total:	621
			(Actual days as of this report: 8)	
Total acre feet through 12/23/14:		5,695		

MEMO

To: Idaho Water Resource Board
From: Stuart VanGreuningen
Subject: Pinehurst Water District – Backup Generator
Date: December 23, 2014

The Pinehurst Water District (PWD) is applying for a loan from the Idaho Water Resource Board (Board) in the amount of $100,000 to purchase a generator to supply power for the water system in times of power outage.

1.0 BACKGROUND

The Pinehurst Water District (PWD) delivers water to approximately 840 hook-ups (740 residential and 100 commercial). PWD is located in northern Idaho in Shoshone County. The PWD delivers approximately 865,000 gallons per day from a groundwater source. The water was originally stored in wooden tanks that were replaced with metal tanks through a loan from the Board. The last wooden tank was replaced in 2007 with a new metal 147,000 gallon storage tank (see adjacent photograph). PWD is now interested in providing a secondary power source for the domestic, commercial and fire protection water supply system by installing a backup generator.

Pinehurst - Water Storage Tanks

2.0 PROPOSED PROJECT

The proposed project is to purchase and install a 300 kW diesel generator to supply power during periods of electrical service outage. The project also includes construction of a building to house the generator in close proximity to the storage tanks.

3.0 PROJECT COST ESTIMATE AND PROPOSED FINANCING

The PWD has received 2 bids for the generator ranging from $54,000 to $72,600 (manufacturer dependent) and additional bids for the building and installation of the generator. Depending on the generator selected, the total cost is estimated to be approximately $100,000. The financial breakdown proposed by PWD is as follows:

Generator	$54,000 - $72,600
Building	$11,294.75
Electrical install	$25,775

4.0 FINANCIAL ANALYSIS

In 2007 PWD received a loan of $160,000 for the purchase and installation of the water tank shown above. The 2007 loan had a ten year term at 6% interest and was paid off in June of 2013. Payment terms for a new loan of $100,000 at 3.5% are identified in the table below:

Term	Estimated Annual Payment	Before Project Monthly Cost per Connection (residential/commercial)	After Project Monthly Cost per Connection (residential/commercial)
5 years	$22,210	$30/$35	$34/$39
10 years	$12,060	$30/$35	$32/$37
15 years	$8,700	$30/$35	$31/$36

Note: Prices reflect costs for residential/commercial.

5.0 WATER RIGHTS

PWD has the following water rights:

Water Right	Stage	Priority Date	Source	Amount
94-2216	License	12/1959	Pine Creek	2.5 cfs
94-7342	License	1/1993	Groundwater	3.57 cfs

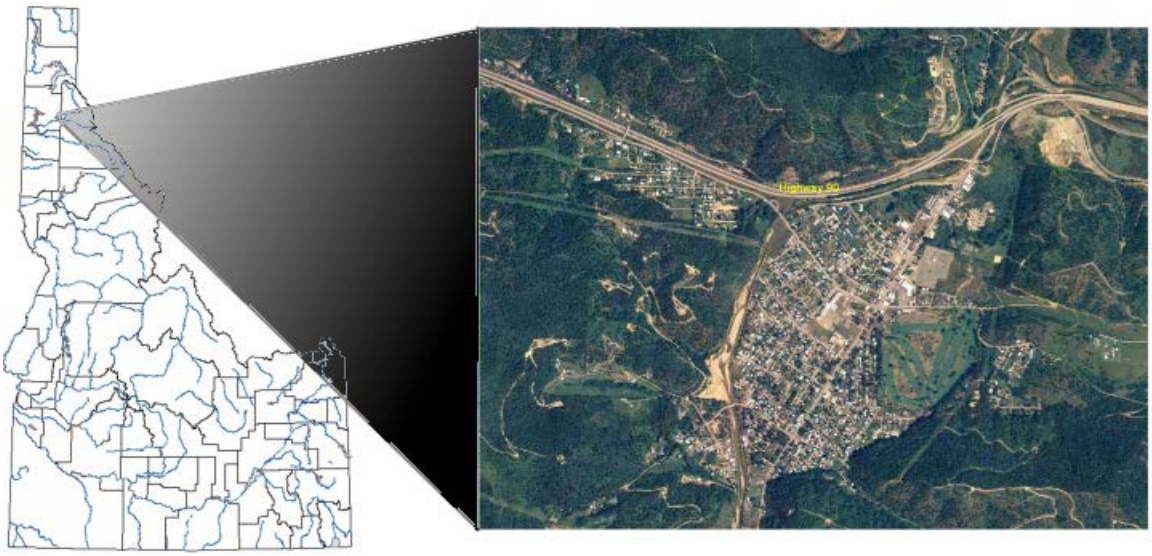
Note: PWD delivers approximately 865,000 gallons per day, which is approximately 970 acre-feet/year.

6.0 SECURITY

The IWRB is authorized to hold PWD's water rights, the existing water tanks and associated buildings and lands as collateral for the loan.

7.0 CONCLUSION AND RECOMMENDATION

Pinehurst Water District is requesting funds for a generator to supply backup power to the water supply system during power outages. The funding will support PWD's efforts to provide redundancy in the system and the ability to continue to deliver water and provide fire protection during power outages. PWD paid the last Board loan off early and has a reliable history with Board loan payments. **Staff recommends approval of a loan in the amount of $100,000 at 3.5% interest for 10 years.**



Pinehurst, Idaho. Shoshone County

BEFORE THE IDAHO WATER RESOURCE BOARD

IN THE MATTER OF THE PINEHURST WATER DISTRICT	))))	A RESOLUTION TO MAKE A FUNDING COMMITMENT

WHEREAS, the Pinehurst Water District (District) has submitted an application to the Idaho Water Resource Board (IWRB) requesting a loan in the amount of $100,000; and

WHEREAS, the District currently provides drinking water to 840 residential and commercial connections; and

WHEREAS, a back method of providing power to pump the water for domestic use and fire protection is required; and

WHEREAS, the new generator will provide the power to pump water for domestic use and for fire protection in the event of a power outage; and

WHEREAS, the District 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 in compliance with the State Water Plan.

NOW THEREFORE BE IT RESOLVED that the IWRB approves a loan not to exceed $100,000 from the Revolving Development Account at 3.5 percent interest with a ten-year repayment term and provides authority to the Director of the Idaho Department of Water Resources, to enter into contracts with the District 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 District shall comply with all applicable rules and regulations that apply to the proposed project.

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

DATED this 23rd day of January, 2015.

Roger Chase

ROGER W. CHASE, Chairman
Idaho Water Resource Board

ATTEST _____

Vince Alberdi, Secretary

IWRB resolution

Attachment No. 3, Meeting No. 1-15
Idaho Water Resource Board

QUANTUM Engineering
and Geologic Consulting

October 29, 2014

Stuart Van Greuningen
Financial Program Coordinator
Idaho Department of Water Resources
322 East Front Street
Boise, Idaho 83720

Re: Pinehurst Water District-Backup Generator
Correspondence #119-3.01

Dear Mr. Van Greuningen:

Quantum Engineering is pleased to submit this request for financial support for the Pinehurst Water District. Financial support is being requested to purchase and install auxiliary power generation at the pumping facility that serves the District.

PWD provides water to approximately 840 commercial and residential customers in the vicinity of the City of Pinehurst, Idaho. Water is pumped from two wells located at the office/pumping facility located at 508 S. Division in Pinehurst, Idaho. Water is pumped into the distribution system with two elevated reservoirs that ride on the system. One reservoir, a 250,000-gallon welded steel reservoir, was installed in 2001 to replace an older wooden reservoir. A second 140,000-gallon bolted steel reservoir containing 140,000-gallons was constructed in 2008, with financial assistance from the Idaho Department of Water Resources in the form of a short-term loan.

These reservoirs are necessary to meet peak demand during peak summertime conditions. However, power failures of short duration during peak flow or longer power failures during non-peak demand, leave the District unable to meet pressure and fire flow requirements. Although not a requirement, the Idaho Department of Environmental Quality has requested/suggested that the District provides auxiliary power for the above reasons.

The District is requesting a $100,000 short-term loan for purchase, delivery and installation of the diesel generator. It has been determined that a generating capacity of 300 KW is required to power the pumping facility.

South 2641 Silver Beach Loop • Coeur d'Alene, ID • 83814 • 208 661 5200
quantumeng@cda.twcbc.com

The generator will be installed and housed in a building to be constructed in the lot on the north side of the pumping facility. Quotes for the generator, structure and installation of the generator are attached for your review.

Also attached you will find the application and supporting data as requested. Please review this application package and let me know if you need any additional information.

Sincerely,

James S. De Smet, PE, PG
Cc: Jeff Frank, PWD

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 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)

- ☐ Municipality
- ☒ Water and/or Sewer District
- ☐ Non-Profit Water Company
- ☐ For-Profit Water Company
- ☐ Homeowner's Association
- ☐ Water Association
- ☐ Other

Explain: _____

Pinehurst Water District
Organization name

Jeff Frank/Manager
Name and title of Contact Person

PO Box 98
PO Box/Street Address

208 682 3611
Contact telephone number

Pinehurst, ID 83850
City, County, State, Zip Code

pinehurstwater@myfrontiermail.com
e-mail address

Project location legal description Lot 7, Block 5 Woodland Townsite, Pinehurst

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

C. Purpose and name of project for this loan application.

- [x] New Project
- [ ] Rehabilitation or replacement of existing facility
- [ ] DEQ requirement
- [ ] Other: Requested by DEQ for system reliability during power failures

D. Briefly describe the existing water supply facilities and describe any existing operational or maintenance problems. Attach map of the service area and a separate sheet if necessary to complete the explanation.

Groundwater is pumped into the distribution system with elevated storage reservoirs/gravity distribution of water.

III. WATER SYSTEM:

A. Source of water:

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

B. Water Right Numbers:

Water Right	Stage	Priority Date	Source	Amount
94-2216	License/Active	12/29/59	Pine Creek	2.5 cfs
94-7342	License/Active	1/15/93	Groundwater	3.57

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

C. Hook-ups on the system:

Approximate number of residential hook-ups: 740
Approximate number of commercial hook-ups: 100
Approximate number of industrial hook-ups: 0

D. On average, how much water is provided per day? 850,000-900,000 gpd

---

IV. USER RATES:

A. How does you organization charge user rates

- [x] Per Hook up
- [x] Per Volume Used
- [ ] Other

Explain: _____

B. Current user rate? $ 30/mo r per $35/mo commercial

(gallons used, monthly, yearly, etc.)

If a graduated or progressive rate structure or different rates for different classes of users are used, attach a separate sheet with explanation.

C. When was the last rate change? prior to 2001 (month/year)

D. Does your organization measure water use? Yes ■ No ☐ 40 connections with meters
If yes, how?

- [x] Meters at User Hook-ups
- [x] Master Meter
- [ ] Other (explain) _____

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 PAYING LOAN PAYMENTS

How will you pay 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) Repayment plan same as 2001 IDWR loan

Will an increase in assessment be required? Yes ☐ No ■
When will new assessments start and how long will they last?

_____

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
Land	$24,000
Office/pumping facility (2012 value)	$1,678,724.00

Please attach a legal description of the property being offered along with a map referencing the property.

VII. PROOF OF OWNERSHIP

Please provide proof of ownership, easements or agreements that are held or can be acquired for the construction and operation of the project.

VIII. FINANCIAL INFORMATION:

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

B. Reserve fund (current) $154,816.76

C. Current cash on hand Same as above

D. Outstanding indebtedness:

To Whom	Annual Payment	Amt. Outstanding	Years Left
No outstanding debts			

G. Have you done business with the Idaho Water Resource Board before? Yes ■ No ☐
If yes what was the loan for? Construction of a bolted steel reservoir
How much was the loan for? $160,000.00
Is the loan paid off? Yes ■ No ☐
If no what is the payment and expected payoff date. _____

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

Local 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.

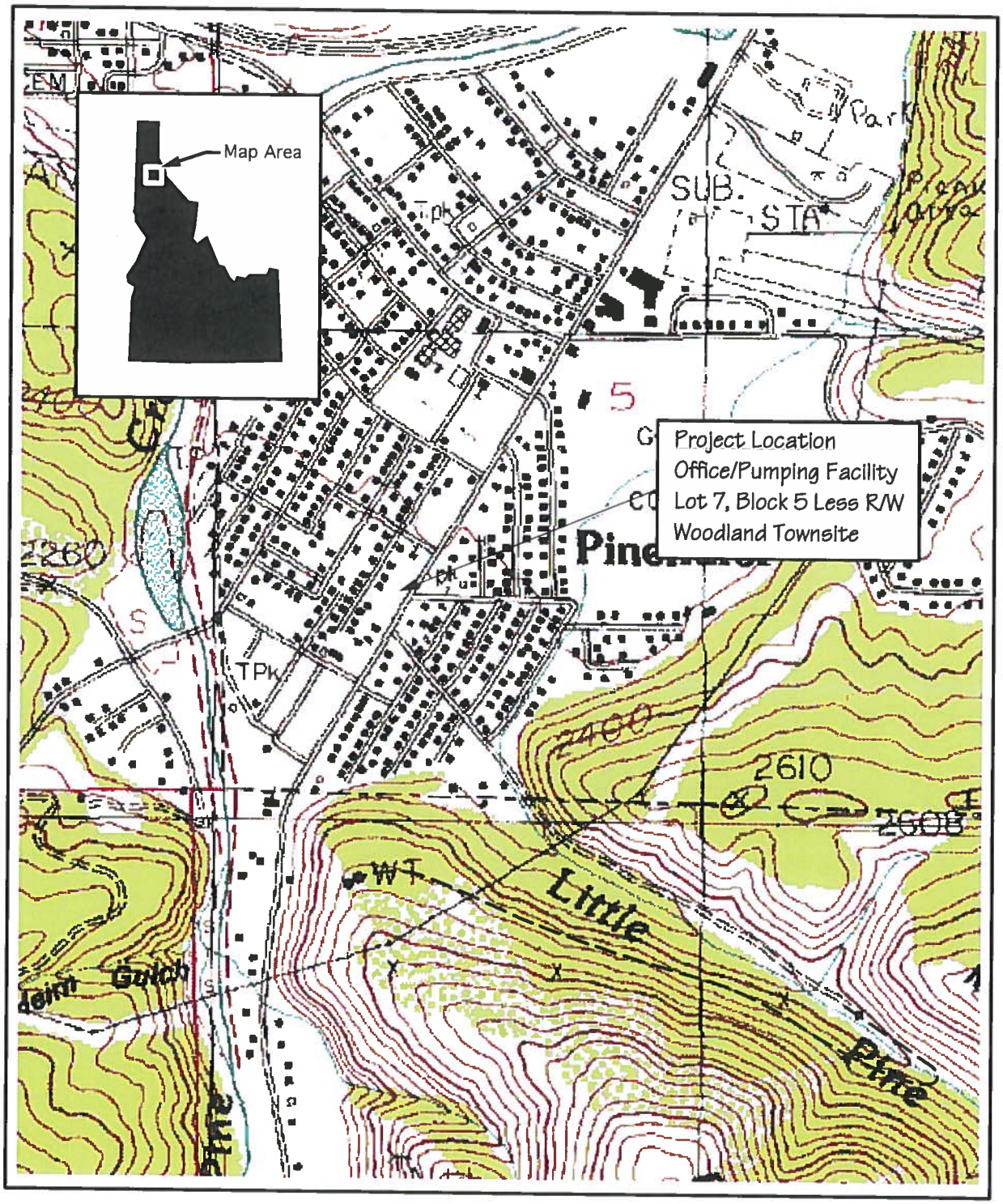
Amount of funds requested: $100,000

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: _____

James S. De Smet, PE, PG
Agent/Consultant for Pinehurst
Water District

Pinehurst Water District
Auxiliary Generator
Project



Project Vicinity Map
Scale: 1"=1000'

Memorandum

To: Idaho Water Resource Board

From: Water Supply Bank Coordinator

Date: January 22, 2015

Re: Procedural Guidance for the Water Supply Bank

Action Items: Four resolutions are proposed for consideration and approval by the IWRB

The Water Supply Bank Committee met January 7, 2015 to discuss the following items relevant to the Water Supply Bank (Bank):

1) An interim ground water rental policy for the Wood River Valley,
2) Management of leased water rights subject to IDWR administrative curtailment orders,
3) Management of water rights that are indefinitely leased to the Bank,
4) Filing fees for applications proposing to lease water to the Board's Bank

The Water Supply Bank Committee was supportive of efforts by the Water Supply Bank to move forward with these initiatives and the Committee recommended that the full Board be provided with an opportunity to hear a presentation on the items in order that the matters may be discussed further. The IWRB will receive a formal presentation from the Water Supply Bank Coordinator on the above items at the upcoming Board meeting.

The Bank is seeking approval of four IWRB resolutions authorizing the Bank to move forward with implementation of plans to address the four items above. The following is a brief summary of the items to be discussed; greater detailed material will be provided to Board members at the IWRB meeting.

1) Interim ground water rental policies for the Wood River Valley

The Water Supply Bank cannot approve a request to rent water where the use of rental water would injure established water users. Wood River Valley water users could be injured if depletions of the Big Wood River and its tributaries occur for extended periods of time, due to ground water rental transactions. Localized technological tools to support water administration, such as the Wood River Valley Hydrologic Model, are not yet available. In the absence of pending tools, the Bank desires to implement an interim ground water rental policy for the Wood River Valley so that rental requests can continue to be evaluated while current water users can be reasonably protected against injury.

The interim rental policy includes:

- Delineating the Big Wood River aquifer into 19 ground water transaction zones;
- Keeping lease and rental transactions within the same transaction zones;
- Requiring stream depletion analyses for all rental transactions;
- Limiting all new rental agreements to one year durations; and,
- Restricting some rental agreements with curtailment conditions that begin once the IWRB's minimum stream flow water right are no longer being satisfied.

Under the interim policy outlined above, lease and rental points of diversion will be transacted within their respective areas of impact and any actual impacts of surface water depletions caused by the diversion of ground water will not be allowed to propagate through the valley. Stream depletion analyses will be required for most rental requests, with exceptions provided for rental requests where the distance between

the lease and rental points of diversion is less than 657 feet or where ground water rentals are being satisfied from water rights leased into the Bank from within one hundred feet of the Big Wood River.

Included with your Board materials is a technical analysis of ground water in the Wood River Valley, conducted by IDWR's Technical Hydrogeologist Mike McVay. A draft public service announcement has been prepared by the Water Supply Bank, based on the information determined through Mr. McVay's analysis, and it is also included for your review.

The Water Supply Bank anticipates receiving numerous requests to rent ground water in 2015 and would like to implement this ground water rental policy and issue the public service announcement to assist ground water renters in preparing future ground water rental requests. A resolution authorizing implementation of the interim ground water rental review policy has been prepared for consideration of the Board and is included in your Board materials.

2) Management of leased water rights subject to IDWR administrative curtailment orders

As a matter of water administration, junior priority water rights may be curtailed to satisfy the use of water under senior priority water rights. The decision to curtail a water right may be made by a Water District Watermaster or a curtailment order may be issued by the Director of the Department of Water Resources. Curtailment decisions made by Watermasters are common, localized and temporary acts of water administration while curtailment orders issues by the Director are specific, long-term, regional acts of state water administration.

The Water Supply Bank Subcommittee discussed how the Bank should consider administration of water rights leased into the Bank that are subject to a curtailment order issued by the Director. The Committee recommended that the Board consider implementation of a policy that restricts the rental of water from water rights subject to a Departmental curtailment order. A resolution recommending such a policy has been drafted for the consideration by the Board and is included with your Board materials.

3) Management of water rights that are indefinitely leased to the Bank

Approximately two hundred water rights are currently leased into the Bank on contracts of indefinite duration. Indefinite leases become difficult to administer when they are split, sold and transferred. Many indefinite leases have been split numerous times since they were originally leased into the Bank. Migrating all indefinite leases to new, finite lease contracts will address this problem. Water Supply Bank rule 25.08.c authorizes the IWRB to remove a water right from the Bank by means of a Board resolution.

The Water Supply Bank Subcommittee recommended that the full IWRB consider authorizing the Water Supply Bank to move forward with updating all indefinite leases. The Water Supply Bank intends to move forward with updating indefinite leases in the following way:

1) Jan 2015 – Obtain IWRB resolution approving the Bank to proceed with updating the contracts for all water rights leased indefinitely to the Water Supply Bank.

2) Feb 2015 – Lessors with indefinite leases will be contacted in waves and notified of the initiative to update all indefinite lease contracts. New, updated lease contracts will be offered to lessors, allowing them to remain in the Bank while updating their contracts. Additional information will be sought to prove up water rights if required. Lessors may also request the release of their water rights if they are not actively being rented.

3) Nov 2015 – Once all lessors have been contacted and offered the opportunity for a contract conversion, a second IWRB resolution will be sought to formally release from the Bank all remaining unconverted, indefinite leases.

4) Dec 2015 – All lessors with indefinite leases that were not updated will be informed that their water rights are being released from the Water Supply Bank.

A resolution contemplating implementation of this contract conversion place has been drafted for consideration by the Board and can be found with your Board materials

4) Filing fees for applications proposing to lease water to the Board's Bank

Water Supply Bank rules authorize the collection of "a lease application filing fee of two hundred fifty dollars ($250) per water right up to a maximum total of five hundred dollars ($500.00) for overlapping water rights which have a common place of use or common diversion rate or diversion volume" (IDAPA 37.02.03:25.02.f).

The current application filing fee structure is sufficient, however there is some confusion regarding when and how multiple water rights may qualify for the joint filing fee. The Bank has applied the fee rule based on a Board resolution issued in 2010. The resolution is included in your Board materials.

Presently, the joint filing fee applies to "stacked" water rights, which are water rights that are utilized for the same beneficial use, and that are used on an overlapping, common place of use, or that share a limited, common diversion rate and diversion volume

IDWR does not allow stacked water rights to be pulled apart (or "unstacked), else an enlargement of the use of water authorized under the water rights could occur. As such, if one stacked water right is proposed for lease to the Bank, they must all be leased to the Bank. The joint filing fee thus caps at $500 the total amount that might be owed to lease into the Bank a portfolio of stacked water rights.

Though multiple water rights may exist within a common, permissible place of use (PPU), these water rights are not stacked if they can be utilized separately and independently. Such rights can be individually leased into and rented out from the Bank without an enlargement occurring. Because multiple rights within a PPU can be administered separately, they don't qualify for the joint filing fee.

The Water Supply Bank has updated our lease application form to address this confusion by clarifying when multiple water rights within a common area do and don't qualify for the joint filing fee.

The Water Supply Bank is seeking a resolution from the Board to affirm and memorialize that the current application of the joint filing fee is the intentional policy of the IWRB. A resolution affirming this has been drafted for consideration by the Board and can be found with your Board materials.

BEFORE THE IDAHO WATER RESOURCE BOARD

IN THE MATTER OF EVALUATING GROUND WATER IMPACTS AND STREAM DEPLETIONS BY ESTABLISHING AN INTERIM GROUND WATER RENTAL POLICY FOR THE WATER SUPPLY BANK IN THE WOOD RIVER VALLEY	)	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, section 42-1763, Idaho Code authorizes the Director of the Department of Water Resources to reject and refuse approval for or to partially approve for a less quantity of water or approve upon conditions any proposed rental of water from the Water Supply Bank where the proposed use is such that it will reduce the quantity of water available under other existing water rights; and

WHEREAS, the Department of Water Resources has determined that the surface and ground waters of the Big Wood River drainage are interconnected and that diversions of ground water from wells may affect surface water flows in streams and rivers; and

WHEREAS, the Department of Water Resources administers a ground water management area for the Big Wood River to protect prior appropriators from injury attributable to new appropriations of ground water in the Big Wood River drainage; and

WHEREAS, the Water Supply Bank can best protect prior appropriated water rights in the Wood River drainage through a review of ground water impacts and stream depletion analyses attributable to new ground water uses being satisfied through Water Supply Bank rentals; and

WHEREAS, the Water Supply Bank can expedite a review of ground water rental requests through the establishment of ground water rental zones and the issuance of acceptable standards for stream depletion analyses and ground water impact analyses;

NOW THEREFORE BE IT RESOLVED that the Idaho Water Resource Board authorizes the Water Supply Bank to request and evaluate ground water impacts and stream depletion analyses for water rental requests in the Wood River Valley.

NOW THEREFORE BE IT FURTHER RESOLVED that the Idaho Water Resource Board authorizes the Water Supply Bank to implement an interim ground water rental policy for the Wood River Valley for the year 2015 that establishes ground water rental zones and standards for conducting ground water impact analyses and stream depletion analyses, and that this interim policy should sunset on January 23, 2016.

Dated this 23rd day of January, 2015.

ROGER W. CHASE
Idaho Water Resource Board Chairman

Attest:

VINCE ALBERDI
Secretary

BEFORE THE IDAHO WATER RESOURCE BOARD

IN THE MATTER OF MANAGEMENT OF WATER RIGHTS LEASED TO THE WATER SUPPLY BANK SUBJECT TO CURTAILMENT ORDERS ISSUED BY THE DIRECTOR OF THE DEPARTMENT OF WATER RESROURCES	))))))	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, section 42-1763, Idaho Code authorizes the Director of the Department of Water Resources to reject and refuse approval for or to partially approve for a less quantity of water or approve upon conditions any proposed rental of water from the Water Supply Bank where the proposed use is such that it will reduce the quantity of water available under other existing water rights; and

WHEREAS, section 42-1764, Idaho Code authorizes a rental of water from the Water Supply Bank to be a substitute for the transfer proceeding requirements of section 42-222, Idaho Code.

WHEREAS, the transfer proceeding requirements of section 42-222, Idaho Code allow for the transfer of a water right from within an area subject to a curtailment order of the Director of Water Resources, to an area hydraulically connected, but not subject to the curtailment order of the Director of Water Resources; and

WHEREAS, the Idaho Water Resource Board is concerned about the potential for injury that might arise if a water right leased to the Water Supply Bank and subject to a curtailment order of the Director of Water Resources is permitted to be rented in an area hydraulically connected to, but not subject to a curtailment order of the Director; and

WHEREAS, the Idaho Water Resource Board, pursuant to the authority vested in them by Idaho Code 42-1762, desires to regulate how water rights subject to a curtailment order may be considered for rental from the Water Supply Bank;

NOW THEREFORE BE IT RESOLVED that the Idaho Water Resource Board authorizes the Water Supply Bank to reject and refuse a request to rent water from a water right that is subject to a curtailment order of the Director of the Department of Water Resources.

Dated this 23rd day of January, 2015.

ROGER W. CHASE
Idaho Water Resource Board Chairman

Attest: _____
VINCE ALBERDI
Secretary

BEFORE THE IDAHO WATER RESOURCE BOARD

IN THE MATTER OF MANAGEMENT OF WATER RIGHTS LEASED TO THE WATER SUPPLY BANK FOR AN INDEFINITE LENGTH OF TIME	))))	A RESOLUTION

WHEREAS, section 42-1762, Idaho Code authorizes that water rights leased to the Water Supply Bank may be retained in the Water Supply Bank for a period as determined by the Idaho Water Resource Board; and

WHEREAS, Water Supply Bank Rule 25.08.C declares that a water right which has been accepted (into the Bank) shall remain in the Board's Water Supply Bank for a period designated by the Board unless removed by a resolution of the Board; and

WHEREAS, some water rights have been leased to the Water Supply Bank for an indefinite period of time; and

WHEREAS, the Water Supply Bank no longer accepts indefinite leases and instead only accepts proposals to lease water rights for a maximum of five years; and

WHEREAS, the Water Supply Bank, where possible, would like convert indefinite lease contracts to fixed term contracts;

NOW THEREFORE BE IT RESOLVED that the Idaho Water Resource Board authorizes the Water Supply Bank to contact all owners of water rights that are indefinitely leased to the Water Supply Bank, to provide said owners with an opportunity to remain in the Water Supply Bank and have contracts updated to fixed duration terms.

NOW THEREFORE BE IT FURTHER RESOLVED that once all owners of indefinitely leased water rights have been contacted and provided with the opportunity to have their contracts updated, the Idaho Water Resource Board intends to hear a resolution contemplating the release from the Water Supply Bank of water rights leased indefinitely to the Bank.

Dated this 23rd day of January, 2015.

Roger Chase

ROGER W. CHASE
Idaho Water Resource Board Chairman

Attest:

VINCE ALBERDI
Secretary

Attachment No. 16, Meeting No. 1-15
Idaho Water Resource Board

BEFORE THE IDAHO WATER RESOURCE BOARD

IN THE MATTER OF REQUESTING AN APPLICATION FILING FEE FOR WATER RIGHTS PROPOSED FOR LEASE TO THE WATER SUPPLY BANK

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 25.02.f authorizes the collection of a lease application filing fee of two hundred fifty dollars ($250) per water right up to a maximum total of five hundred dollars ($500.00) for overlapping water rights which have a common place of use or common diversion rate or diversion volume; and

WHEREAS, the Idaho Water Resource Board previously issued a resolution authorizing the collection of a maximum of $500 for lease applications involving stacked water rights on the same parcel; and

WHEREAS, the Department of Water Resources considers water rights used for the same beneficial purpose and overlapping at a common place of use to be "stacked" together, and that such rights cannot be separated ("unstacked") from each other, else enlargement in the use of water authorized under the water rights might occur; and

WHEREAS, the Department of Water Resources also considers that water rights that share a common diversion rate and diversion volume are also "stacked" together and are inseparable; and

NOW THEREFORE BE IT RESOLVED that the Idaho Water Resource Board reaffirms that the lease application filing fee applies to stacked water rights that overlap at a common place of use, or that share a common diversion rate and diversion volume, but that the joint filing fee of $500 does not apply to separate, non-stacked water rights that authorize the same beneficial use of water within a permissible place of use, and that such rights shall independently be required to pay a filing fee of $250 per water right.

Dated this 23rd day of January, 2015.

ROGER W. CHASE
Idaho Water Resource Board Chairman

Attest:

VINCE ALBERDI
Secretary

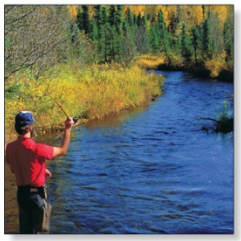
Attachment No. 7, Meeting No. 1-15
Idaho Water Resource Board

IDAHO
Water Resource Board

2015 Initiatives for the Board's Bank

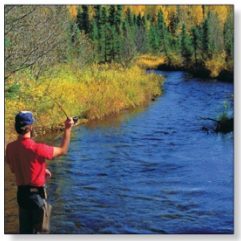
Board Meeting 1-15

Remington Buyer
Water Supply Bank Coordinator
January 22, 2014

2015 Initiatives for the Board's Bank

1. Interim Ground Water Rental Policy in the Wood River Valley
2. Management of leased rights subject to IDWR administrative curtailment orders
3. Management of water rights that are indefinitely leased to the Bank
4. Filing fees for applications proposing to lease water rights to the Board's Bank



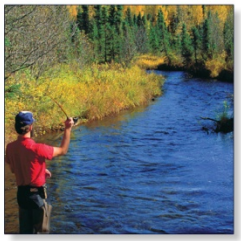
Interim Ground Water Rental Policy for the Wood River Valley

The surface and ground waters of the Big Wood River drainage are interconnected.

Ground water diverted under a Water Supply Bank rental can impact surface water resources

The Bank cannot authorize a rental that will injure prior appropriators

The Bank is striving for a ground water rental policy in the Wood River Valley that will enable us to continue renting ground water ***AND*** simultaneously ensure any potential injury to prior appropriators is limited, mitigated or avoided.



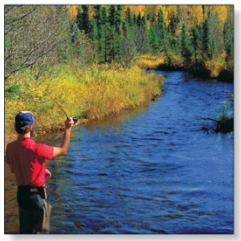
Interim Ground Water Rental Policy for the Wood River Valley

The Bank anticipates increasing demand for ground water rentals in the Wood River Valley

All 2015 ground water rental requests are currently being held pending direction from the IWRB regarding how the Bank should limit injury to prior appropriators of surface water in the Wood River Valley

The Bank and IDWR Hydrology drafted an interim ground water rental policy for consideration by the WSB Committee

The IWRB is called upon to provide guidance to the Bank regarding our review of future ground water rental requests in the Wood River Valley



Interim Ground Water Rental Policy for the Wood River Valley

Goal: **Ensure optimal processing of all rental applications *AND* guard against injury to current users of surface waters**

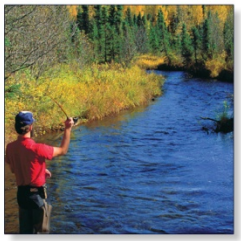
Policy Objectives:

1) Identify parameters that clarify if and when injury needs to be evaluated,

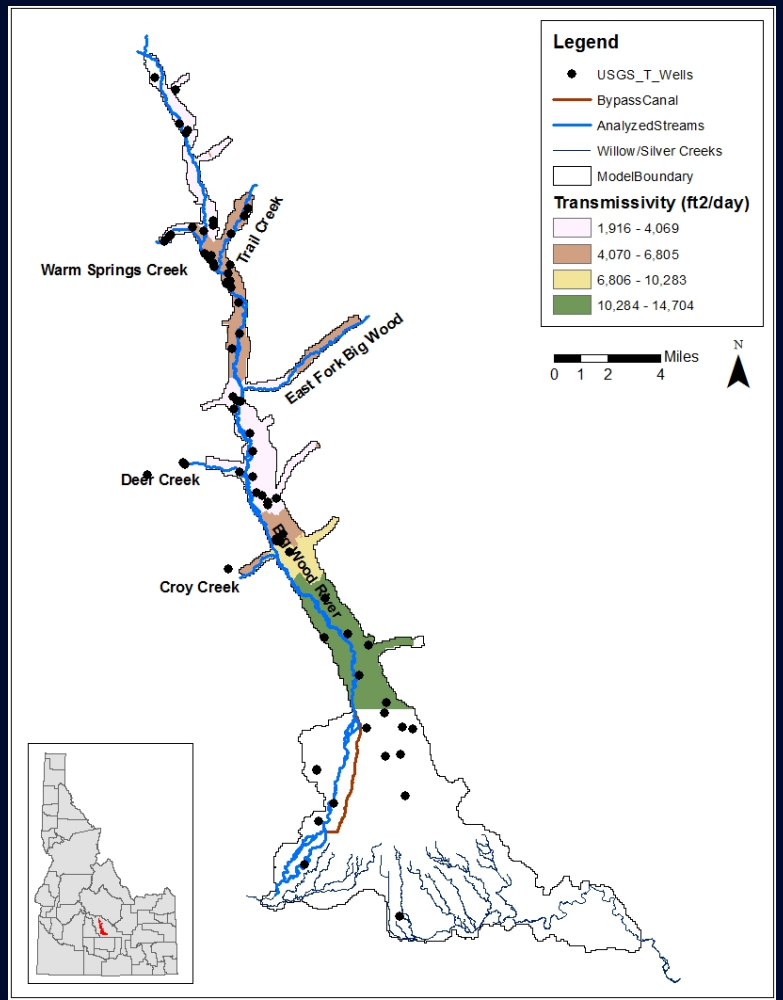
2) Establish a process to determine if injury is occurring,

3) Implement an injury analysis standard to expedite the rental review process by allowing water resource agents to evaluate injury impacts without consulting IDWR hydrologists

4) Condition rentals to ensure injury is avoided or mitigated



Interim Ground Water Rental Policy for the Wood River Valley

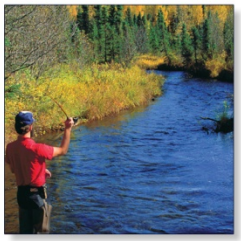


Injury can occur if ground water pumping under a rental depletes more water from the Big Wood River than would normally be depleted by the leased right

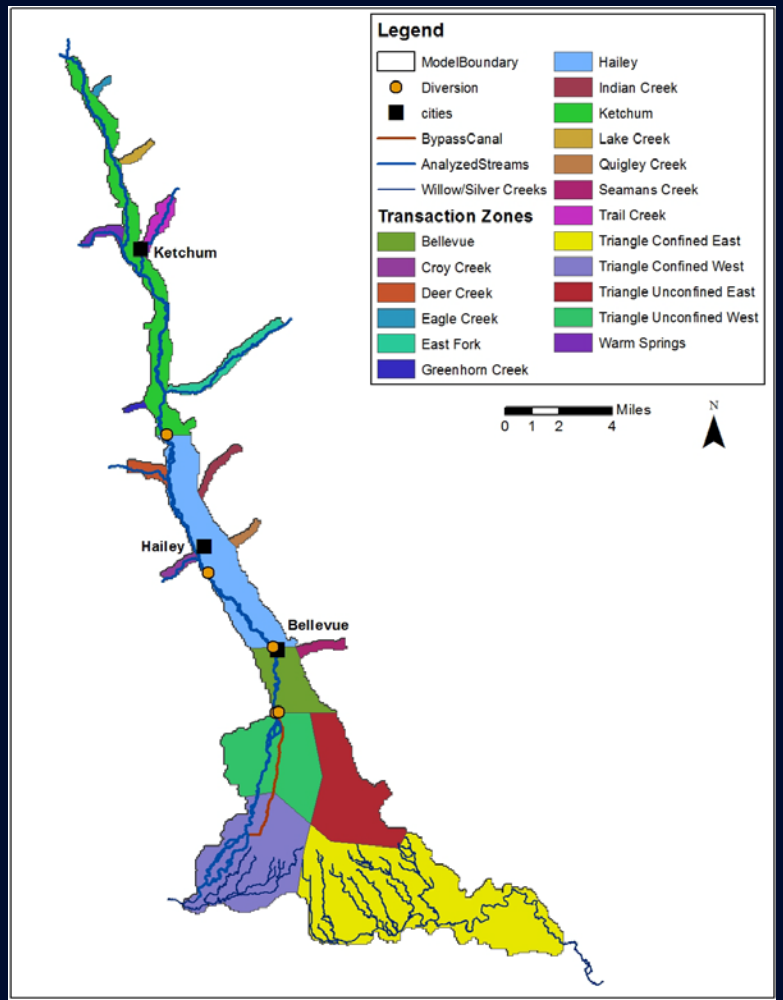
Injury can be measured using a stream depletion analysis

Mitigation is possible through a balancing of rental depletions against lease accretions within a reach (or zone)

Potential injury need not be analyzed if the distance between a lease and rental is within an acceptable distance or limited to a reach/zone



Interim Ground Water Rental Policy for the Wood River Valley



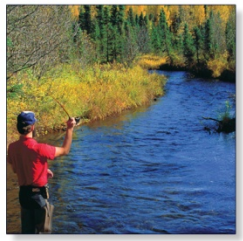
Draft Proposal to WSB Committee:

Safe distance: 657 feet (200 meters)

Require stream depletion analyses if rental distance from lease is more than 657 feet and if rental is outside the 200 foot wide river zone

Limit impacts to within 11 tributary zones, four zones within the Bellevue triangle and four zones in the valley itself (19 total)

Recommend utilization of the Alluvial Water Accounting System (AWAS) to conduct SDAs that can be reviewed by Bank staff, expediting processing by avoiding review by IDWR Hydrology



Interim Ground Water Rental Policy for the Wood River Valley

AWAS is simple and free software that can model stream depletions (& accretions)

AWAS Input Screen

AWAS -- Alluvial Water Accounting System - [D:\Data\ArcMap\BigWood\StreamDeplete\AWAS300.dsi]

File Functions View Window Help

Run

Input | Output

Start Year: 2014
End Year: 2014

Set Properties | Set Custom Output

Well Name	Description	Type	Boundary Condition	W (Feet)	B (Feet)	Transmissivity (GPD/FT)	Specific Yield	X (Feet)	SDF	Show in Output	Use Partial Stream	Left limit of stream segment
Test		Irrigation	Alluvial Aquifer	3000	0	100934	0.2	150	0	☑	☐	0

New Well | Delete Wells | Set URFs

River-to-Boundary Distance

River-to-Well Distance

Consumptive Use | Pumping Record Calculation Data: Q | App Eff

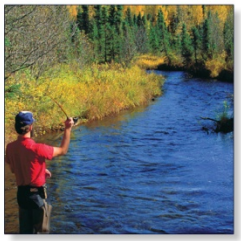
Consumptive Use for Test (acre-feet)

Month/Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Jan/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Feb/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Mar/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apr/2014	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
May/2014	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Jun/2014	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Jul/2014	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Aug/2014	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Sep/2014	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Oct/2014	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Run Start: Jan 2014 To 2014 ☐ Ignore pumping/recharge after: Dec 2014

RUN YEARS PAST SYNTHESIZED YEARS ASSUMED TO HAVE NO WELL CU/RECHARGE

For Help, press F1 NUM



Interim Ground Water Rental Policy for the Wood River Valley

AWAS Output Screen

AWAS -- Alluvial Water Accounting System - [D:\Data\ArcMap\BigWood\StreamDeplete\AWAS300.dsi]

File Functions View Window Help

Run

Input | Output

Scale: Monthly / Daily

Output For Well/Recharge Sites: Test; Total of Show in Output; Total of Selection; Recharge Summary; CU of Ground Water Summary; Net Impact on Stream

Years: 2014

Show CU of Ground Water/Net Recharge Data

Show Depletion/Accretion Data

Display Options: Show Headers, Single Column, Database, Compact, Month Major, Depletions are Positive, Trim ID to 1st Group, Single Row, Open In Excel, Export

Number of decimal places: 2 Display Totals

Monthly Total Volume

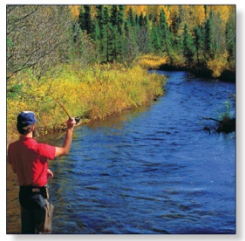
Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total	Cumulative Total
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	---	---	---	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	-0.5	-0.74	-0.8	-0.83	-0.85	-0.86	-0.87	-0.88	-0.89	-0.89	-0.9	-0.9	-0.91	-0.91	-0.91	-0.92	-0.92	-0.92	-0.92	-0.93	-0.93	-0.93	-0.93	-0.93	-0.93	-0.94	-0.94	-0.94	-0.94	-0.94	---	-26.6	-26.6
5	-0.94	-0.94	-0.94	-0.95	-0.95	-0.95	-0.95	-0.95	-0.95	-0.95	-0.95	-0.95	-0.95	-0.96	-0.96	-0.96	-0.96	-0.96	-0.96	-0.96	-0.96	-0.96	-0.96	-0.96	-0.96	-0.96	-0.96	-0.97	-0.97	-0.97	-0.97	-29.64	-56.24
6	-0.97	-0.97	-0.97	-0.97	-0.97	-0.97	-0.97	-0.97	-0.97	-0.97	-0.97	-0.97	-0.97	-0.97	-0.98	-0.98	-0.98	-0.98	-0.98	-0.98	-0.98	-0.98	-0.98	-0.98	-0.98	-0.98	-0.98	-0.98	-0.98	-0.98	---	-29.26	-85.5
7	-0.98	-0.98	-0.98	-0.98	-0.98	-0.98	-0.98	-0.98	-0.98	-0.98	-0.98	-0.98	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-30.57	-116.07
8	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-30.69	-146.76
9	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	---	-29.91	-176.67
10	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-31	-207.67
11	-0.5	-0.26	-0.2	-0.17	-0.15	-0.14	-0.13	-0.12	-0.11	-0.1	-0.1	-0.09	-0.09	-0.09	-0.08	-0.08	-0.08	-0.08	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	---	-3.35	-211.02
12	-0.06	-0.06	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.03	-0.03	-0.03	-0.03	-0.03	-1.33	-212.35

Save To File | Plot | Print

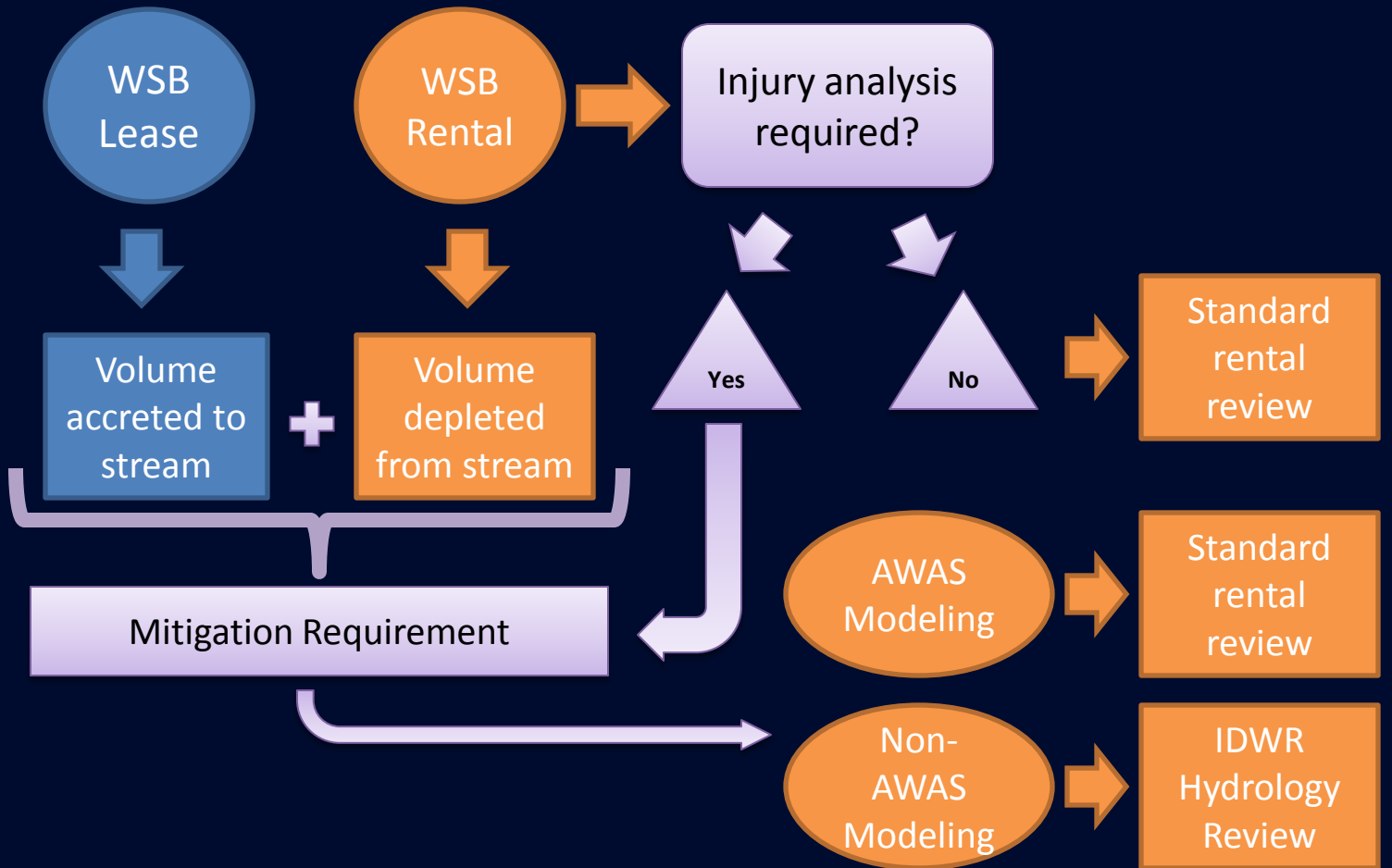
For Help, press F1

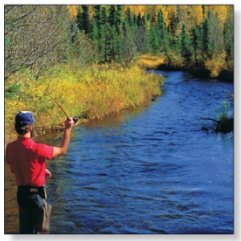
NUM

The difference between the total volume accreted to and depleted from the river can be considered the potential injury, allowing for mitigation to be sought

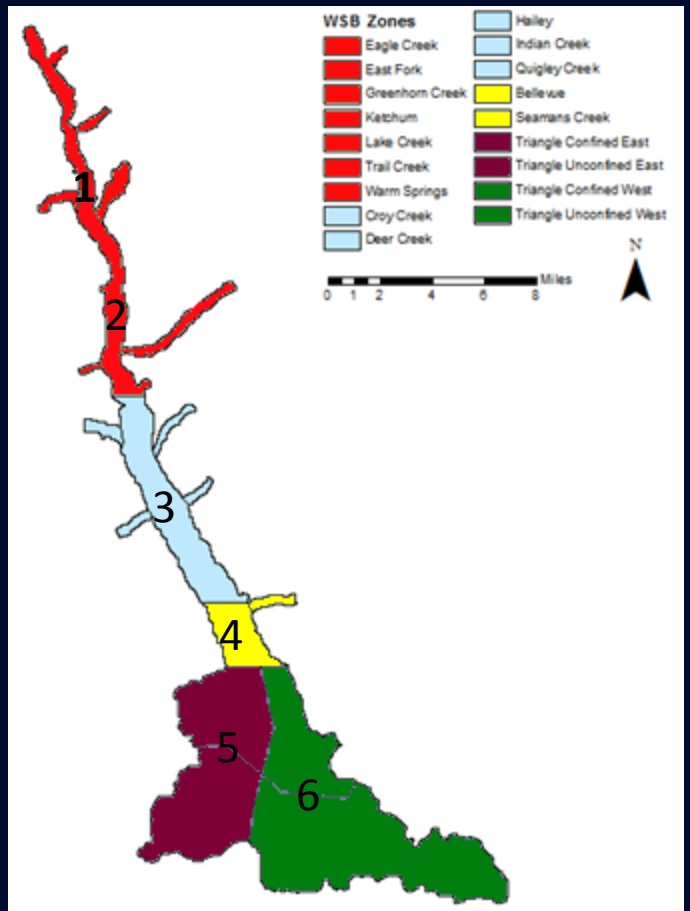


Interim Ground Water Rental Policy for the Wood River Valley





Interim Ground Water Rental Policy for the Wood River Valley



Alternative Proposal:

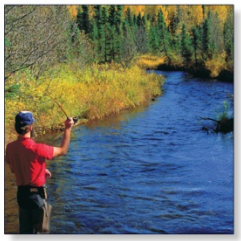
Decrease the number of zones from 19 to 6

Require stream depletion analyses only if a rental is across a zone, not within a zone

Mitigate rentals where surface water depletions exceed accretions

Subordinate rentals to the minimum streamflow when a proposal is made to move upstream, or into the river zone (100” from the Big Wood River or tributaries)

Stream depletion analyses submitted using AWAS can be expedited by Bank staff, but non-AWAS analyses to be reviewed by IDWR Hydrology

Interim Ground Water Rental Policy for the Wood River Valley

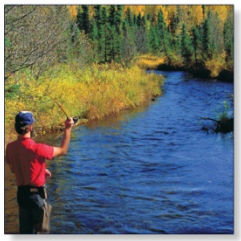
Policy Objective: Policy Proposal:

1) Identify parameters that clarify if and when injury needs to be evaluated,
   Establish an acceptable distance, or zones, within which no injury analysis is required but require an injury analysis if a rental occurs beyond this distance, or across zones

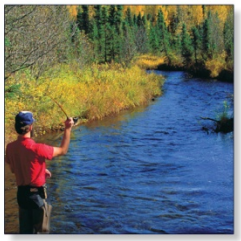
2) Establish a standard to determine if injury is occurring,
   Use a stream depletion analysis to measure the impact of ground water withdrawals on stream depletions of the Big Wood River

3) Implement an injury analysis standard to expedite rental reviews by allowing water resource agents to evaluate injury impacts without consulting IDWR hydrologists
   Stream depletion analyses submitted using the Alluvial Water Accounting System (AWAS) to be processed by the Bank, avoiding review by IDWR Hydrology staff

4) Condition rentals to ensure injury is properly avoided or mitigated
   Mitigate ground water rental impacts by reducing withdrawals or by renting additional water to balance depletions and accretions across a reach.
   Subordinate to the 189 cfs MSF all rentals moving up gradient, across a zone



Interim Ground Water Rental Policy for the Wood River Valley



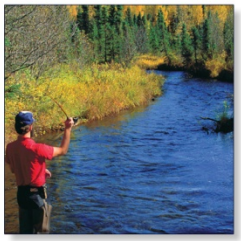
Management of Lease Rights Subject to IDWR Curtailment Orders

Idaho Code 42-1764 authorizes a rental from the Water Supply Bank to be a substitute for an IDWR transfer process (IC 42-222)

Pursuant to IC 42-222, IDWR can consider the transfer of a water right from within an area subject to an administrative curtailment order of the Director, to a hydraulically connected area that falls outside the curtailment zone.

The Water Supply Bank Subcommittee recommended that the Board consider issuance of a resolution to affirm that any water rights leased to the Water Supply Bank and subject to a curtailment order of the Director of IDWR should not be transferred and rented in a hydraulically connected area in which the curtailment is not in effect.

A resolution affirming this policy has been drafted for consideration and approval by the IWRB.



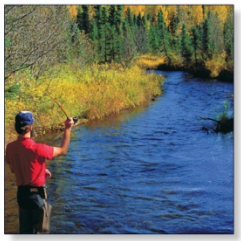
Management of water rights that are indefinitely leased to the Bank

The Water Supply Bank ceased entering into indefinite lease contracts during 2011 and has since limited lease contracts to a maximum duration of 5 years.

215 indefinite leases, for approximately 160 individuals:

Eastern Idaho: 44 leases
Western Idaho: 107 leases
Southern Idaho: 42 leases
Northern Idaho: 20 leases

The Water Supply Bank desires to address this inconsistency in 2015 by contacting all indefinite lessors to provide them with an opportunity to remain in the Bank and have their lease contracts updated to a fixed term, commensurate with any ongoing rentals, in advance of the issuance of a future Board resolution to release all remaining indefinite leases



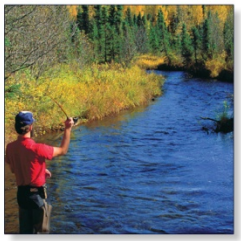
Filing fees for applications proposing to lease water rights to the Board's Bank

The Water Supply Bank collects $250 per water right lease application, up to a maximum of five hundred dollars ($500.00) for overlapping water rights which have a common place of use or common diversion rate or diversion volume.
(IDAPA 37.02.03 : 25.02.f)

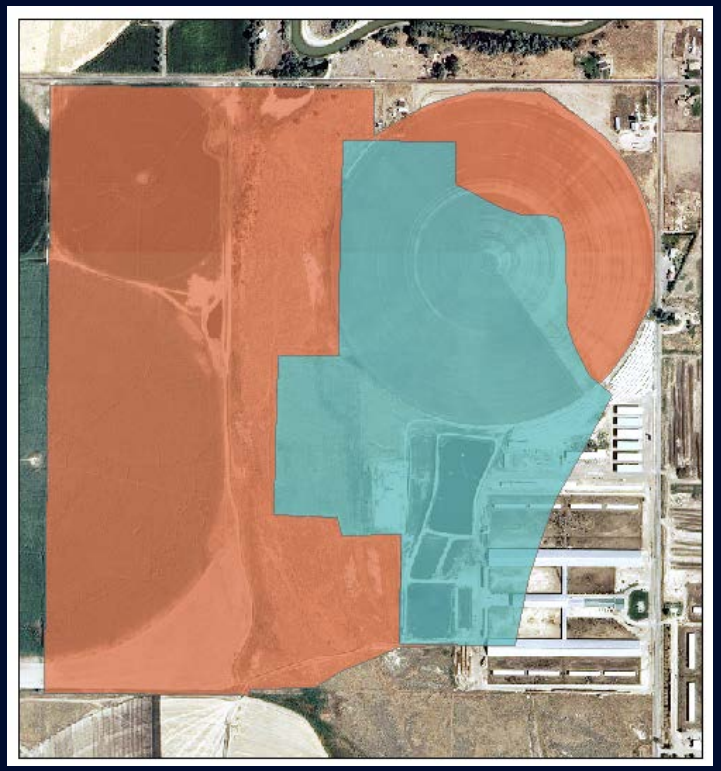
The Bank applies the joint filing fee to stacked water rights, which are collections of water rights that have been utilized together at either a common location, or utilizing a common diversion rate and volume.

IDWR does not allow stacked water rights to be pulled apart and separated.

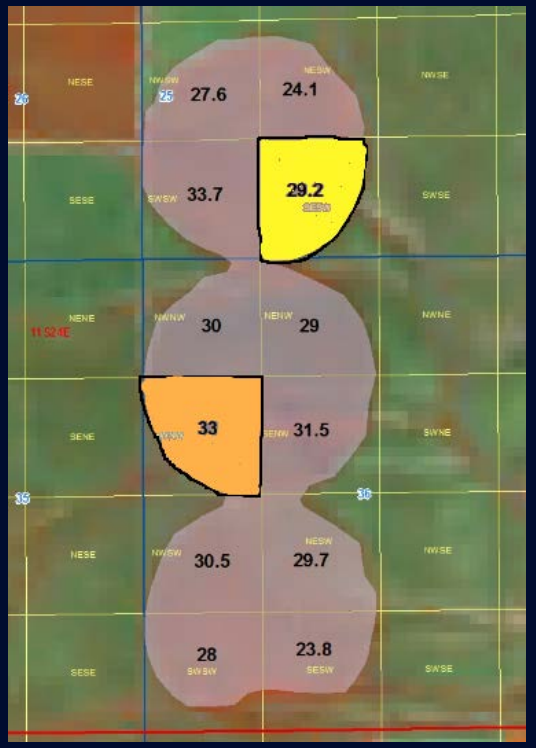
The joint filing fee is not offered to water right portfolios within permissible places of use (PPUs) that are not stacked.



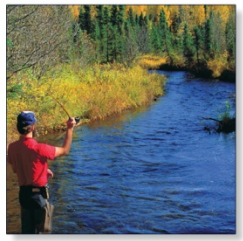
Filing fees for applications proposing to lease water rights to the Board's Bank



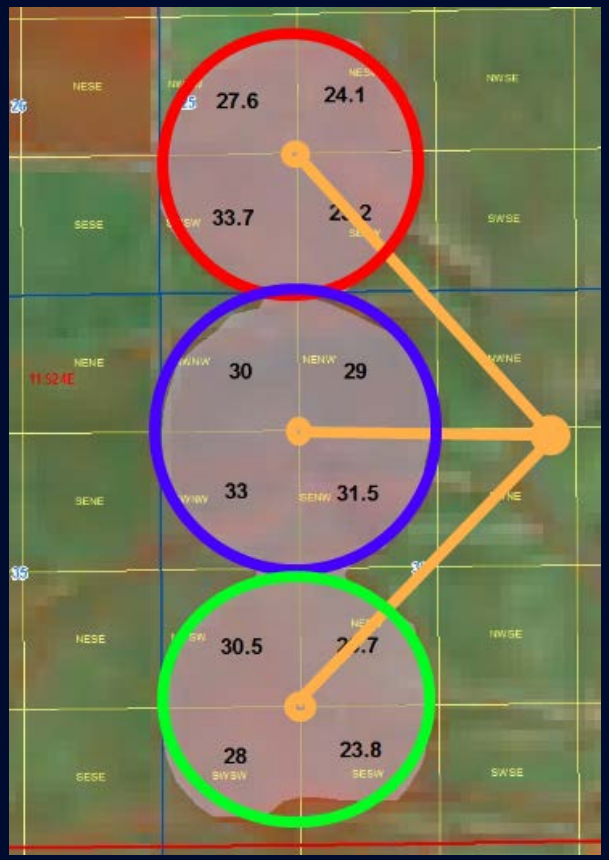
Stacked, due to POU Overlap



Not stacked, within PPU



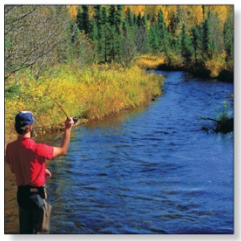
Filing fees for applications proposing to lease water rights to the Board's Bank



When a single point of diversion services multiple water rights, the rights can become stacked at the point of diversion

If the pump is sufficiently powerful to provide more than the required flow to all rights simultaneously, they are not stacked

If the pump cannot provide enough flow and they are irrigated together in rotation, the three rights will become stacked



Filing fees for applications proposing to lease water rights to the Board's Bank

IDWR does not allow for stacked rights to be pulled apart and they should thus be afforded the combined application filing fee of $500

Water rights that are not stacked together are leased into the Bank separately on unique lease contracts which is why they are not afforded the joint filing fee.

The Bank has updated our lease application form to clarify this distinction. A resolution affirming this policy is before the Board for its consideration.

MEMO

State of Idaho
Department of Water Resources
322 E Front Street, P.O. Box 83720, Boise, Idaho 83720-0098
Phone: (208) 287-4800 Fax: (208) 287-6700

Date: January 7, 2015

To: Remington Buyer, Water Supply Bank Coordinator

From: Mike McVay, Technical Hydrogeologist

Subject: Minimum data requirements for processing Big Wood River Water Supply Bank groundwater rentals prior to the release of the Wood River Valley Groundwater Model **DRAFT**

Introduction

Per your request, I have completed the development of interim data and analysis requirements for applicant submittal in support of proposed Water Supply Bank (WSB) transactions in the upper Big Wood River Valley. This work has been done to facilitate processing WSB groundwater rental transactions prior to the release of the Wood River Valley groundwater model (WRVGM).

The Idaho Water Resources Board (IWRB) is endeavoring to begin processing transactions in a manner that is timely, cost effective, and protective of existing water rights. Therefore, the requirements presented herein represent the minimum documentation that is necessary for the evaluation of proposed WSB transactions on Big Wood River flows. Also included is a stream-depletion analysis of the Big Wood River (north of the Bypass Canal diversion) and tributary streams that connect with the river. The stream-depletion analysis is intended to identify an area in which groundwater is so intimately connected with the river that the diversion of groundwater can be considered equivalent to the diversion of surface water.

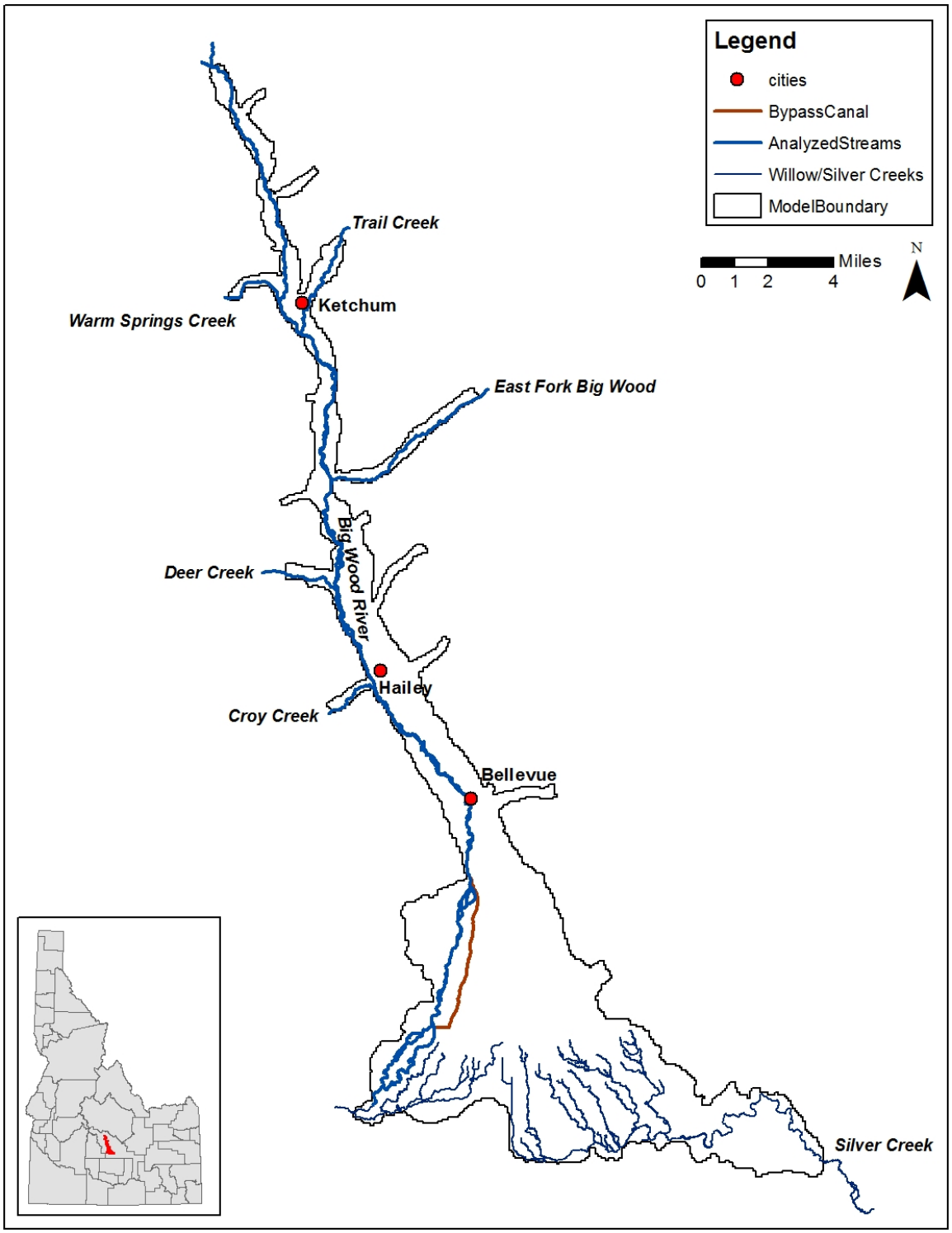


Figure 1. Location map illustrating the Big Wood River Valley.

Minimum Data Requirements for All Proposed Groundwater WSB Transactions

In order to evaluate the impacts due to groundwater WSB transactions, it is necessary for IDWR staff to review basic transaction data.

WSB Transaction Data – All Proposed Groundwater GWSB Transactions

The minimum required data for ALL proposed WSB transactions are:

1. Locations of all the lease and rental PODs.
2. Beginning and ending dates of all lease and rental periods.
3. Diversion rates, volume limitations, and period-of-use information for all leases and rentals.

Groundwater Equivalent to Surface Water

In an effort to facilitate WSB transaction processing, an area in which groundwater and surface water are in "direct and immediate connection" has been delineated. IDWR water-right transfer policy defines the "direct and immediate connection" of groundwater and surface water as any location from which "at least 50 percent depletion in original source occurs due to depletion at the proposed POD in one day" (IDWR, 2009). In other words, any location where at least 50 percent of the water pumped from a well comes from surface water within one day is considered to be in direct and immediate connection. Groundwater diversions from these locations are considered equivalent to surface-water diversions, and groundwater impacts can be ignored in the assessment of WSB proposals. The processing of transactions that are proposed within this area is facilitated by minimizing the data and analysis requirements for the applicant, and by simplifying the evaluation process for IDWR staff.

Stream-depletion analysis

A stream-depletion analysis has been conducted in order to delineate the area adjacent to the Big Wood River (north of the Bypass Canal diversion) and connected tributary streams in which groundwater diversions are considered equivalent to surface-water diversions. The connected tributary streams included in this analysis are Warm Springs Creek, Trail Creek, East Fork of the Big Wood, Deer Creek, and Croy Creek (Figure 1; USGS, 2012). Depletions to surface water due to groundwater pumping have been estimated using an image well analysis (see, for example, Freeze and Cherry, 1979). This analysis uses stream-depletion equations developed by Glover (1978), and has been executed using a software program called the Integrated Decision Support Alluvial Water Accounting System (AWAS), developed at Colorado State University (IDS, 2014). Input into the AWAS program includes the aquifer boundary conditions, aquifer properties, river-to-impermeable boundary distance, well-to-river distance, and pumping rate.

Aquifer Boundary Conditions

The AWAS software allows for one of four boundary conditions: Infinite Aquifer, Alluvial Aquifer, No Flow Aquifer, or Effective SDF (IDS, 2004). The Alluvial Aquifer option has been implemented due to the presence of effectively impermeable boundaries that roughly parallel streams in the valley.

Aquifer Properties

Transmissivity – Transmissivity in the valley has been estimated using data from well driller's reports (USGS, 2012). The USGS used well-driller specific capacity test data from 81 wells to estimate transmissivity using two approaches, and the average of the two has been used in this analysis. The USGS data have been filtered to remove outliers and wells completed in the confined aquifer (Appendix A). Transmissivity calculated at discrete well locations have been interpolated across the aquifer using ordinary Kriging (Figure 2).

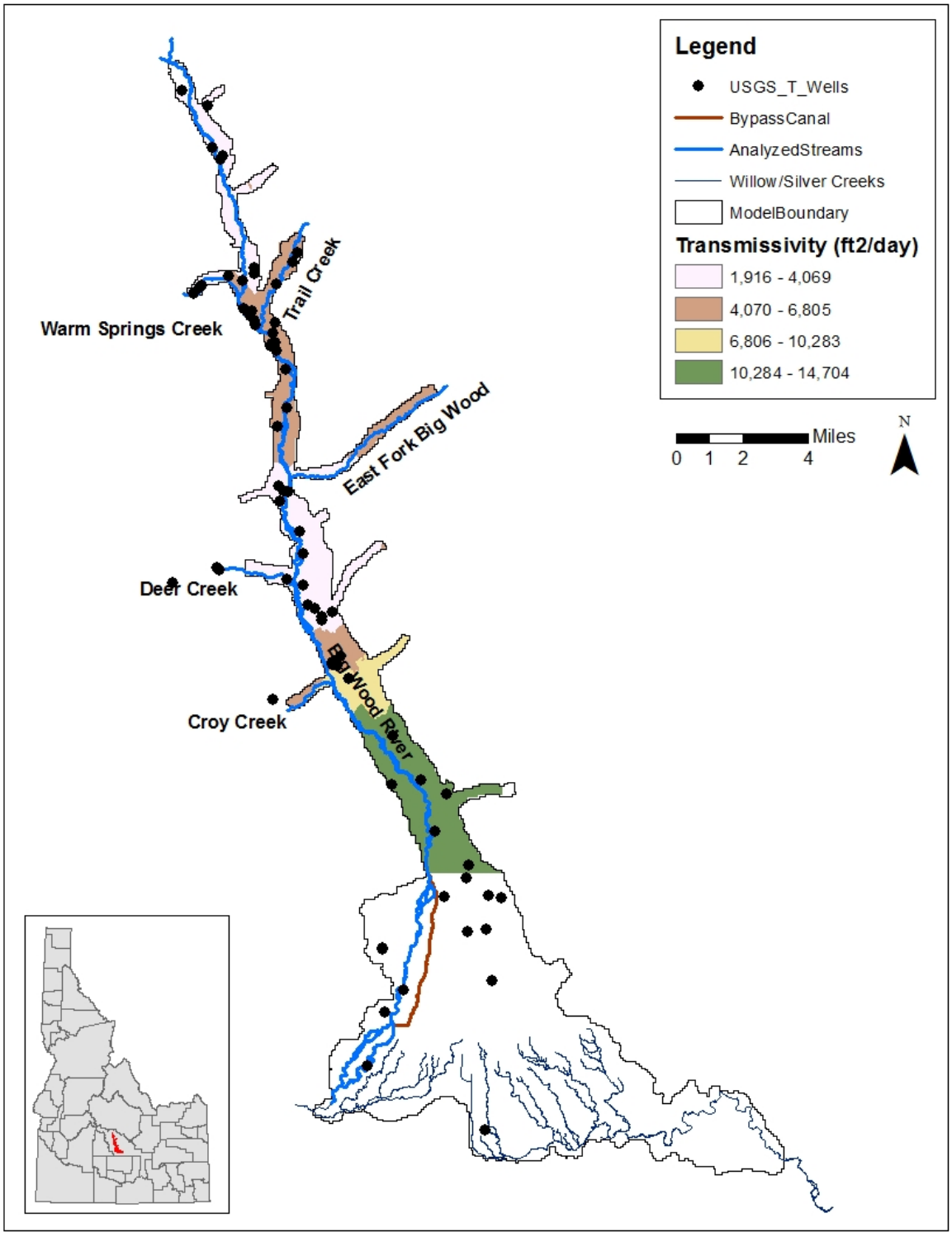


Figure 2. Interpolated transmissivity values.

Specific Yield – The specific yield of an aquifer can only be determined via lab tests or pumping tests with observation wells. Since no known specific-yield data for the area

exist, a value of 0.20 was chosen for consistency with the USGS methodology for determining transmissivity (USGS, 2012).

Distance between Surface Water and Impermeable Boundaries

The Big Wood River Valley is bounded and surrounded by mountain highlands. The WRV model domain generally delineates the boundary between the permeable valley-fill sediments that compose the aquifer, and the functionally impermeable crystalline rocks that constitute the mountains. Therefore, distances between surface-water streams and impermeable boundaries were taken as the distance between streams and the model boundary.

Distance between Surface Water and Wells

The AWAS software is set up to calculate the volume of water depleted from a stream due to pumping at a known well by entering the distance between the stream and the well. For this analysis, the relative volume of stream depletion is known (50% of well pumpage within one day), but the distance between the stream and an unknown well must be determined. Therefore, in order to define the area in which groundwater is considered equivalent to surface water, the stream-to-well distances have been derived iteratively, adjusting the distance until the stream depletion threshold was met. This procedure was repeated for the range of coupled transmissivity values/impermeable-boundary distances in the valley.

Pumping Rate

A generic pumping rate of 100 AF/day has been utilized in the stream-depletion analysis. By utilizing 100 AF/day, all daily stream-depletion results can be viewed as percentages of the pumping volume.

Results – Area of Groundwater Equivalent to Surface Water

The stream-depletion analysis indicates that wells located between 55 and 155 feet of streams will obtain 50% of the water from surface water within one day. However, due to the uncertainties associated with the analysis, it is suggested that a distance of 100 feet from surface water be implemented for all reaches of the Big Wood River (north of the Bypass Canal diversion), including connected tributary streams. More detailed discussions of stream depletion analyses and the associated assumptions are discussed in Jenkins (1968), Glover (1978), and Schroeder (1987).

Minimum Data Requirements for Groundwater Not Equivalent to Surface Water

The applicant is required to submit additional data and analyses if groundwater PODs for proposed WSB transactions are located more than 100 feet from the Big Wood River (or

connected tributary streams). These additional requirements are necessary in order to evaluate impacts to both groundwater and surface water over time.

WSB Transaction Data – Groundwater Not Equivalent to Surface Water

In order to evaluate the impacts due to WSB groundwater transactions, it is necessary for IDWR staff to review basic transaction data. The minimum required data for proposed WSB transactions located more than 100 feet from qualifying surface water are:

1. Locations of all the lease and rental PODs.
2. Beginning and ending dates of all lease and rental periods.
3. Diversion rates, volume limitations, and period-of-use information for all leases and rentals.
4. Aquifer-property values for transmissivity and storage for all lease and rentals PODs.

Hydrogeologic Analyses – Groundwater Not Equivalent to Surface Water

In addition to the above information regarding proposed transactions, the following hydrologic analyses may also be required to be submitted with the WSB groundwater rental application:

1. Stream-depletion/stream accretion analyses (SDAs) for all lease and rental locations.
    a. Any generally accepted stream depletion/accretion analyses are acceptable (e.g. Jenkins, Glover, SDF, etc.) given that the analyses include impermeable boundary impacts. The AWS software is acceptable (but not required) and freely available at: http://www.ids.colostate.edu/projects.php?project=awas/awas.html&breadcrumb=IDS+AWAS+-+Alluvial+Water+Accounting+System
2. Water-level impacts for all rental locations.

WSB Transaction Zones

In an effort to both facilitate WSB transaction processing and minimize the risk to existing water rights, the Wood River Valley has been divided into transaction zones. WSB proposals to rent water from water rights leased to the Bank within the same zone can be processed in the standard manner – given that the required supporting data and analyses have been submitted. Proposed WSB transactions in which all leases and rentals are not located within the same zone will undergo a more thorough review process, and timely evaluation cannot be guaranteed. It is anticipated that the zone system will be superseded once the WRVGM is released.

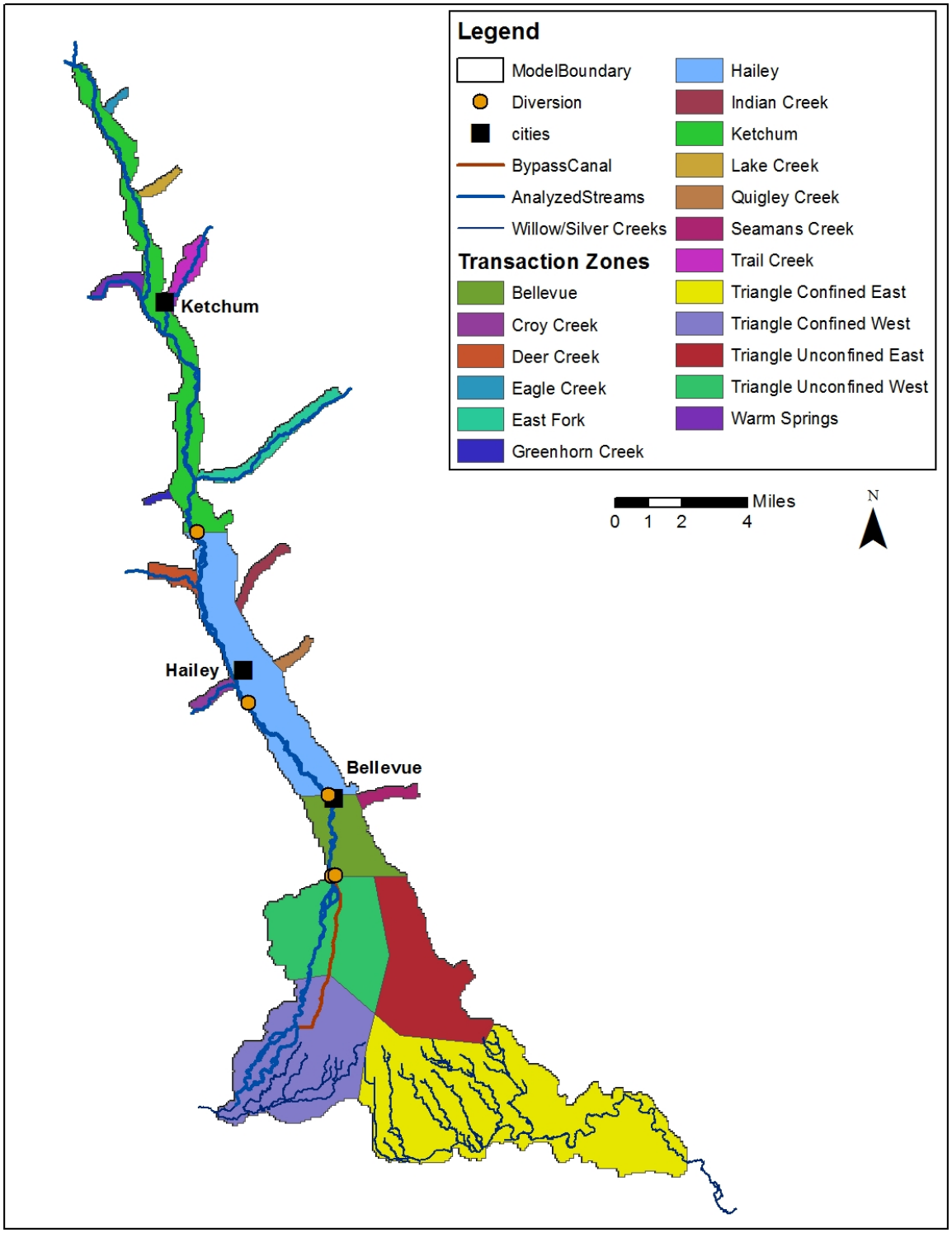


Figure 3. Transaction Zones in the Wood River Valley.

Transaction zones north of Bellevue have been delineated using major canal diversions as zone boundaries (Figure 3; Appendix B). The use of diversions as zone boundaries along the Big Wood River serves to minimize the risk of a WSB transaction injuring existing

surface-water rights by preventing the relocation of consumptive-use PODs across existing surface-water diversions.

Transaction zones south of Bellevue have been delineated using approximate confining layer boundaries and water-table contours (Figure 3; Appendix B). The division of the Bellevue Triangle into unconfined and confined zones segregates water-level impacts by aquifer type, and subdividing the aquifer into east/west zones serves to constrain impacts to either the Willow Creek/Big Wood River or Silver Creek watershed. Tributary basins within the WRVGM are also classified as separate zones.

Groundwater in the area south of the Bypass Canal diversion (Triangle Unconfined zones) is too deep to maintain hydraulic connection with surface water, and leakage from the Big Wood River or Bypass Canal occurs at a rate that is independent of aquifer head. This means that pumping in this area will not produce stream depletions due to pumping as predicted by stream depletion analyses. Therefore, all WSB transaction proposals located within the Triangle Unconfined West and Triangle Unconfined East zones require only Basic Transaction Data and analyses of groundwater impacts.

Stream flow in the Triangle Confined zones appears to be supported by a combination of discharge from the shallow unconfined aquifer and upward leakage from the deeper confined aquifer (Castelin and Chapman, 1972; Moreland, 1977; Bartolino and Adkins, 2012). Although the relationship between changes in water levels and changes in stream flow is more complicated than in the upper valley, there is no doubt that stream flow in the Triangle is dependent on groundwater. Therefore, all WSB transaction proposals located within the Triangle Confined West and Triangle Confined East zones require Basic Data, SDAs, and analyses of groundwater impacts. Furthermore, the complexity and sensitivity of the resources in these zones will require a more thorough review by IDWR Hydrology Section staff.

The data and analyses requirements for groundwater WSB transactions can be summed up in the following steps:

1. All rental and lease PODs located within a zone:
    a. Basic Transaction Data, SDA, and water-level impacts required.
    b. Given that all required data and analyses have been submitted, transactions will undergo the standard review process.
        i. Proposed transactions in the Triangle Confined East or Triangle Confined West zones will undergo a more thorough review process (including technical review by the IDWR Hydrology Section).
    c. No SDAs are required for the Triangle Unconfined East or Triangle Unconfined West zones. Only Basic Transaction Data and water-level impacts required.
2. PODs located in different zones:
    a. Proposed transactions between different zones will undergo a more thorough review process (including technical review by the IDWR Hydrology Section).

Proximity Exception

In recognition of the fact that locations very near each other will produce hydrologic impacts of similar magnitude, proposed rentals that are in sufficiently close proximity to associated leases will not be required to submit hydrologic analyses. This exception applies to rentals that are located within 656 ft. of an associated lease.

Summary

IDWR has developed interim data and analysis requirements that are to serve as the minimum documentation for submittal with WSB groundwater rental applications. These documentation requirements are intended to facilitate timely evaluation of WSB transaction applications until the Wood River Valley Groundwater model is complete. It is anticipated that once released, the model will supersede these requirements in WSB rental evaluations.

In an effort to streamline the evaluation process, IDWR has calculated that, north of the Bypass Canal diversion, groundwater PODs within 100 feet of the Big Wood River (and connected tributary streams) can be considered equivalent to surface water. This allows for less documentation to be submitted because impacts to groundwater can be ignored.

However, if the applicant wishes to rent groundwater that is located farther than 100 feet from qualifying surface water, additional data and analyses are required to support the application. The additional data consist of locations, beginning and ending WSB transaction dates, diversion rates and volume limits, period of use, and aquifer properties for all rentals and leases associated with the application. The additional analyses must evaluate stream depletion/accretion impacts at all rental and lease locations, as well as groundwater impacts at the rental locations. To facilitate transaction processing, while protecting existing surface water rights, transactions are evaluated within a system of zones such that all rentals must use leases within the same zone to undergo the standard review process. Proposed transactions between zones will undergo a more thorough review process, and a timely evaluation cannot be guaranteed. The data and analyses requirements for groundwater WSB transactions can be summed up in the following procedure:

1. Rental and Lease PODs located within 100 feet of Big Wood River or connected tributary streams.
    a. All PODs located within 100 feet of qualifying surface water.
        i. Basic Transaction Data only.
    b. Some, but not all, PODs located within 100 feet of qualifying surface water.
        i. Change of source.
2. All rental and lease PODs within a zone.
    a. Basic Transaction Data and SDAs required.

   b. Given that all required data and analyses have been submitted, transactions will undergo the standard review process.
      i. Proposed transactions in the Triangle Confined East or Triangle Confined West zones will undergo a more thorough review process (including technical review by the IDWR Hydrology Section).
   b. No SDAs are required for the Triangle Unconfined East or Triangle Unconfined West zones. Only Basic Transaction Data and water-level impacts required.
   c.
3. PODs located in different zones:
   a. Proposed transactions between different zones will undergo a more thorough review process (including technical review by the IDWR Hydrology Section).

A flow chart illustrating the analyses-requirement process is located in Appendix C.

References

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Moreland, J.A., 1977. Ground water-surface water relations in the Silver Creek area, Blaine County, Idaho. Idaho Department of Water Resources Water Information Bulletin 44.

Shroeder, D.R. 1987. Analytical Stream Depletion Model. Ground Water Software Publication No. 1. Office of the State Engineer, Colorado Division of Water Resources.

APPENDIX A

Locations of Wells
Used In
USGS Transmissivity Estimates

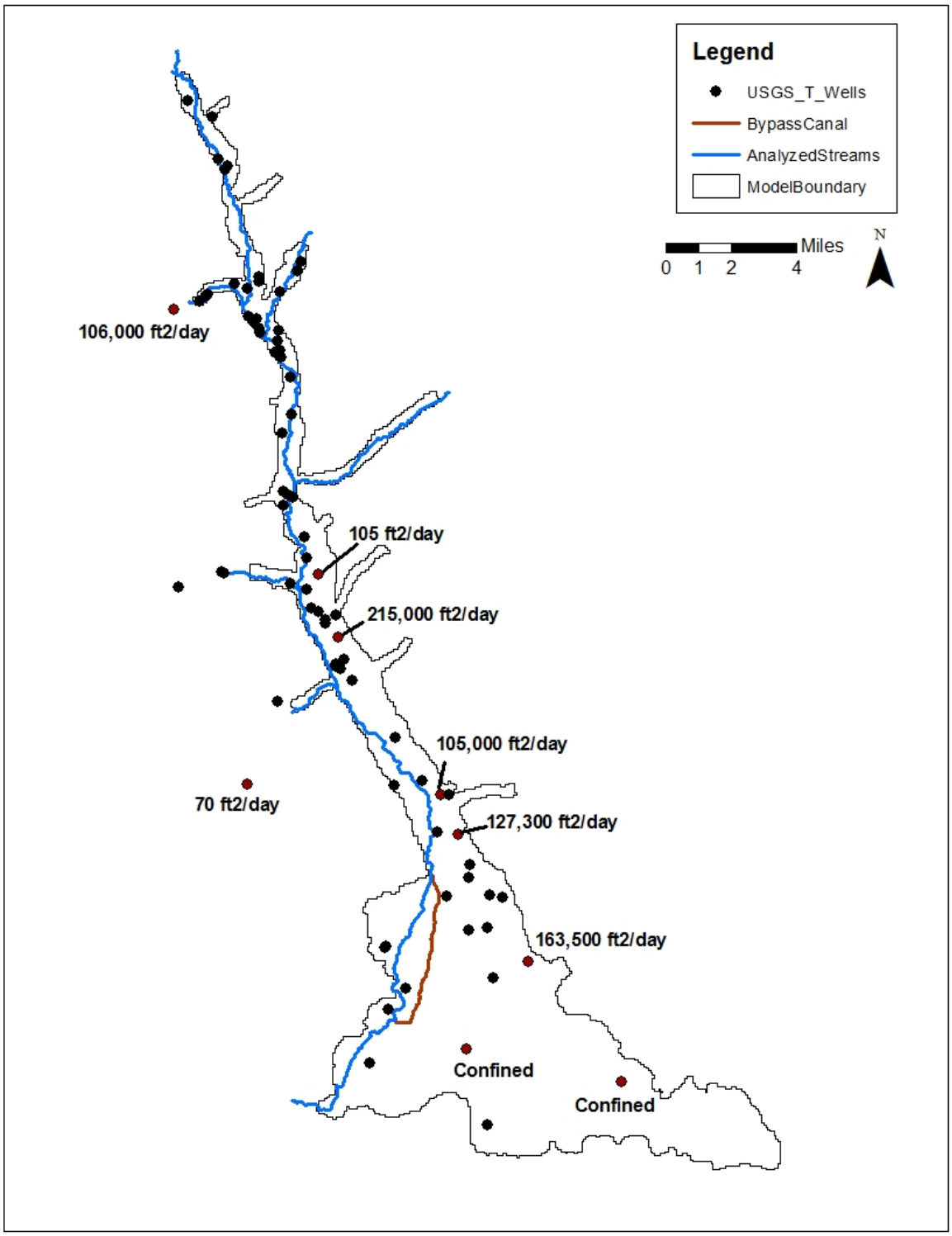


Figure A-1. Location of wells used to define transmissivity for the stream-depletion analysis. Red wells were removed due to extreme high/low outlier values or completion in the confined aquifer.

APPENDIX B

Construction of Transaction Zones

WSB Transaction Zones have been constructed in an effort to facilitate transaction processing while minimizing the risk of injury to existing water rights. Only transactions in which all rental and lease PODs are within the same zone will undergo the standard review schedule prior to the release of the forthcoming WRVGM. Transactions that propose moving between zones, and all transactions in the confined Triangle zones will undergo a more thorough review process.

Zones in the upper valley have been constructed using major canal diversions as zone boundaries (Figure B1). This minimizes the risk of injury to surface-water rights by preventing the relocation of consumptive use diversions upstream of existing PODs. One notable exception is the Cove Canal diversion – located within the Hailey Transaction Zone. The Cove Canal diversion was not set as a zone boundary in order to facilitate WSB processing; however, transactions that propose relocating PODs from downstream to upstream of this diversion may be required to provide mitigation.

Zones in the Bellevue Triangle have been delineated based on both the aquifer type and water-table contours (Figure B1). The Triangle has been divided into a northern unconfined zone and a southern confined zone because the response to pumping may be significantly different. The unconfined and confined zones are then divided into east and west sub-zones based on water-level contours. This subdivision protects the flow in each of the watersheds (Willow Creek/Big Wood River and Silver Creek) by ensuring that WSB transactions remain largely within the original watershed.

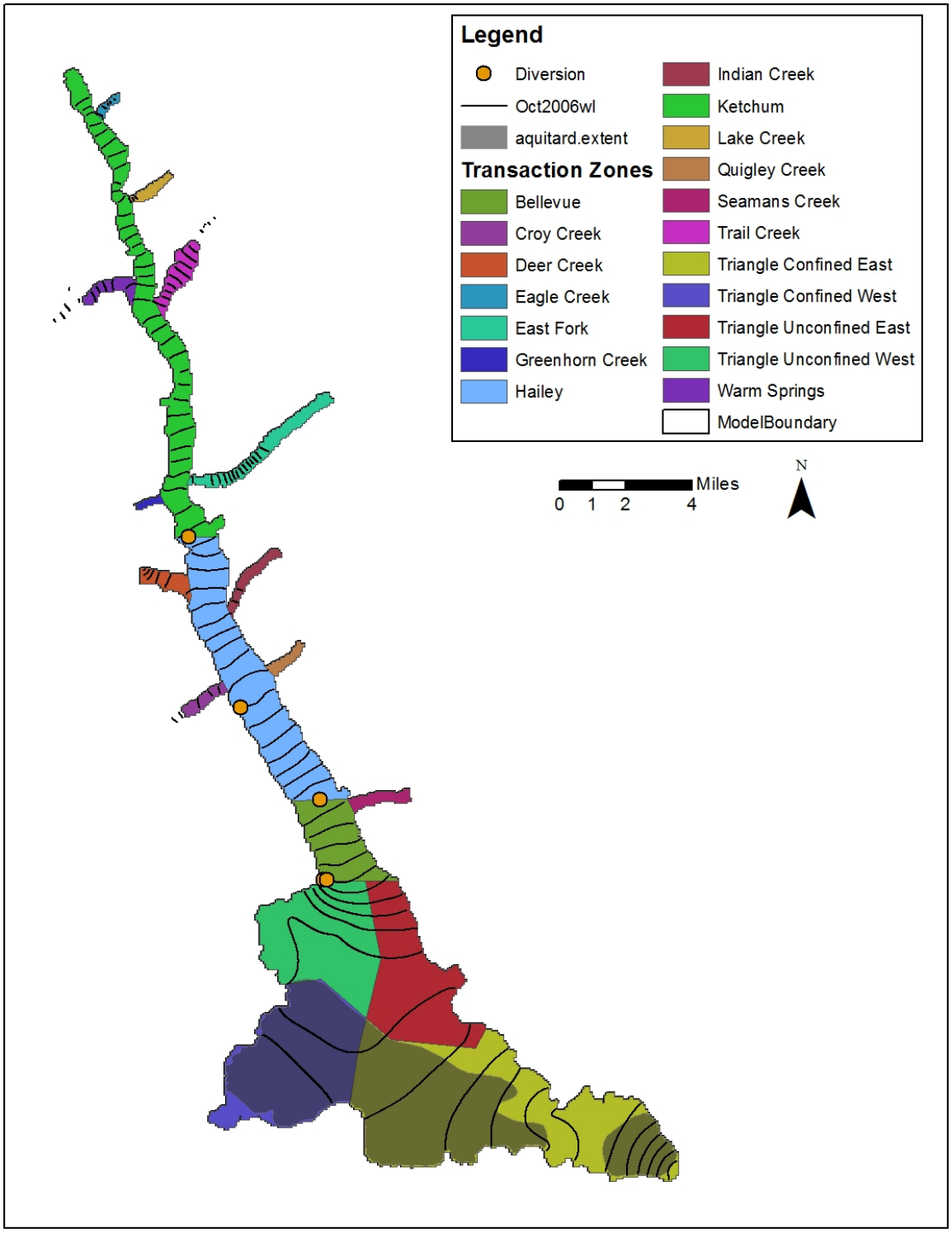
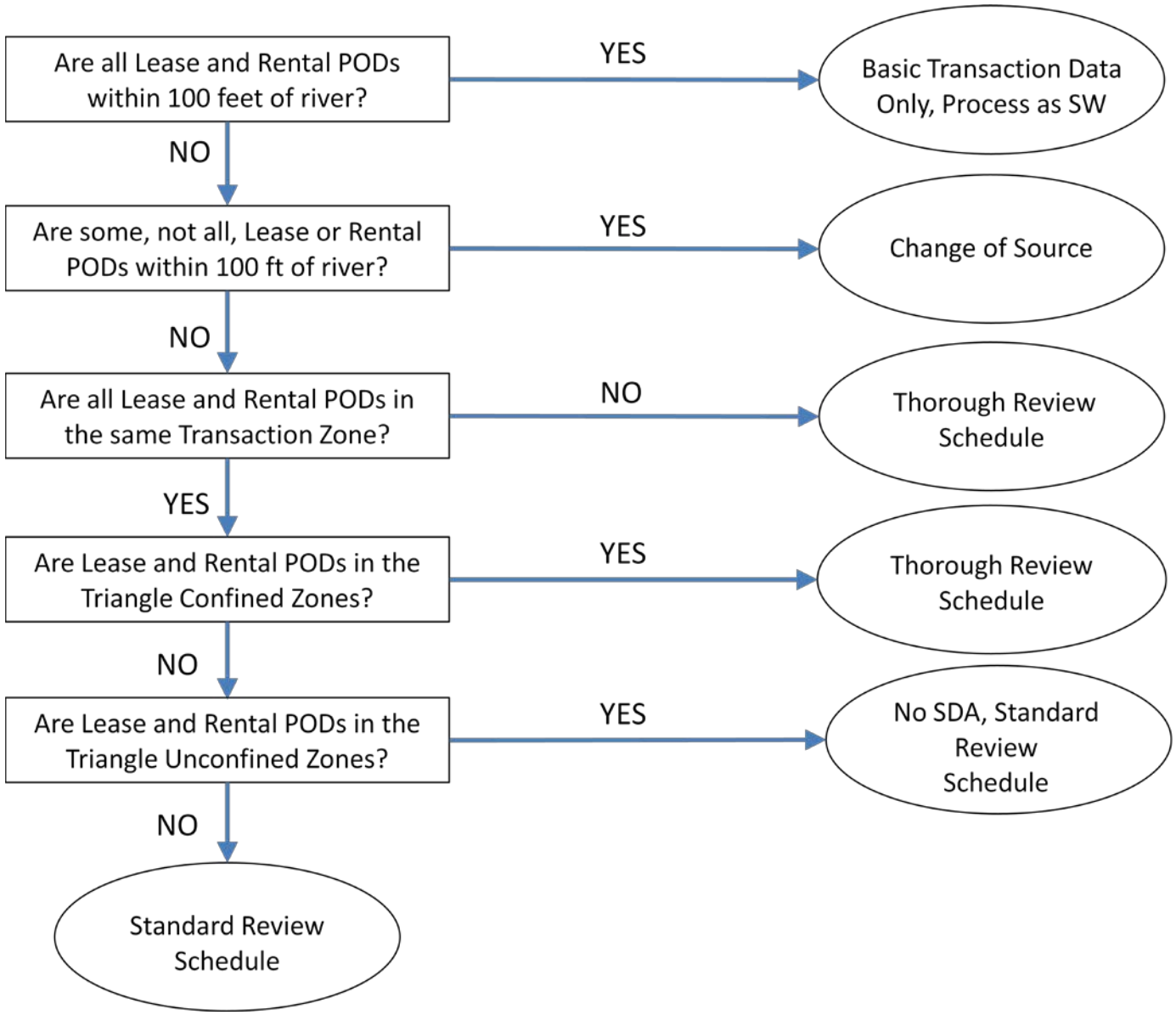


Figure B1. Hydrologic features used to construct transaction Zones

APPENDIX C

Procedure for Determining Required Data and Analyses


Are all Lease and Rental PODs within 100 feet of river?
YES
Basic Transaction Data Only, Process as SW
NO
Are some, not all, Lease or Rental PODs within 100 ft of river?
YES
Change of Source
NO
Are all Lease and Rental PODs in the same Transaction Zone?
NO
Thorough Review Schedule
YES
Are Lease and Rental PODs in the Triangle Confined Zones?
YES
Thorough Review Schedule
NO
Are Lease and Rental PODs in the Triangle Unconfined Zones?
YES
No SDA, Standard Review Schedule
NO
Standard Review Schedule

State of Idaho
DEPARTMENT OF WATER RESOURCES
322 East Front Street • P.O. Box 83720 • Boise, Idaho 83720-0098
Phone: (208) 287-4800 • Fax: (208) 287-6700 • Website: www.idwr.idaho.gov

C.L. "BUTCH" OTTER
Governor

GARY SPACKMAN
Director

1/12/2015

RE: Avoiding injury to water users through Water Supply Bank rentals of ground water in the Wood River Valley

The Water Supply Bank (Bank) cannot approve a request to rent water where the use of rental water would injure established water users. The surface and ground waters of the Big Wood River drainage are interconnected and diversions of ground water from wells can deplete the surface water flow in streams and rivers. Wood River Valley water users could be injured if extended depletions of the Big Wood River and its tributaries are caused by new, additional diversions of ground water authorized under rental agreements. To ensure that the Water Supply Bank can continue accepting rental requests for new and additional uses of water, while simultaneously protecting water users against injury, an interim ground water rental policy for the Wood River Valley has been established.

The interim rental policy includes:

- Delineating the Big Wood River aquifer into 19 ground water transaction zones;
- Keeping lease and rental transactions within the same transaction zones;
- Requiring stream depletion analyses for all rental transactions;
- Limiting all new rental agreements to one year durations; and,
- Conditioning some rental agreements such that the use of water will be curtailed once the flow of the Big Wood River drops below 189 cfs.

This interim rental policy applies to ground water rental requests only. Surface water rental requests are not impacted. All rental requests for ground water in the Wood River Valley should consider this rental policy carefully prior to submitting any rental application.

Wood River Valley transaction zones

To protect the health of the Big Wood River ground water aquifer, nineteen zones have been delineated. Eleven zones have been created for each of the eleven major tributaries of the Big Wood River: Croy Creek, Deer Creek, Eagle Creek, East Fork, Greenhorn Creek, Indian Creek, Lake Creek, Quigley Creek, Seamen's Creek, Trail Creek and Warm Springs Creek. Three zones cover the valley itself, from the Sawtooth National Recreation Area in the north to Ohio Gulch Road (the Ketchum zone), from Ohio Gulch Rd to the city of Bellevue (the Hailey zone) and from Bellevue to the top of Bellevue Triangle at Glendale Road (the Bellevue zone). The remaining stretch of the valley is covered by four zones which correspond to the eastern and western halves of the confined and unconfined aquifers of the Bellevue Triangle. Finally, a single, two hundred foot wide zone runs the length of the valley and covers the Big Wood River channel itself, buffered on both sides by one hundred feet (the river zone).

Keeping lease and rental points of diversion within transaction zones

The nineteen transaction zones cover all Big Wood River tributaries, as well as segments of the valley that are separated by significant points of diversion (PODs). To ensure already existing, localized impacts to surface and ground water are not allowed to propagate and cause injury elsewhere in the valley, ground water rentals within a specific zone should be satisfied from water rights leased into the Bank from within that same zone.

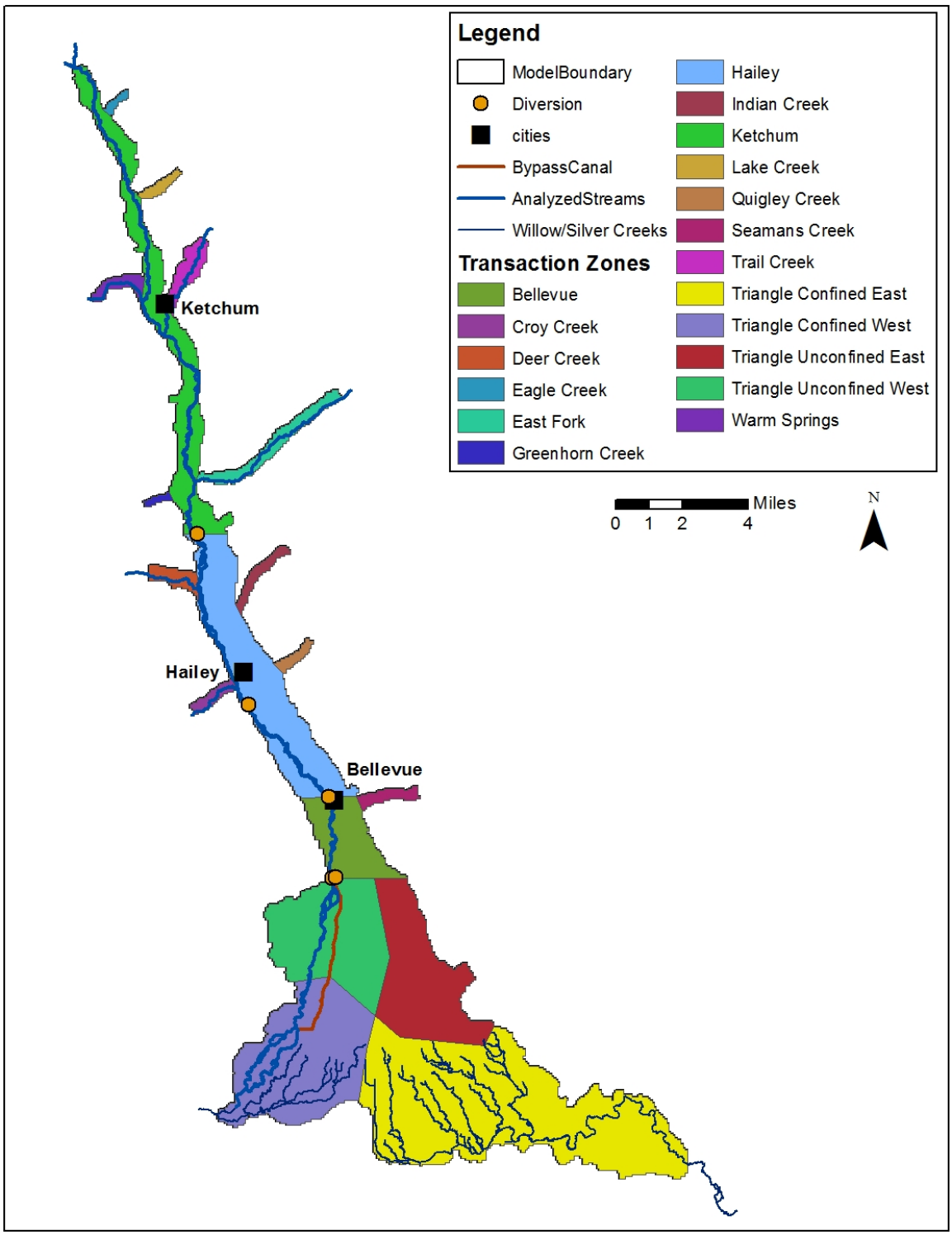


Figure 1. Map of the Water Supply Bank Transaction Zones within the Wood River Valley

Stream depletion analyses for rental transactions

The Wood River Valley is bounded by mountain highlands, composed of impermeable crystalline rocks, between which permeable valley-fill sediments have been deposited, creating the ground water aquifer. Water flows well through the transmissive Wood River Valley aquifer and it is therefore important that the impacts of new or additional ground water rentals evaluate the impact of pumping on depletions of surface waters. To account for the impacts of ground water rental requests, stream depletion analyses (SDAs) are required for all rental transactions, with two important exception: 1) SDAs are not required if the lease and rental points of diversion are both within the two hundred foot wide river zone; and, 2) SDAs are not required if the distance between a lease POD and rental POD is less than 657 feet (200 meters). SDAs are not required within the river zone because IDWR has determined that water diverted from the ground is directly and immediately hydraulically connected to surface waters. Alternatively, SDAs are not required if the lease and rental zones are separated by less than 657 feet because IDWR accepts that such PODs would have an identical impact on ground water flows.

SDAs should calculate the accretion to surface water flows (caused by the suspension of ground water pumping at the leased POD) compared against depletions of surface water flows (attributable to ground water pumping at the rental POD). SDAs can be completed using the Integrated Decision Support Alluvial Water Accounting System (IDS AWAS), which is free software from Colorado State University, available for download from: http://www.ids.colostate.edu/projects.php?project=awas/awas.html.

AWAS software can be utilized to run either a Jenkins stream depletion factor analysis, or a Glover analytical stream depletion analysis, however aquifer boundary conditions should be set to **alluvial aquifer** with an **storage coefficient of 0.2**. SDAs also require a measurement of the radial distance from the lease and rental PODs to the Big Wood River (or relevant tributary streams), along with ground water pumping rate and the transmissivity of the aquifer in the area within which the transaction is proposed. To assist with SDAs, IDWR may accept the following transmissivity values for transaction zones:

Zone	Transmissivity Value	Zone	Transmissivity Value
Deer Creek, Eagle Creek, Greenhorn Creek, Indian Creek, and Warm Springs Creek,	3,000	East Fork and Ketchum Zone	3,500
Croy Creek and Trail Creek	5,500	Hailey Zone and Quigley Creek	8,500
Bellevue and Seaman's Creek	12,500		

*More detailed transmissivity values are provided in Figure 2

Additional requirements are required for ground water rentals within the confined aquifer of the Bellevue Triangle; within the eastern and western confined aquifer zones, an analysis of the ground water impacts that result from the accretion of water not diverted at the lease POD and a depletion of water diverted through the rental POD must be provided, along with stream depletion analyses for the Big Wood River. Within the eastern and western unconfined aquifer zones, stream depletion analyses are not required, only ground water impact analyses will be required.

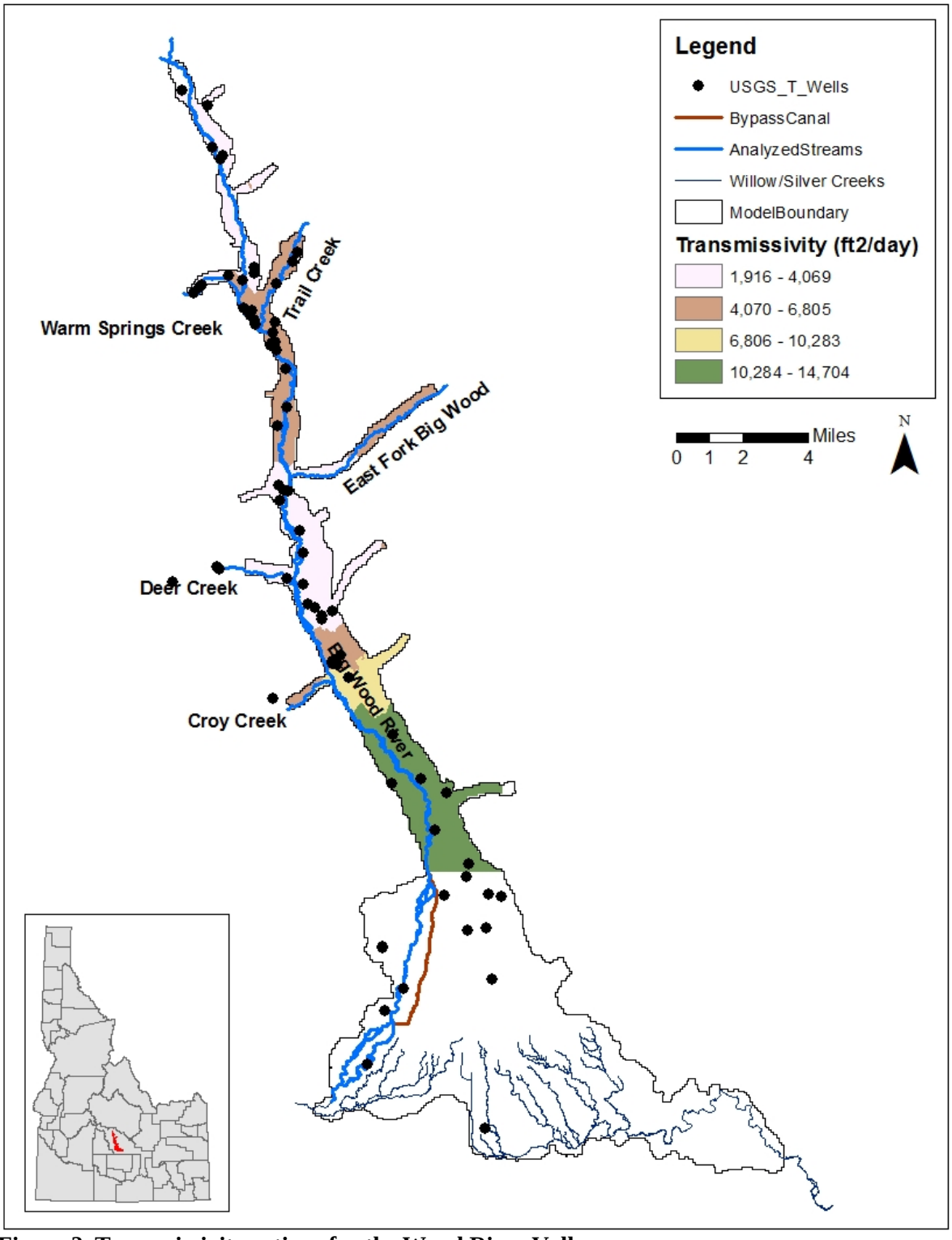


Figure 2. Transmissivity ratings for the Wood River Valley

Rental agreements of one year duration

Ground water rentals approved in the Wood River Valley for 2015 will be authorized for a period of no more than one year, to allow for a revaluation of this interim rental policy in 2016.

Additional conditional restrictions

The Idaho Water Resource Board holds minimum stream flow (MSF) water rights for the Big Wood River. New or additional ground water usage authorized under a rental agreement may adversely impact the Board's MSF rights. Some rentals may be conditioned such that they must curtail their diversion of ground water once the Board's MSF rights for 189 cfs (as measured at the Hailey gage) is no longer being met.

Acceptability of ground water modeling alternatives

IDWR is implementing this interim policy so that ground water users seeking rental water can better understand data necessary to review their rental requests. All ground water rentals submitted to the Water Supply Bank following the data requirements described herein will receive standard processing. Though IDWR may consider alternative modeling for ground water rentals, such rentals will be subject to additional review by IDWR Hydrology staff and subject to the processing constraints of IDWR's Technical Services Bureau.

BEFORE THE IDAHO WATER RESOURCE BOARD

IN THE MATTER OF AMENDING THE WATER SUPPLY BANK RULES	)))	A RESOLUTION

WHEREAS, the Idaho Water Resource Board (IWRB) had adopted Water Supply Bank Rules, IDAPA 37.02.03, as it is considered necessary to carry out the purposes of Section 42-1762, Idaho Code; and

WHEREAS, on July 23, 2010 the IWRB passed and approved a resolution authorizing the Director of the Department of Water Resources to initiate the rule amending process for the IWRB; and

WHEREAS, the July 23, 2010 resolution specified that the Water Supply Bank Rules be amended to impose a lease application filing fee of $250.00 per water right and to increase the rental fee percentage retained by the Department from ten percent (10%) to twenty-five percent (25%) to provide sufficient funding to process water supply bank leases and rentals; and

WHEREAS, the IWRB has reconsidered the appropriateness of the proposed fees.

NOW THEREFORE BE IT RESOLVED that the IWRB still authorizes the Director of the Department of Water Resources to proceed with the rule amending process for the IWRB.

NOW THEREFOERE BE IT FURTHER RESOLVED that the rules shall include a lease application filing fee of $250.00 per water right, however for lease applications involving stacked water rights on the same parcel the lease application filing fee shall be capped at $500.

NOW THEREFORE BE IT FURTHER RESOLVED that the rules shall reflect that the rental fee percentage retained by the Department shall remain at ten percent (10%).

DATED this 19th day of November 2010.

TERRY UHLING, Chairman
Idaho Water Resource Board

ATTEST

BOB GRAHAM, Secretary

APPLICATION TO SELL OR LEASE A WATER RIGHT TO THE WATER SUPPLY BANK

An application to lease or sell a water right into the Water Supply Bank must be prepared in accordance with the minimum requirements listed below to be acceptable for processing by the Department. Use this checklist to ensure all necessary documentation has been provided. This checklist is part of the lease application and must be included with the lease application. **Incomplete applications will be returned to applicants for completion.**

Designated Applicant _____ (Select one owner – see item 1A on the application)

Water Right No. _____ (One water right per application)

All items must be checked as either *Attached* (Yes) or *Not Applicable* (N/A)

		YES	
		☐	Completed *Water Supply Bank Lease or Sale Application Checklist* (this form).
		☐	Completed *Application to Sell or Lease a Water Right to the Water Supply Bank* (pages 2-3).
		☐	Application filing fee of $250.00 per water right. If you are submitting more than one lease application and the water rights have an overlapping, common place of use, or a common diversion rate or volume, the total fee for all water rights is $500.00. For places of use, multiple water rights must be used to irrigate the same lands in order to qualify for the joint filing fee. Individual filing fees are required for water rights that share a common permissible place of use but which cover separate acres within the permissible place of use.
Attachment	**N/A**	**YES**	
1A	☐	☐	Contact information for ***all owners*** of the water right that is being leased or sold on this application.
1B		☐	An Internal Revenue Service (IRS) Form W-9 for the Designated Applicant.
1C	☐	☐	*Notice of Change in Water Right Ownership* form (accessible from www.idwr.idaho.gov).
1D	☐	☐	Written consent from irrigation district or water delivery company.
1E	☐	☐	Contact information for an authorized representative and documentary proof they are authorized to represent the Designated Applicant on this application. If the Designated Applicant is a business, partnership, municipality, organization or association, include documents identifying officers authorized to sign or act on behalf of the entity.
2	☐	☐	Description of a water right portion offered to the Water Supply Bank.
3E	☐	☐	Evidence demonstrating that a water right has not been lost through abandonment or forfeiture pursuant to Section 42-222(2), Idaho Code.
4		☐	A map that clearly outlines the specific location where irrigated acres will be dried up, or where a beneficial use of water will be suspended. You have the option of printing a map using the map tool on IDWR's website at: www.idwr.idaho.gov.

Department Use Only			
Fee Amount $	Received By:	Date Received:	Receipt #
W-9 received? Yes ☐ No ☐	(Route W-9 to Fiscal)	Name on W-9:	

APPLICATION TO SELL OR LEASE A WATER RIGHT TO THE WATER SUPPLY BANK

1. CONTACT INFORMATION

A. An application to sell or lease a water right to the Water Supply Bank must be completed by a Designated Applicant who is a recognized owner of the water right being sold or leased to the Water Supply Bank. If there are additional owners recorded for the property to which the water right is appurtenant, those individuals must authorize the Designated Applicant to represent them on this application by completing and signing Attachment 1A of this application package.

Designated Applicant _____ Email Address _____

Mailing Address _____ Phone Number _____

☐ The Designated Applicant is the sole owner of the water right being sold or leased to the Water Supply Bank.

OR

☐ The Designated Applicant is representing additional water right holders who have completed Attachment 1A.

B. Has the designated applicant completed an IRS Form W-9 (Attachment 1B)? Yes ☐ No ☐

C. Are all applicants on this form listed in IDWR's records as the current owners of the water right? Yes ☐ No ☐
If no, attach a *Notice of Change in Water Right Ownership* form along with the required documentation and fee (Attachment 1C).

D. Is the diversion works or system owned or managed by an irrigation district or water delivery company? Yes ☐ No ☐
If yes, provide written consent from the company, corporation or irrigation district authorizing the proposed sale or lease (Attachment 1D).

E. Is this application being completed by an authorized representative of the Designated Applicant? Yes ☐ No ☐
If yes, representatives (includes employees of Designated Applicant companies) must complete this section and submit documentary proof of their authority to represent the Designated Applicant (Attachment 1E).

Name of Representative _____ Organization _____

Professional Title _____ Email Address _____

Mailing Address _____ Phone Number _____

☐ Send all correspondence for this application to the representative and not to the Designated Applicant.

OR

☐ Send original correspondence to the Designated Applicant and copies to the representative.

2. DESCRIPTION OF WATER RIGHT OFFERED TO THE BANK

Water Right Number _____ ☐ The full water right is being offered to the Bank.

OR

☐ A part of the water right is being offered to the Bank.
(If a portion of a water right is being offered, complete Attachment 2)

3. GENERAL INFORMATION

A. Please provide a description of the current water diversion system.

_____

_____

B. Describe any other water rights used for the same purpose at the same place of use as the water right being offered to the Bank.

_____

_____

C. Are any of the water rights identified in question 3B stacked with the water right proposed for lease? Yes ☐ No ☐
Stacked water rights are water rights that are utilized together to achieve a common beneficial use, such as irrigation of the same lands. Stacked water rights cannot be separated and must be jointly leased to the Water Supply Bank. Stacked water rights qualify for the multiple fee payment of $500."

D. Will the present place of use continue to receive water from any other source? Yes ☐ No ☐

If yes, describe. _____

E. Has any portion of this water right undergone a period of five or more consecutive years of non-use? Yes ☐ No ☐

If yes, describe and attach Watermaster records or other evidence to demonstrate that the water right has not been lost through abandonment or forfeiture pursuant to Section 42-222(2), Idaho Code. _____

F. Is this water right involved in any other IDWR process such as an application for transfer or a mitigation plan? Yes ☐ No ☐

If yes, describe. _____

4. MAP

Plat map, survey map, or aerial photograph clearly showing the specific acres proposed to be idled by this lease application.

5. SALE/LEASE AGREEMENT

A. Is the water right, or portion thereof, offered to the Idaho Water Resource Board (IWRB) for sale ☐ or lease ☐?

If lease, specify the years when the use of water will be suspended: _____ (Year) to _____ (Year) (maximum lease period 5 years).

B. Show the minimum payment acceptable to the seller/lessor. The minimum payment may be shown as the "current rental rate" as established by the IWRB. Include the method of determining the minimum payment if other than the current rental rate.

_____

_____

I hereby assert that the information contained in this application is true to the best of my knowledge, and that I have the authorities necessary to offer this water right for sale or lease to the Idaho Water Resource Board.

The Designated Applicant acknowledges the following:

1. Payment to the Designated Applicant is contingent upon the sale or rental of the water right from the Bank.
2. While a water right is in the Bank, the seller/lessor of the water right may not use the water right even if the water right is not rented from the Bank.
3. A water right accepted into the Bank stays in the Bank until the Designated Applicant receives written confirmation from the Board or Water Supply Bank that the water right has been released from the Bank.
4. While a water right is in the Bank, forfeiture provisions are stayed.
5. Acceptance of a water right into the Bank does not, in itself, confirm the validity of the water right or any elements of the water right.

Signature of Designated Applicant	Printed Name	Date
Signature of Authorized Representative	Printed Name	Date

Mail to:

Idaho Department of Water Resources
P.O. Box 83720
Boise, ID 83720-0098

STATE OF IDAHO
WATER RESOURCE BOARD

ATTACHMENT 1A

Additional Water Right Holders Party to the Lease Application

List all individuals or business entities that are owners of the property to which the water right on this application is appurtenant. All water right holders must be signatories to a Water Supply Bank Lease Application however only the Designated Applicant needs to provide a completed IRS Form W-9 (Attachment 1B). **All correspondence and any financial payment associated with the rental of this water right will be directed to the Designated Applicant**. If additional space is needed to list any other water right holders, attach a second copy of Attachment 1A.

If submitting multiple applications, it is only necessary to complete one Attachment 1A for the group of applications. List each water right below.

Water Right No(s). _____

_____

	Designated Applicant	Applicant #2	Applicant #3
Name			
Mailing Address			
Phone Number			
Email Address			
Applicant Declaration	As Designated Applicant, I submit this lease application on behalf of all other water right holders.	I authorize the Designated Applicant to submit this application on my behalf.	I authorize the Designated Applicant to submit this application on my behalf.
Signature			

	Applicant #4	Applicant #5	Applicant #6
Name			
Mailing Address			
Phone Number			
Email Address			
Applicant Declaration	I authorize the Designated Applicant to submit this application on my behalf.	I authorize the Designated Applicant to submit this application on my behalf.	I authorize the Designated Applicant to submit this application on my behalf.
Signature			

STATE OF IDAHO
WATER RESOURCE BOARD

ATTACHMENT 2

DESCRIPTION OF A WATER RIGHT PORTION OFFERED TO THE WATER SUPPLY BANK

1. Water Right Number / Amount (cfs/ac-ft) / Nature of Use / Period of Use

_____	_____	_____	_____ to _____
	_____	_____	_____ to _____
	_____	_____	_____ to _____
	_____	_____	_____ to _____
	_____	_____	_____ to _____
Total Amount:	_____		

2. Source of water _____ tributary to _____

3. Point(s) of diversion:

Twp	Rge	Sec	Lot	¼	¼	¼	County

4. Acres to be idled within the place of use:

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	

If the water right is for irrigation, show total number of acres offered to the Bank. **Total Acres** _____

Memorandum

To: Idaho Water Resource Board

From: Cynthia Bridge Clark and Neeley Miller

Date: January 12, 2015

Re: Public Information and Media Relations Service Contract

Action Item: A funding resolution for $55,000 to execute a contract for public information and media relations services for IWRB programs and activities.

The Idaho Water Resource Board (IWRB) oversees a wide range of projects, programs, and policy development to support water management strategies to meet current and future needs. To supplement the IWRB's ongoing efforts, funding was dedicated by the Governor and the 2014 Idaho legislature to implement a number of specific activities. House Bill 479 provided $15 million in one-time funds for a Water Sustainability Initiative which includes support for the following: Eastern Snake Plain Aquifer managed recharge infrastructure and program expenses; future needs studies in Northern Idaho; water storage project investigations; computer infrastructure development for the IWRB's Water Supply Bank program; and acquisition of reliable water supplies to the Mountain Home Air Force Base. In addition, House Bill 547, also approved by the 2014 legislature, directs $5 million annually to the IWRB for statewide aquifer stabilization efforts.

The IWRB requires assistance with public information and media relations in support of the statewide water sustainability and aquifer stabilization activities. These services may include a combination of the following as needed: development and maintenance of web site content, information and educational videos, press releases, fact and information sheets, social media, and community relations. A general scope of work to accomplish these activities has been developed by IDWR staff in coordination with a local media and public relations consultant.

As per the attached resolution, staff request IWRB authorization for expenditure of up to $55,000 from the Secondary Aquifer Fund for public relations support services and IWRB authorization for its chairman or designee to execute the necessary contract to carry out these services.

BEFORE THE IDAHO WATER RESOURCE BOARD

IN THE MATTER OF PUBLIC INFORMATION AND MEDIA RELATION SERVICES TO SUPPORT STATEWIDE WATER SUSTAINABILITY AND AQUIFER STABILIZATION ACTIVITIES	A RESOLUTION TO ALLOCATE FUNDS

WHEREAS, the Idaho Legislature passed HB 479 in 2014 to provide a one-time supplemental appropriation to the Idaho Water Resource Board (Board) in the amount of $15 million for a Statewide Water sustainability Initiative; and

WHEREAS, the Statewide Water Sustainability Initiative includes support for the following: Eastern Snake Plain Aquifer managed recharge infrastructure and program expenses, future needs studies in Northern Idaho, water storage project investigations, computer infrastructure development for the Board's Water Supply Bank Program, and acquisition of reliable water supplies for the Mountain Home Air Force Base; and

WHEREAS, the Idaho Legislature passed HB 547 in 2014 which directs $5 million annually to the Board for Statewide Aquifer Stabilization activities; and

WHEREAS, the Board requires the services of a qualified individual with a background in public/media relations to assist the Board in media relations and the development of public information and educational materials for the Board's Statewide Water Sustainability and Aquifer Stabilization activities; and

WHEREAS, the estimated annual budget of $55,000 was developed for a general scope of work with specific public information/media relation/educational tasks in coordination with a local media and public relations consultant; and

NOW, THEREFORE, BE IT RESOLVED that the Board hereby approves the expenditure of a total of $55,000 from the IWRB Secondary Aquifer Management Account for public information and media relation services to support Board Programs including the Statewide Water Sustainability and Aquifer Stabilization activities.

DATED this 23rd day of January, 2015

Roger Chase

Roger Chase, Chairman
Idaho Water Resource Board

ATTEST

Vince Alberdi, Secretary

Attachment No. 8, Meeting No. 1-15
Idaho Water Resource Board

TO: Idaho Water Resource Board

FROM: Brian Patton

DATE: January 12, 2015

RE: Aqualife Hatchery Lease and Magic Springs Project Update

This memo provides an update on these two inter-related efforts.

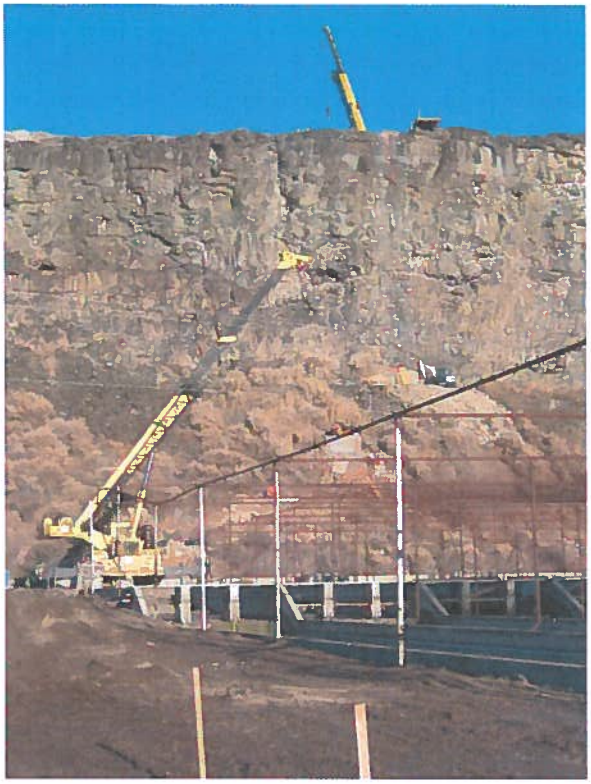
Pursuant to House Bill 644 adopted by the 2014 Legislature, the Idaho Water Resource Board (IWRB) acquired the Aqua Life Aquaculture Facility from the Idaho Department of Parks and Recreation for a total cost of $1,885,000. The IWRB's acquisition of the Aqua Life Facility was in furtherance of the State's desire to reduce water use conflicts in the Hagerman Valley. On December 24th, the IWRB authorized leasing Aqua Life to IGWA's member districts for a 30-year term. IGWA then proposes to sublet Aqua Life to Seapac of Idaho, in exchange for Seapac providing spring flow from its Magic Springs hatchery to IGWA for delivery to the Rangen Hatchery in order to meet ground water users' mitigation obligations to Rangen. This is a key component of IGWA's "Fourth Mitigation Plan" for Rangen, which was approved by Director Spackman on October 29, 2014. Seapac proposes to substantially rebuild the Aqua Life facility and operate it for commercial fish production.

Aqua Life Hatchery Update – 30-year lease has been executed.

In a related effort, also on December 24th, the IWRB authorized loaning $1,260,000 to IGWA's member districts to assist with financing the construction of the pump station and 1.6 mile-ling pipeline to move the water provided by Seapac at its Magic Springs Hatchery to the Rangen hatchery to meet the ground water users mitigation obligations to Rangen. The Magic Springs Project is a key component of the Idaho Ground Water Appropriator's (IGWA's) "Fourth Mitigation Plan" for Rangen, which was approved by Director Spackman on October 29, 2014. IGWA submitted the "Fourth Mitigation Plan" on behalf of the Districts, which are members of IGWA. The project must be complete and operational by January 19, 2015 in order to avoid curtailment of ground water users, and the project is scheduled to be operational by this date.

Magic Springs Project Update – loan documents are being executed.

Some photos of the pipeline construction are attached.



Pipeline route being prepared up the cliff at Magic Springs - January 8

Pipeline construction across flat ground – Dec. 20

Pipeline construction leading down toward Rangen December 20