IDAHO WATER RESOURCE BOARD
MEETING NO. 11-20

November 19, 2020

Idaho Water Center
322 E. Front Street
Conference Rooms 602 C & D/ Online
BOISE

Egin Phase II
Photo credit: Aaron Dahling

Media

Amended AGENDA

IDAHO WATER RESOURCE BOARD

Board Meeting No. 11-20
Thursday, November 19, 2020
9:00 a.m. (MST)
Water Center
Conference Rooms 602 C & D / Zoom Online
322 E. Front St.
BOISE

(This meeting will be conducted using guidance in response to the public health emergency caused by the COVID-19 pandemic. Masks are required & in person attendance is limited. Call or email if you have questions: jennifer.strange@idwr.idaho.gov)

Board Members & the Public may participate via Zoom
Click here to join our Zoom Meeting
Dial in Option: 1(253) 215-8782
Meeting ID: 984 2727 6148 Passcode: 327409

1. Roll Call
2. Agenda & Approval of Minutes 9-20 and 10-20*
3. Public Comment
4. Financial Report
5. Lemhi Settlement Update
6. Boise River Feasibility Study*
7. Cloud Seeding Program
   a. Benefits Analysis Presentation
   b. Program Budget*
8. ESPA Managed Recharge Update
   a. Management of Flows at Milner Dam: 2020-2021 Recharge Season*
9. Governor's Salmon Work Group Update
10. Priest Lake Update
11. Potential Legislation
12. Flood Management Grant Program Update*
13. Raft River*
14. Proposed Meeting Dates 2021*
15. Director's Report
16. Non-Action Items for Discussion
17. Executive Session: Board will meet pursuant to Idaho Code §74-206(1) subsection (f) 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. Topic: Water Right Applications 01-10613, 21-7577, 21-7578, 21-7580 & 21-13160. Executive Session is closed to the public.
18. Next Meeting & Adjourn

* Action Item: A vote regarding this item may be made this meeting. Identifying an item as an action item on the agenda does not require a vote to be taken on the item. **Americans with Disabilities**: The meeting will be held online. If you require special accommodations to attend, participate in, or understand the meeting, please make advance arrangements by contacting Department staff by email jennifer.strange@idwr.idaho.gov or by phone.

IDAHO WATER RESOURCE BOARD

MINUTES
MEETING NO. 9-20

Idaho Water Center
Conference Rooms 602 C, D / GoTo Meeting Online
322 East Front Street, 6th Floor
BOISE

September 17, 2020
Board Meeting No. 9-20

At 1:00 p.m. Chairman Chase called the meeting to order. This meeting was conducted at the address listed above via an online meeting platform.

Agenda Item No. 1: Roll Call

Board Members Present Via GoTo Meeting/Teleconference
Roger Chase, Chairman
Jeff Raybould, Vice-Chairman
Vince Alberdi, Secretary
Pete Van Der Meulen
Bert Stevenson
Dale Van Stone
Jo Ann Cole-Hansen
Albert Barker

Staff Members Present
Gary Spackman, Director
Brian Patton, Executive Officer
Cynthia Bridge Clark, Water Projects Section Manager
Mathew Weaver, Deputy Director
Wesley Hipke, Recharge Project Manager
Jennifer Strange, Admin. Assistant

Staff Members Via GoTo Meeting/Teleconference
Meghan Carter
Sean Vincent
Neal Farmer
Randy Broesch
Doug Jones
Neeley Miller
Emily Skoro
Remington Buyer
Steve Stuebner

Guests Present Via GoTo Meeting/Teleconference

Ann Vonde	Clive Strong	Darrell Early
James Taylor	Tom Bassista	Mark Limbaugh
Lanie Paquin	Kresta Davis	James Carkulis
Norm Semanko	Lynn Tominaga	Keith Esplin
Dave Tuthill	Paul Arrington	Robin Lee-Beusan
Kevin Kasberg	John Roldan	Ashlee Teeter
Brandon McClean	Bryan Horsburgh	Callianne Harris
Carter Borden	John Williams	Devin Stoker
Heather Rice	James Bledsoe	Josh Aldred

Agenda Item No. 2: Agenda and Approval of Minutes

Mr. Patton stated there were three sets of minutes for approval. There was no discussion.

Mr. Alberdi moved to approve minutes 6-20, 7-20, and 8-20. Mr. Stevenson seconded. Voice vote. All ayes. The minutes were approved.

Agenda Item No. 3: Public Comment

There was no public comment.

Agenda Item No. 4: Financial Status

Mr. Miller provided an update on the Board's accounts. As of July 31, 2020 the Board's available and committed balances were as follows: Secondary Aquifer Fund—committed but not disbursed $23,704,790 and uncommitted ($494,235); Revolving Development—committed but not disbursed $19,644,408, loan principle outstanding $26,048,741, uncommitted $8,504,877, and anticipated loanable funds available next 1 year $12,004,877; Water Management—committed but not disbursed $20,882,937 and uncommitted $607,378. There was no discussion about the financial report.

Agenda Item No. 5: Lemhi Update

Mr. Barker moved that the agenda be amended. Mr. Stevenson seconded to allow agenda item 6 to be addressed before agenda item 5. Voice vote: all ayes. The motion carried. Agenda item 6 was addressed prior to agenda item 5.

Mr. Clive Strong and Mr. Norm Semanko discussed the progress by the Lemhi Settlement Working Group to address water use conflicts in the Lemhi River Basin. They provided highlights from the most recent meeting that was held in Salmon on August 12th. The topics discussed were: a definition of what "high flow general provision" means and how it applies; an overview of legal principles of the distribution of water in the basin; and a status report on negotiations. Chairman Chase and Mr. Raybould commented that they have been in attendance at these meetings and appreciate the work done by the group.

Agenda Item No. 6: Boise River Feasibility Study Update

Ms. Bridge Clark introduced Lanie Paquin of Bureau of Reclamation. Ms. Paquin addressed the current status of the Boise River Feasibility Study Project, provided details from the draft Environmental Impact Statement, and the Draft Feasibility Report. Four areas that she named "pillars" were evaluated: environmental feasibility, technical feasibility, economic feasibility, and financial feasibility. There was discussion among the board members. Some questions arose about the allocation of costs to different uses including recreation and road improvements.

Ms. Bridge Clark highlighted the upcoming schedule of events for the project and next steps. The critical next steps included the following: October 2020, submit final Feasibility Report for feasibility determination; December 2020, review and approval of the recommended plan by Dept. of the Interior; February 2021, release Final EIS; and May 2021, issue Record of Decision. She discussed the two options for contracting and recapped some details of the Water Storage Projects Committee Meeting.

Upon completion of this agenda item, the discussion moved back to Agenda Item 5.

Agenda Item No. 7: Mountain Home AFB Sustainable Water Project

Mr. Patton shared a letter from the Air Force to the Governor. It suggested that the State would construct the pump station and pipeline; the Air Force would construct the water treatment plant; and the State would ultimately gift the pump station and pipeline to the Air Force. The Governor had not made any decisions on the issues described in the letter. There was some discussion among board members. Mr. Stevenson asked about the water right. Mr. Patton said that the Board would retain ownership of the water right. Mr. Barker asked who would build this and what would happen if project costs exceeded current estimates. Mr. Patton suggested that since the State is expected to build the pump station and pipeline at this time, it would assume any additional costs. A resolution in the board book was discussed. It would authorize issuance of written notice to Simplot to extend the Snake River water rights beneficial use deadline as defined in the water rights purchase agreement between Simplot and the Board.

Mr. Raybould made a motion to accept the resolution. Mr. Barker seconded the motion. Roll call vote: Mr. Alberdi, aye; Mr. Barker, aye; Ms. Cole-Hansen, aye; Mr. Raybould, aye; Mr. Stevenson, aye; Mr. Van Der Meulen, aye; Mr. Van Stone, aye; Chairman Chase, aye. 8 ayes. Motion passed. The resolution was adopted.

Agenda Item No. 8: Priest Lake Update

Mr. Miller briefed the board members on phases 1 through 3 which concluded in August 2020. The authorization to issue funds not to exceed $5 million was provided for phase 4, construction and construction management. Mr. Miller said there was a recent site visit by staff engineer, Emily Skoro, at the preconstruction meeting. The anticipated construction period for both projects is expected to be October 2020 through April 2021. Deputy Attorney General Ann Vonde is working with hydrology staff on securing a water right. Mr. Van Stone stated the preconstruction meeting went well. There was discussion on the process of change-orders. Chairman Chase asked if all of the access and right of way contracts have been completed. Mr. Miller said that they had been completed.

Agenda Item No. 9: ESPA Managed Recharge Update

Mr. Patton had a quick update regarding the ESPA managed recharge program. Activities for the season began on September 4th. The Surface Water Coalition assigned 58,300 (af) of excess storage water to the Board's recharge efforts in the Upper Valley. Staff will update the recharge totals once it receives the assignment of waiting storage water from the Coalition of Cities. Mr. Stevenson asked about regular winter updates. Mr. Patton stated the program manager, Mr. Hipke, would soon begin providing a weekly update.

Agenda Item No. 10: Proposed Meeting Dates 2021

Mr. Patton highlighted a draft that was provided to the Board on meeting dates for 2021. The final dates would be decided at the November meeting. There was some input on the meeting dates and how to hold the meetings considering the pandemic.

Agenda Item No. 11: Director's Report

Director Spackman provided a report to the Board. He attended a meeting on Sept 14th related to the rental pool procedures. He thought that the draft procedures were acceptable, and the process began well in advance of the annual meeting. He also provided an update on budgeting and staffing. Under the current directive the Department would need to leave some vacancies in staffing; however the positions that needed to be filled related to the Board's projects would get rehired. Finally, he provided some highlights from a meeting on September 16th in Idaho Falls that included several key folks including the Governor, Speaker Bedke, and Senator Bair, where water issues were discussed.

Agenda Item No. 12: Non-Action Items for Discussion

Chairman Chase asked if there were any non-action items for discussion. Mr. Raybould provided more information on the previously mentioned September 16th meeting in Idaho Falls. Cloud seeding, managed recharge, and the possibility of establishing a moratorium were discussed at that meeting according to Mr. Raybould.

Agenda Item No. 13: Next Meeting and Adjourn

The next meeting was confirmed for November 19, 2020 in Boise and via an online platform. Mr. Van Stone moved to adjourn. Mr. Raybould seconded. Voice vote. All were in favor. The meeting adjourned at 3:30 p.m.

Respectfully submitted this 19th day of November, 2020.

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Vince Alberdi, *Secretary*

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Jennifer Strange, *Administrative Assistant II*

Board Actions:

1. Adopted meeting minutes 6-20, 7-20, and 8-20.
2. Motion to amend the agenda by moving Agenda Item #6 to occur before Agenda Item #5.
3. Approved a resolution to extend the Snake River water rights beneficial use deadline.

IDAHO WATER RESOURCE BOARD

MINUTES
SPECIAL MEETING NO. 10-20

Idaho Water Center
Conference Room 602 C / GoTo Meeting Online
322 East Front Street, 6th Floor
BOISE

October 13, 2020

At 9:02 a.m. Chairman Chase called the meeting to order. The meeting was conducted at the address listed above via an online meeting platform.

Agenda Item No. 1: Roll Call

Board Members Present via GoTo Meeting Online
Roger Chase, Chairman
Jeff Raybould, Vice-Chairman
Vince Alberdi, Secretary
Pete Van Der Meulen –*joined during executive session*
Bert Stevenson
Dale Van Stone
Jo Ann Cole-Hansen
Al Barker –*joined after roll call*

Staff Members Present
Brian Patton, Executive Officer
Cynthia Bridge Clark, Water Projects Section Manager
Wesley Hipke, Recharge Project Manager
Gary Spackman, Director
Mat Weaver, Deputy Director
Jennifer Strange, Admin. Assistant

Staff Members Present Online

Ann Vonde	Meghan Carter	Neeley Miller
Paul Thomas	Kala Golden	Steve Stuebner

Guests Present Online

Eric Wilson (in person)	John Simpson	Lynn Tominaga
Steve Hannula	Nicholas Kraus	Robert Newbry
Tom Bassista		

Agenda Item No. 2: Riverland Terrace Loan

Ms. Kala Golden provided a request to increase the Riverland Terrace Loan from $190,000 to $236,000. Mr. Eric Wilson stated that the corporation would have enough in reserves to cover the higher payment amount. There was some discussion related to the terms of the loan.

Mr. Van Stone moved to adopt a resolution to increase funding on the Riverland Terrace Non-profit Corporation loan. Mr. Alberdi seconded. Roll call vote: Mr. Alberdi, aye; Mr. Barker, aye; Ms. Cole-Hansen, aye; Mr. Raybould, aye; Mr. Stevenson, aye; Mr. Van Der Meulen, absent; Mr. Van Stone, aye; and Chairman Chase, aye. 7 ayes. The motion passed.

Agenda Item No. 3: Administrative Rules

Deputy Director Weaver briefed the Board on the previous steps taken on the matter of the administrative rules. A resolution was presented to publish the Board's current proposed fee rules as pending fee rules.

Ms. Cole-Hansen moved to adopt the resolution as presented. Mr. Stevenson seconded. Roll call vote: Mr. Alberdi, aye; Mr. Barker, aye; Ms. Cole-Hansen, aye; Mr. Raybould, aye; Mr. Stevenson, aye; Mr. Van Der Meulen, absent; Mr. Van Stone, aye; and Chairman Chase, aye. 7 ayes. The motion passed.

Following the vote, there was further discussion about rule making, and a proposed five-year schedule was provided. There was some discussion on the methodology for the schedule.

Agenda Item No. 4: Milepost 31 Recharge Site Modifications

Mr. Paul Thomas presented details of a proposed project to construct an embankment in the Mile Post 31 Recharge Site to protect a portion of a BLM road from flooding. There was some discussion. Mr. Raybould asked if re-routing the road might be an option. That option was not preferred by BLM, according to Mr. Hipke. Before the Board was a resolution to consider funding for the construction of the embankment in the amount of $320,000. Mr. Alberdi asked how this will impact the Board's budget. The funding would be drawn from funding set aside in the Secondary Aquifer Fund for recharge infrastructure projects in the ESPA.

Mr. Raybould moved to adopt a resolution to approve funds for MP31 Recharge Site embankment project. Mr. Alberdi seconded. Roll call vote: Mr. Alberdi, aye; Mr. Barker, aye; Ms. Cole-Hansen, aye; Mr. Raybould, aye; Mr. Stevenson, aye; Mr. Van Der Meulen, absent; Mr. Van Stone, aye; and Chairman Chase, aye. 7 ayes. The motion passed.

Agenda Item No. 5: Non-Action Items for Discussion

There were no other items for discussion.

Agenda Item No. 6: Executive Session

Mr. Alberdi made a motion to move into Executive Session 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. Mr. Raybould seconded. Roll call vote: Mr. Alberdi, aye; Mr. Barker, aye; Ms. Cole-Hansen, aye; Mr. Raybould, aye; Mr. Stevenson, aye; Mr. Van Der Meulen, absent; Mr. Van Stone, aye; Chairman Chase, aye. 7 ayes. Motion passed. The topic discussed by Deputy Attorney General Ann Vonde was Water Right Application 01-10645.

At 10:02 a.m., Mr. Alberdi made a motion to move out of Executive Session, seconded by Mr. Stevenson and agreed upon by voice vote in favor. No actions were taken by the Board in Executive Session. The session was closed to the public.

Agenda Item No. 7: Next Meeting and Adjourn

The next meeting was confirmed for November 19, 2020 in Boise and via an online format. Mr. Barker moved to adjourn. Mr. Van Stone seconded. Voice vote: all were in favor. The meeting adjourned at 10:04 a.m.

Respectfully submitted this 19th day of November, 2020.

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Vince Alberdi, *Secretary*

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Jennifer Strange, *Administrative Assistant II*

Board Actions:

1. Adopted a resolution to increase funding in the Riverland Terrace Non-profit Corporation loan.
2. Adopted a resolution to publish the Idaho Water Resource Board's current proposed fee rules as pending fee rules.
3. Adopted a resolution to fund an embankment project for Milepost 31 Recharge Site.

Memorandum

To: Idaho Water Resource Board

From: Neeley Miller, Planning & Projects Bureau

Date: November 11, 2020

Re: Financial Status Report

As of **September 30, 2020** the IWRB's available and committed balances are as follows:

Secondary Aquifer Fund:	
Committed/earmarked but not disbursed	$22,405,076
Uncommitted Balance	$445,869
Revolving Development Account:	
Committed/earmarked but not disbursed	$25,858,796
Loan principal outstanding	$25,475,913
Uncommitted Balance	$3,133,659
Anticipated loanable funds available next 1 year	$6,633,659
Water Management Account	
Committed/earmarked but not disbursed	$21,882,899
Uncommitted Balance	$556,530
Total committed/earmarked but not disbursed	**$70,146,771**
Total loan principal outstanding	**$25,475,913**
Total uncommitted balance	**$4,136,058**

- The committed/earmarked balance in the Water Management Account includes the remainder of the FY 2020 $800K legislative appropriation for the Flood Management Grant Program and $200K for the Mid-Snake Water Quality Monitoring/Modeling effort per House Bill 646. It also includes the $20M legislative appropriation per HB 285 for the Anderson Reservoir Enlargement and/or MHAFB Water Supply Project.

Idaho Water Resource Board
Budget and Committed Funds
as of September 30, 2020

SECONDARY AQUIFER PLANNING, MANAGEMENT, & IMPLEMENTATION FUND

FYE 2020 Cash Balance		**19,209,754.56**
FY 2021 Revenue		
Interest Earned State Treasury	38,722.88	
Recharge Payments - City of Pocatello		
HB547 - State Recharge & Aquifer Stabilization (SRAS)		
HB646, Section 4 - Water Sustainability	5,000,000.00	
HB646, Section 4 - Governor's Holdback	(250,000.00)	
Department of Energy Grant ($2.068M)	131,300.00	
TOTAL FY 2021 REVENUE		**4,920,022.88**
FY 2021 Expenditures		
SRAS Equipment & Supplies - FY 20	(32,658.01)	
SRAS Equipment & Supplies - FY 21	(4,849.48)	
SRAS Conveyance Costs - FY 20	(196,719.57)	
SRAS Conveyance Costs - FY 21		
SRAS Site Monitoring - FY 20	(102,853.72)	
SRAS Site Monitoring - FY 21	(7,750.14)	
SRAS Regional Monitoring - FY 20	(34,432.63)	
SRAS Regional Monitoring - FY 21	(2,291.18)	
American Falls Reservoir District # 2 (CON01384)	(32,838.70)	
Big Wood Canal Company (CON01281 - Deitrich Drop Power Plant Improvements Project)	(114,570.87)	
Big Wood Canal Company (CON01293 - MP28 Hydro Plant Winterization Project)		
Denning Well Drilling (CON01382 - Ucon Monitoring well - Ward well)		
Egin Bench Canals Inc (CON01225)		
Elsing Drilling & Pump Co Inc (CON01368 - Wilson Canyon Recharge Basin Improvements Projects - monitoring wells)		
Floyd Lilly Company (CON01378 - Wilson Canyon Recharge Basin Improvements Projects - monitoring wells)		
North Side Canal Company (CON01331 - Wilson Canyon Recharge Basin Improvements Project)		
Quadrant Consulting Inc (CON01337 - MP29 Managed Recharge Site Design Documents & Technical Specs)		
The Ferguson Group (FY 2020 Budget)	(24,050.48)	
Steve Stuebner (FY 2020 Budget) - Media Services	(1,931.25)	
Clive Strong (CON01371)	(14,911.44)	
Elizabeth Cresto (CON01390)		
Travel Costs for IWRB and staff	(12.14)	
WS Hydrology Monitoring - FY 20	(18,461.80)	
WS Hydrology Monitoring - FY 21	(334.36)	
USGS - 6605 (Treasure Valley Modeling)	(141,371.08)	
University of Idaho (CON01159)		
University of Idaho (CON01210, TV Model)	(20,552.98)	
University of Idaho (CON01341, GIS)		
University of Idaho (CON01427, Raft River)	(48,648.70)	
Brown & Caldwell (CON01320 - Treasure Valley Managed Recharge Feasibility Study)		
Record Steel & Construction Inc (CON01347 - MHAFB)		
City of Idaho Falls (CON01223)		
Department of Interior - Boise River Feasibility Study (FY2019)	(295,000.00)	
Department of Energy Grant expenditures (ESPA costs) 29871	(72,747.12)	
Department of Energy Grant expenditures (Big Lost costs) 29872	(99,112.15)	
Idaho Power - (CON01109)		
Idaho Power - Cloudseeding Model (CON01254)		
Idaho Power - Cloudseeding O&M (CON01393)	(3,414.08)	
Idaho Power - Cloudseeding HPC (CON01444)		
Boise State University - Cloudseeding (CON01394)	(9,320.90)	

TOTAL FY 2021 EXPENDITURES				**(1,278,832.78)**			
FY 2021 Cash Balance				**22,850,944.66**			
COMMITTED FUNDS THRU FY 2018	**Budget**	**Amended**	**Obligated**	**Expenditures**	**Carry forward**	**Committed**	
Cooperative Weather Modification Program (Cloud Seeding - CON01109)	492,000.00		492,000.00	(483,997.64)		8,002.36	
Mountain Home Air Force Base (PCA 29800)	**1,000,000.00**	**900,000.00**	**1,900,000.00**	**(1,197,691.65)**		**702,308.35**	
Remaining Initial Funds	**1,492,000.00**	**900,000.00**	**2,392,000.00**	**(1,681,689.29)**	**0.00**	**710,310.71**	
ESPA Managed Recharge Infrastructure							
Milner-Gooding Dietrich Drop hydro plant bypass (CON01281)	50,000.00	1,450,000.00	1,500,000.00	(1,478,327.73)		21,672.27	
Egin Lakes Recharge Project, Phase II (CON01225)	500,000.00	80,000.00	580,000.00	(234,766.41)		345,233.59	
Total ESPA Managed Recharge Infrastructure	**550,000.00**	**1,530,000.00**	**2,080,000.00**	**(1,713,094.14)**	**0.00**	**366,905.86**	
STATEWIDE STUDIES & PROJECTS							
OTHER STATEWIDE STUDIES & PROJECTS							
Ground water conservation grants in priority aquifers (CON01205 & CON01223)	200,000.00		200,000.00	(67,484.03)	(112,515.97)	20,000.00	
Cloud Seeding Operations & Maintenance (1/3 of total)	600,000.00	18,000.00	618,000.00	(580,000.00)		38,000.00	
NRCS Snow Survey contribution USDA (CON01177)	100,000.00	100,000.00	200,000.00	(150,000.00)		50,000.00	
Total Statewide Studies & Projects	**900,000.00**	**118,000.00**	**1,018,000.00**	**(797,484.03)**	**(112,515.97)**	**108,000.00**	
TOTAL COMMITTED FUNDS THRU FY 2018	**2,942,000.00**	**2,548,000.00**	**5,490,000.00**	**(4,192,267.46)**	**(112,515.97)**	**1,185,216.57**	**Adjustments**

FY 2019 BUDGET	**Budget (as approved - May 2018)**	**Amendments**	**Budget (as amended)**	**Obligated**	**Expenditures**	**Carry forward**	**Committed**
ESPA Managed Recharge Infrastructure							
North Side CC - Wilson Canyon Recharge Basin (CON01331, CON01368, CON01378)	1,750,000.00	150,000.00	1,900,000.00	1,900,000.00	(1,408,115.51)		491,884.49
AFRD2 MP29 Site (CON01384)	2,150,000.00		2,150,000.00	2,150,000.00	(594,434.32)	(1,500,000.00)	55,565.68
Total ESPA Managed Recharge Infrastructure	**3,900,000.00**	**150,000.00**	**4,050,000.00**	**4,050,000.00**	**(2,002,549.83)**	**(1,500,000.00)**	**547,450.17**
Managed Recharge Investigations							
MP29 Managed Recharge Site (CON01296 & CON01337)		85,500.00	85,500.00	85,500.00	(53,954.48)		31,545.52
Total Managed Recharge Investigations	**0.00**	**85,500.00**	**85,500.00**	**85,500.00**	**(53,954.48)**	**0.00**	**31,545.52**
ESPA Hydrologic Monitoring							
Hydrologic Monitoring (DOE - Year 1 of 3 = $928K)	310,000.00		310,000.00	310,000.00	(104,938.05)		205,061.95
ESPA Hydrologic Monitoring	**310,000.00**	**0.00**	**310,000.00**	**310,000.00**	**(104,938.05)**	**0.00**	**205,061.95**
TREASURE VALLEY							
Boise River Storage Studies (final payment)	1,000,000.00		1,000,000.00	1,000,000.00	(1,543,661.63)		(543,661.63)
Southeast Boise Groundwater Management Area Monitoring	100,000.00		100,000.00	100,000.00	(53,130.00)	(46,870.00)	0.00
Treasure Valley Recharge Study (CON01320)	200,000.00		200,000.00	200,000.00	(199,987.76)		12.24
TREASURE VALLEY TOTAL	**1,300,000.00**	**0.00**	**1,300,000.00**	**1,300,000.00**	**(1,796,779.39)**	**(46,870.00)**	**(543,649.39)**
STATE-WIDE							
Aquifer monitoring network enhancements in priority aquifers	309,351.82		309,351.82	309,351.82	(267,205.66)		42,146.16
Cooperative Cloud Seeding Program							
Operations & Maintenance (1/3 of total)	800,000.00		800,000.00	800,000.00	(800,000.00)		0.00
Cloud Seeding Modeling Project, CON01254 (Year 2 of 4, Total $1,470,000)	470,000.00		470,000.00	470,000.00	(412,052.50)		57,947.50
STATE-WIDE TOTAL	**1,579,351.82**	**0.00**	**1,579,351.82**	**1,579,351.82**	**(1,479,258.16)**	**0.00**	**100,093.66**

TOTAL FY 2019 BUDGETED FUNDS	**7,089,351.82**	**235,500.00**	**7,324,851.82**	**7,324,851.82**	**(5,437,479.91)**	**(1,546,870.00)**	**340,501.91**

FY 2020 BUDGET	**Budget (as approved - May 2019)**	**Amendments**	**Budget (as amended)**	**Obligated**	**Expenditures**	**Carry forward**	**Committed**
ESPA Managed Recharge Operations							-
Equipment & Supplies	192,880.00		192,880.00	192,880.00	(32,003.33)		160,876.67
Conveyance Cost	3,500,000.00		3,500,000.00	3,500,000.00	(196,719.57)		3,303,280.43
Recharge Monitoring	540,950.00		540,950.00	540,950.00	(460,652.21)		80,297.79
Regional Monitoring	200,000.00		200,000.00	200,000.00	(105,747.30)		94,252.70
Total ESPA Managed Recharge Operations	**4,433,830.00**	**0.00**	**4,433,830.00**	**4,433,830.00**	**(795,122.41)**	**0.00**	**3,638,707.59**
ESPA Managed Recharge Infrastructure							
North Side CC - Eden Projects	2,000,000.00		2,000,000.00	2,000,000.00			2,000,000.00
Large Upper Valley Investigations	500,000.00		500,000.00	500,000.00			500,000.00
Small Upper Valley Sites	1,000,000.00		1,000,000.00	1,000,000.00			1,000,000.00
A&B Irrigation - Injection Wells	550,000.00		550,000.00	550,000.00			550,000.00
Reserved for Additional Recharge Projects	500,000.00		500,000.00	500,000.00		(500,000.00)	0.00
Total ESPA Managed Recharge Infrastructure	**4,550,000.00**	**0.00**	**4,550,000.00**	**4,550,000.00**	**0.00**	**(500,000.00)**	**4,050,000.00**
Managed Recharge Investigations							
Big/Little Wood Sites	200,000.00		200,000.00	200,000.00			200,000.00
Reserved for additional investigations and engineering	300,000.00		300,000.00	300,000.00		(300,000.00)	0.00
Total Managed Recharge Investigations	**500,000.00**	**0.00**	**500,000.00**	**500,000.00**	**0.00**	**(300,000.00)**	**200,000.00**
ESPA Hydrologic Monitoring							
Hydrologic Monitoring (DOE - Year 2 of 3 = $928K)	310,000.00		310,000.00	310,000.00			310,000.00
ESPA Hydrologic Monitoring	**310,000.00**	**0.00**	**310,000.00**	**310,000.00**	**0.00**	**0.00**	**310,000.00**
TREASURE VALLEY							
Treasure Valley Modeling Year 4 of 5 (USGS 6605)	500,000.00		500,000.00	500,000.00	(13,464.92)		486,535.08
Treasure Valley DCMI Water Conservation Study	200,000.00		200,000.00				0.00
TREASURE VALLEY TOTAL	**700,000.00**	**0.00**	**700,000.00**	**500,000.00**	**(13,464.92)**	**0.00**	**486,535.08**
CAMAS PRAIRIE							
Ground & Surface Water Monitoring	15,000.00		15,000.00	15,000.00			15,000.00
CAMAS PRAIRIE TOTAL	**15,000.00**	**0.00**	**15,000.00**	**15,000.00**	**0.00**	**0.00**	**15,000.00**
BIG LOST							
Hydrologic Monitoring (DOE - Year 2 of 3 = $1.14M)	380,000.00		380,000.00	380,000.00	(255,174.61)		124,825.39
BIG LOST TOTAL	**380,000.00**	**0.00**	**380,000.00**	**380,000.00**	**(255,174.61)**	**0.00**	**124,825.39**
PALOUSE BASIN							
Water Sustainability Projects	100,000.00		100,000.00	100,000.00			100,000.00
PALOUSE BASIN TOTAL	**100,000.00**	**0.00**	**100,000.00**	**100,000.00**	**0.00**	**0.00**	**100,000.00**
BEAR RIVER BASIN							
Water Sustainability Projects	100,000.00		100,000.00	100,000.00	(948.75)		99,051.25
BEAR RIVER BASIN TOTAL	**100,000.00**	**0.00**	**100,000.00**	**100,000.00**	**(948.75)**	**0.00**	**99,051.25**
COOPERATIVE CLOUD SEEDING PROGRAM							

Cloud Seeding Modeling Project, CON01254 (Year 3 of 4, Total $1,470,000)	231,000.00		231,000.00	231,000.00	(223,303.15)		7,696.85
Operations & Maintenance - CON01393 (1/3 of total annual cost for O&M)	1,232,000.00		1,232,000.00	900,000.00			900,000.00
Capital Expenditures - CON01444 (HPC - Year 1 of 2, Total = $700K)	500,000.00		500,000.00	500,000.00			500,000.00
Program Development Activities - CON01444	200,000.00		200,000.00	25,000.00			25,000.00
COOPERATIVE CLOUD SEEDING PROGRAM TOTAL	**2,163,000.00**	**0.00**	**2,163,000.00**	**1,656,000.00**	**(223,303.15)**	**0.00**	**1,432,696.85**
RAFT RIVER BASIN							
Raft River Basin Hydrologic Project (CON01424)		204,000.00	204,000.00	204,000.00	(53,750.00)		150,250.00
RAFT RIVER BASIN TOTAL	**0.00**	**204,000.00**	**204,000.00**	**204,000.00**	**(53,750.00)**	**0.00**	**150,250.00**
STATE-WIDE							
Administrative expenses (public information, staff training, etc)	80,000.00		80,000.00	80,000.00	(26,816.32)		53,183.68
Hydrological monitoring hardware and software	15,000.00		15,000.00	15,000.00			15,000.00
Professional Assistance for securing Federal Funding	100,000.00		100,000.00	100,000.00	(88,199.28)		11,800.72
Aquifer monitoring network enhancements in priority aquifers							
Northern Idaho	125,000.00		125,000.00	125,000.00			125,000.00
Southern Idaho (non-ESPA)	125,000.00		125,000.00	125,000.00			125,000.00
STATE-WIDE TOTAL	**445,000.00**	**0.00**	**445,000.00**	**195,000.00**	**(115,015.60)**	**0.00**	**79,984.40**
Unspecified Projects in Other Areas or Carry-over	**1,555,170.00**	**(204,000.00)**	**1,351,170.00**				
TOTAL FY 2020 BUDGETED FUNDS	**15,252,000.00**	**(204,000.00)**	**15,048,000.00**	**11,083,830.00**	**(1,403,029.44)**	**(800,000.00)**	**9,104,103.71**

FY 2021 BUDGET	Budget (as approved - May 2020)	Amendments	Budget (as amended)	Obligated	Expenditures	Carry forward	Committed
ESPA Managed Recharge Operations							-
Equipment & Supplies	229,000.00		229,000.00	229,000.00	(4,849.48)		224,150.52
Conveyance Cost	3,500,000.00		3,500,000.00	3,500,000.00			3,500,000.00
Recharge Monitoring	526,000.00		526,000.00	526,000.00	(7,750.14)		518,249.86
Regional Monitoring	225,000.00		225,000.00	225,000.00	(2,291.18)		222,708.82
Total ESPA Managed Recharge Operations	**4,480,000.00**	**0.00**	**4,480,000.00**	**4,480,000.00**	**(14,890.80)**	**0.00**	**4,465,109.20**
ESPA Managed Recharge Infrastructure							
Enterprize Project	2,000,000.00		2,000,000.00	2,000,000.00			2,000,000.00
Butte Market Lake Project	500,000.00		500,000.00	500,000.00			500,000.00
Reserved for Additional Recharge Projects	500,000.00		500,000.00	500,000.00			500,000.00
Total ESPA Managed Recharge Infrastructure	**3,000,000.00**	**0.00**	**3,000,000.00**	**3,000,000.00**	**0.00**	**0.00**	**3,000,000.00**
Managed Recharge Investigations							
Large Upper Valley Project	300,000.00		300,000.00	300,000.00			300,000.00
ASCC Project Investigation	200,000.00		200,000.00	200,000.00			200,000.00
North Side Hunt Projects	500,000.00		500,000.00	500,000.00			500,000.00
Reserved for additional investigations and engineering	300,000.00		300,000.00	300,000.00			300,000.00
Total Managed Recharge Investigations	**1,300,000.00**	**0.00**	**1,300,000.00**	**1,300,000.00**	**0.00**	**0.00**	**1,300,000.00**
ESPA Hydrologic Monitoring							
Hydrologic Monitoring (DOE - Year 3 of 3 = $928K)	308,000.00		308,000.00	308,000.00			308,000.00
ESPA Hydrologic Monitoring	**308,000.00**	**0.00**	**308,000.00**	**308,000.00**	**0.00**	**0.00**	**308,000.00**

TREASURE VALLEY							
Treasure Valley Modeling Year 5 of 5 (USGS 6605)	500,000.00		500,000.00	500,000.00			500,000.00
Boise River Storage Study	250,000.00		250,000.00	250,000.00			250,000.00
TREASURE VALLEY TOTAL	**750,000.00**	**0.00**	**750,000.00**	**750,000.00**	**0.00**	**0.00**	**750,000.00**
RAFT RIVER							
Raft River Hydrologic Characterization	100,000.00		100,000.00	100,000.00			100,000.00
RAFT RIVER TOTAL	**100,000.00**	**0.00**	**100,000.00**	**100,000.00**	**0.00**	**0.00**	**100,000.00**
BIG LOST							
Hydrologic Monitoring (DOE - Year 3 of 3 = $1.14M)	380,000.00		380,000.00	380,000.00			380,000.00
BIG LOST TOTAL	**380,000.00**	**0.00**	**380,000.00**	**380,000.00**	**0.00**	**0.00**	**380,000.00**
PALOUSE BASIN							
Water Sustainability Projects	200,000.00		200,000.00	200,000.00			200,000.00
PALOUSE BASIN TOTAL	**200,000.00**	**0.00**	**200,000.00**	**200,000.00**	**0.00**	**0.00**	**200,000.00**
BEAR RIVER BASIN							
Water Sustainability Projects	100,000.00		100,000.00	100,000.00	0.00		100,000.00
BEAR RIVER BASIN TOTAL	**100,000.00**	**0.00**	**100,000.00**	**100,000.00**	**0.00**	**0.00**	**100,000.00**
LEMHI BASIN							
Lemhi Basin SCR 137	200,000.00		200,000.00	200,000.00			200,000.00
LEMHI BASIN TOTAL	**200,000.00**	**0.00**	**200,000.00**	**200,000.00**	**0.00**	**0.00**	**200,000.00**
MOUNTAIN HOME/ELMORE COUNTY							
Water Sustainability Projects	200,000.00		200,000.00	200,000.00	0.00		200,000.00
MOUNTAIN HOME/ELMORE COUNTY TOTAL	**200,000.00**	**0.00**	**200,000.00**	**200,000.00**	**0.00**	**0.00**	**200,000.00**
COOPERATIVE CLOUD SEEDING PROGRAM							
Cloud Seeding Modeling Project, CON01254 (Year 4 of 4, Total $1,470,000)	240,000.00		240,000.00	240,000.00			240,000.00
Operations & Maintenance - CON01393 (1/3 of total annual cost for O&M)	875,000.00		875,000.00	875,000.00			875,000.00
O&M Shortages provided by IWRB	500,000.00		500,000.00	500,000.00			500,000.00
Capital Expenditures - CON01444 (HPC - Year 2 of 2, Total = $700K)	200,000.00		200,000.00	200,000.00			200,000.00
Program Development Activities	500,000.00		500,000.00	500,000.00			500,000.00
COOPERATIVE CLOUD SEEDING PROGRAM TOTAL	**2,315,000.00**	**0.00**	**2,315,000.00**	**2,315,000.00**	**0.00**	**0.00**	**2,315,000.00**
STATE-WIDE							
Administrative expenses (public information, staff training, etc)	85,000.00		85,000.00	85,000.00	0.00		85,000.00
Professional Assistance for securing Federal Funding	100,000.00		100,000.00	100,000.00			100,000.00
Statewide Surface Water & Aquifer Monitoring	850,000.00		850,000.00	850,000.00	0.00		850,000.00
STATE-WIDE TOTAL	**1,035,000.00**	**0.00**	**1,035,000.00**	**1,035,000.00**	**0.00**	**0.00**	**1,035,000.00**
FIVE PERCENT GOVERNOR'S HOLDBACK TOTAL	**250,000.00**		**250,000.00**	**250,000.00**			**250,000.00**
Unspecified Projects in Other Areas or Carry-over	**0.00**		**0.00**				
TOTAL FY 2021 BUDGETED FUNDS	**14,618,000.00**	**0.00**	**14,618,000.00**	**14,618,000.00**	**(14,890.80)**	**0.00**	**14,603,109.20**

IDAHO WATER RESOURCE BOARD
Sources and Applications of Funds
as of September 30, 2020
REVOLVING DEVELOPMENT ACCOUNT

Original Appropriation (1969)		$500,000.00
Legislative Appropriation FY90-91		$250,000.00
Legislative Appropriation FY91-92		$280,700.00
Legislative Appropriation FY93-94		$500,000.00
Legislative Appropriation 2001, SB1239		$200,000.00
Legislative Appropriation 2004, HB843, Sec 12		$500,000.00
Loan Interest		$12,538,860.49
Interest Earned State Treasury (Transferred)		$2,316,865.29
Water Supply Bank Receipts		$7,744,128.00
Transferred to/from Water Management Account		$317,253.80
Filing Fee Balance		$47,640.20
Bond Fees		$1,469,601.45
Series 2000 (Caldwell/New York) Pooled Bond Issuers fees		$43,657.93
2012 Ground Water District Bond Issuer fees		$366,000.00
Bond Issuer fees		$21,107.59
Pierce Well Easement		$2,000.00
Transfer from Aqualife Hatchery Sub-Account		$1,117,800.85
Transfer from Pristine Springs Sub-Account		$554,882.10
Legislative Audits		($49,404.45)
IWRB Bond Program		($15,000.00)
IWRB Studies and Projects		($249,067.18)
Arbitrage Calculation Fees		($12,000.00)
Protest Fees		($995.00)
Attorney fees for Jughandle LID (Skinner Fawcett)		($3,600.00)
Attorney fees for A&B Irrigation (Skinner Fawcett)		($4,637.50)
Lemhi Basin Protest Costs - (Attorney General's Office)		($32,279.54)
Weiser Galloway Study - US Army Corps of Engineers		($1,555,450.71)
Boise River Storage Feasibility Study		($333,000.00)
Geotech Environmental (Transducers)		($6,402.61)
Priest Lake Improvement Study (16-Mar-16)		($917,725.21)
Priest Lake Construction Project Contribution		($830,864.50)
Treasureton Irrigation Ditch Co		($5,000.00)
Mountain Home AFB Water Sustainability Project (29514)		
Legislative Appropriation 2014, HB 479 Sec 1 and 2	$4,000,000.00	
JR Simplot - WR Purchase	($2,500,000.00)	
LeMoyne Appraisal LLC	($10,500.00)	
IWRB WSB Lease Application	($750.00)	
Integrated Delivery Solutions - Mark Alpert	($34,459.18)	
Brown & Caldwell - Owner's Advisor	($1,218,298.11)	
SPF Engineering - WR Transfer	($118,715.75)	
Skinner-Fawcett - Bond Counsel	($31,602.41)	
Pillsbury, Winthrop, & Shaw - DBO Counsel	($79,839.30)	
Project Costs (mailings, travel, teleconference calls)	($1,769.91)	
Publishing Costs	($1,648.16)	
Water District 02 Assessments	($2,417.18)	
Balance for Mountain Home AFB Water Sustainability Project		**$0.00**
Galloway Dam & Reservoir Project (29517)		
Legislative Appropriation 2014, HB 479 Sec 1 and 2	$2,000,000.00	
Galloway Dam & Reservoir Project Costs (HB 479)	($124,649.52)	
Balance Galloway Dam & Reservoir Project		**$1,875,350.48**
Boise River (Arrowrock Enlargement) Feasibility Study (29518)		
Legislative Appropriation 2014, HB 479 Sec 1 and 2	$1,500,000.00	
Boise River (Arrowrock Enlargement) Feasibility Study Costs (HB479)	($1,500,000.00)	
Balance Boise River (Arrowrock Enlargement) Feasibility Study (HB479)		**$0.00**
Island Park Enlargement (29520)		
Legislative Appropriation 2014, HB 479 Sec 1 and 2	$2,500,000.00	
Island Park Enlargement Costs (HB 479)	($174,170.00)	
Balance Island Park Enlargement (HB 479)		**$2,325,830.00**
Water Supply Bank Computer Infrastructure (29519)		
Legislative Appropriation 2014, HB 479 Sec 1 and 2	$500,000.00	
Water Supply Bank Computer Infrastructure Costs (HB 479)	($497,350.75)	
Balance Water Supply Bank Computer Infrastructure (HB 479)		**$2,649.25**
Cash Balance of Legislative Appropriation 2014, HB 479 Sec 1 and 2		**$4,203,829.73**
Minidoka Dam Enlargement/Teton Dam Replacement Studies (29510)		
Legislative Appropriation 2008, SB1511 Sec 2, Minidoka/Teton Studies		$1,800,000.00
Legislative Appropriation 2008, SB1511 Sec 2, Minidoka Studies Expenditures		($1,229,460.18)
Balance for Minidoka Dam Enlargement/Teton Dam Replacement Studies		**$570,539.82**
Priest Lake Water Management Project (29521)		
Legislative Appropriation (2018, HB 677 Sec 5)	$2,400,000.00	
Legislative Approval (2018, HB 677 Sec 6)	$2,419,580.50	
Transfer to Priest Lake Construction Project	($4,169,135.50)	
Bonner County Contribution	$160,000.00	
Sandpiper Shores Contribution	$10,000.00	
Legislative Approval (2020, HB 645 Sec 7)	$410,000.00	
Interest Earned State Treasury	$156,358.16	

Total Priest Lake Water Management Project Revenue		**$1,386,803.16**
Contract Expenditures - Mott MacDonald (CON01426)	($638,162.35)	
Misc Expenditures	($6,668.12)	
Builder's Risk Insurance	($5,515.00)	
IDL Mineral Lease Bond	($2,000.00)	
Total Priest Lake Water Management Project Expenditures		($652,345.47)
Cash Balance Priest Lake Water Management Project		**$734,457.69**
Commited Funds		
Dam Operator Contracts (CON01445, CON01453, CON01454)	$47,339.72	
Mott MacDonald Contract (CON01426)	$14,554.65	
TOTAL COMMITTED FUNDS	$61,894.37	
Uncommitted Priest Lake Water Management Project Balance		**$672,563.32**
Priest Lake Construction Project (29522)		
Transfer to Priest Lake Construction Project	$4,169,135.50	
Contribution from Uncommitted Funds	$830,864.50	
Local Contribution	$0.00	
Total Priest Lake Construction Project Revenue		**$5,000,000.00**
Mott MacDonald Expenditures (CON01484)	$0.00	
Strider Construction - Outlet Dam Expenditures (CON01480)	$0.00	
Strider Construction - Thorofare Expenditures (CON01481)	$0.00	
Total Priest Lake Construction Project Expenditures		**$0.00**
Cash Balance Priest Lake Construction Project		**$5,000,000.00**
Commited Funds		
Mott MacDonald Contract (CON01484)	$579,744.00	
Strider Construction - Outlet Dam (CON01480)	$2,047,057.50	
Strider Construction - Thorofare (CON01481)	$1,542,334.00	
Construction Contingency	$830,864.50	
TOTAL COMMITTED FUNDS	$5,000,000.00	
Uncommitted Priest Lake Construction Project Balance		**$0.00**

Bell Rapids Water Rights Sub-Account		
Legislative Appropriation 2005, HB392	$21,300,000.00	
Bureau of Reclamation Payments Received	$29,446,335.46	
Remaining balance in ESPA Sub-Account	$341,759.55	
Interest Earned State Treasury	$698,613.04	
Total Bell Rapids Water Rights Sub-Account Revenue		**$51,786,708.05**
Bell Rapids Purchase	($22,041,697.55)	
Transfer to General Fund - P&I	($22,072,052.06)	
Payment to US Bank for Alternative Financing Note	($7,118,125.86)	
Payment for Water District 02 Assessments	($91,397.61)	
Payment for Ongoing Bell Rapids Finance Costs (trustee fees, water bank	($6,740.10)	
Total Bell Rapids Water Rights Sub-Account Expenditures		**($51,330,013.18)**
Cash Balance Bell Rapids Water Rights Sub-Account		**$456,694.87**
Commited Funds		
Ongoing Bell Rapids Finance Costs (trustee fees, WD02)	$456,694.87	
TOTAL COMMITTED FUNDS	$456,694.87	
Uncommitted Bell Rapids Water Rights Sub-Account Balance		**$0.00**
Pristine Springs Project Sub-Account		
Rental Payments to be Transferred to Secondary Aquifer Fund	$961,675.10	
Loan Interest	$2,582,741.32	
Loan Principal from Magic Valley & North Snake GWD	$5,880,897.66	
Total Pristine Springs Project Revenue to be Transferred		**$9,425,314.08**
Total Pristine Springs Project Revenue Transferred to 0129-01	($5,129,300.00)	
Total Pristine Springs Project Revenue Transferred to 0129	($4,296,000.00)	
Total Pristine Springs Project Sub-Account Transfers		**($9,425,300.00)**
Cash Balance Pristine Springs Sub-Account		**$14.08**
Pristine Springs Committed Funds		
Loan Payments to be transferred to 0129	$0.00	
TOTAL COMMITTED FUNDS	$0.00	
Loans Outstanding for Purchase of PS Water Rights		
Loan to North Snake & Magic Valley GWD	$10,000,000.00	
Payments from North Snake & Magic Valley GWD	($5,880,897.66)	
Total Loans Outstanding	$4,119,102.34	
Uncommitted Pristine Springs Sub-Account		**$14.08**
Rathdrum Prairie CAMP & Treasure Valley CAMP Sub-Account		
Pristine Springs Hydropower and Rental Revenues	$271,672.34	
Interest Earned State Treasury	$573.11	
Rathdrum Prairie CAMP & Treasure Valley CAMP Sub-Account Revenue		**$272,245.45**
Spokane River Forum	($23,000.00)	
Treasure Valley Water Quality Summit	($500.00)	
Kootenai-Shoshone Soil & Water Cons. Dist. - Agrimet Station	($20,000.00)	
Rathdrum Prairie-Spokane Valley Aquifer Pumping Study (CON00989)	($70,000.00)	
Idaho Washington Aquifer Collaborative	($10,000.00)	
Rathdrum Prairie CAMP & Treasure Valley CAMP Sub-Account Expenditures		**($123,500.00)**
Cash Balance Rathdrum Prairie CAMP & Treasure Valley CAMP Sub-Account		**$148,745.45**
Committed Funds		
Spokane River Forum	$0.00	
TOTAL COMMITTED FUNDS	$0.00	
Uncommitted Rathdrum Prairie CAMP & TV CAMP Sub-Account		**$148,745.45**
Upper Salmon/CBWTP Sub-Account		
Water Transaction Projects Payment Advances from CBWTP/Accord	$6,665,043.76	
PCSRF Funds for Admin of Non-Diversion Easements on Lemhi River	$207,837.16	
Interest Earned State Treasury	$354,106.88	
Upper Salmon/CBWTP Sub-Account Revenue		**$7,226,987.80**
Transfer to Water Supply Bank	($109,678.19)	
Change of Ownership	($600.00)	
Appraisals/Closing Costs	($13,905.98)	
Payments for Water Acquisition	($2,948,173.36)	
Upper Salmon/CBWTP Sub-Account Expenditures		**($3,072,357.53)**
Cash Balance CBWTP Sub-Account		**$4,154,630.27**
Committed Funds		
Administration of Non-Diversion Easements on Lemhi River	$137,840.61	
Bayhorse Creek (Peterson Ranch)	$27,317.73	
Badger Creek (OWBP) WSB	$2,389.10	
Beaver Creek (DOT LLP)	$109,430.78	
Big Timber Tyler (Leadore Land Partners)	$388,293.79	
Bohannon Creek DJ (Barbara Stokes)	$844,973.14	
Bohannon Creek BS (Betty Stokes)	$415,520.54	
Canyon Creek/Big Timber Creek (Beyeler)	$366,865.77	
Carmen Creek (Bill Slavin)	$200,711.39	
Carmen Creek (Bruce Slavin)	$125,947.97	
Fourth of July Creek (Defiance Investments)	$14,486.34	
Iron Creek (Koncz)	$169,266.51	
Kenney Creek Source Switch (Gail Andrews)	$21,185.36	
Lemhi - Big Springs (Merrill Beyeler)	$52,340.29	
Lemhi River & Little Springs Creek Kauer (McFarland Livestock Co)	$17,631.52	
Little Springs Creek (Snyder)	$235,821.48	
Lower Eighteenmile Creek (Ellsworth Angus Ranch)	$1,777.78	
Lower Lemhi Thomas (Robert Thomas)	$900.00	
P-9 Bowles (River Valley Ranch)	$227,185.67	
P-9 Charlton (Sydney Dowton)	$15,090.97	
P-9 Dowton (Western Sky LLC)	$180,837.82	
P-9 Elzinga (Elzinga)	$223,681.59	

Patterson-Big Springs PBSC9 (Silver Bit Angus/S Whitworth)	$158,152.47	
Pole Creek (Salmon Falls Land)	$612,837.42	
Pratt Creek (Mulkey)	$79,287.64	
Spring Creek (Richard Beard)	$2,070.98	
Spring Creek (Ella Beard)	$3,030.79	
Whitefish (Leadore Land Partners)	$132,035.53	
Total Committed Funds	$4,766,910.98	
Uncommitted CBWTP Sub-Account Balance		**($612,280.71)**
Water Supply Bank Sub-Account		
Interest Earned State Treasury	$33,529.42	
Payments received from renters	$4,630,821.39	
Payments made to owners	($4,051,125.38)	
Cash Balance Water Supply Bank Sub-Account		**$613,225.43**
Committted Funds:		
Owners Share	$579,696.01	
Total Committed Funds	$579,696.01	
Uncommitted Water Supply Bank Sub-Account Balance		**$33,529.42**
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	$2,074,293.81	
Loan Interest	$277,068.85	
Reimbursement from Commerce & Labor W-Canal	$74,709.77	
Reimbursement from MVGWD & NSGWD-Pristine Springs	$1,000,000.00	
Reimbursement from Water District 1 for Recharge	$159,764.73	
Reimbursement from BOR for Palisades Reservoir	$2,381.12	
Black Canyon Exchange Project Revenues	$23,800.00	
Eastern Snake Plain Sub-Account Revenue		**$13,812,018.28**
Installment payments to Bell Rapids Irr Co	($3,375,180.00)	
Interest Credit due to Bureau of Reclamation (Part of Fourth Installment)	($19,860.45)	
Pristine Springs Project Costs	($6,863.91)	
Palisades (FMC) Storage Costs	($3,522,608.25)	
W-Canal Project Costs	($326,834.11)	
Additional recharge projects preliminary development	($7,919.75)	
Transfer to Bell Rapids Sub Account	($341,759.55)	
Transfer to Pristine Springs Sub Account	($1,000,000.00)	
Transfer to Priest Lake Sub-Account (2018 HB 677, Sec 6)	($2,419,580.50)	
Eastern Snake Plain Sub-Account Expenditures		**($12,136,023.14)**
Cash Balance Eastern Snake Plain Sub-Account		**$1,675,995.14**
Loans and Other Commitments		
Commitment - Additional recharge projects preliminary development	$337,594.00	
Commitment - Palasades Storage O&M	$3,221.64	
Commitment - Black Canyon Exchange Project (fund with ongoing revenu	$442,252.95	
Total Loans and Other Commitments	$783,068.59	
Eastern Snake Plain Sub-Account Balance after Committments		**$892,926.55**
CREP Loans Outstanding:		
American Falls-Aberdeen GWD (CREP)	$36,140.40	
Bonneville Jefferson GWD (CREP)	$25,669.18	
Magic Valley GWD (CREP)	$34,596.98	
North Snake GWD (CREP)	$0.00	
TOTAL ESP CREP LOANS OUTSTANDING	$96,406.56	
Uncommitted Eastern Snake Plain Sub-Account Balance		**$796,519.99**
Dworshak Hydropower Project		
Power Sales & Other	$11,947,795.73	
Interest Earned State Treasury	$899,041.68	
Total Dworshak Project Revenue		**$12,846,837.41**
Transferred to 1st Security Trustee Account	$148,542.63	
Construction not paid through bond issuance	$226,106.83	
First Security Fees	$314,443.35	
Operations & Maintenance	$3,104,096.28	
Powerplant Repairs	$180,409.72	
Bond payoff	$391,863.11	
Capital Improvements	$318,366.79	
FERC Payments	$126,945.85	
Total Dworshak Project Expenditures		**($4,810,774.56)**
Cash Balance Dworshak Hydropower Project		**$8,036,062.85**
Dworshak Project Committed Funds		
Emergency Repair/Future Replacement Fund	$2,187,793.83	
FERC Fee Payment Fund	$0.00	
Total Dworshak Project Committed Funds	$2,187,793.83	
Uncommitted Dworshak Hydropower Project Sub-Account Balance		**5,848,269.02**
TOTAL		**$30,603,340.02**

Loans Outstanding:	**Amount Loaned**	**Principal Balance**
A&B Irrigation District (Pipeline & Pumping Plant, Dec)	$3,500,000.00	$2,828,441.07
A&B Irrigation District (Pipeline & Pumping Plant, Sept)	$3,500,000.00	$2,827,439.73
Bee Line Water Association (Sep 23, 2014; System Improvements)	$600,000.00	$559,153.10
Canyon County Drainage District No. 2 (28-Nov-12; Drain tile pipeline repla	$35,000.00	$12,396.42
Chaparral Water Association (21-Jan-11; Well deepening & improvement)	$68,000.00	$3,084.48
Clearview Water Company	$50,000.00	$26,899.32
Consolidated Irrigation Company (July 20, 2012; pipeline project)	$500,000.00	$429,479.93
Dalton Water Association	$1,036,900.00	$724,980.50

Evans Water Corporation & HOA	$20,000.00	$15,260.86	
Foothill Ranch Homeowners Association (7-oct-11; well rehab)	$150,000.00	$75,413.69	
Goose Lake Reservoir Corp	$320,000.00	$275,815.80	
Idaho Ground Water Appropriators (IGWA)	$3,208,115.35	$0.00	
Jefferson Irrigation Company (9-May-2008 Well Replacement)	$81,000.00	$0.00	
Last Chance Canal Company (14-July-2015, diversion dam rebuild)	$2,500,000.00	$1,797,076.87	
Lindsay Lateral Association (Engineering Design Project & Pipeline Study)	$19,700.00	$3,374.78	
Marsh Center Irrigation Company (13-May-05; Hawkins Dam)	$236,141.00	$9,679.08	
Marysville Irrigation Company (9-May-08, Pipeline Project Phase 2)	$1,100,000.00	$179,447.80	
Milner Irrigation District (pipeline replacement)	$2,000,000.00	$2,000,000.00	
North Fremont Canal Company (Pipeline Project Phase 3)	$4,300,000.00	$3,203,120.63	
North Side Canal Company (Phase 1 - canal rehab project)	$1,846,092.61	$1,619,931.76	
North Side Canal Company (Phase 2 & 3 - canal rehab project)	$2,711,115.08	$2,534,910.90	
Outlet Water Association (22-Jan-16; new well & improvements)	$100,000.00	$68,815.95	
Pinehurst Water District (23-Jan-15)	$100,000.00	$37,755.72	
Point Springs Grazing Association (July 20, 2012; stock water pipeline)	$48,280.00	$17,249.85	
Producers Irrigation Company	$102,127.50	$29,118.74	
Riverland Terrace Nonprofit Water	$236,000.00	$175,284.18	
St. Johns Irrigating Company (14-July-2015; pipeline project)	$1,417,905.22	$1,241,715.87	
Sunset Heights Water District (17-May-13; Exchange water project)	$48,000.00	$0.00	
Twin Lakes Canal Company (Winder Lateral Pipeline Project)	$500,000.00	$132,221.75	
Valley County Local Improvement District No. 1/Jughandle HOA (well projec	$907,552.00	$432,335.40	
TOTAL LOANS OUTSTANDING			**$21,260,404.18**
Loans and Other Funding Obligations:			
Senate Bill 1511 - Teton Replacement and Minidoka Enlargement Studies		$570,539.82	
Weiser-Galloway Study (28-May-10)		$444,549.29	
Priest Lake Construction Project		$5,000,000.00	
Milner Irrigation District (pipeline replacement)		$0.00	
North Fremont Canal Company		$500,000.00	
Riverland Terrace Nonprofit Water		$60,715.82	
TOTAL LOANS AND OTHER FUNDING OBLIGATIONS			**$6,575,804.93**
Uncommitted Funds			**$2,767,130.91**
TOTAL			**$30,603,340.02**

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

Idaho Water Resource Board
Sources and Applications of Funds
as of September 30, 2020
WATER MANAGEMENT ACCOUNT

Original Appropriation (1978)		$1,000,000.00
Transfer funds to General Account 1101(HB 130, 1983)		($500,000.00)
Legislative Appropriation (6/29/1984)		$115,800.00
Legislative Appropriation (SB1239, 2001)		$200,000.00
Interest Earned		$123,432.66
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 (HB988, 1994)		$75,000.00
Reverted to General Account 6/30/95, (HB988, 1994)		($35,014.25)
Legislative Appropriation (SB1260, 1995, Aquifer Recharge, Caribou Dam)		$1,000,000.00
Legislative Appropriation (SB1239, 2001, Sugarloaf Aquifer Recharge Project)		$60,000.00
Reverted to General Fund 1/22/19, (SB1239, 2001, Sugarloaf Aquifer Recharge Project)		($4,046.31)
Legislative Appropriation (HB 843 Sec 6, 2004, ESPA Settlement Water Rentals)		$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
Lemhi River Water Right Appraisals		($31,000.00)
Legislative Audits		($10,645.45)
IWRB Appraisal Study (Charles Thompson)		($5,000.00)
Western States Water Council Annual Dues		($7,500.00)
Transfer to/from Revolving Development Account		($317,253.80)
Recharge Projects		($11,426.88)
Grants Disbursed		($1,632,755.21)
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, 2001)		($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)
CASH BALANCE		**$120,201.88**
Large Projects Program Sub-Account		
Legislative Appropriation (HB 285, Sec 1, 2019)	$20,000,000.00	
Interest Earned State Treasury	$494,104.36	
Total Revenue for Large Projects Program Sub-Account		**$20,494,104.36**
	$0.00	
	$0.00	
Total Expenditures for Flood Management Program Sub-Account		**$0.00**
Cash Balance for Large Projects Program Sub-Account		**$20,494,104.36**
Water Quality Collection Program Sub-Account		
Legislative Appropriation (HB 285, Sec 3, 2019)	$200,000.00	
Legislative Appropriation (HB 646, Sec 5, 2020)	$200,000.00	
Interest Earned State Treasury	$4,634.79	
Total Revenue for Water Quality Collection Program Sub-Account		**$404,634.79**
DOI-USGS Agreement - Mid-Snake River	($200,000.00)	
	$0.00	
Total Expenditures for Water Quality Collection Program Sub-Account		**($200,000.00)**
Cash Balance for Water Quality Collection Program Sub-Account		**$204,634.79**
Flood Management Program Sub-Account		
Legislative Appropriation (HB 712, Sec 1, 2018, Flood Management Program)	$1,000,000.00	
Legislative Appropriation (HB 285, Sec 3, 2019, Flood Management Program)	$800,000.00	
Legislative Appropriation (HB 646, Sec 5, 2020, Flood Management Program)	$800,000.00	
Interest Earned State Treasury	$26,742.62	
Total Revenue for Flood Management Program Sub-Account		**$2,626,742.62**
Grants Disbursed for Leg Approp (HB 712, Sec 1, 2018, Flood Mgmt Pg)	($901,677.56)	
Grants Disbursed for Leg Approp (HB 285, Sec 3, 2019, Flood Mgmt Pg)	($104,577.13)	
Total Expenditures for Flood Management Program Sub-Account		**($1,006,254.69)**
Cash Balance for Flood Management Program Sub-Account		**$1,620,487.93**
TOTAL		**$22,439,428.96**

Grants and Other Funding Obligations	**Grant**		**Remaining**
Flood Management Program grants - Year 1 (HB712, Sec 1, 2018)	**Amount**	**Expenditures**	**Balance**
Flood Control District 9 (CON01303)	***90,000.00***	***(84,851.70)***	***5,148.30***
Blaine County (CON01304)	***121,331.00***	***(121,331.00)***	***0.00***
Cassia County (CON01305)	***42,336.38***	***(19,618.16)***	***22,718.22***
Flood Control District 10 (CON01306 - New Dry Creek River Bank)	***78,400.00***	***(62,156.50)***	***16,243.50***
Flood Control District 10 (CON01307 - Duck Alley Pit Capture)	***153,550.00***	***(105,470.43)***	***48,079.57***
Flood Control District 10 (CON01308 - Porter & Mulchay Gravel Removal)	***38,808.00***	***(35,250.77)***	***3,557.23***
Clearwater Soil & Water Conservation Dist (CON01309)	***155,220.00***	***(155,219.00)***	***1.00***

Flood Control District 10 (CON01310 - Leighton & Wells Gravel Removal)	***22,000.00***	***(22,000.00)***	***0.00***	
Flood Control District 11 (CON01311)	57,675.00	(55,100.00)	2,575.00	
Twin Lakes/Flood Control Dist 17 (CON01312)	***7,750.00***	***(7,750.00)***	***0.00***	
Twin Falls Canal Company (CON01327)	***85,340.00***	***(85,340.00)***	***0.00***	
Nez Perce Soil & Water Conservation Dist (CON01328)	***115,460.00***	***(115,460.00)***	***0.00***	
Riverside Village HOA (CON01329)	***6,025.00***	***(6,025.00)***	***0.00***	
City of Pocatello (CON01330)	***26,105.00***	***(26,105.00)***	***0.00***	
Uncommitted from HB712 Year 1	*(95,747.82)*		*(95,747.82)*	
Total Committed Balance for Year 1	**904,252.56**	**(901,677.56)**	**2,575.00**	
Flood Management Program grants - Year 2 (HB285, Sec 3, 2019)				
City of Boise (CON01396)	***6,371.00***	***(6,371.00)***	***0.00***	
Blaine County (CON01397)	100,000.00		100,000.00	
Board of Controls Irrigation (CON01398)	***59,050.00***	***(57,827.50)***	***1,222.50***	
Clearwater Soil & Water Conservation District (CON01399)	190,492.37		190,492.37	
Clearwater Soil & Water Conservation District (CON01400)	72,727.39		72,727.39	
City of Hailey (CON01401)	50,000.00	(19,841.33)	30,158.67	
Flood Control District No. 10 (CON01402)	160,000.00		160,000.00	
Idaho Soil and Water Conservation District (CON01403) CANCELLED	***159,436.00***		***159,436.00***	
Idaho Soil and Water Conservation District (CON01404)	***21,619.50***	***(20,537.30)***	***1,082.20***	
Blaine County (CON01405)	50,000.00		50,000.00	
Uncommitted from HB285 Year 2	*(161,740.70)*		*(161,740.70)*	
Total Committed Balance for Year 2	**707,955.56**	**(104,577.13)**	**603,378.43**	
Flood Management Program grants - Year 3 (HB646, Sec 5, 2020)				
Flood Control District 10 - Boise River North Channel (CON01510)	47,500.00		47,500.00	
Flood Control District 10 - Boise River Canyon Reach 1 (CON01509)	175,000.00		175,000.00	
Idaho Soil & Water Conservation District - Sill Creek (CON01488)	10,960.28		10,960.28	
Idaho Soil & Water Conservation District - Lower Cottonwood Creek (CON01489)	27,935.20		27,935.20	
Idaho Soil & Water Conservation District - Clear Creek (CON01490)	18,570.60		18,570.60	
City of Bellevue - Lower Howard Preserve (CON01491)	57,880.00		57,880.00	
Clearwater Soil & Water Conservation District - Louse Creek (CON01492)	24,687.00		24,687.00	
Pioneer Irrigation District - Mason Creek (CON01493)	148,500.00		148,500.00	
Raft River Flood Control District 15 - (CON01494)	80,525.00		80,525.00	
Lewis Soil Conservation District - Alpine Road (CON01495)	18,425.30		18,425.30	
City of Orofino - Orofino Creek (CON01496)	200,000.00		200,000.00	
Twin Falls Canal Company & City of Twin Falls (CON01497)	50,962.00		50,962.00	
Uncommitted from HB646 Year 3	*0.00*		*0.00*	
Total Committed Balance for Year 3	**860,945.38**	**0.00**	**860,945.38**	
Committed for Flood Management Grants	**$2,473,153.50**	**($1,006,254.69)**	**$1,466,898.81**	
Other Funding Obligations				
ESPA Settlement Water Rentals (HB 843, 2004)		$16,000.00		
Legislative Appropriation (HB 285, Sec 1, 2019)		$20,000,000.00		
Legislative Appropriation (HB 285, Sec 3, 2019)		$200,000.00		
Legislative Appropriation (HB 646, Sec 5, 2020)		$200,000.00		
Committed for Other Funding Obligations			**$20,416,000.00**	
Uncommitted Funds				**$556,530.15**
TOTAL COMMITTED FUNDS BALANCE				**$21,882,898.81**

Bold and italicized indicates that project is completed and entity has received final payment

Memorandum

To: Idaho Water Resource Board

From: Brian Patton

Date: November 10, 2020

Re: Lemhi Settlement Update

Clive Strong and Norman Semanko will provide an update on the efforts with the Lemhi Settlement Working Group.

LEMHI SETTLEMENT GOALS AND OBJECTIVES

1. **SCR 137 Legislative Directive**: "Develop a comprehensive settlement that resolves current tensions and conflict that are the result of competing water supply demands in the Lemhi River Basin . . . consistent with past practices, future needs, and Idaho law."
2. **Lemhi Basin Biological and Business Settlement Goals** – "Conserve, restore, and enhance sufficient habitat to sustain viable fish populations while protecting private property rights and preserving and enhancing the farming and ranching lifestyle and economy of the Lemhi River Basin."
3. **Water Settlement Objectives**:
    a. Resolve state and private objections to pending applications and permit 74-16187 in Big Timber, Little Timber, Mill, Big Eightmile and Eighteenmile basins.
    b. Protect high flows throughout the Lemhi Basin consistent with the Lemhi Conservation Agreement.
    c. Protect minimum flows and flushing flow in selected tributary streams consistent with the Lemhi Basin biological and business settlement goals and the Basin 74 separate streams general provision.
    d. Provide for future development of new water rights consistent with objectives a. – c. above, and the Wild and Scenic subordination provisions.
    e. Minimize ESA risk to water users to the extent practicable.
    f. Develop recharge program

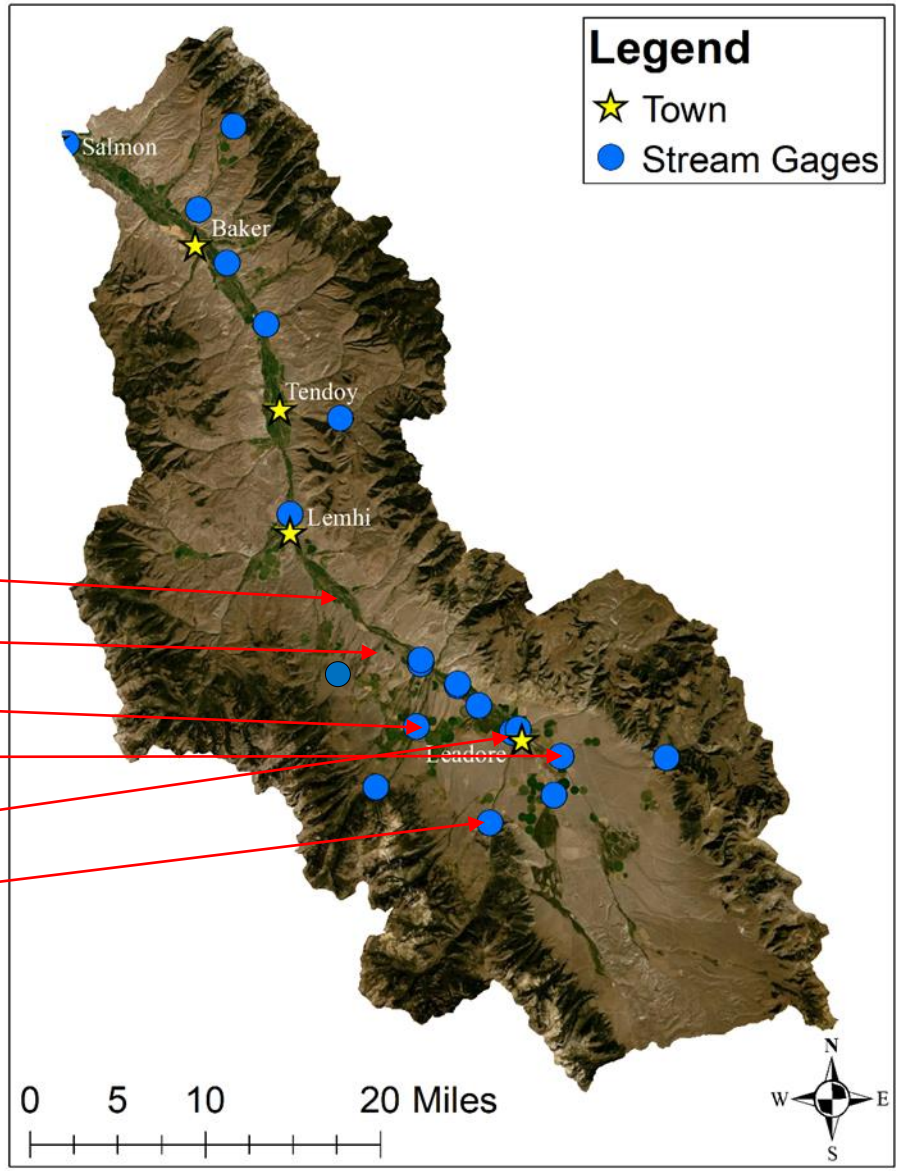
Streamflow Data of Interest to Lemhi Basin Water Users

Prepared by Ryan McCutcheon, Hydrogeologist, IDWR

Streams of Interest

- **Salmon River near Shoup, ID** stream gauge data is available from the U.S. Geological Survey.

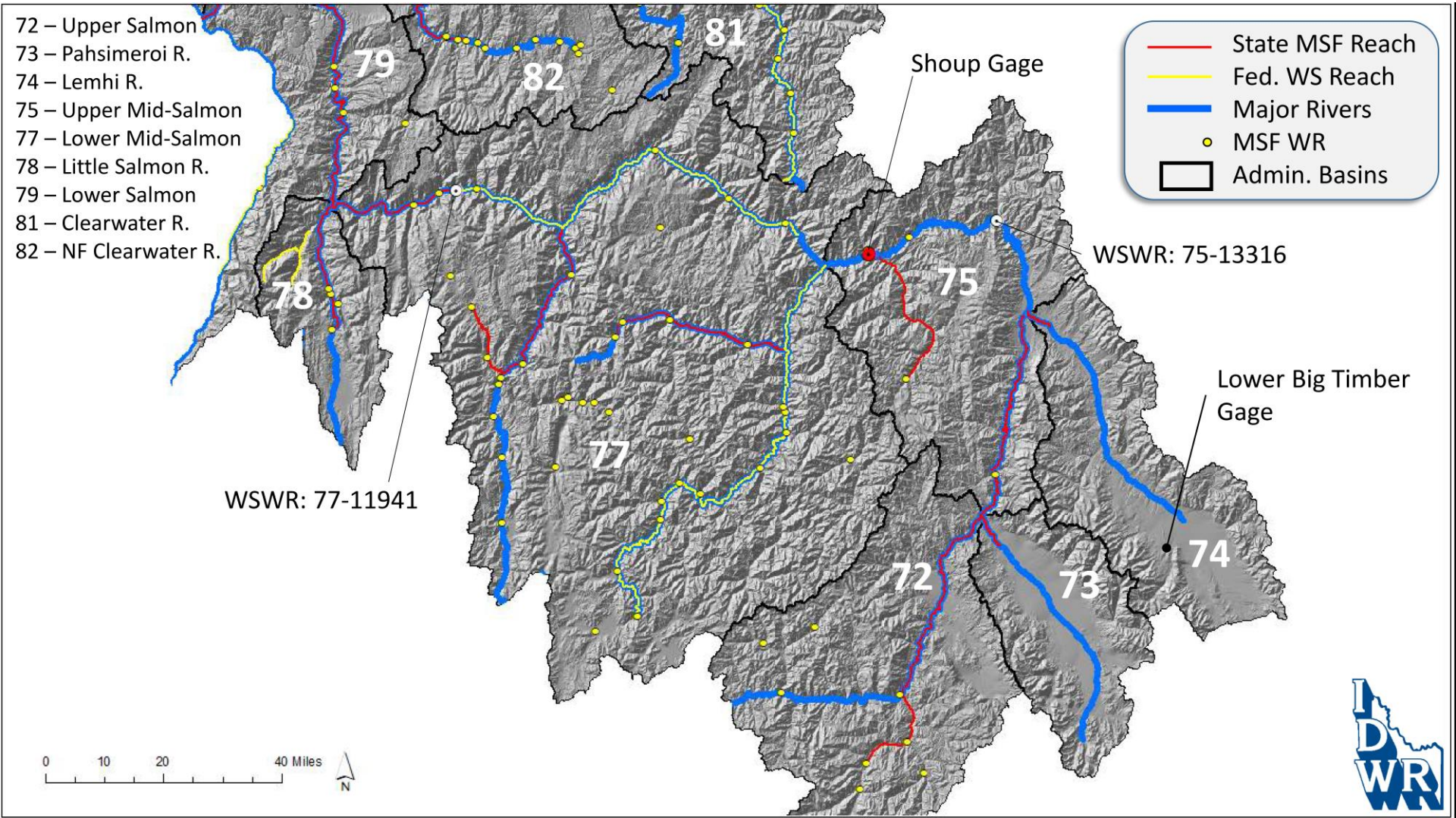
- Data for IDWR stream gauges is available at https://research.idwr.idaho.gov/apps/hydrologic/aquainfo/Home/Data#!/
  - **Lemhi River at McFarland**
  - **Mill Creek** (modeled)
  - **Big Eightmile Creek**
  - **Eighteenmile Creek**
  - **Big Timber Creek**
    - Lower
    - Upper



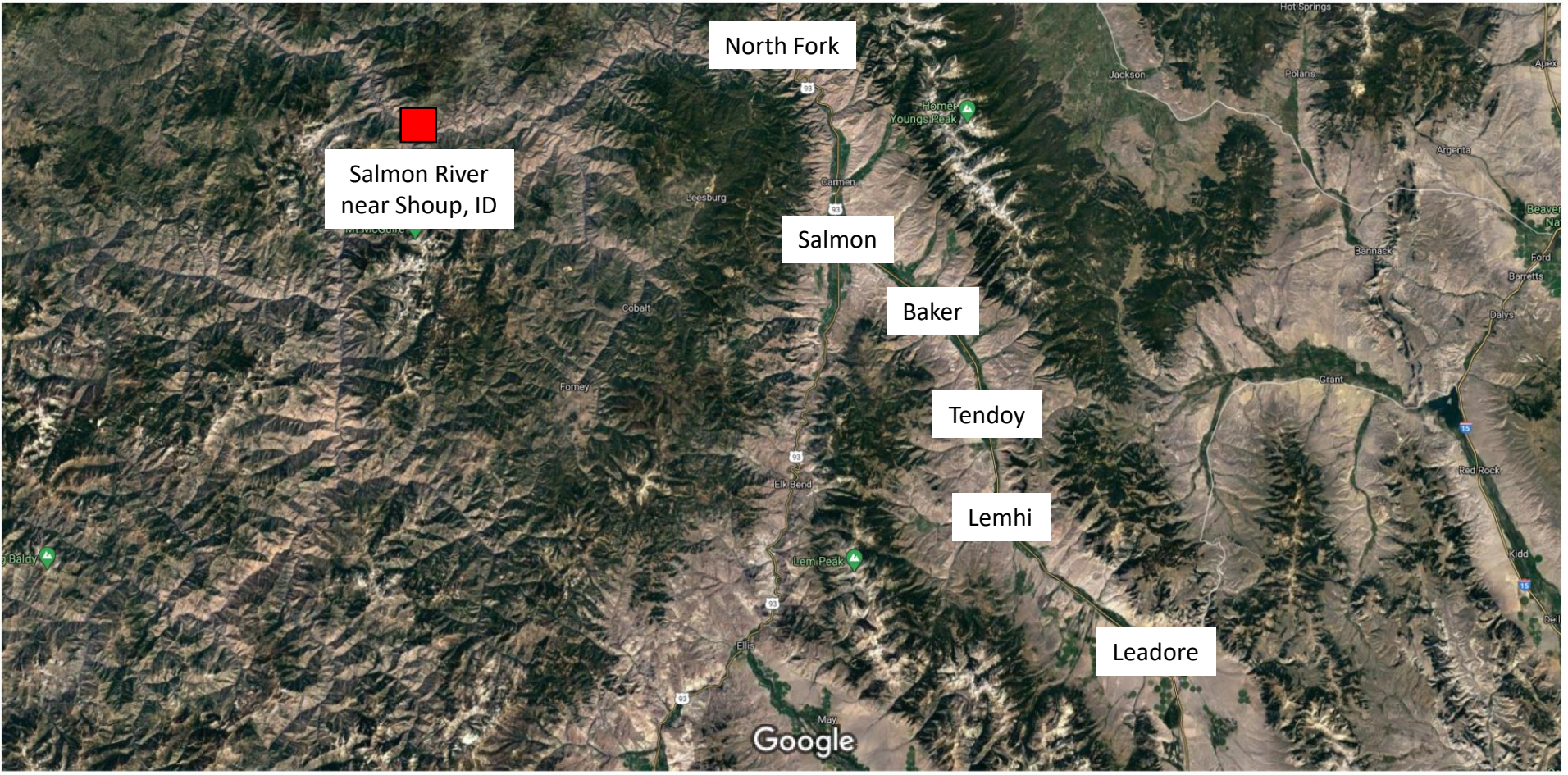
Figures Displayed in this Presentation

- **Hydrographs** plot stream discharge in cubic feet per second (CFS) on the y-axis and time (date) on the x-axis
- **Discharge Exceedance Frequency Graphs** plot stream discharge (CFS) on the y-axis and the frequency of occurrence (%) on the x-axis.
  - Depict the percentage of time that streamflow exceeds a value of interest.
  - For example, lets say you need to know how often discharge at the Salmon Shoup Gage is greater than 13,150 CFS in order to determine when a stream is in high flow regulation.
    - If discharge **exceeds** 13,150 CFS 2% of the time, then the trendline will run through the point in the graph where x = 2% and y = 13,150. This means that discharge is **less** than 13,150 CFS 98% of the time (100% - 2% = 98%).

Wild and Scenic Water Right Administrative Basins

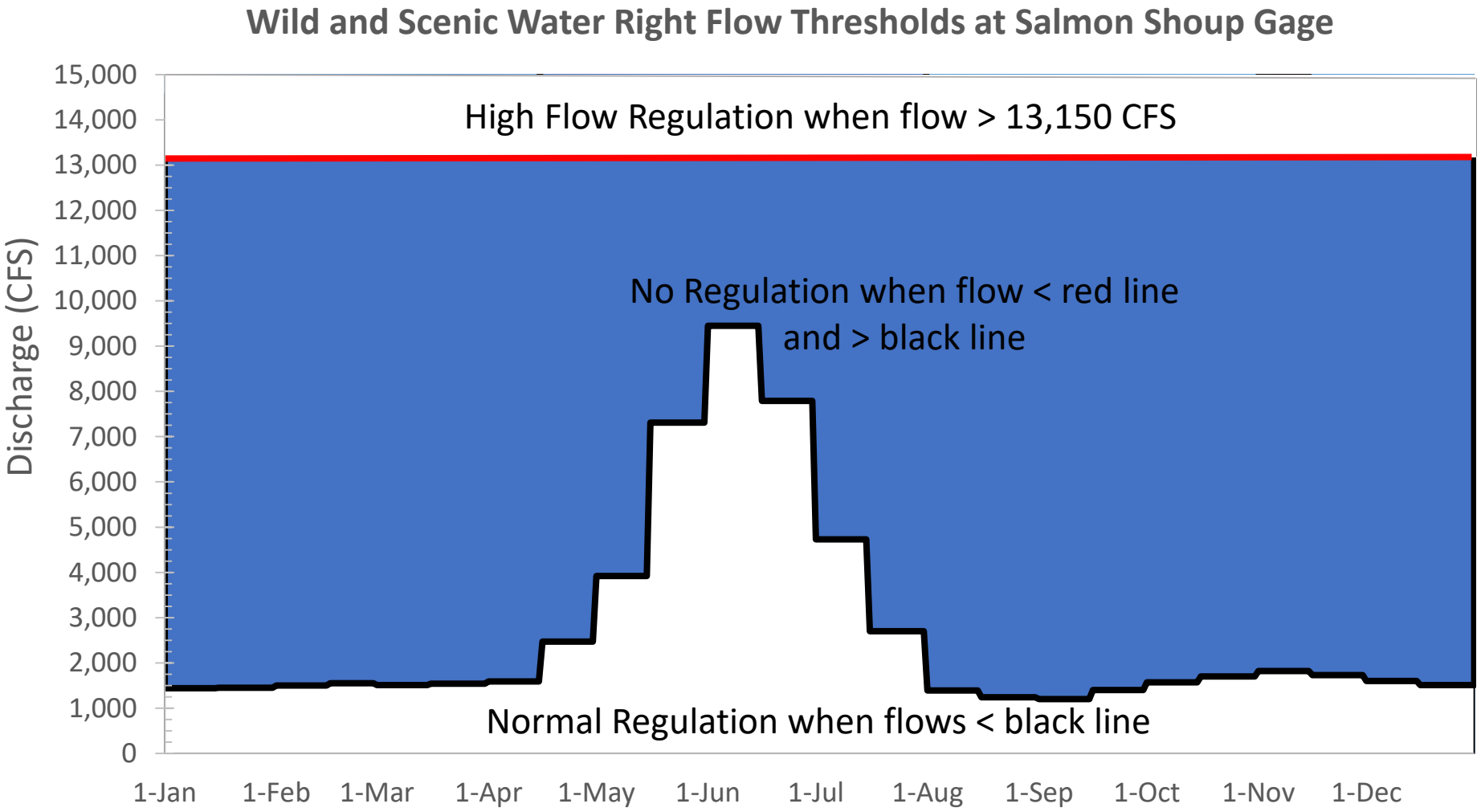


Salmon River near Shoup, ID (Salmon Shoup Gage)



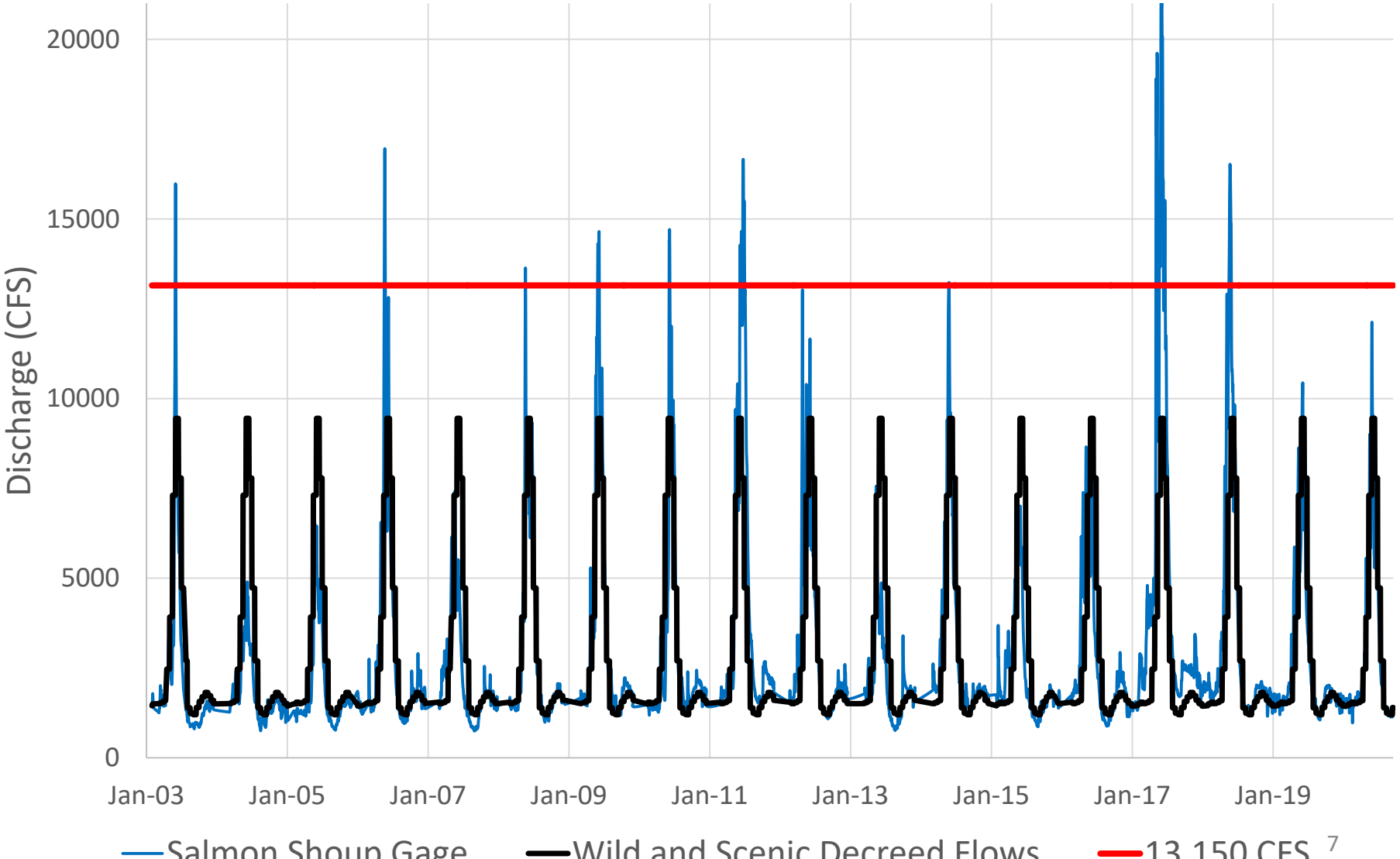
https://waterdata.usgs.gov/usa/nwis/uv?13307000

Administration of the Wild and Scenic Water Rights (WSWR), e.g. Regulation

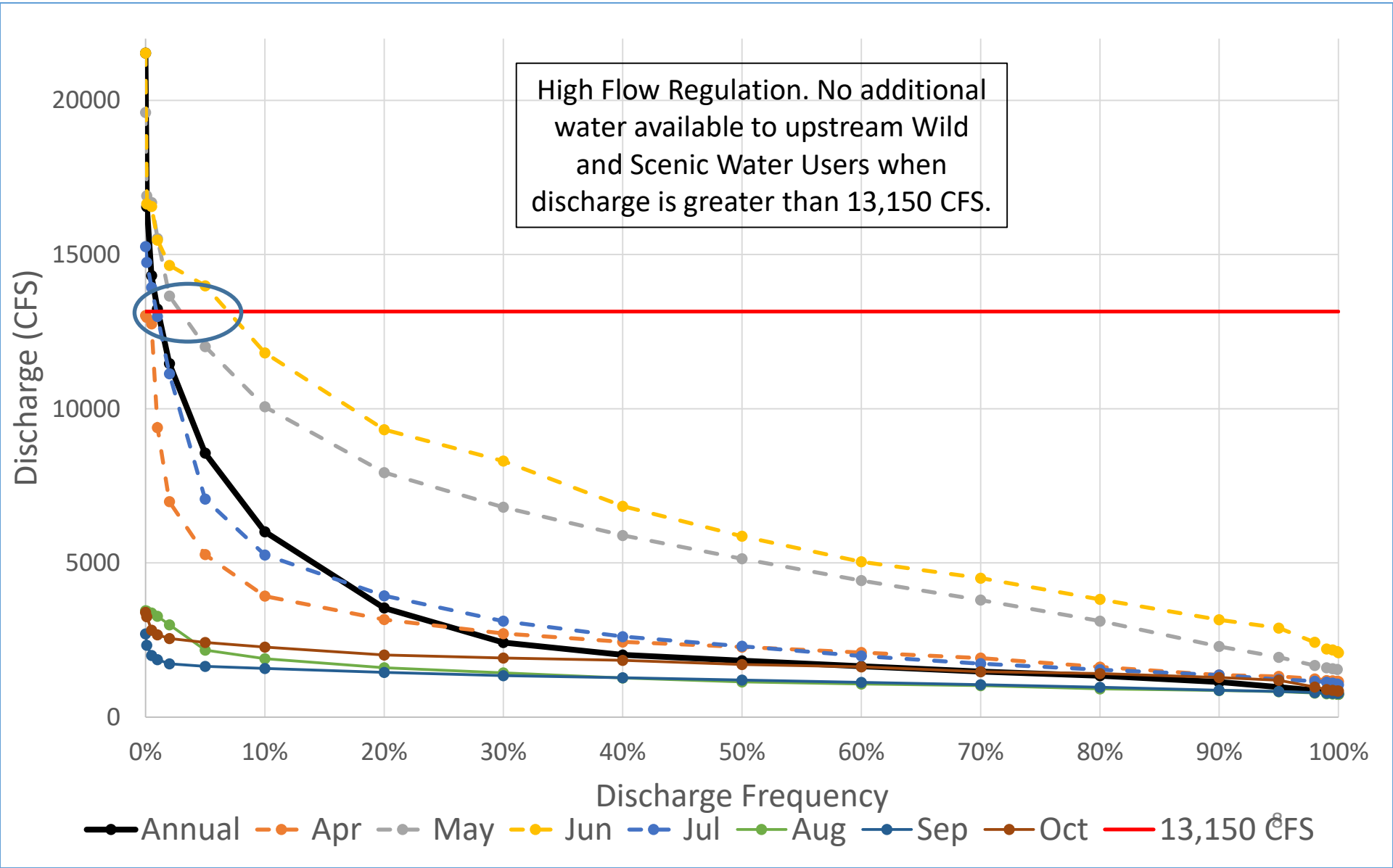


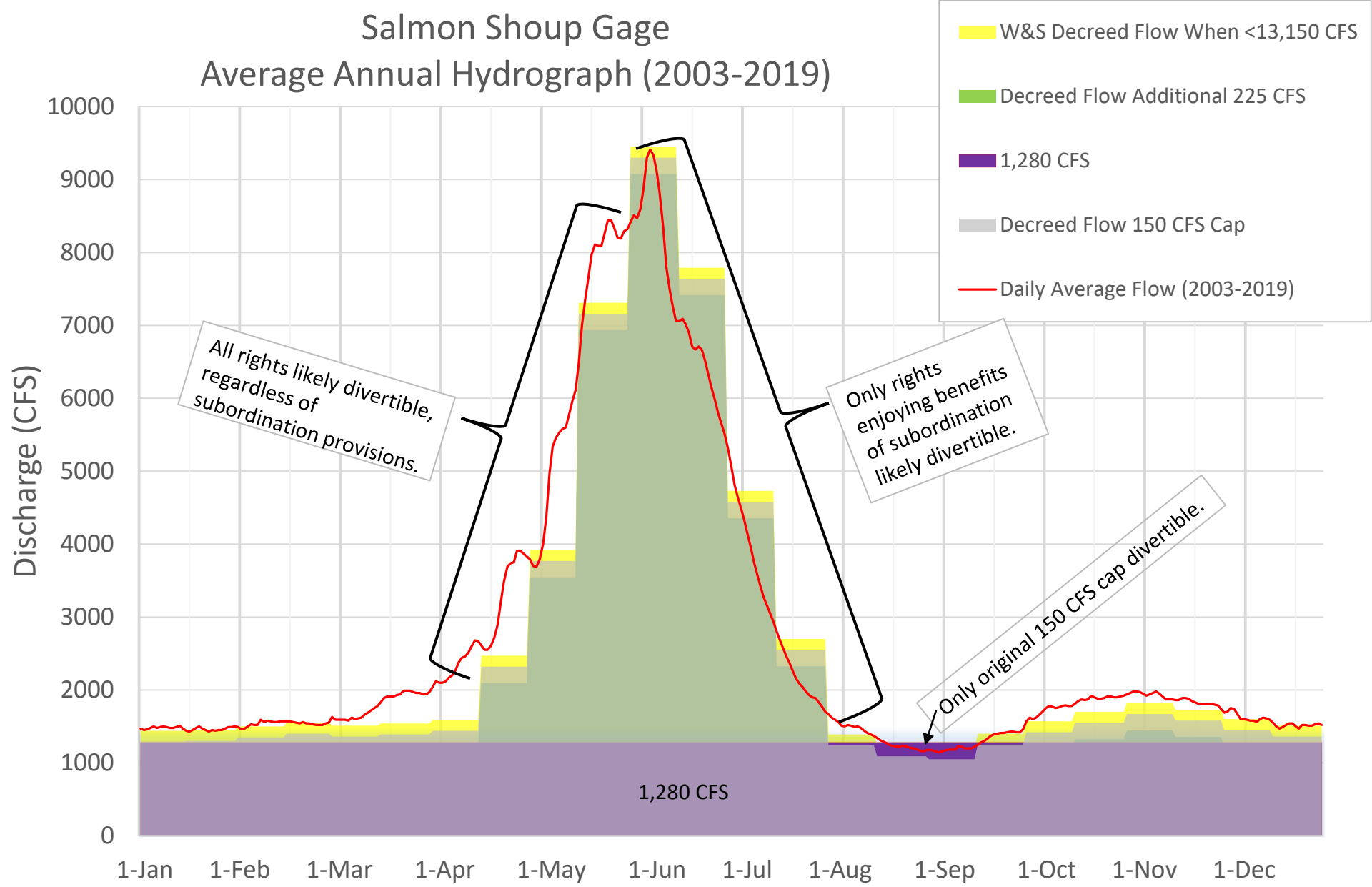
Administration of the Wild and Scenic Water Rights is detailed in the partial decree for Federal Reserved Water Rights 75-13316 and 77-11941 Salmon Wild and Scenic River. Link: https://www.idwr.Idaho.gov/water-rights/wild-and-scenic-rivers/

Salmon Shoup Gage and WSWR Decreed Flows (2003-2019)



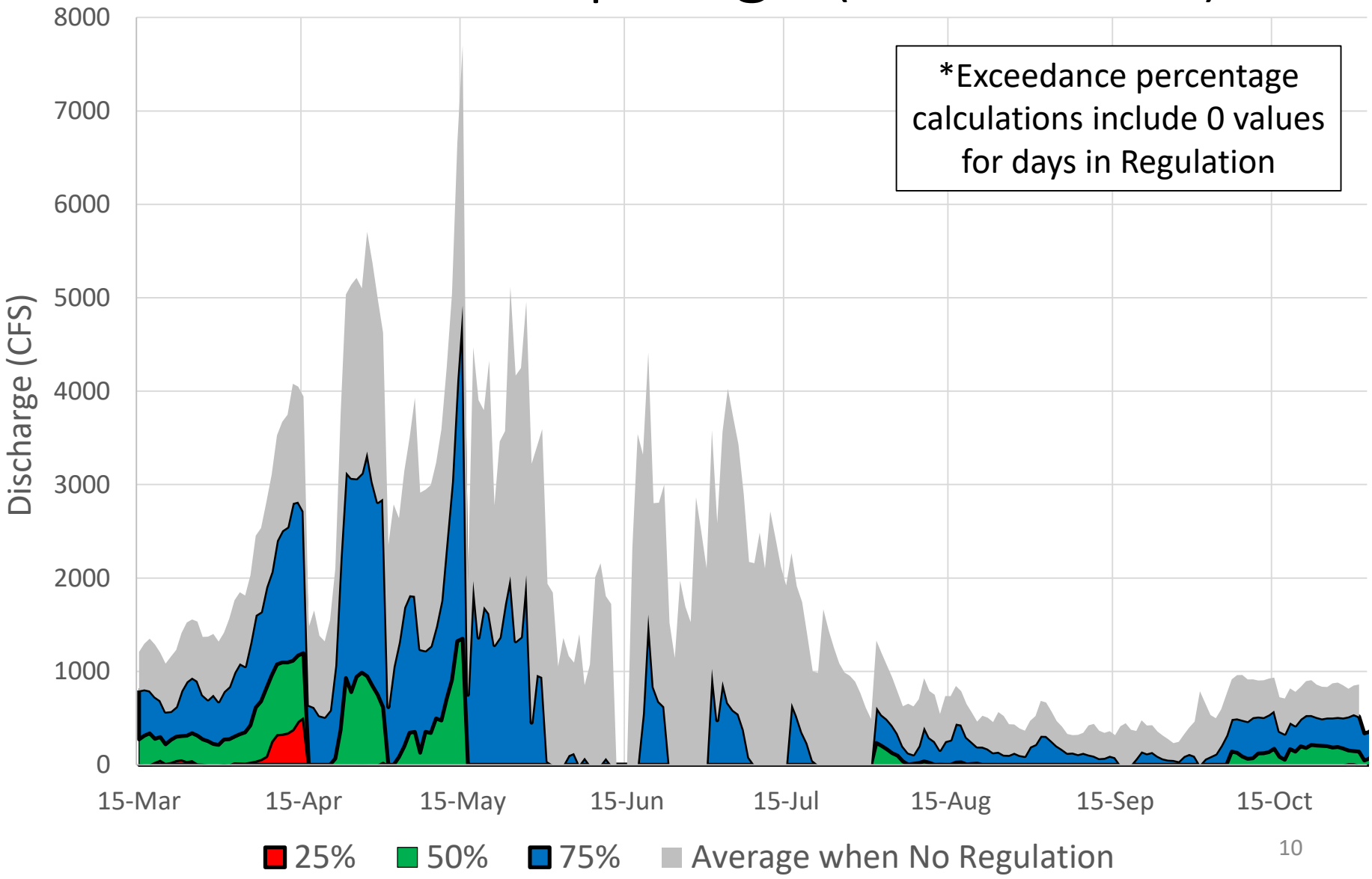
Salmon Shoup Gage Measured Discharge Exceedance Frequency (2003-2019)





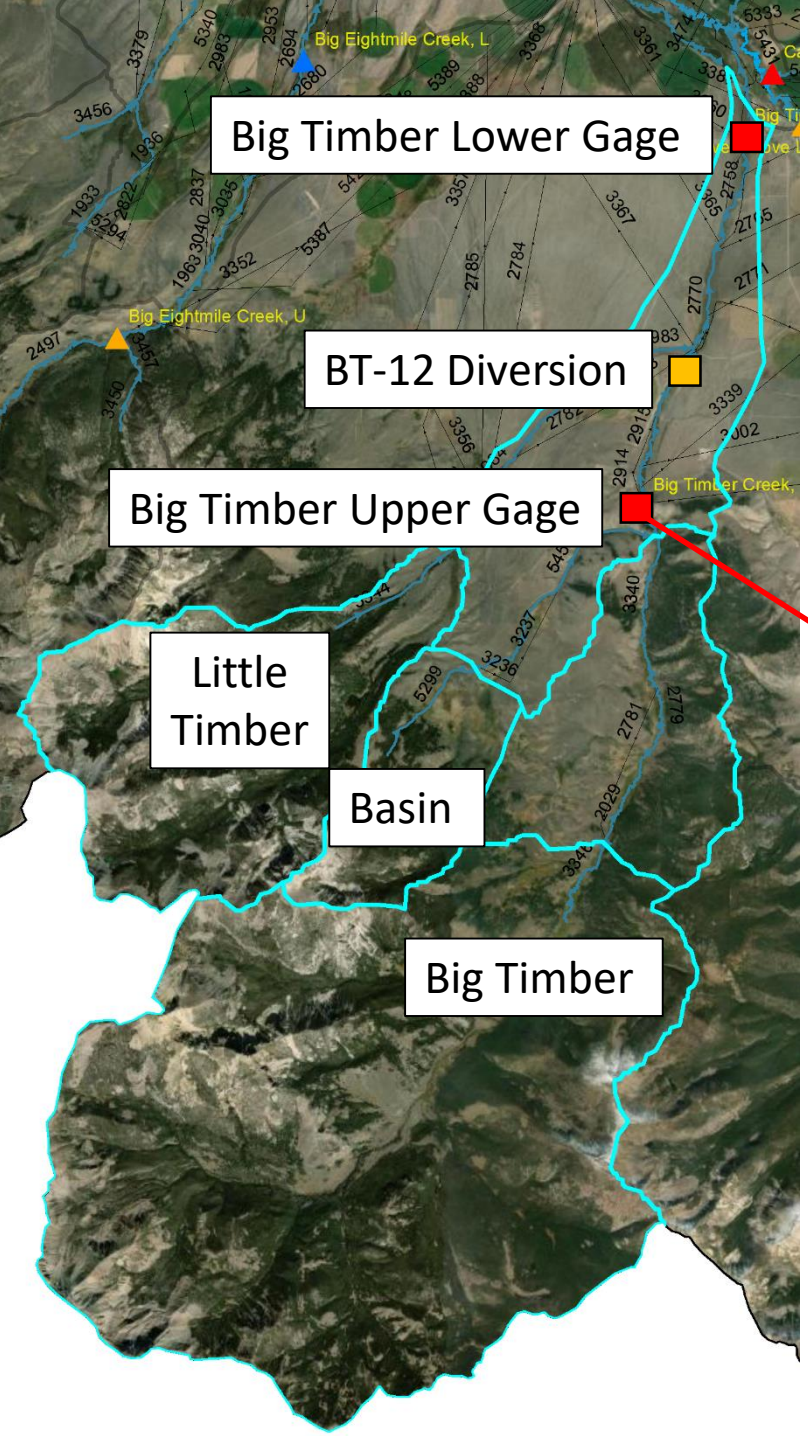
Modified from Scott Storms

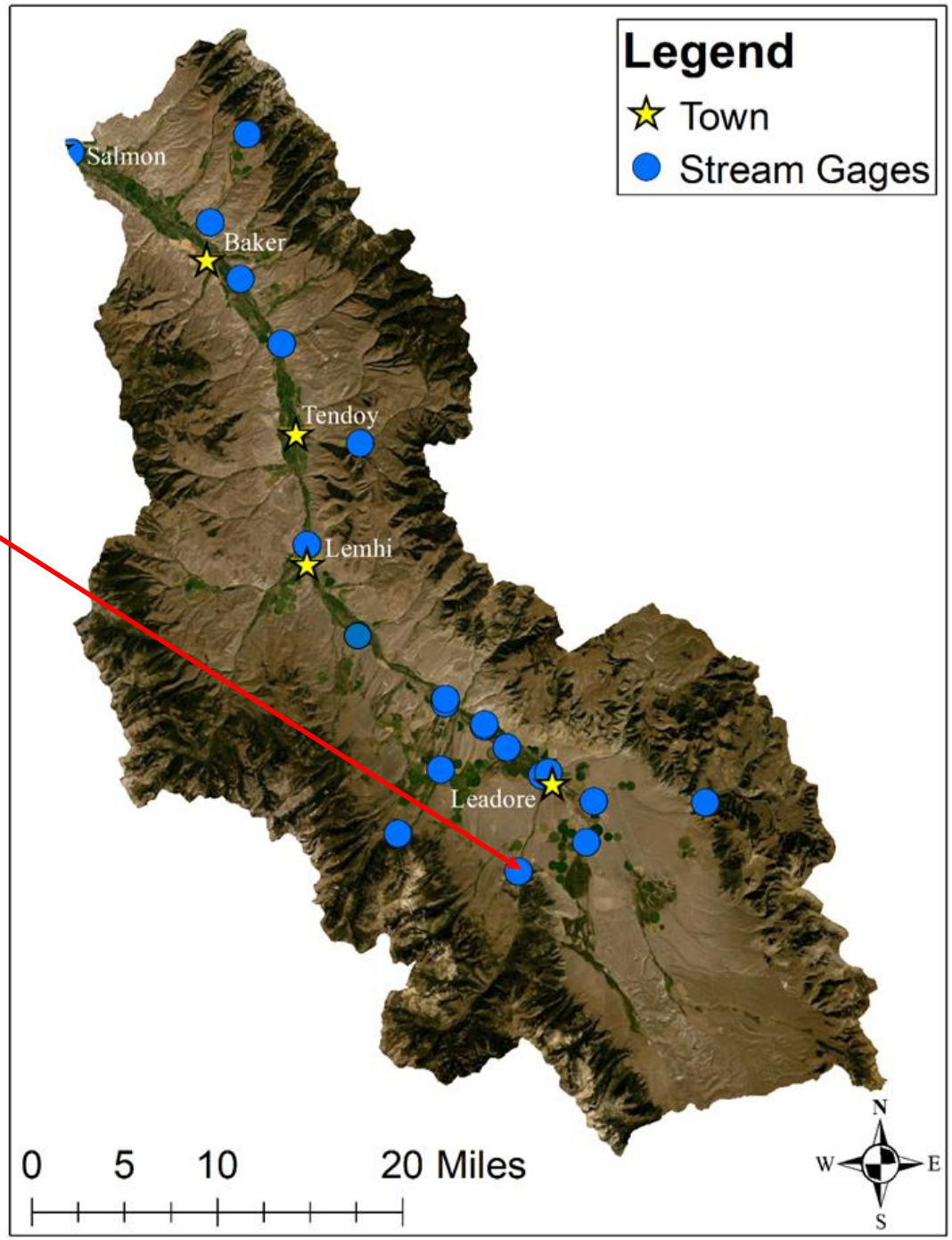
Water Available to Users Upstream of Salmon Shoup Gage (2003-2019)



Big Timber Creek

- Discussion regarding the below thresholds/conditions may be ongoing.
  - **Big Timber Lower Gage**: **18 CFS** - the optimum flowrate identified in the Big Timber Creek PHABSIM report at Study Site 1 for the greatest discharge required for optimum weighted usable area. This value was also included in the "Order on Exceptions; Final Order," in the matter of Application for Permit no. 74-16187, as the flowrate threshold below which the water right must cease diversions.
  - **BT-12 Diversion (Home Ditch)**
    - **54 CFS** - the optimum flowrate identified in the Big Timber Creek PHABSIM report at Study Site 5 for discharge required for adult salmonid passage using the 0.6 foot depth criterion. This value was also included in the "Order on Exceptions; Final Order," in the matter of Application for Permit no. 74-16187, as the flowrate threshold below which the water right must cease diversions.
    - **217 CFS** – the 20% annual exceedance flowrate for Study Site 5 (e.g., Big Timber Upper Gage) as determined by deducting diversion rates between the BT-12 Diversion and Big Timber Upper Gage. This value was also included in the "Order on Exceptions; Final Order," in the matter of Application for Permit no. 74-16187, as the flowrate threshold below which the water right must cease diversions (up to 10 days).
  - **Big Timber Upper Gage**:
    - **118 CFS** - the flowrate necessary to ensure 54 cfs of flow at the BT-12 Diversion and sufficient water (e.g., 64 cfs) to meet the combined authorized diversion rate of water rights with points of diversion between the Big Timber Upper Gage and the 12 BT Diversion.
    - **284 CFS** - the 20% annual exceedance flowrate for Study Site 7 (e.g., Big Timber Upper Gage) as reported in Table 4 of the Big Timber Creek PHABSIM. 10 days was enough to maintain channel according to the PHABSIM report.


Big Timber Lower Gage
Big Eightmile Creek, L
Big Eightmile Creek, U
BT-12 Diversion
Big Timber Upper Gage
Big Timber Creek,
Little Timber Basin
Big Timber


Legend
Town
Stream Gages
Salmon
Baker
Tendoy
Lemhi
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0 5 10 20 Miles
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W
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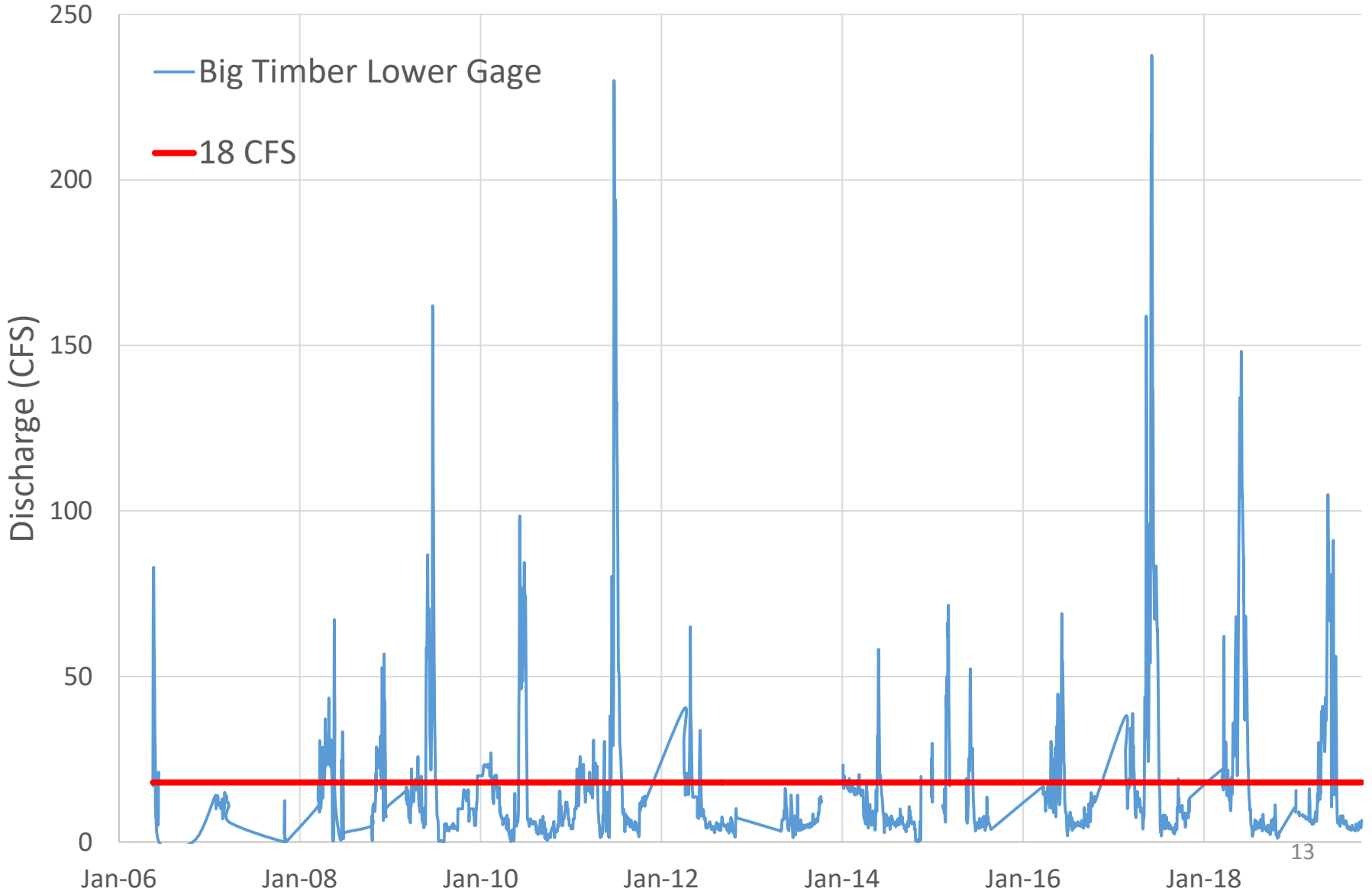
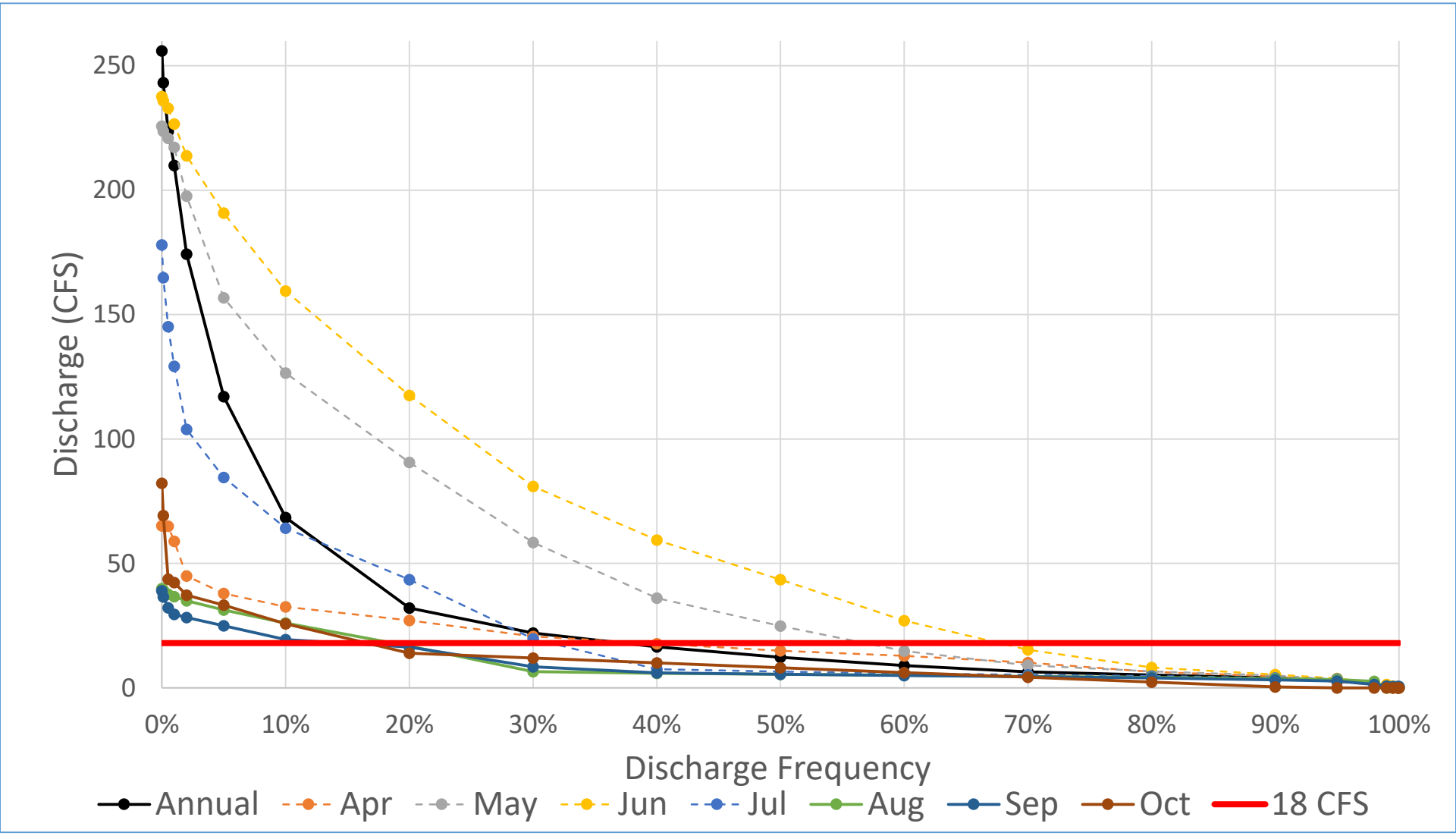
S

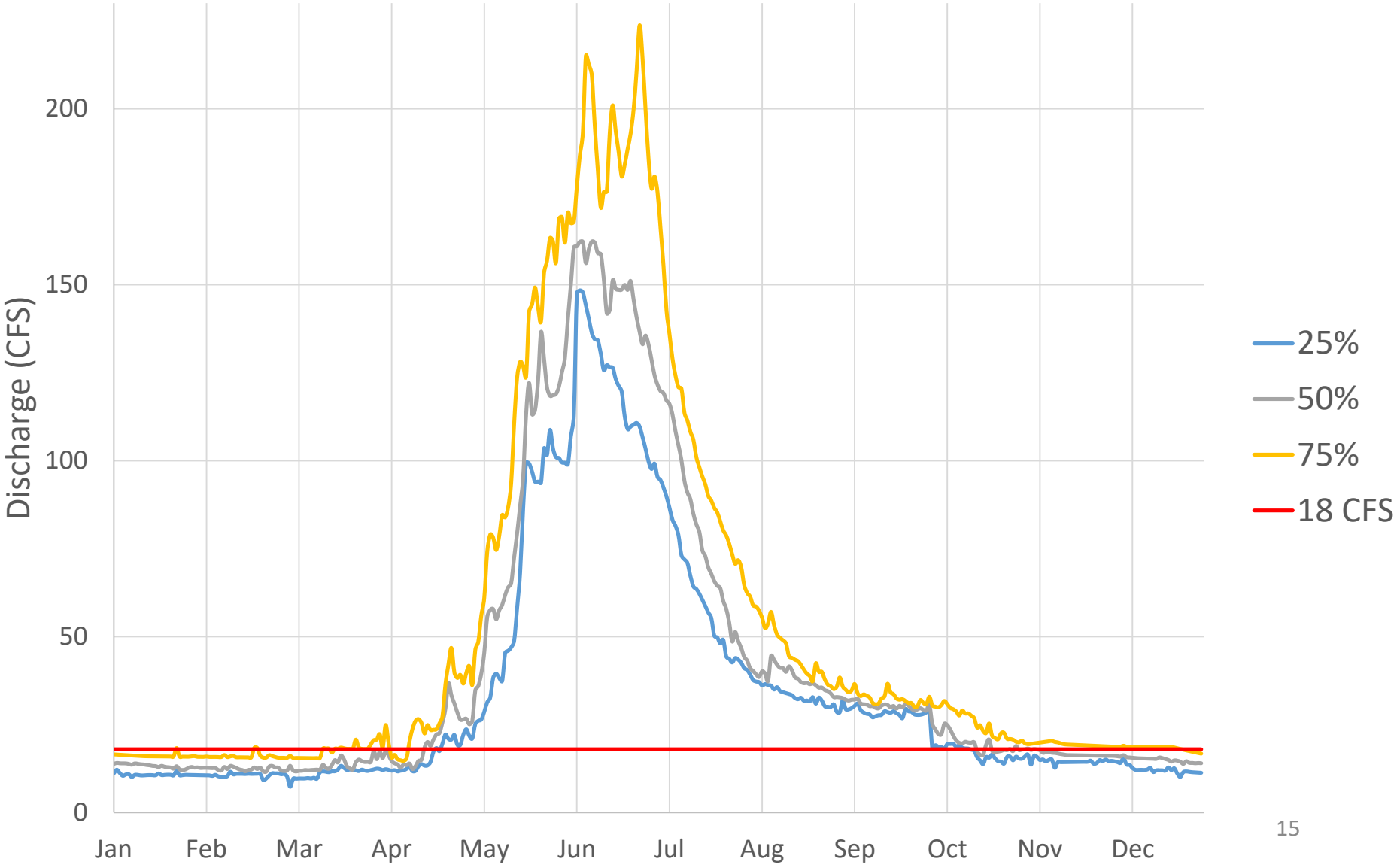
Big Timber Lower Gage Measured Streamflow (2006 – 2019)



Big Timber Lower Gage Measured Streamflow Exceedance Frequency (2006-2019)

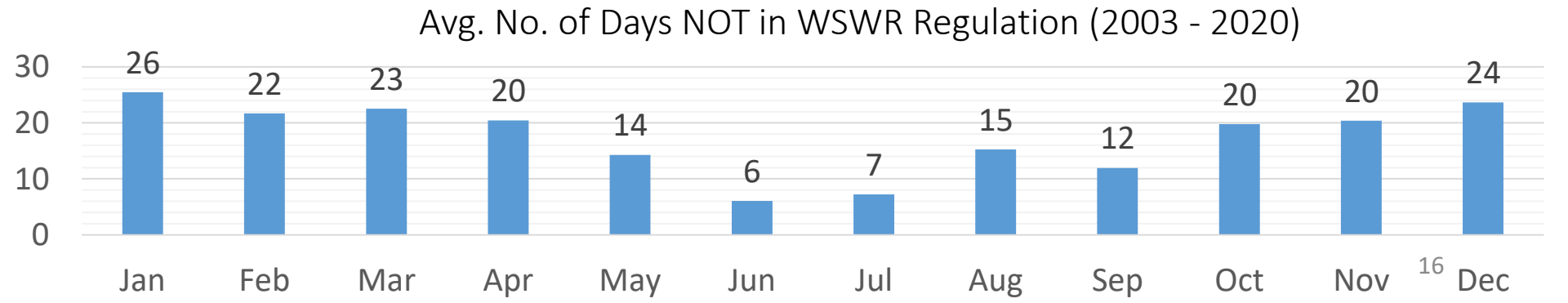


Big Timber Lower Gage Unimpaired Flow (Water Years 2008-2017)

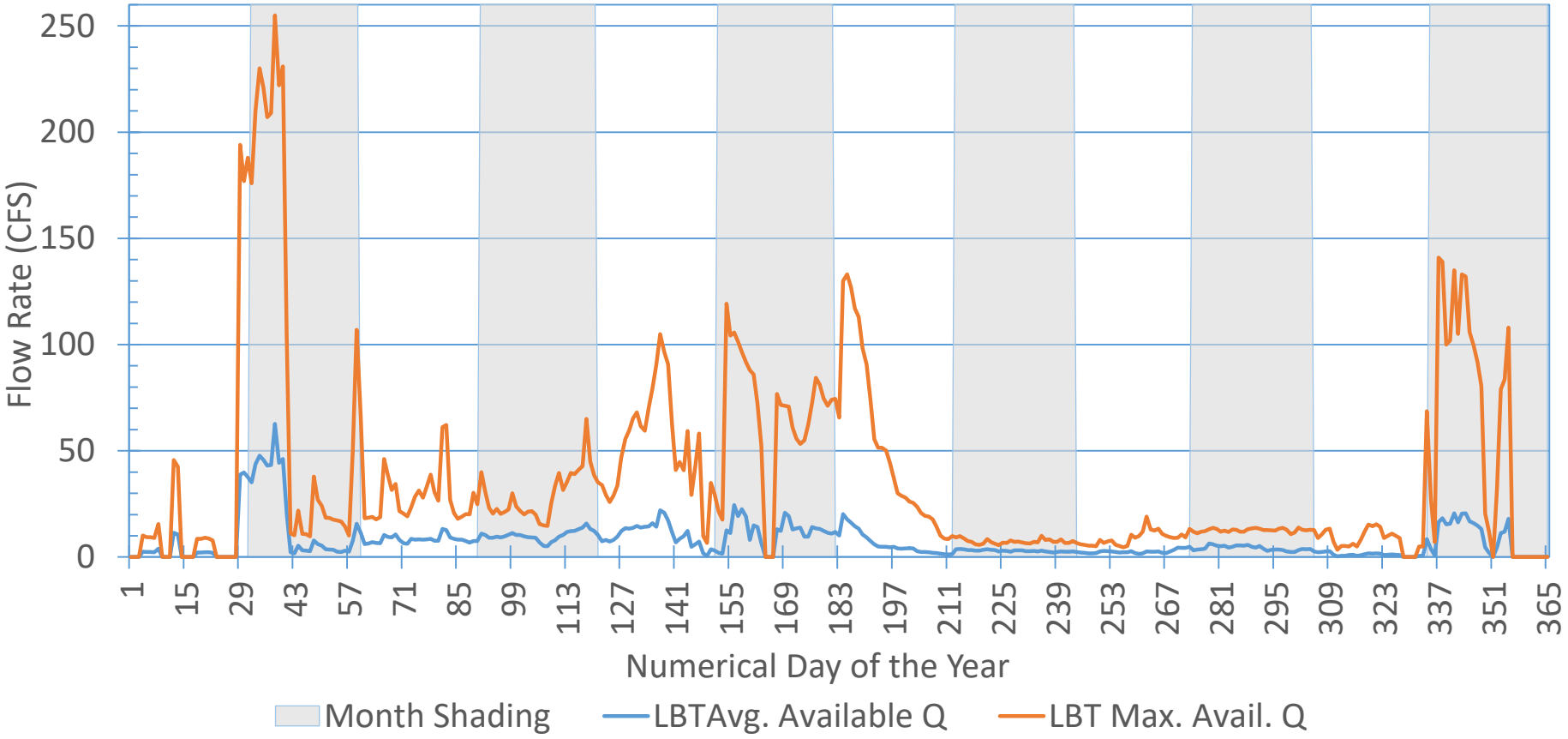


Distribution of the Total Number of Days of NO WSWR Regulation for 2003 to 2020 (i.e., regulation is "off")

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Jan	30		28	19									31		11	31	25	29
Feb	26		1	25	26	27		12	27	25			28	28	24	26	14	15
Mar	18	19	0	6	26	6	24	0	31	29	31	31	31	31	31	31	31	30
Apr	20	14	0	26	24	1	18	9	15	30	16	30	25	30	30	30	28	22
May	5	0	0	25	16	18	12	0	19	27	7	25	13	21	14	20	14	21
Jun	2	0	0	7	0	11	16	19	9	4	0	5	0	0	10	16	4	6
Jul	12	0	0	0	0	12	15	17	29	7	0	0	0	0	31	3	0	4
Aug	15	0	0	0	0	19	31	31	31	20	0	30	0	0	31	29	20	18
Sep	1	7	0	8	1	1	15	30	30	0	5	19	7	5	30	19	20	17
Oct	0	1	0	25	15	11	30	27	29	19	31	27	3	28	31	30	29	
Nov	0	0	5	24	8	19	29	26	30	28	23	30	20	30	30	29	16	
Dec	15	5	31	25	15	24	29	30	31	31	30	31	28	6	31	23	17	



Water Available at Big Timber Lower Gage when WSWR Regulation is "Off" (2010-2020)

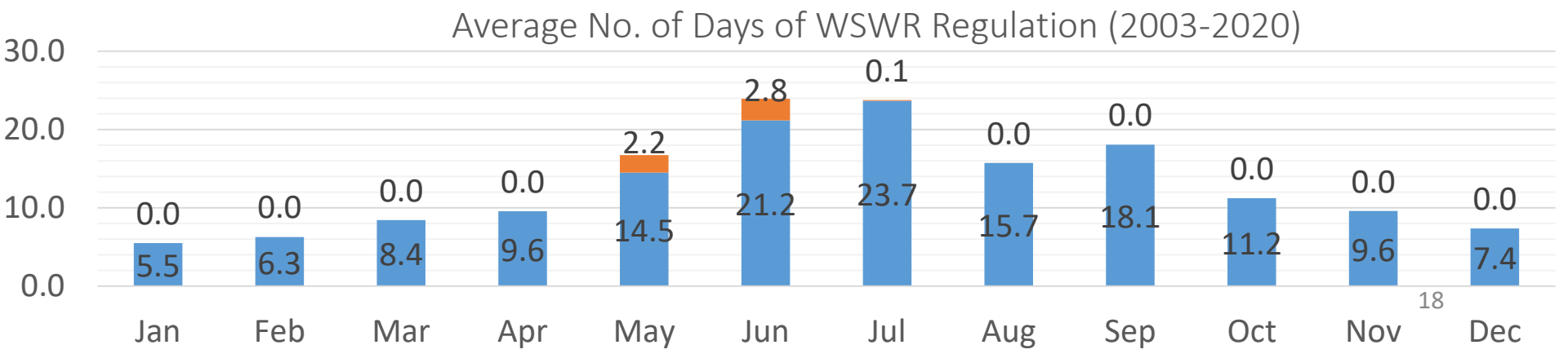


Stream flow data represents the historical average daily flow (CFS) as measured at the IDWR "Big Timber Creek, Lower" stream gage from 2010 to 2020 for those days in which the WSWRs were in priority (i.e. regulation was "on"). This data accounts for historical "high flow" diversions that have occurred under the SRBA Lemhi Basin High Flow General Provision.

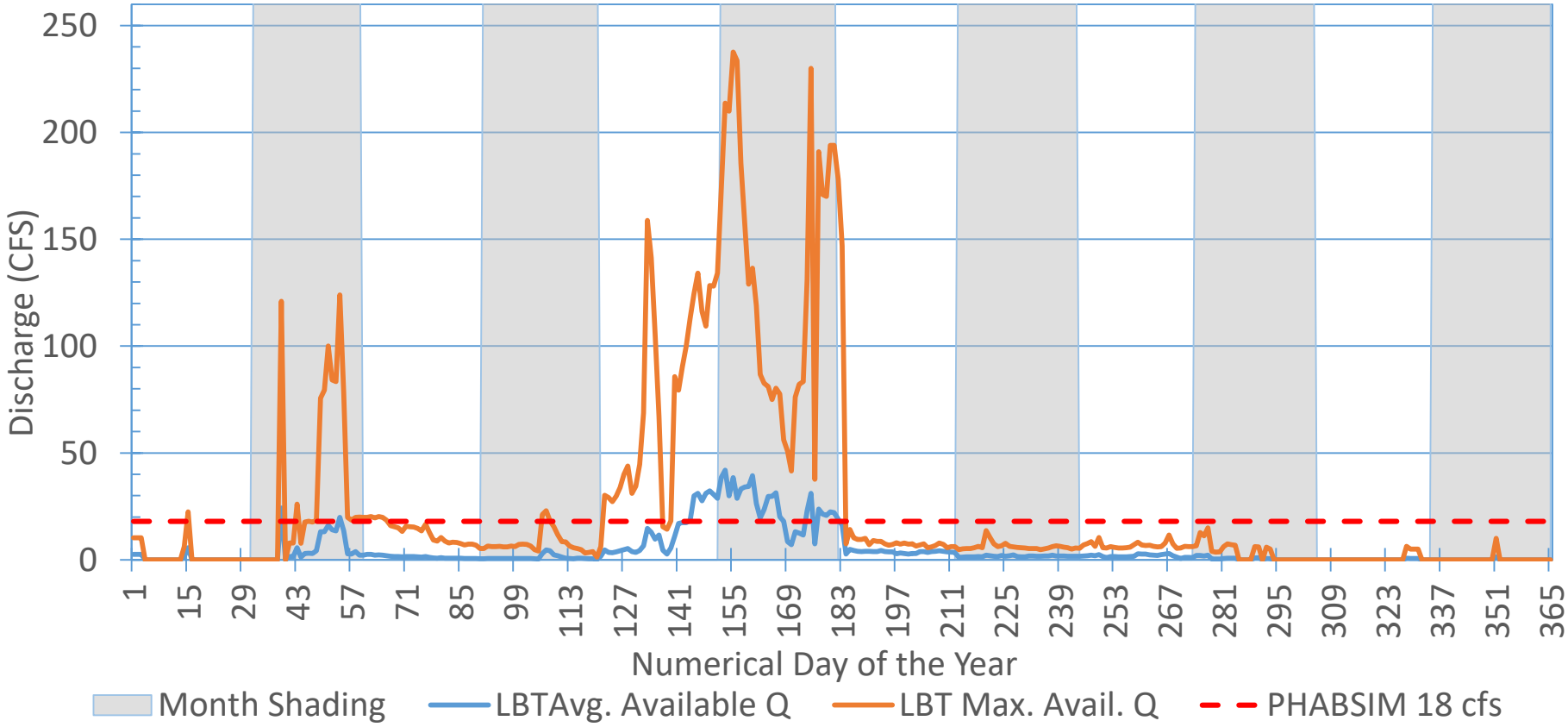
Aqua Info: https://research.idwr.idaho.gov/apps/hydrologic/aquainfo/Home/Data#!/

Distribution of the Total Number of Days of WSWR Regulation for 2003 to 2020 (i.e., regulation is "on")

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Jan	1		3	12									0		20	0	6	2
Feb	2		27	3	2	1		16	1	3			0	0	4	2	14	13
Mar	13	12	31	25	5	25	7	31	0	2	0	0	0	0	0	0	0	1
Apr	10	16	30	4	6	29	12	21	15	0	14	0	5	0	0	0	2	8
May	26	31	31	6	15	13	19	31	12	4	24	6	18	10	17	11	17	10
Jun	28	30	30	23	30	19	14	11	21	26	30	25	30	30	20	14	26	24
Jul	19	31	31	31	31	19	16	14	2	24	31	31	31	31	0	28	31	27
Aug	16	31	31	31	31	12	0	0	0	11	31	1	31	31	0	2	11	13
Sep	29	23	30	22	29	29	15	0	0	30	25	11	23	25	0	11	10	13
Oct	31	30	31	6	16	20	1	4	2	12	0	4	28	3	0	1	2	
Nov	30	30	25	6	22	11	1	4	0	2	7	0	10	0	0	1	14	
Dec	16	26	0	6	16	7	2	1	0	0	1	0	3	25	0	8	14	



Water Available at Big Timber Lower Gage when WSWR Regulation is "On" (2010-2020)



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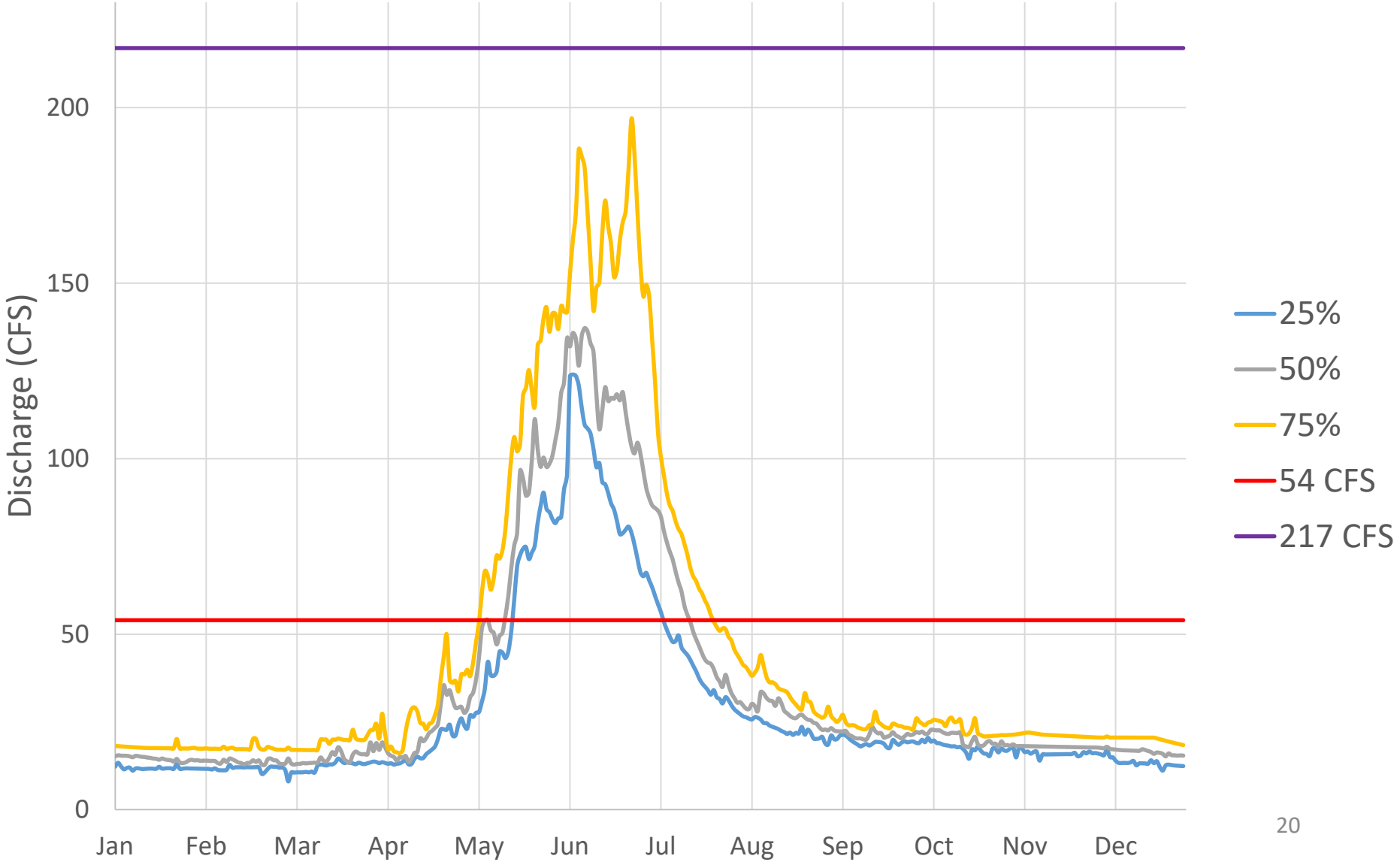
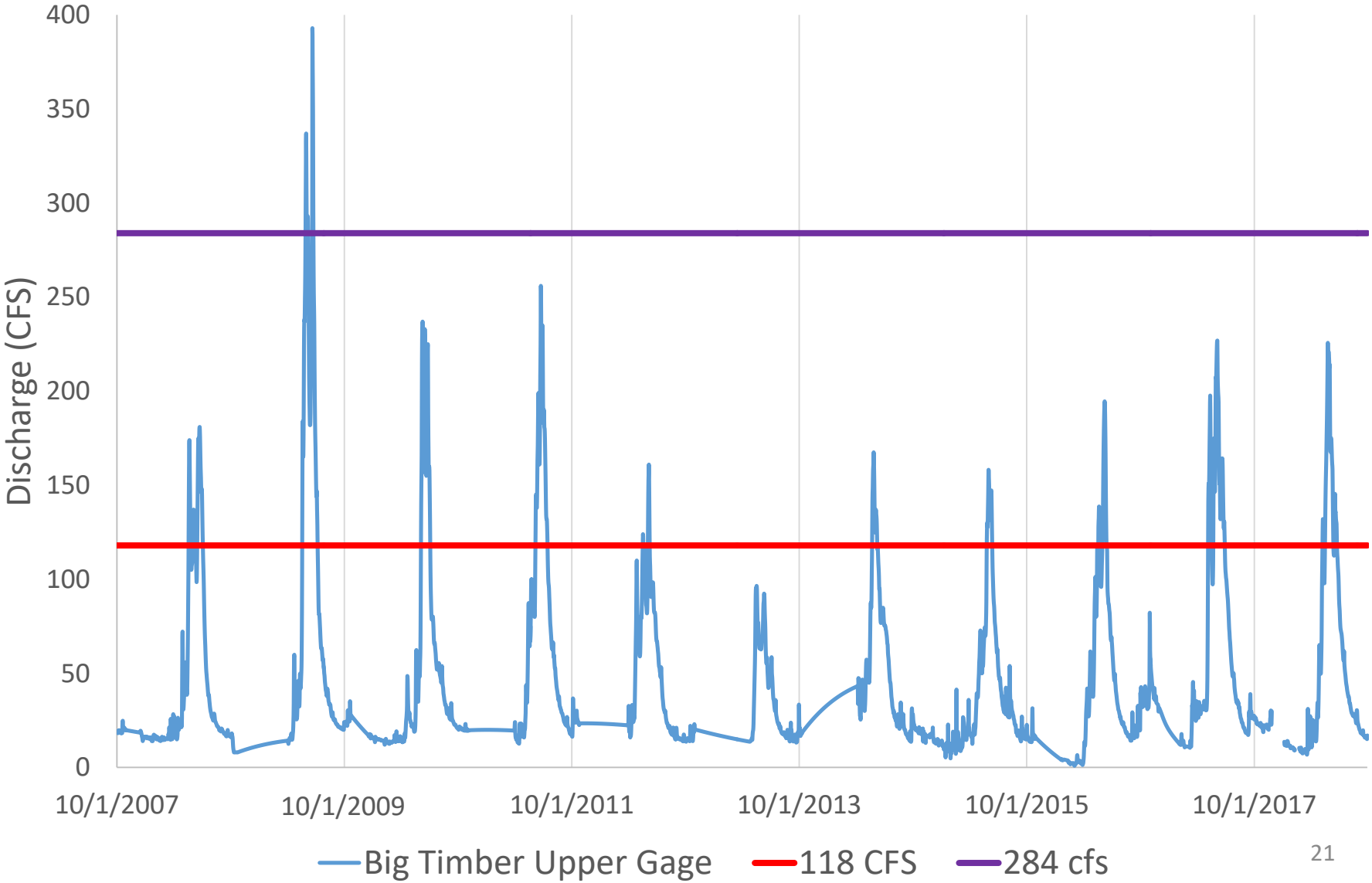
Aqua Info: https://research.idwr.idaho.gov/apps/hydrologic/aquainfo/Home/Data#!/

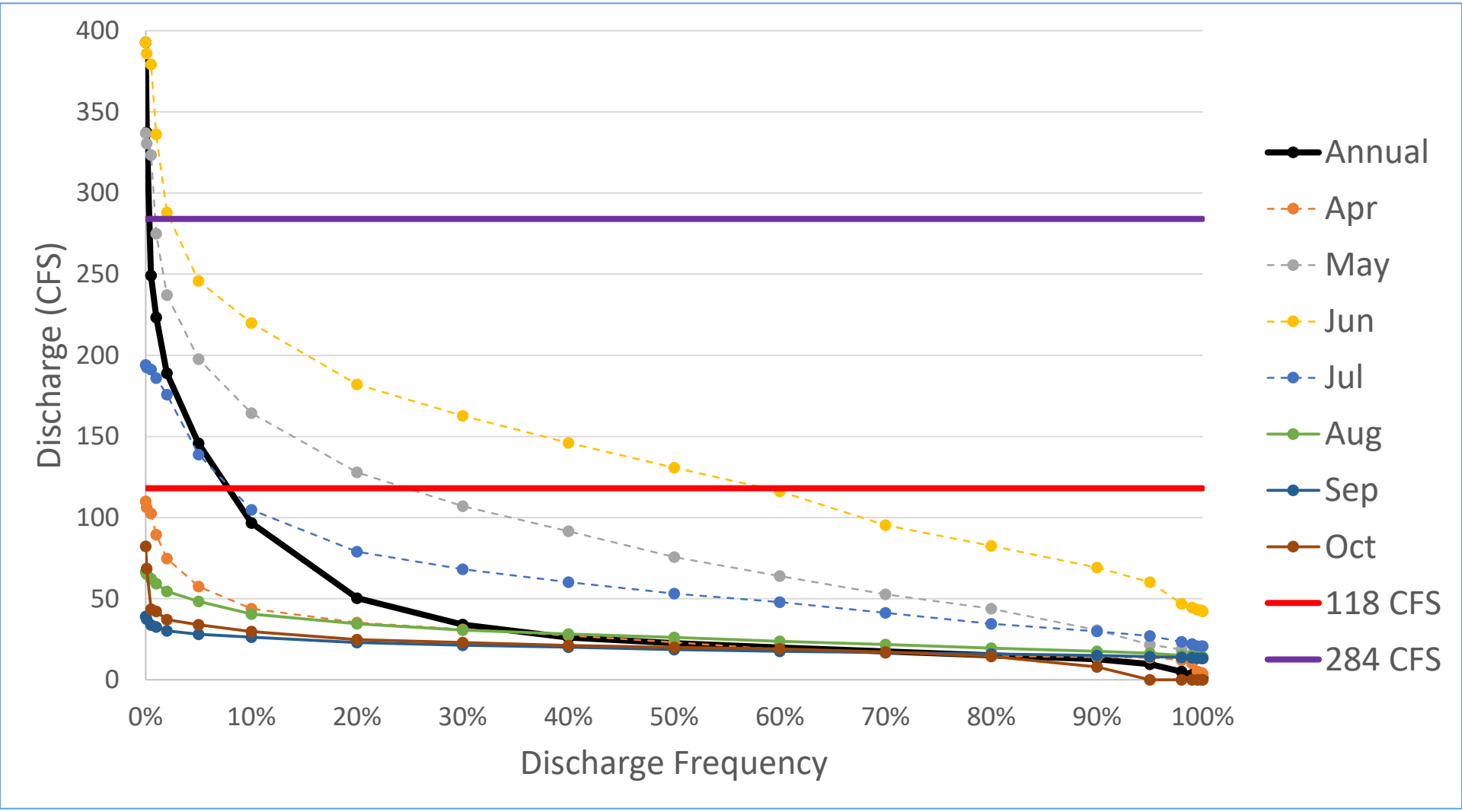
Big Timber Creek near BT-12 Diversion Unimpaired Flow (Water Years 2008-2017)



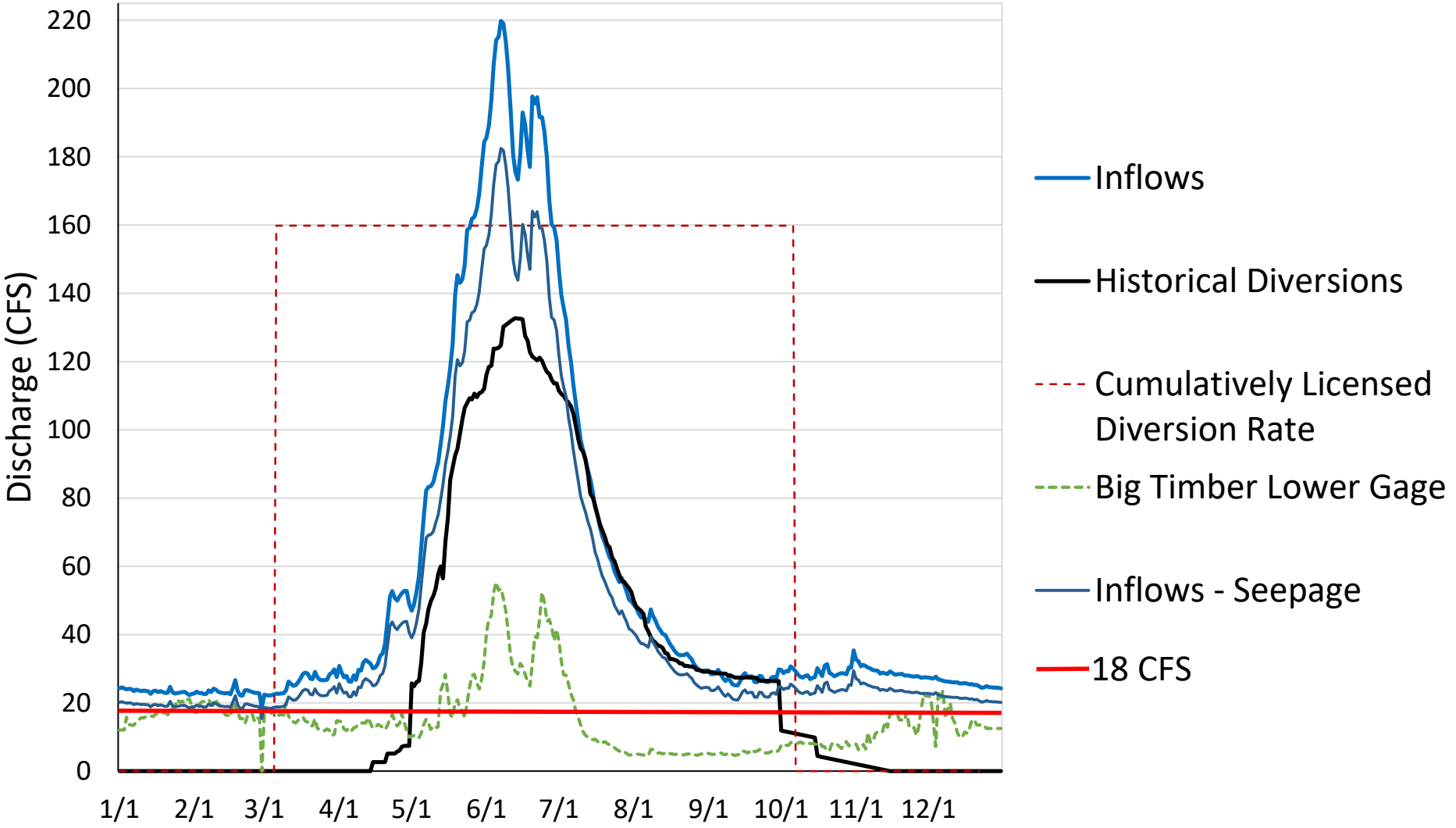
Big Timber Upper Gage Measured Streamflow (2007-2018)



Big Timber Upper Gage Measured Discharge Exceedance Frequency (2007-2018)

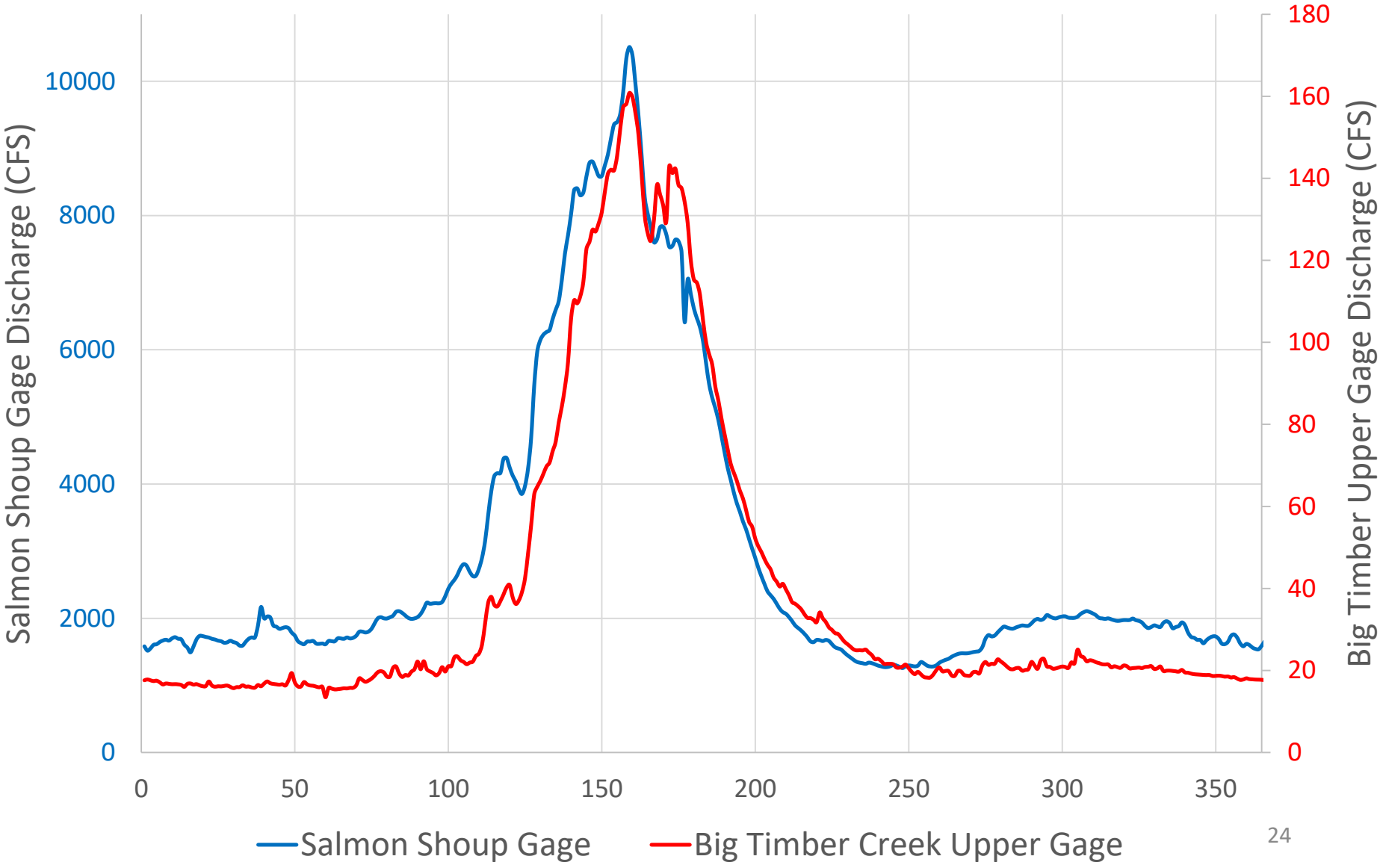


Big Timber Water Available above the Water Rights and Minimum Streamflows (2007-2017)

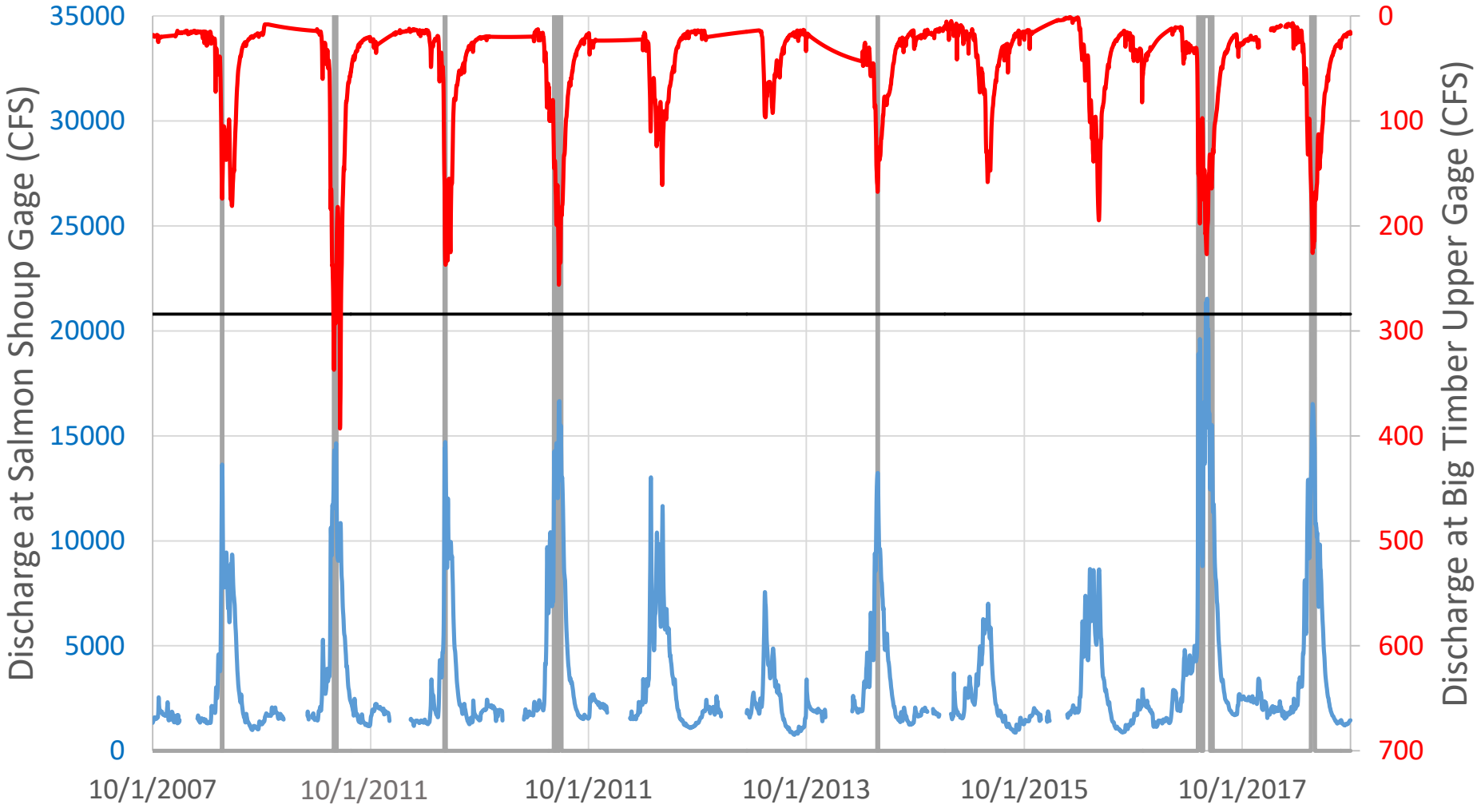


Modified from Carter Borden

Does the timing of high flows at Salmon Shoup Gage align with high flows on Big Timber Creek?



Potential for High Flow Regulation at Shoup Gage to provide for Flushing Flows on Big Timber Creek?




Questions?

Extra Material for the Water Users

Federal Reserved Water Rights Salmon Wild and Scenic River Partial Decree - Subordination

Federal WRs (75-13316 & 75-11941) Subordinated to the following:

- All WR **claims filed in the SRBA** to the extent ultimately decreed
- All pending applications, permits, and licenses **on file with IDWR** as of the effective date of the stipulation (Effective date of the stipulation September 1, 2003)
- All **domestic uses** as defined and set forth in I.C. § 42-111(a) and (b)
- All **de minimus stockwater** uses as defined and set forth in I.C. § 42-1401A(11)
- All **qualifying future municipal water rights** (excludes individual services > 2.0 cfs)
- Water rights other that those described above (i.e., future development)
  - Shoup Gage Q's <1,280 cfs: **150 cfs** (including not more than **5k acres of irrigation**)
  - Shoup Gage Q's ≥1,280 cfs: **additional 225 cfs** (including an **additional 10k acres of irrigation**

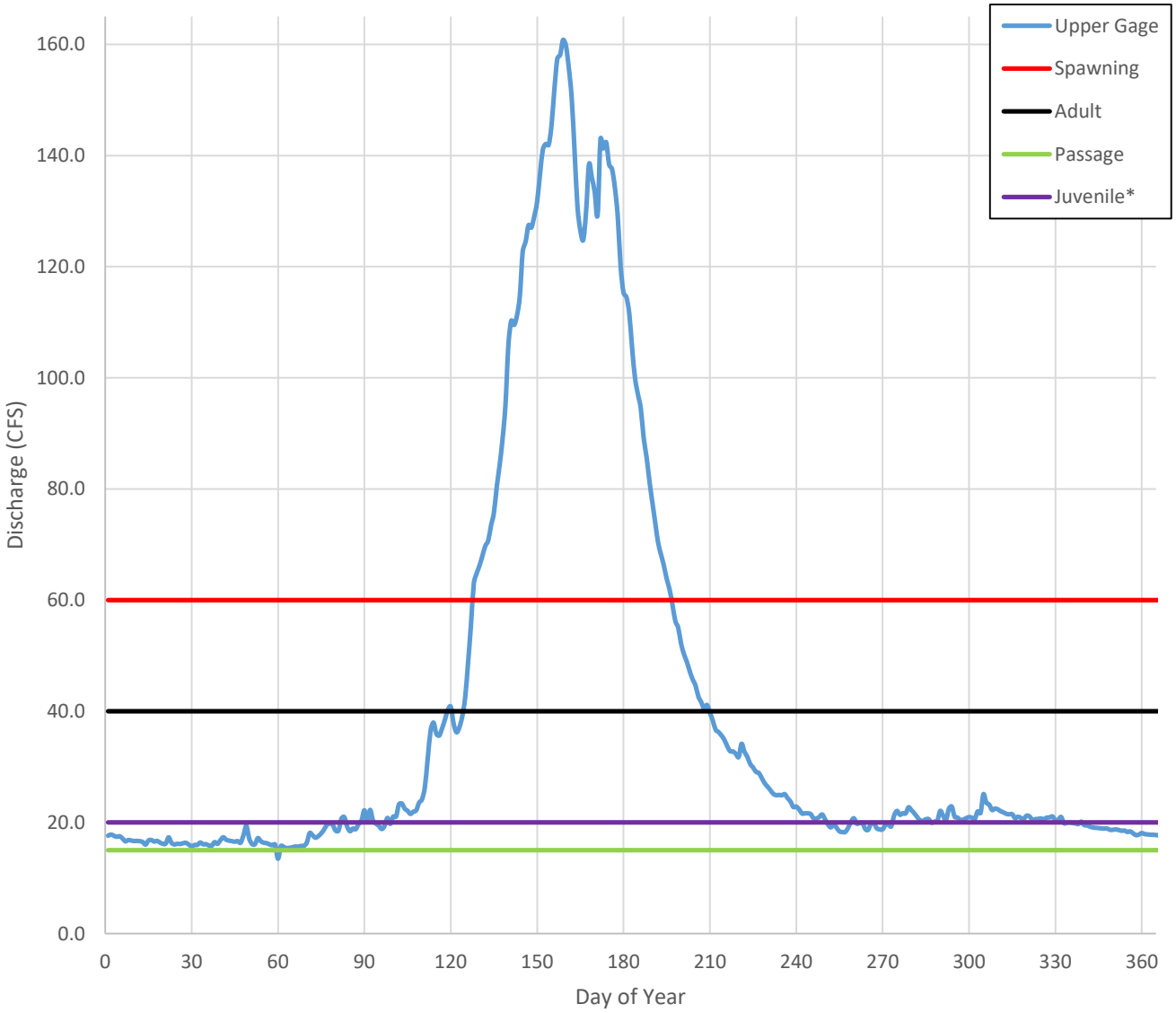
Decree can be downloaded at: https://idwr.idaho.gov/water-rights/wild-and-scenic-rivers/

Normal Flow

Table 3. Quantity of Salmon Wild & Scenic Water Right when Flow at Shoup is Less than 13,600 cfs

Period of Use	Flow Rate at Shoup (cfs)	Regulatory Action
All Dates	> 13,150 and <= 28,400	All junior rights not enjoying the benefits of subordination will be regulated*
All Dates	> 28,400	No regulation necessary to satisfy W&S rights.
January 1-15	< 1440	Junior rights not enjoying the benefits of subordination will be regulated on a priority basis to supply the flow shown for the corresponding date* *See Section III for a description of rights enjoying the benefits of subordination. When the flow at Shoup is > 1280 cfs, the 225 cfs block of future uses enjoy the benefits of subordination and will not be regulated.
January 16-31	< 1450	
February 1-15	< 1500	
February 16-28(29)	< 1550	
March 1-15	< 1510	
March 16-31	< 1540	
April 1-15	< 1590	
April 16-30	< 2470	
May 1-15	< 3920	
May 16-31	< 7310	
June 1-15	< 9450	
June 16-30	< 7790	
July 1-15	< 4730	
July 16-31	< 2700	
August 1-15	< 1390	
August 16-31	< 1240	
September 1-15	< 1200	
September 16-30	< 1400	
October 1-15	< 1570	
October 16-31	< 1700	
November 1-15	< 1820	
November 16-30	< 1730	
December 1-15	< 1600	
December 16-31	< 1510	

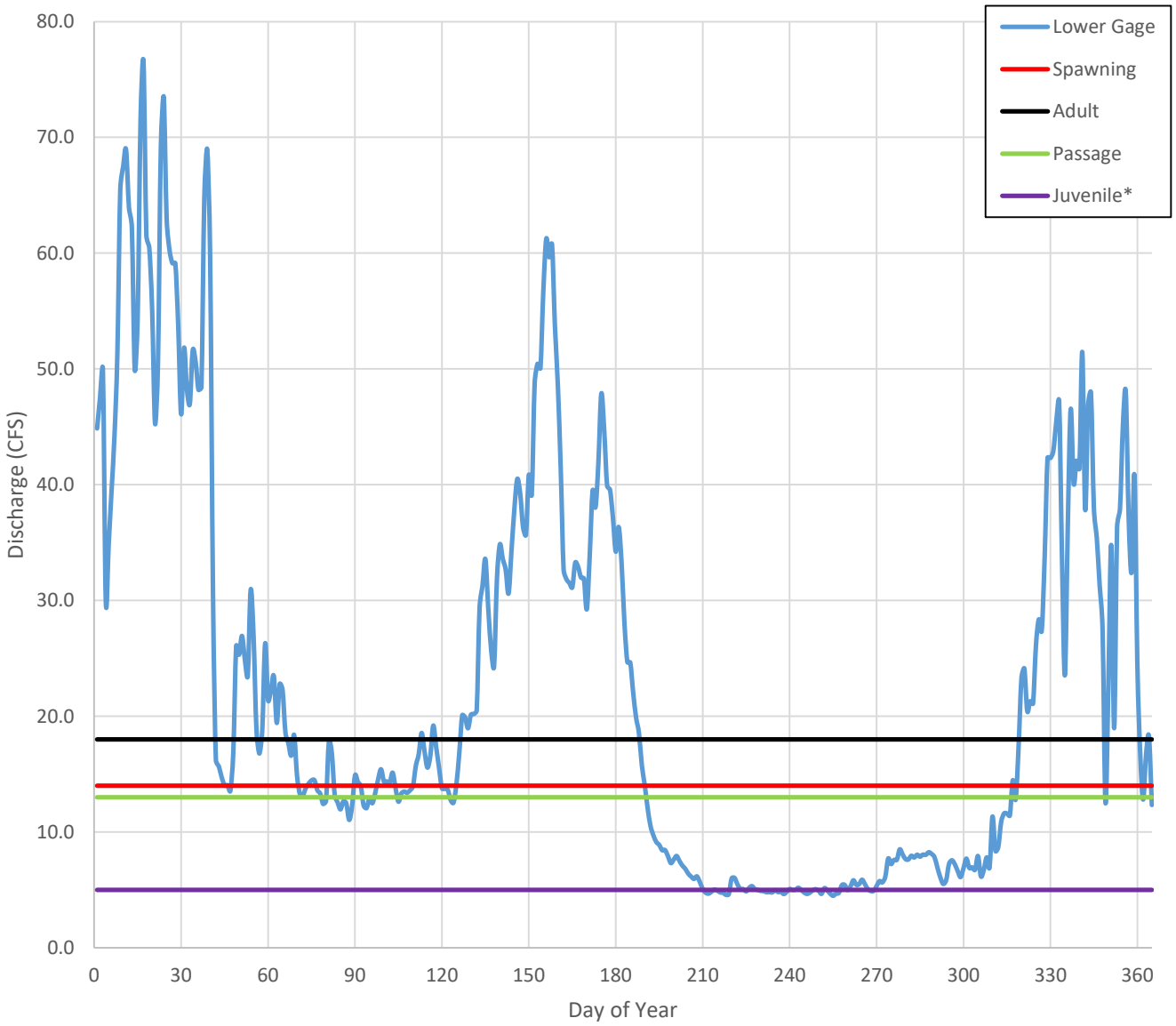
Big Timber Upper Gage Mean Daily Measured Flow (Water Years 2007-2018)



Key	
Spawning	
Passage/Spawning	P
Adult	
Juvenile	

Month	Steelhead	Chinook	Bull trout
Jan			
Feb			
Mar			
Apr	P		
May			
Jun			
Jul		P	
Aug		P	
Sep			P
Oct			
Nov			
Dec			

Big Timber Lower Gage Mean Daily Measured Flow (Water Years 2006-2018)



Key	
Spawning	
Passage/Spawning	P
Adult	
Juvenile	

Month	Steelhead	Chinook	Bull trout
Jan			
Feb			
Mar			
Apr	P		
May			
Jun			
Jul		P	
Aug		P	
Sep			P
Oct			
Nov			
Dec			

United States Department of the Interior
BUREAU OF RECLAMATION
Snake River Area Office
230 Collins Road
Boise, ID 83702-4520

IN REPLY REFER TO:
SRA-1308
2.2.4.21

VIA ELECTRONIC MAIL ONLY

Mr. Roger Chase
Chairman
Idaho Water Resource Board
322 East Front Street
Boise, ID 83702

Ms. Melanie Paquin
Area Manager
Snake River Area Office
230 Collins Road
Boise, ID 83702

Subject: Boise River Basin Feasibility Study Status Update, Boise Project, Idaho

Dear Mr. Chase and Ms. Paquin:

This status update is being sent in preparation for the Idaho Water Resource Board (IWRB) meeting on November 19, 2020.

The IWRB and Reclamation have partnered to complete a feasibility study of new surface water storage options on the Boise River (Study). The Study initially included an evaluation of small raises of the three large dams on the Boise River system: Anderson Ranch, Arrowrock and Lucky Peak Dams, and is now focused on Anderson Ranch Dam.

Current Status

Recent project activities include:

- October-November 2020 – Conducting briefings for Reclamation and Department of the Interior officials on the Final Feasibility report.
- October 30, 2020 – Reclamation initiated formal Endangered Species Act consultation with NOAA Fisheries and submitted its biological assessment.

Ongoing project activities include:

- Reclamation and IWRB have initiated a project sub-team to plan water right and water contracting processes.

Upcoming project activities include:

Key Milestones

Nov. 2017 – Jan. 2019	Reclamation completed initial screening of the three potential dam raise alternatives and developed a project management plan.
July 27, 2018	IWRB passed a resolution supporting the narrowed focus of the Study to a raise at Anderson Ranch Dam.
August 28, 2018	Reclamation and IWRB hosted a Legislative Infrastructure Tour to discuss large water infrastructure projects in Idaho with representatives from Idaho's Congressional delegation.
November 8, 2018	Reclamation and IWRB hosted an informational public open house on the Study in Boise, Idaho.
December 3-7, 2018	Reclamation conducted a Value Planning Study with a final Accountability Report received in February 2019.
December 25, 2018	Reclamation awarded an Indefinite Delivery/Indefinite Quality contract for architect and engineering services to Sundance-EA Joint Venture (Consultant) to complete the Study and environmental compliance activities.
April 30, 2019	Consultant submitted land, structure, infrastructure, and real estate impact assessment (Rim Analysis) for Anderson Ranch Reservoir.
June 7, 2019	IWRB filed a water right permit application for the potential additional storage (Water Right No. 63-34753).
June 19, 2019	Reclamation's Technical Service Center completed feasibility-level design and cost estimates completed for Anderson Ranch Dam raise.
August 9, 2019	Reclamation published the Notice of Intent for an EIS in the Federal Register.
August 27-29, 2019	Reclamation conducted Public Scoping Open Houses in Pine, Boise, and Mountain Home, Idaho.
February 3-7, 2020	Reclamation completed the Design, Estimate, and Construction review of the feasibility-level designs.
April 6-10, 2020	Reclamation completed the Peer Review of the Water Operations Technical Memorandum.
July 31, 2020	Reclamation released the DEIS and Draft Feasibility Report.

Key Critical Path Milestones

December 2020	Department of the Interior review and approval of the recommended plan
February 2021	Release Final EIS
May 2021	Issue Record of Decision

Thank you for this opportunity to provide an update on the Boise River Basin Feasibility Study Project. If you have any questions, please contact me at 208-383-2236 or via email at callianneharris@usbr.gov.

Sincerely,

Callianne Harris
Project Manager

Memorandum

To: Idaho Water Resource Board, Water Projects Storage Committee

From: Cynthia Bridge Clark, Emily Skoro, and Meghan Carter

Date: November 9, 2020

Re: Boise River Feasibility Study – Contracting Considerations

REQUIRED ACTION: IWRB to consider approving a resolution reflecting the IWRB's contracting preference for construction of a raise of Anderson Ranch Dam, use of water, and operations and maintenance of the new storage space.

Background

The Idaho Water Resource Board (IWRB) partnered with the Bureau of Reclamation (Reclamation) to complete a feasibility study of new surface water storage within the Boise River Drainage (study). The study was authorized under the Water Infrastructure Improvements for the Nation Act (WIIN Act, P.L. 114-322). Reclamation issued a Draft Environmental Impact Statement (DEIS) and Draft Feasibility Report (DFR) on July 31, 2020. Public comments on the DEIS were accepted through September 14, 2020. The DEIS and DFR identified a 6-foot raise of Anderson Ranch Dam as the preferred alternative.

Reclamation plans to release the Final Environmental Impact Statement (FEIS) in February 2021, which will address the public comments Reclamation received on the DEIS. In the FEIS, Reclamation intends to refine some of the details of the preferred alternative described in the DEIS. In May 2021, Reclamation will issue its decision on the alternatives presented in the FEIS in a Record of Decision (ROD). Once the ROD is issued, Reclamation can begin the negotiation process for a contract, pursuant to WIIN Act Section 2007, covering construction of the dam raise, use of water, and operations and maintenance for the new storage space. The contract will provide for the right to use the capacity in the increased storage space.

The WIIN Act requires Reclamation's project partner(s) to pay the non-Federal share of the capital costs, or post-authorization costs, of the project upfront. In addition, the WIIN Act requires the project to be under construction by December 16, 2021. The term "construction" means the designing, materials engineering and testing, surveying, and building of water storage including additions to existing water storage and construction of new storage facilities, exclusive of any Federal statutory or regulatory obligations relating to any permit, review, approval, or other such requirement.

Contracting Options

In the DEIS, Reclamation evaluated two different approaches to developing a contract for construction of the dam raise, use of water, and operations and maintenance of the new storage space. In the first option (Option A), IWRB would be the sole contractor with Reclamation. IWRB would "subcontract" with other entities for use of the space. In the second option (Option B), Reclamation would enter into one contract with multiple entities, IWRB and other existing Reclamation contractors. Reclamation has asked IWRB to comment on its contracting preference, so that Reclamation can consider it for the FEIS' preferred alternative. There are some considerations that are unique to each option which are described below and summarized in a table.

- **Option A Considerations**

In Option A, IWRB would be required to provide upfront funds for all of the non-federal cost of construction (post-authorization capital costs). Reclamation has represented that IWRB would be allowed to pay in installments for discrete portions of the project (e.g. upfront payment to complete final design followed by payment for construction). IWRB would also be able to determine how all of the non-federal space from the project will be allocated. When allocating the space, IWRB would be limited to existing Water District 63 water users, or placing some portion of the water in the Water Supply Bank. As part of that determination, IWRB would be able to set its own prices and would not be constrained to the Reclamation pricing. IWRB would be responsible for developing "sub-contracts" with new spaceholders with the intent to recover non-federal project costs.

If Option A is selected, the ability to meet the timelines imposed by the WIIN Act is more assured. Reclamation would not need to determine how it would solicit and select other entities with which to contract, and it would not be required to secure the non-federal project funding from multiple sources. In addition, contract negotiations between just Reclamation and IWRB would be simpler and likely shorter. Option A would, however, require considerable effort by the IWRB to develop a process for selection of new spaceholders and negotiate water use sub-contracts with each entity.

- **Option B Considerations**

In Option B, IWRB would be required to provide upfront funds for only IWRB's portion of the non-federal construction costs. Since multiple parties will be negotiating one contract with Reclamation, it is possible the amount each party pays will not directly correlate to the amount of space received. It is unclear how Reclamation would approach pricing, and whether it would be locked into the pricing used to develop the cost benefit ratio.

If Option B is selected, it may be difficult to meet the timelines imposed by the WIIN Act. Reclamation will have to determine how to solicit and select other entities with which to contract. The entities Reclamation can contract with for this project are limited to any State, department, agency or subdivision of a State, or any public agency organized pursuant to State law. In addition, Reclamation can only contract with current spaceholders. Once potential project proponents are determined, Reclamation will have to make a finding that a selected entity is financially capable of participating in the project as a project proponent. A single contract will be negotiated between all parties, which would likely make negotiations more difficult and time consuming.

Option A: *Reclamation would enter into a single agreement with IWRB covering construction, use of water, and operations and maintenance for the additional water supply.*	**Option B:** *Reclamation would enter into an agreement with IWRB and other existing Reclamation contractors.*
• IWRB determines how space may be allocated. IWRB is not constrained to Reclamation water pricing (e.g. irrigation vs. DCMI prices). • Contract negotiations between Reclamation and a single entity (IWRB) may be simpler and shorter. • Upfront funding of the non-federal project costs and negotiation/execution of subcontracts with new spaceholders will be the responsibility of the IWRB.	• Reclamation determines how some space may be allocated, limited by WIIN Act. Needs a finding of financial capability for non-IWRB contractors. • More parties to negotiate with, possibly longer negotiations. • Upfront funding of non-federal project costs will be distributed among multiple parties. Funding must be secured in FY2021.

Other General Considerations

- **WIIN Act Contracts v. Spaceholder Contracts**

Contracts under the WIIN Act are different than spaceholder contracts under other Reclamation authorities. Those spaceholder contracts are usually repayment contracts, through which Reclamation finances the construction of the project and spaceholders pay Reclamation back over time. The WIIN Act requires the cost of construction to be paid upfront.

Spaceholder contracts also allow on-farm irrigation entities to pay Reclamation for the cost of construction without interest. This effectively makes the cost of water cheaper for on-farm irrigation. Under the WIIN Act there will be one contract with all project proponents. The allocation of water to each proponent must be mutually agreed to by Reclamation and each other party to the agreement.

- **Benefit-Cost Ratio**

In order to move forward with the project, the Secretary of the Interior must determine the project is feasible. A key factor in that determination is the benefit-cost ratio (BCR). A project is deemed infeasible if the BCR is below 1.0. The BCR analysis in the DFR found that the project BCR is 1.74. When analyzing the BCR, Reclamation used a mixed use scenario which allocated the water as follows: DCMI 45%, irrigation 45%, and fish and wildlife 10%. The BCR must remain above 1.0 when allocating the new space to water users. In discussions with Reclamation, it has been suggested that the distribution between DCMI and irrigation is flexible so long as the BCR remains above 1.0.

- **Financing**

Should IWRB recommend the Option A contracting approach, it has a few options to finance the Anderson Ranch Dam raise. (1) IWRB can require all water users to pay for their portion of the costs upfront. (2) IWRB can finance the cost of the entire project with bonds and water users repay IWRB. (3) IWRB can use some or all of the funds the Legislature appropriated for large water infrastructure projects in HB285 (2019) to cover some of the costs and use option 1, option 2, or a combination to cover the remainder.

IWRB should consider hiring a financial advisor to discuss how the options will affect the total cost of the project. In addition, if IWRB decides to issue bonds a financial advisor and bond counsel will need to be involved in the contracting process with Reclamation and the water users to ensure IWRB has a marketable product. The latest IWRB should hire a financial advisor is April 2021. The financial advisor could then become familiar with the project and be ready to participate in contract negotiations.

Water Storage Committee Meeting No. 3-20 Recommendations

The Water Storage Committee met on November 5, 2020 and recommended that the IWRB pursue Option A to develop a contract for construction of the dam raise, use of water, and operations and maintenance of the new storage space. A resolution documenting the IWRB's contracting preference will be discussed at the November 19, 2020 regular IWRB meeting (see attached draft resolution).

BEFORE THE IDAHO WATER RESOURCE BOARD

IN THE MATTER OF BOISE RIVER BASIN FEASIBILITY STUDY	RESOLUTION TO DETERMINE THE IWRB'S CONTRACTING PREFERENCE FOR CONSTRUCTION OF A RAISE OF ANDERSON RANCH DAM, USE OF WATER, AND OPERATIONS AND MAINTENANCE OF THE NEW STORAGE SPACE

WHEREAS, on October 24, 2017, the Idaho Water Resource Board (IWRB) passed a resolution authorizing its chairman to execute the necessary agreements with the U.S. Bureau of Reclamation (Reclamation) and to contribute the necessary fifty percent (50%) non-federal cost-share to carry out the Boise River Basin Feasibility Study (feasibility study) to evaluate raises to the Anderson Ranch, Arrowrock and Lucky Peak Dams to provide additional water storage capacity on the Boise River; and

WHEREAS, in March 2018, the IWRB and Reclamation executed a Memorandum of Agreement/Reimbursable Agreement No. R18-MR-11-171 to formalize roles, work and funding responsibilities associated with the feasibility study. No other parties participated or provided funding for the feasibility study; and

WHEREAS, the Water Infrastructure Improvements for the Nation Act (WIIN Act, P.L. 114-322) provides study and potential construction authority and Federal funding proportionate to Federal benefits. The act states that continuing authority only applies to projects determined to be feasible before January 1, 2021, and that projects can only receive Federal funds under the WIIN Act if recommended by the Secretary of the Interior and designated by name in Federal appropriations legislation; and

WHEREAS, under Secretarial Order 3355, issued on August 31, 2017, NEPA reviews conducted by the Department of Interior must be completed within 12 months of publishing the Notice of Intent in the Federal Register; and

WHEREAS, the 2019 Idaho Legislature passed and approved House Joint Memorial 4 (HJM 4) and House Bill 285 (HB 285) which affirmed support for the construction of new water infrastructure in Idaho, in particular, the raising of Anderson Ranch Dam, and urged the State of Idaho's congressional delegation to take further actions necessary to ensure completion of the feasibility study and National Environmental Policy Act (NEPA) analysis within the proposed timeframe and, as determined in the feasibility study, advance the project through additional congressional action to authorize construction and provide further WIIN Act funds; and

WHEREAS, based on site visits and review of available technical information for the three dams, Reclamation concluded that evaluation of the feasibility of raises to all three dams could not be completed before January 1, 2021 and recommended focusing study efforts on a raise of Anderson Ranch Dam; and

WHEREAS, through a resolution signed and dated July 27, 2018, IWRB authorized Reclamation to

focus the study analyses on a raise of the Anderson Ranch Dam with the intent to determine project feasibility before January 1, 2021; and

WHEREAS, Reclamation issued a Draft Environmental Impact Statement (DEIS) and Draft Feasibility Report (DFR) on July 31, 2020 which identified a 6-foot raise of Anderson Ranch Dam and an additional 29,000 acre-feet of storage space as the preferred alternative; and

Whereas, the WIIN Act requires Reclamation's project partner(s) to pay the non-federal share of capital costs, or post authorization costs, of the project upfront and requires the project to be under construction by December 16, 2021; and

WHEREAS, in the DEIS, Reclamation evaluated two different approaches to develop a contract for construction, use of water, and operations and maintenance of the new storage space pursuant to WIIN Act Section 4007. In the first option (Option A), IWRB would be the sole contractor with Reclamation. In the second option (Option B), Reclamation would enter into contracts with multiple entities, including the IWRB and other existing Reclamation contractors. Both options are subject to deadlines set forth under the WIIN Act; and

WHEREAS, in Option A, as the sole contractor with Reclamation, IWRB would be required to enter into an agreement for construction of the raise, including providing for all of the upfront funds necessary to pay the non-federal share of costs prior to construction. IWRB could potentially pay in installments for discrete portions of the project. When allocating the non-federal portion of the space, the IWRB would enter into sub-contracts with interested water users. IWRB would be authorized to contract with Water District 63 water users, or the IWRB could place some portion of the water in the Water Supply Bank to be rented under water bank rules. IWRB would determine an equitable price structure to recover project costs and would not be constrained to the Reclamation pricing or the structure outlined in Reclamation's Feasibility Study; and

WHEREAS, in Option B Reclamation would enter into separate contracts with multiple entities, including the IWRB and other existing Reclamation contractors. Under this option, IWRB would be required to provide upfront funds for IWRB's portion of the non-federal project costs only. Reclamation would determine how to solicit and select other existing Reclamation spaceholders, determine pricing and financial capability, ability to provide upfront funding, and negotiate contracts with the parties. Reclamation can only contract directly with current spaceholders and has limitations on the type of entities it can contract with; and

WHEREAS, Reclamation has requested IWRB express its preference for contracting the new storage space so it can be considered in the Final Environmental Impact Statement; and

NOW THEREFORE BE IT RESOLVED, IWRB believes that contracting with Reclamation for all the new storage space not identified by Reclamation as receiving a federal benefit (the non-federal portion of the space) will be the most efficient and best method to ensure stakeholder and state support for and reasonable financing for the Project. Therefore, IWRB prefers to contract with Reclamation under Option A, and then negotiate directly with potential spaceholders for the new storage space generated by a raise of Anderson Ranch Dam and how the new storage space will be allocated and priced.

NOW THEREFORE BE IT FUTHUR RESOLVED, in accordance with HJM 4 and HB 285 and given the

complexities of project development, financing, and the constrained implementation timeline, the IWRB recommends the Option A contracting alternative to provide greater certainty of congressional action to authorize construction and provide further WIIN Act funds.

DATED this 19th day of November 2020.

_____
ROGER W. CHASE, Chairman
Idaho Water Resource Board

ATTEST _____
VINCE ALBERDI, Secretary

Memorandum

To: Idaho Water Resource Board

From: Cynthia Bridge Clark

Date: November 10, 2020

Re: Cloud Seeding Program Benefits Analysis Presentation

Noah Stewart-Maddox will provide a presentation.

Cloud Seeding Benefits

Noah Stewart-Maddox, IDWR

Outline

- Motivations
- Phase I Analysis
  - Overview of Analysis
  - Results
    - Boise River
    - Snake River
    - Wood River
- Phase II
  - Future Work
    - NCAR Calibration
    - RiverWare

Motivations

- Cloud seeding has been shown to increase snowpack throughout Idaho
- This increased snowpack results in increased runoff
- Who is benefiting from this increased runoff?

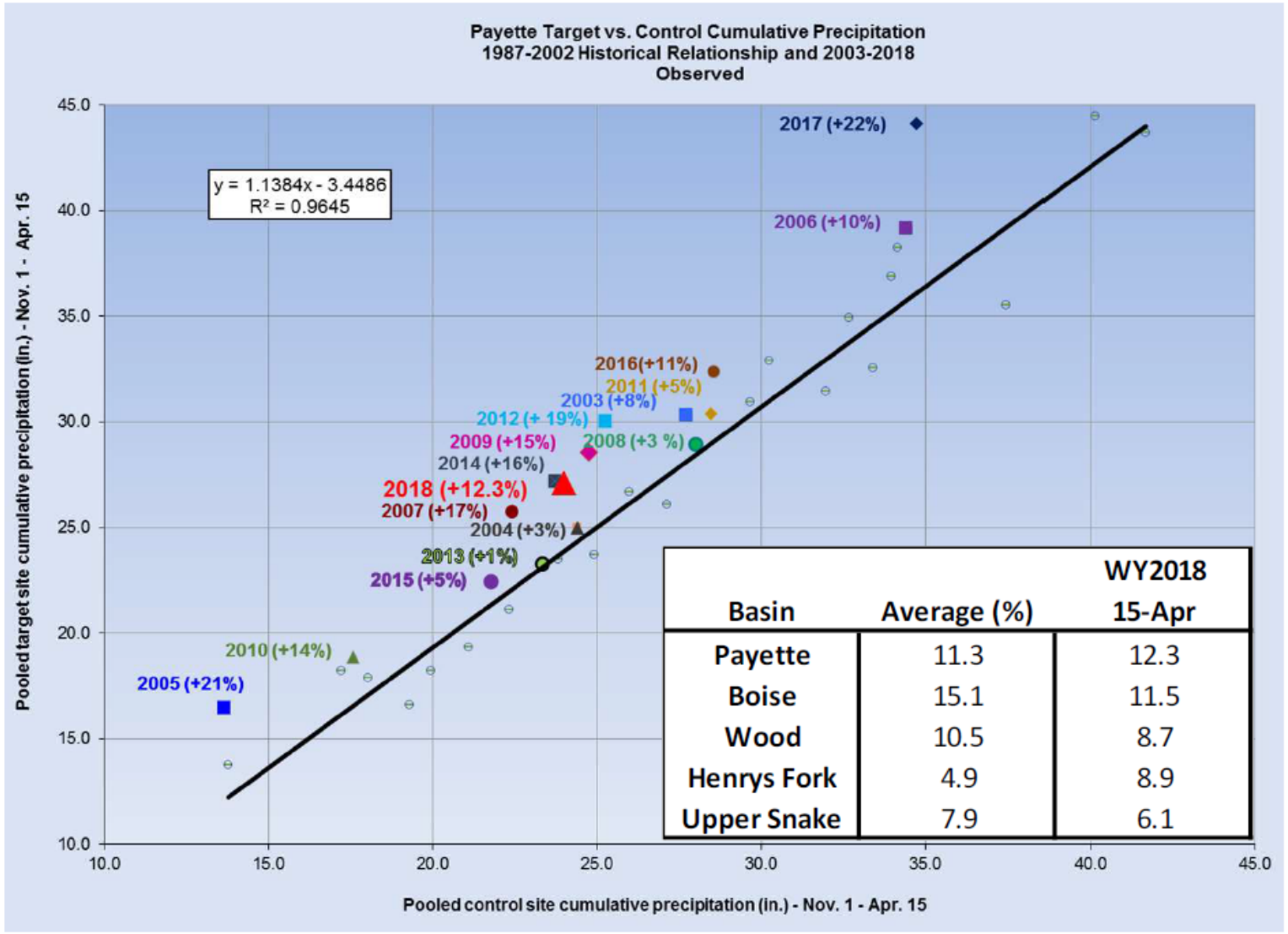
Phase I Analysis

- Identifying these beneficiaries is not a straightforward task
  - These are complex systems with a multitude of interacting elements
  - There numerous beneficiaries on each system
- Phase I creates a framework to estimate the average increase in water supply due to cloud seeding
  - Significant uncertainty due to multitude of assumptions
  - Will be refined in future work

Analysis Summary

IPC Regression
Snowpack
Cloud Seeding
Increase

IPC “Regression Method” is used to estimate snowpack increase due to Cloud Seeding.



Basin	Average (%)	WY2018 15-Apr
Payette	11.3	12.3
Boise	15.1	11.5
Wood	10.5	8.7
Henrys Fork	4.9	8.9
Upper Snake	7.9	6.1

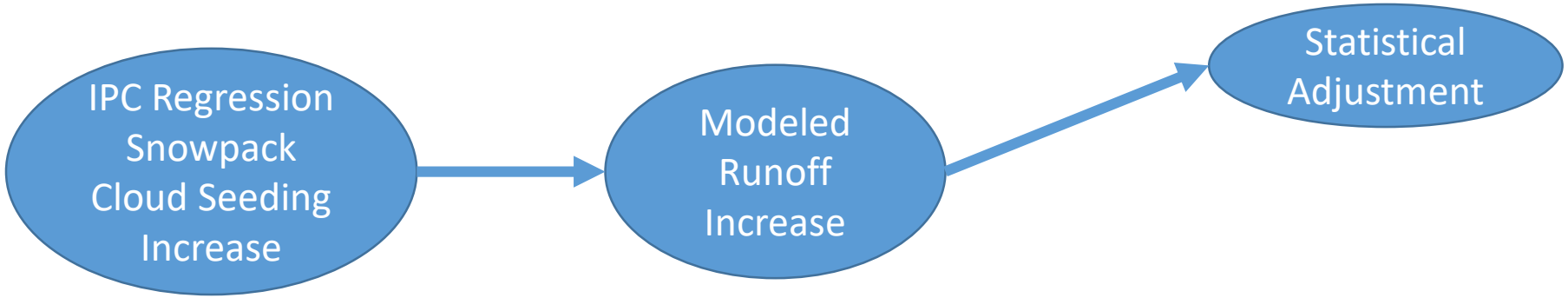
Analysis Summary

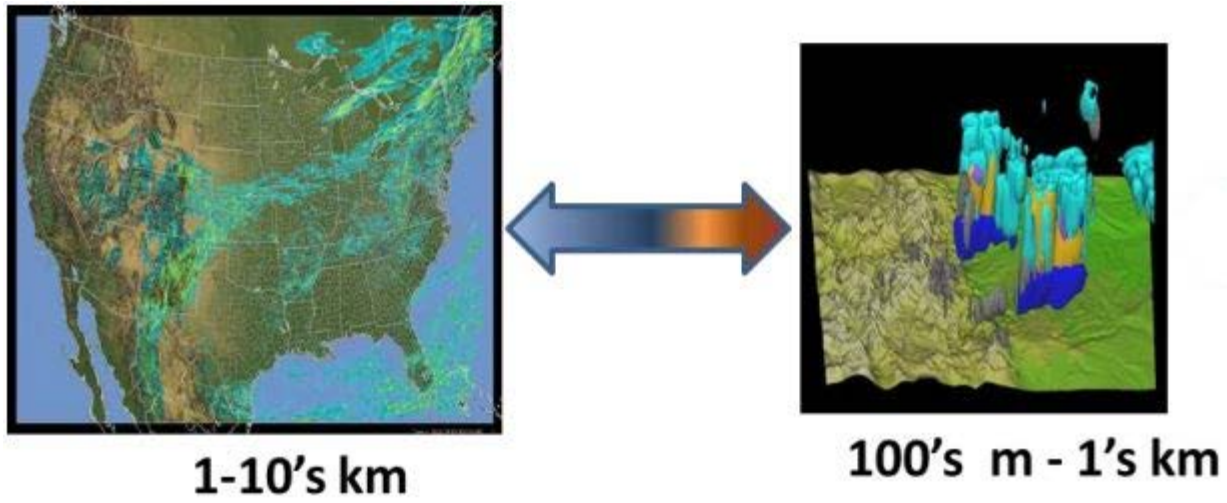
IPC Regression Snowpack Cloud Seeding Increase → Modeled Runoff Increase

Uses Weather Research and Forecasting Model Hydrological modeling system (WRF-Hydro) developed for entire United States

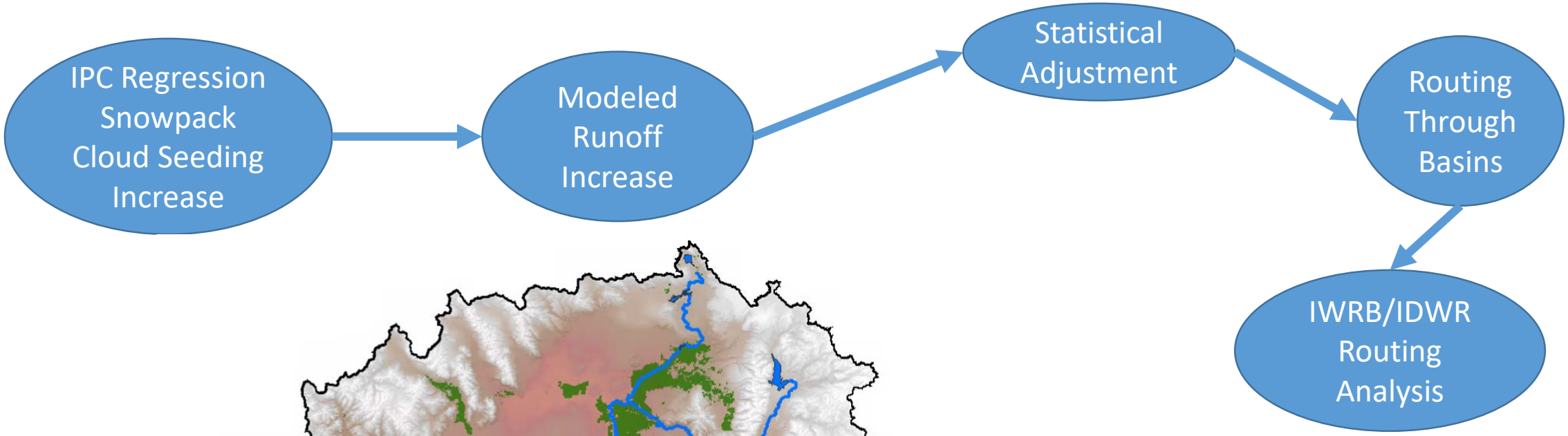
Cloud Seeding Model Run − Non-Cloud Seeding Model Run = Added Water Due to Cloud Seeding

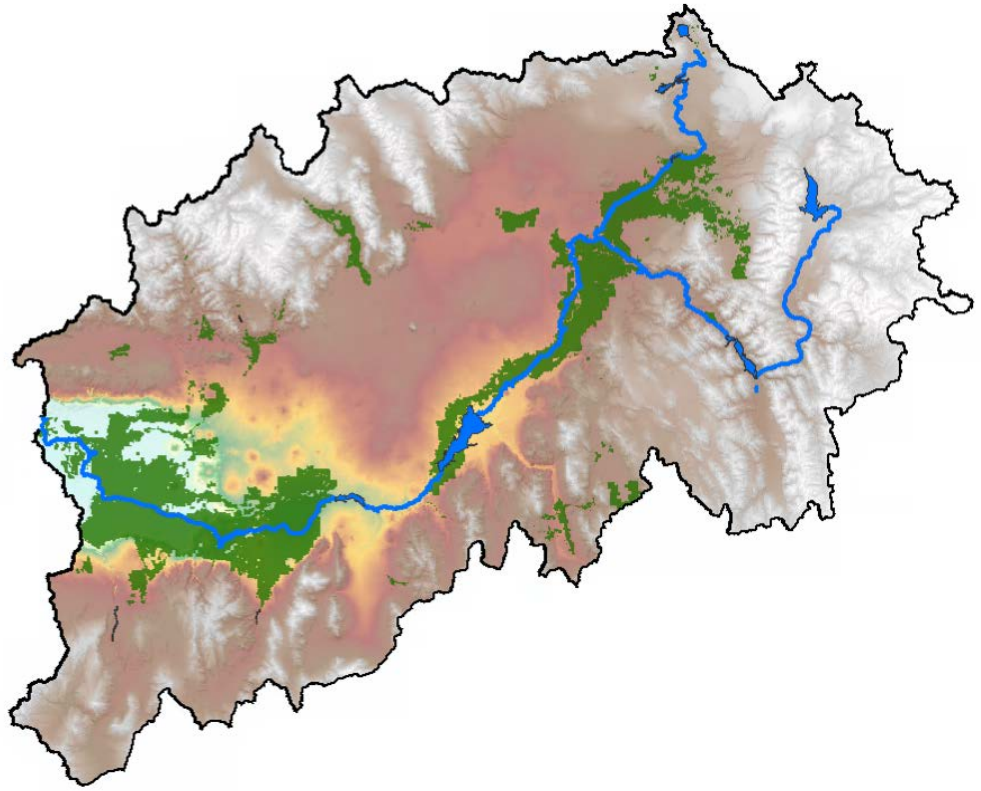
Analysis Summary





Analysis Summary

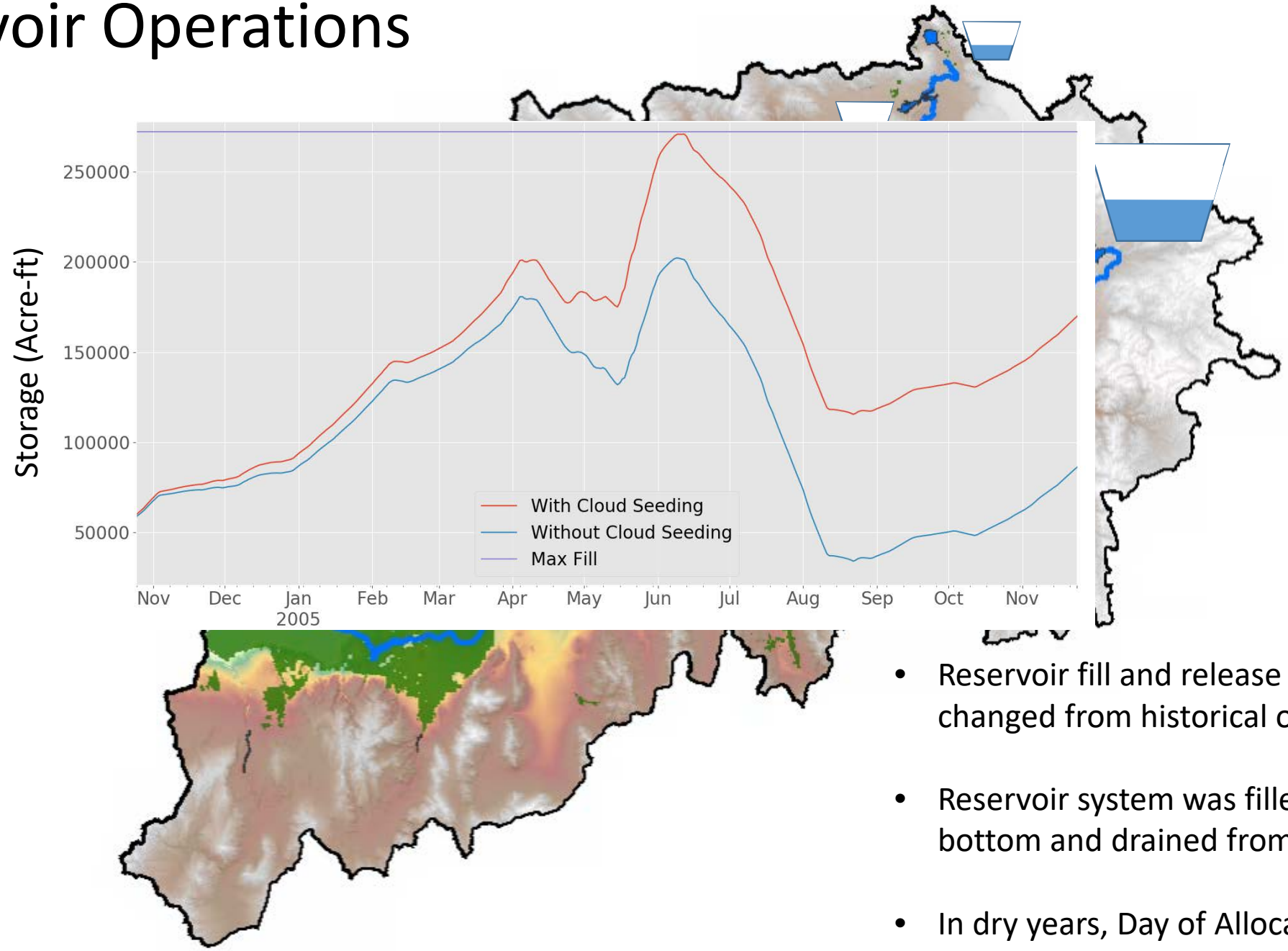




Considerations in Routing Analysis

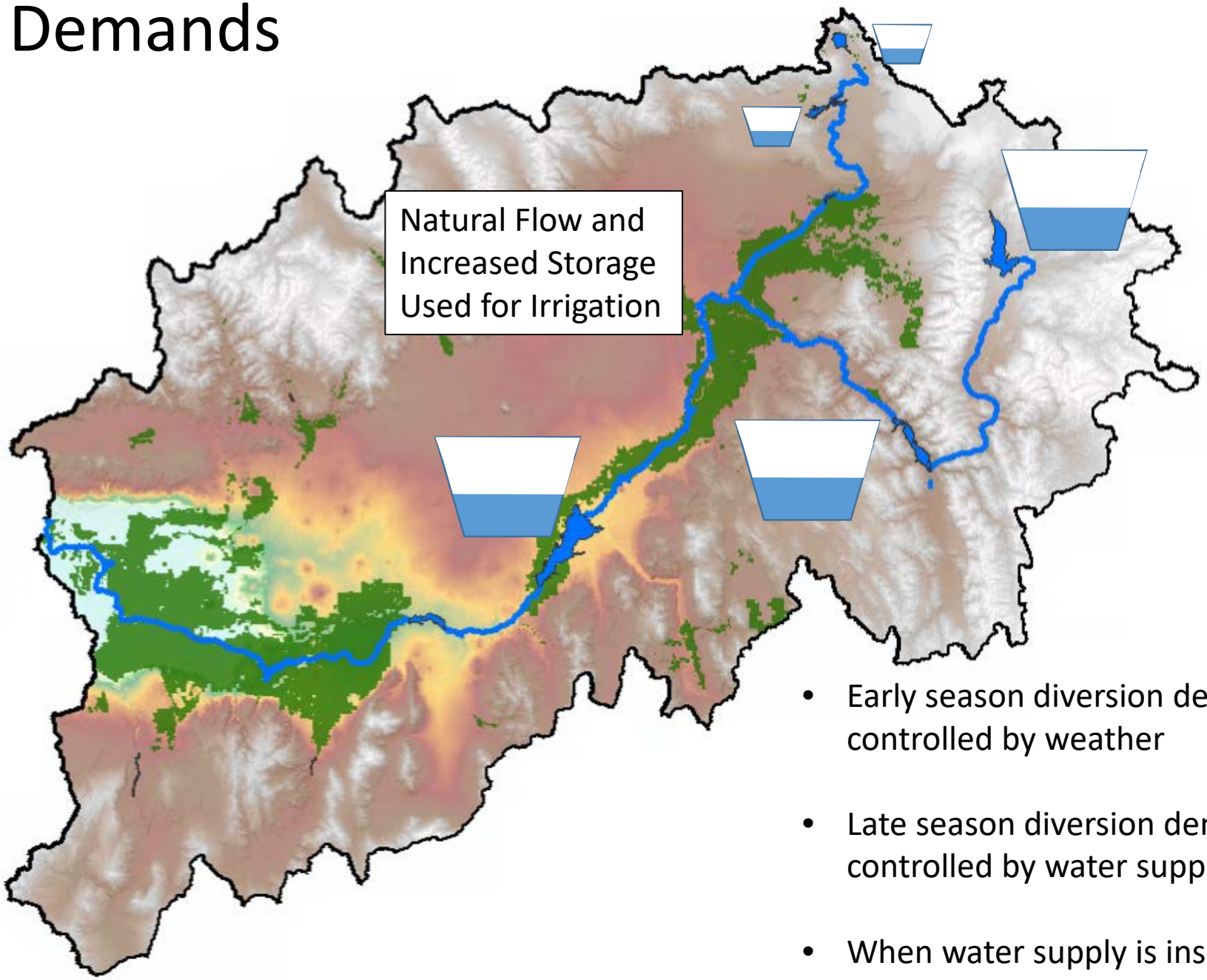
- Reservoir Operations
- Diversion Demands
- Carryover Allocation
- IWRB Recharge Allocations
- Hydropower Generation on Snake River

Reservoir Operations



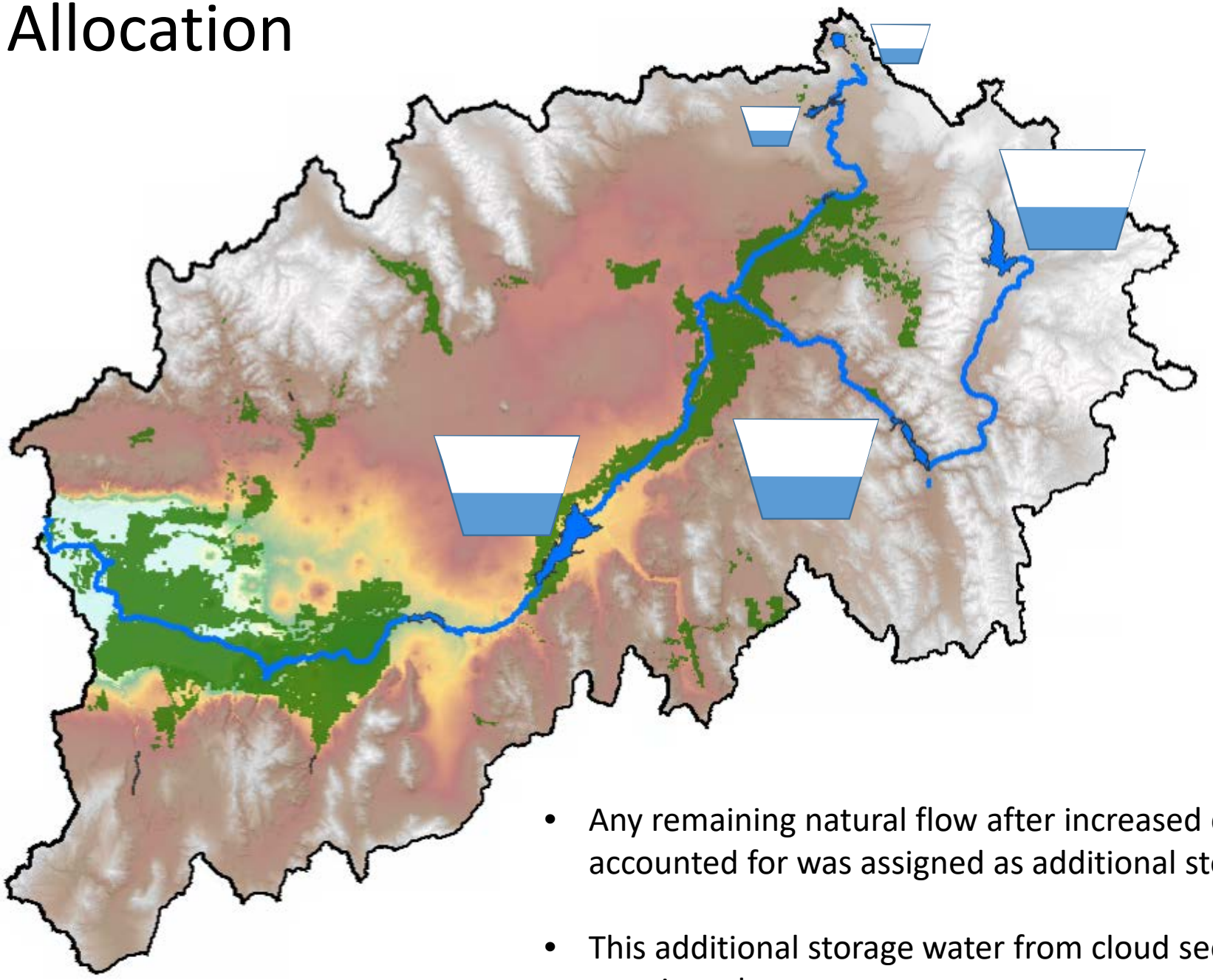
- Reservoir fill and release dates were not changed from historical operations
- Reservoir system was filled from top to bottom and drained from bottom to top
- In dry years, Day of Allocation was moved forward to capture additional spill

Diversion Demands



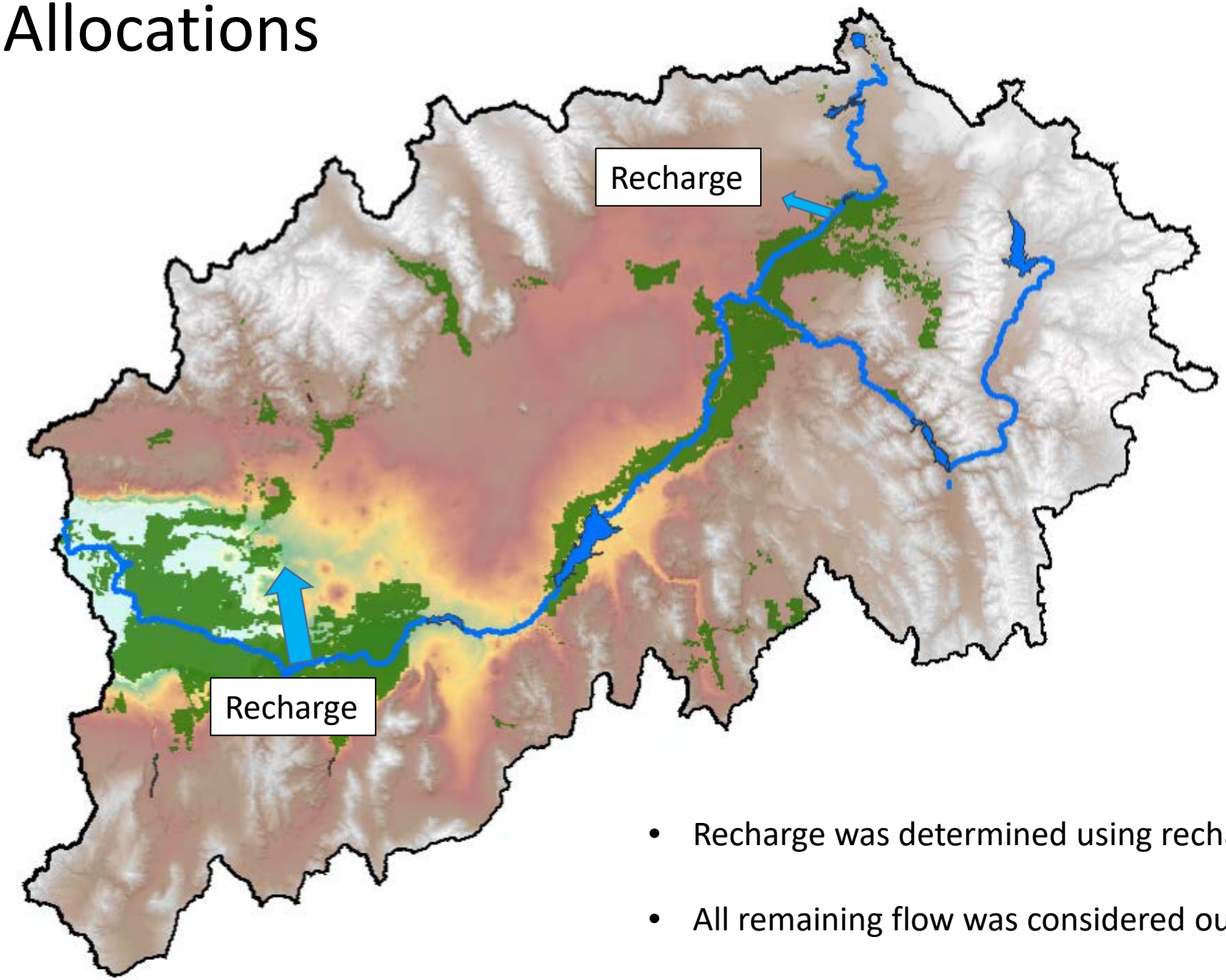
- Early season diversion demands are controlled by weather
- Late season diversion demands are controlled by water supply
- When water supply is insufficient, increased flows would go to in-basin use

Carryover Allocation



- Any remaining natural flow after increased diversions were accounted for was assigned as additional storage benefit
- This additional storage water from cloud seeding is carried over into the next year

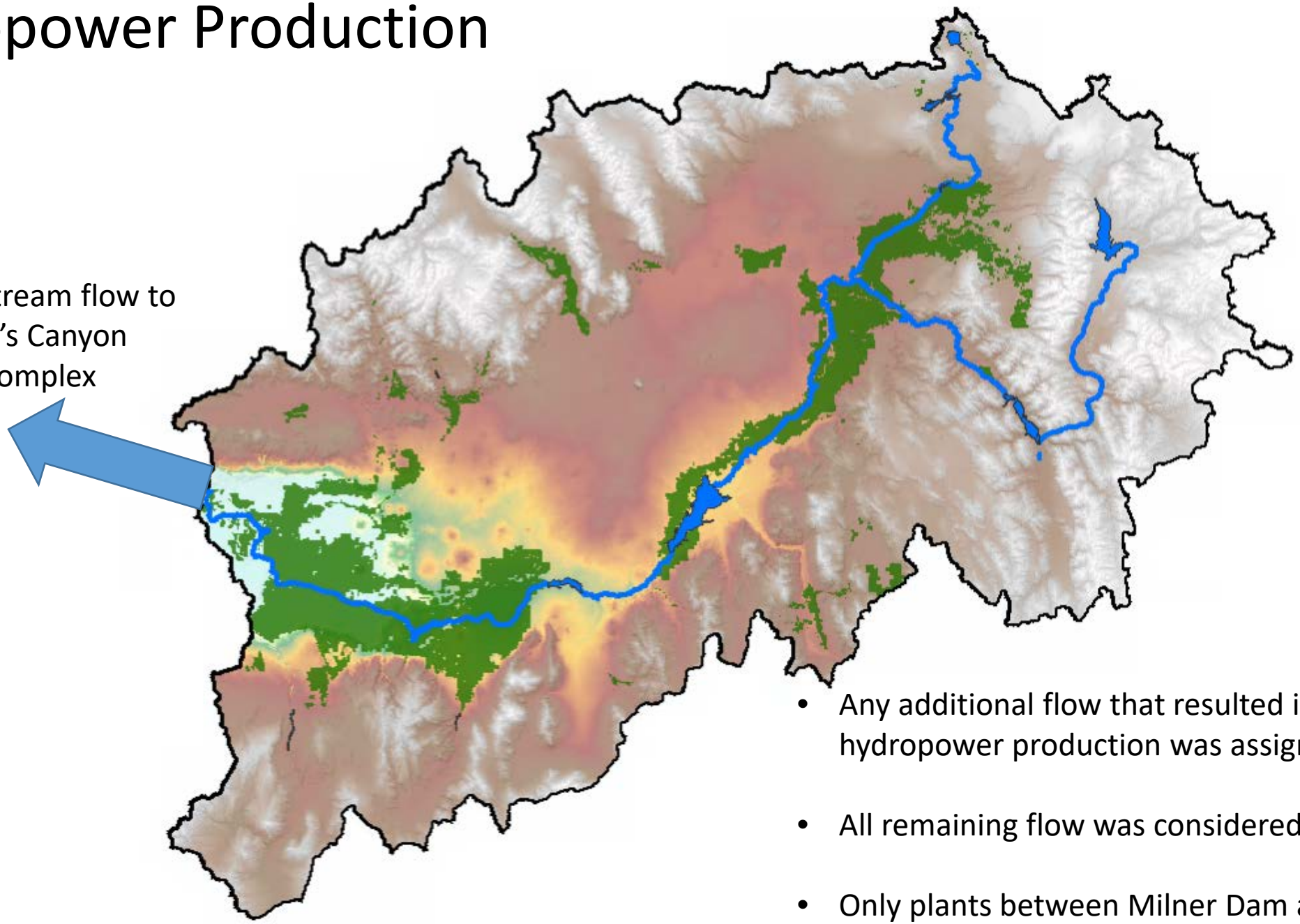
Recharge Allocations



- Recharge was determined using recharge capacity
- All remaining flow was considered out of basin flow

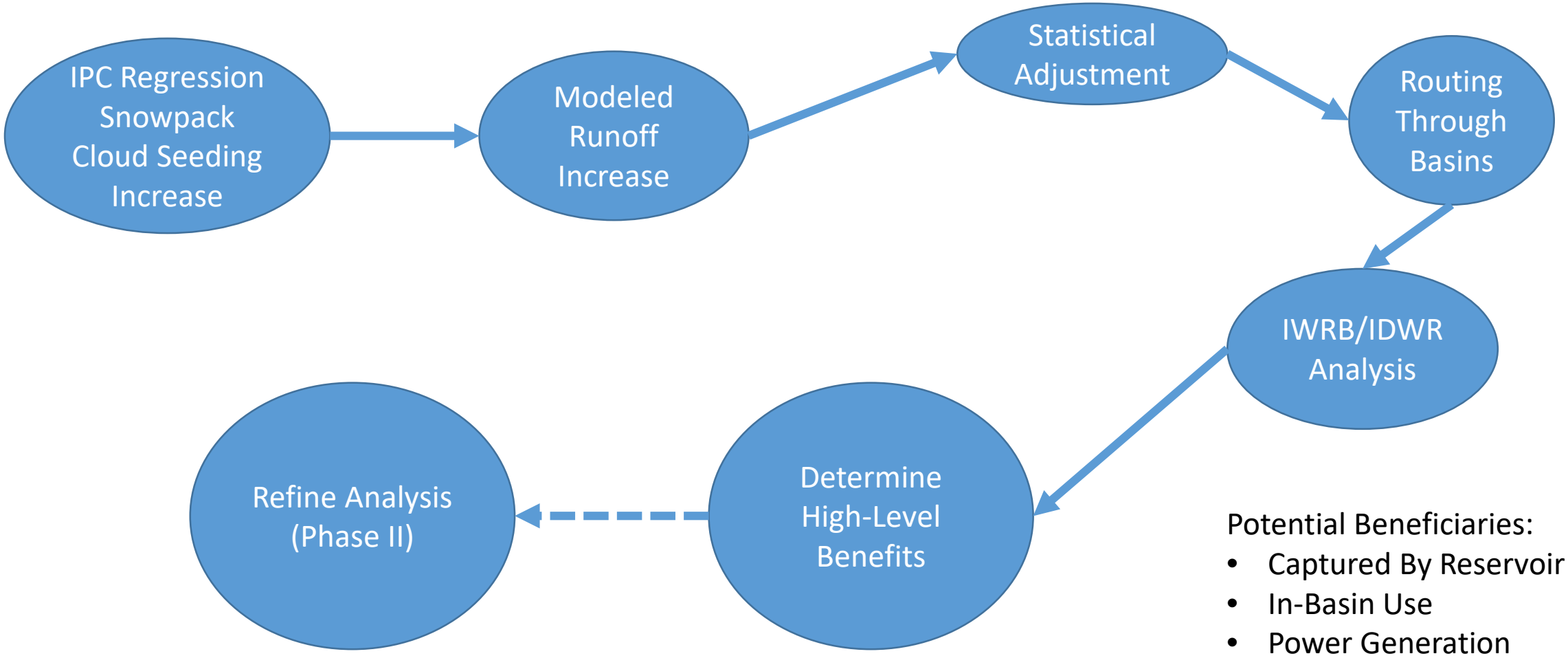
Hydropower Production

Downstream flow to Hell's Canyon Complex



- Any additional flow that resulted in increased hydropower production was assigned to hydropower
- All remaining flow was considered out of state flow
- Only plants between Milner Dam and Hell's Canyon Complex were considered in this analysis

Analysis Summary



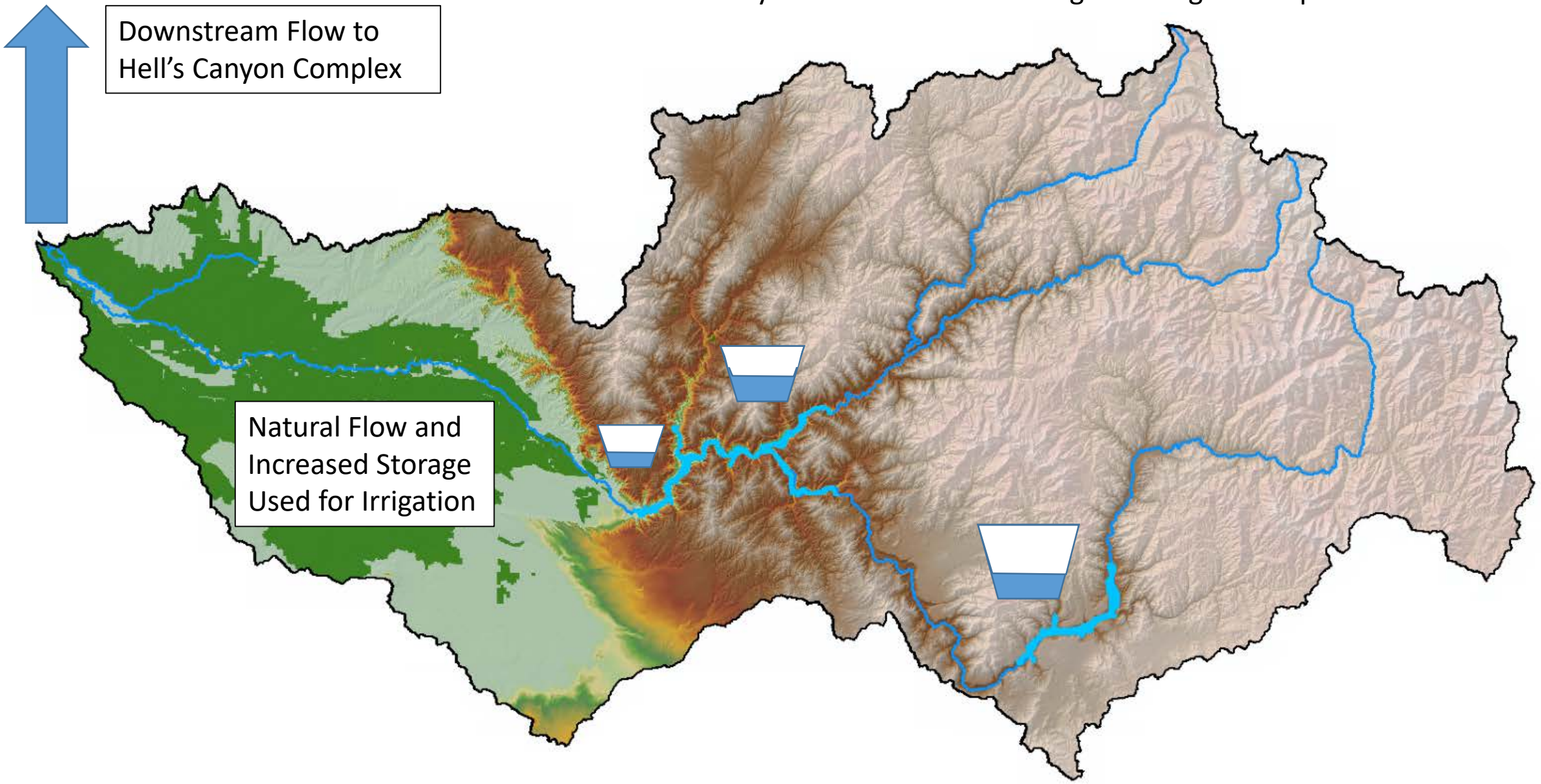
Potential Beneficiaries:

- Captured By Reservoir
- In-Basin Use
- Power Generation
- IWRB Recharge
- Out of State Flow

Results

Boise River Overview

- Cloud seeding increases snowpack
- Cloud seeding causes reservoirs to fill
- Any additional cloud seeding benefit goes to spill or natural flow



Boise River Cloud Seeding Results

	In-Basin Use	Hydropower	Spill Out of State	Captured by Reservoirs
1995	0%	49%	50%	0%
1996	0%	49%	49%	0%
1997	0%	49%	49%	0%
1998	0%	49%	49%	0%
1999	0%	49%	49%	0%
2000	2%	48%	48%	0%
2001	100%	0%	0%	0%
2002	31%	37%	0%	32%
2003	5%	43%	43%	9%
2004	12%	48%	0%	39%
2005	45%	43%	0%	11%
2006	2%	48%	48%	0%
2007	30%	70%	0%	0%
Annualized Average	17%	45%	30%	7%

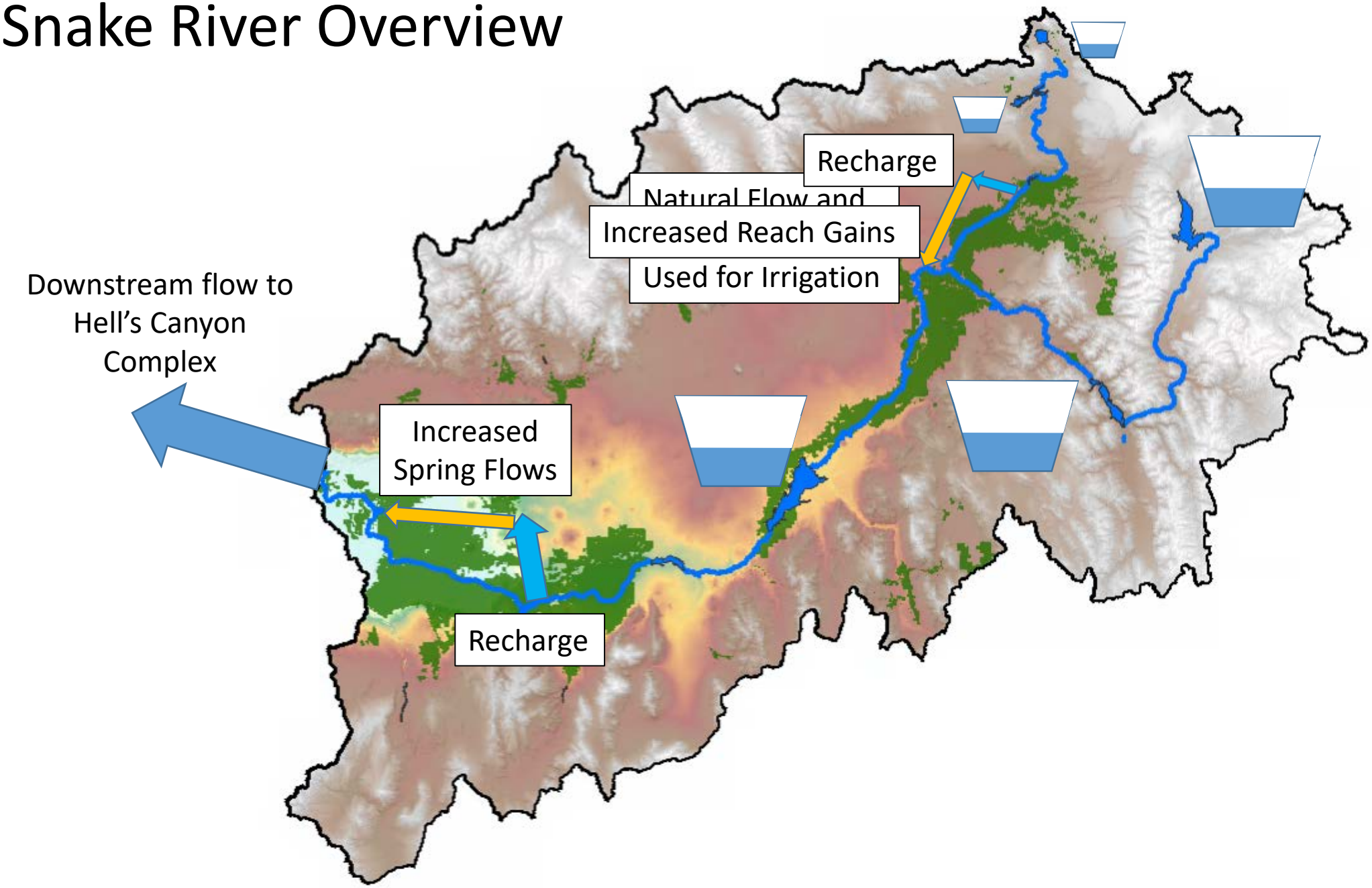
Wet Years - Benefits split between hydropower and out of state spill

Dry Years – Benefits split between hydropower, out of state spill, and in-basin use

Hydropower is the largest beneficiary of cloud seeding on the Boise River

	Total Volumetric Percentage	**Total Volume (AF)**
In-Basin Use	14%	402,826
Hydropower	52%	1,450,860
Out of State Flow	34%	945,488

Snake River Overview



Snake River Cloud Seeding Results

	In-Basin Use	Hydropower	Spill Out of State	IWRB Recharge	Captured by Reservoirs
1995	1%	16%	66%	16%	1%
1996	1%	17%	67%	14%	1%
1997	6%	17%	70%	7%	0%
1998	4%	14%	58%	24%	0%
1999	1%	14%	55%	21%	9%
2000	7%	31%	18%	24%	21%
2001	100%	0%	0%	0%	0%
2002	94%	0%	0%	0%	6%
2003	94%	0%	0%	0%	6%
2004	74%	0%	0%	0%	25%
2005	12%	15%	9%	7%	57%
2006	6%	18%	70%	10%	0%
2007	17%	32%	19%	29%	3%
Annualized Average	32%	13%	33%	12%	10%

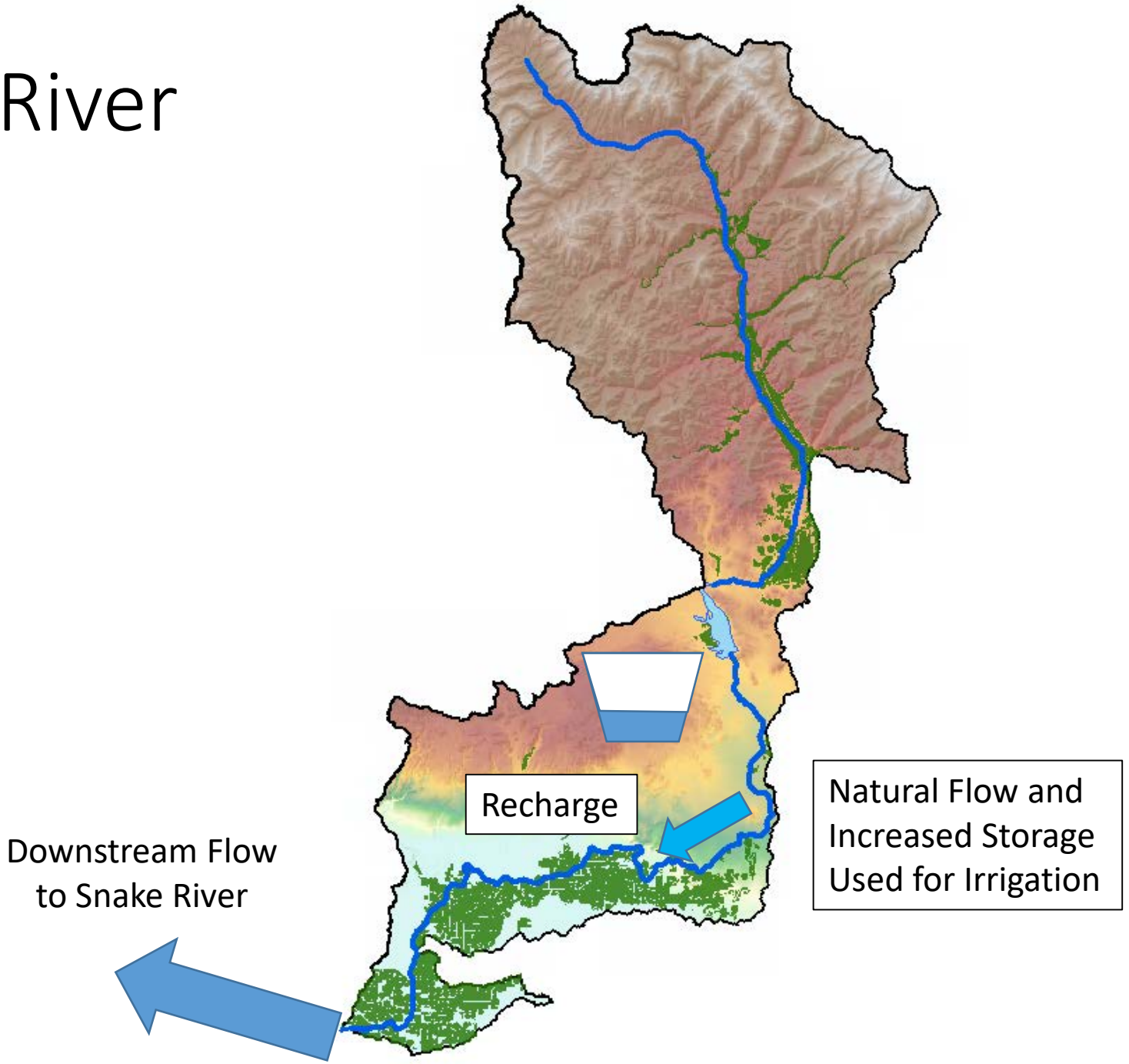
Wet Years – Majority of benefit goes to out of state spill with the rest being split between hydropower and recharge

Dry Years – Majority of benefit goes to in-basin use

In-basin use and out of state spill are the largest beneficiaries of cloud seeding on the Snake River

	Total Volumetric Percentage	**Total Volume (AF)**
In-Basin Use	29%	2,261,520
Hydropower	13%	1,021,335
Out of State Flow	40%	3,037,702
IWRB Recharge	17%	1,256,670

Wood River


Recharge
Natural Flow and
Increased Storage
Used for Irrigation
Downstream Flow
to Snake River

Wood River Cloud Seeding Results

	In-Basin Use	Hydropower	Spill Out of State	IWRB Recharge	Captured by Reservoirs
1995	0%	33%	45%	0%	22%
1996	0%	34%	46%	1%	19%
1997	0%	34%	48%	1%	17%
1998	0%	34%	46%	0%	20%
1999	0%	30%	42%	0%	28%
2000	0%	29%	40%	0%	30%
2001	0%	0%	0%	0%	100%
2002	100%	0%	0%	0%	0%
2003	100%	0%	0%	0%	0%
2004	97%	0%	0%	0%	3%
2005	71%	0%	0%	0%	29%
2006	4%	34%	47%	3%	11%
2007	4%	27%	54%	3%	11%
Annualized Average	29%	20%	28%	1%	22%

Wet Years – The benefit is split between hydropower, out of state spill, and reservoir carryover

Dry Years – Majority of benefit goes to in-basin use

In-basin use and out of state spill are the largest beneficiaries of cloud seeding on the Wood River

	Total Volumetric Percentage	**Total Volume (AF)**
In-Basin Use	32%	142,734
Hydropower	21%	93,011
Out of State Flow	47%	212,957
IWRB Recharge	1%	3,497

Phase I High-Level Analysis Summary

	In-Basin Use	Hydropower	Spill Out of State	IWRB Recharge	Captured by Reservoirs
Snake	32%	13%	33%	12%	10%
Boise	17%	45%	30%	-	7%
Wood	29%	20%	28%	1%	22%

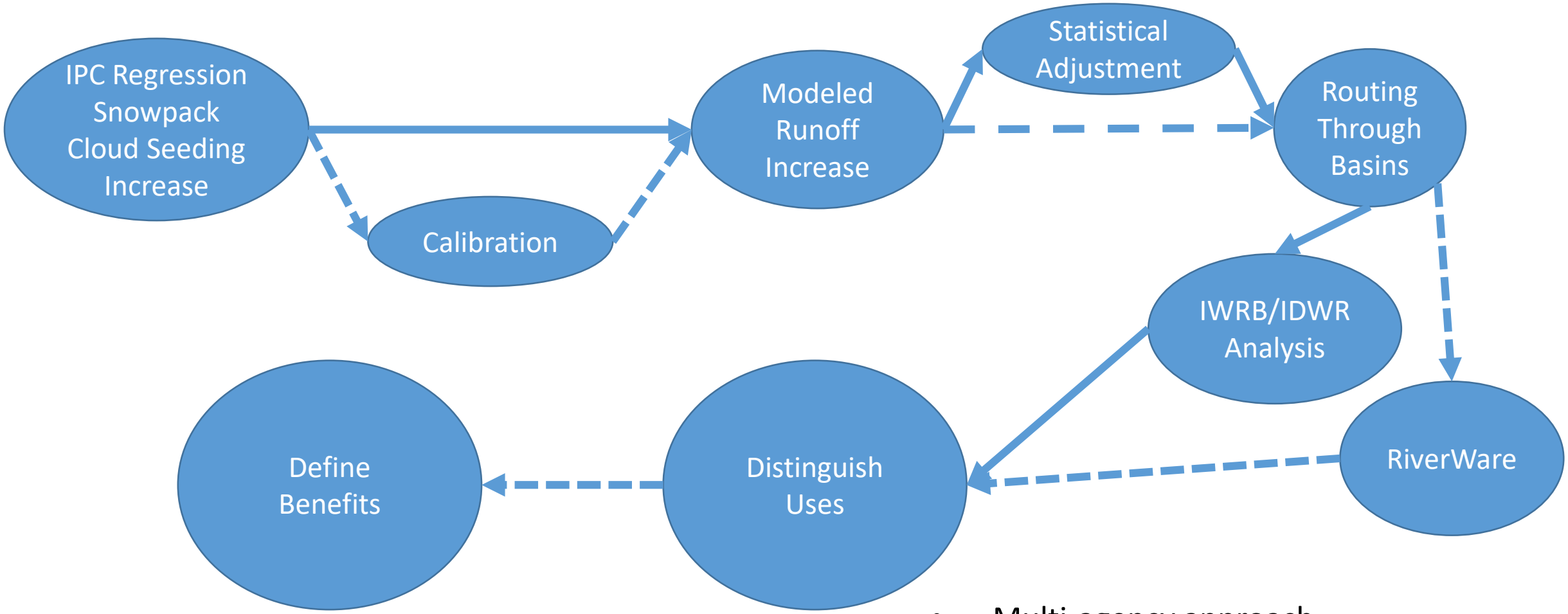
Phase I High-Level Analysis Takeaways:

- 1/3 of benefit goes to spills out of state
- Reservoir capture ranges between 10-20%
- Recharge benefit dependent on an existing operations recharge program (only currently significant on Snake River)
- Cloud seeding has a significant impact on in-basin use and hydropower production

Limitations of Phase I Analysis

- High-level Analysis
  - No explicit reservoir modeling
  - Diversions demands are assumed to be constant
  - Effects of recharge on reach and spring gains not modeled
- Broad beneficiary categories
  - Does not include secondary benefits
- Limited time period

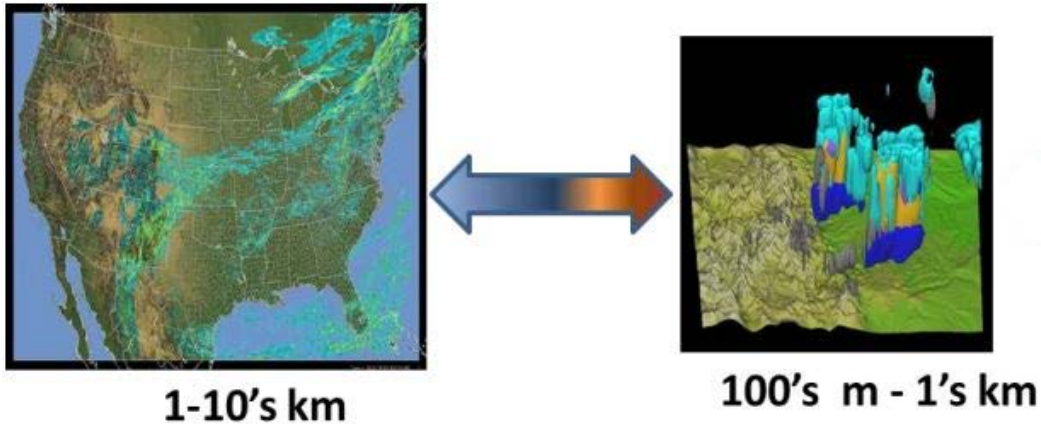
Future Work – Phase II



- Multi-agency approach
- Would likely take 1-2 years

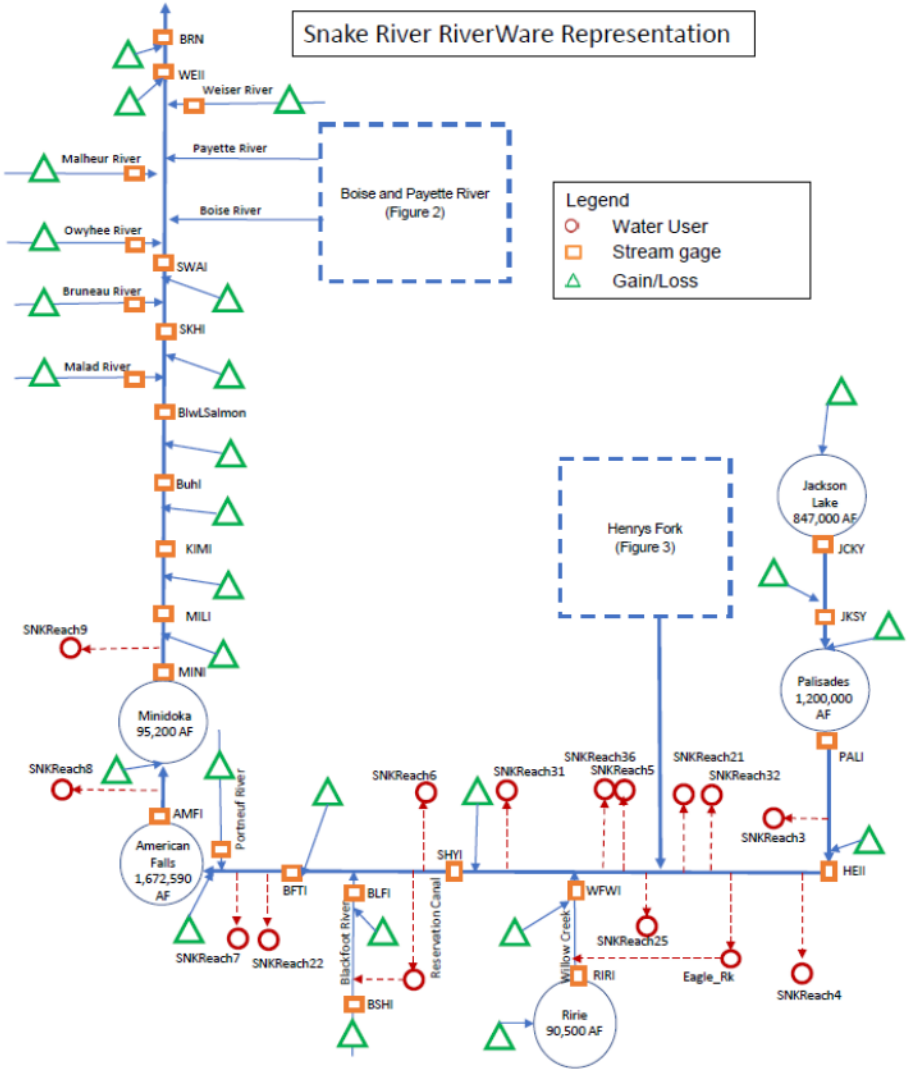
Calibrated Model

- Phase I uses statistical techniques to correct post-modeling results to match observed data
- Phase II will use observations to calibrate the model for each basin resulting in a more accurate modeling of increased snowpack
- Longer time period of data will be available



USBR RiverWare Snake Model

- The USBR has developed a RiverWare model of the Snake River
  - This models reservoirs, reach gains, diversions, and river gages
- IPCo has adapted USBR's model for their IRP
- IWRB/IDWR will need to make additional changes to this model to address questions specific a variety of water management topics



Benefits of Calibrated and Riverware Model

- Calibrated Model Benefits
  - A more accurate estimate of increased streamflow due to cloud seeding
  - Longer time period
  - Necessary for incorporating improvements in modeling snowpack increases due to cloud seeding

- RiverWare routes flows through system with increased accuracy
  - Reservoir Modeling
  - Changes in diversions to due to climate
  - Reach and Spring increases due to recharge

Conclusions

- Phase I analysis provides a high-level assessments of where the excess water from cloud seeding goes and the primary beneficiaries
- More work is required to further refine the potential benefits from cloud seeding
- Investments will be required for phase II to develop a more detailed model
  - There are opportunities for collaboration with stakeholders and other agencies

Questions?

Memorandum

To: Idaho Water Resource Board

From: Kala Golden

Date: November 11, 2020

Re: Collaborative Cloud Seeding Program

REQUESTED ACTION: Consider resolution to commit one-time funding to offset shortages in operation and maintenance funds for the 2020-2021 cloud seeding season.

Topics:

- Presentation of Phase 1 of Cloud Seeding Benefits Analysis – Initial Findings
- Funding resolution for consideration by the IWRB: 2020-2021 Operations and Maintenance Funding Shortages

Cloud Seeding Benefits Analysis

In the spring of 2019 the IWRB directed staff to conduct an independent analysis of the estimated increase in unregulated runoff that results from the Cooperative Cloud Seeding Program operations. The *objective* of the analysis is to identify, broadly, which water users or groups of water users receive benefit from the total water generated from cloud seeding activities, and to determine the approximate portion each receives on average. Results of the analysis will be used to determine an equitable apportionment of funding for program operations and maintenance and to inform longer-term decisions about program buildout.

Led by IDWR staff, initial development included collaboration with Idaho Power Company and Boise State University. Individuals from various other entities have also provided technical input and valuable feedback. The analysis will be completed in two phases to allow for necessary data and model development. A presentation of the analysis and initial findings, will be given at the November Board meeting.

2021 Operations and Maintenance Funding

Through its current Fiscal Year 2021 resolution, the IWRB authorized expenditure of a one-time contribution to offset funding shortages for Cloud Seeding Operations & Maintenance. Staff request a recommendation from the IWRB regarding the amount and distribution of the additional funding between the Upper Snake, Wood, and Boise River basins. Options for distribution of these funds and a draft resolution will be presented for consideration at the November Board meeting.

Budget

Phase 1: Develop framework & High Level Results

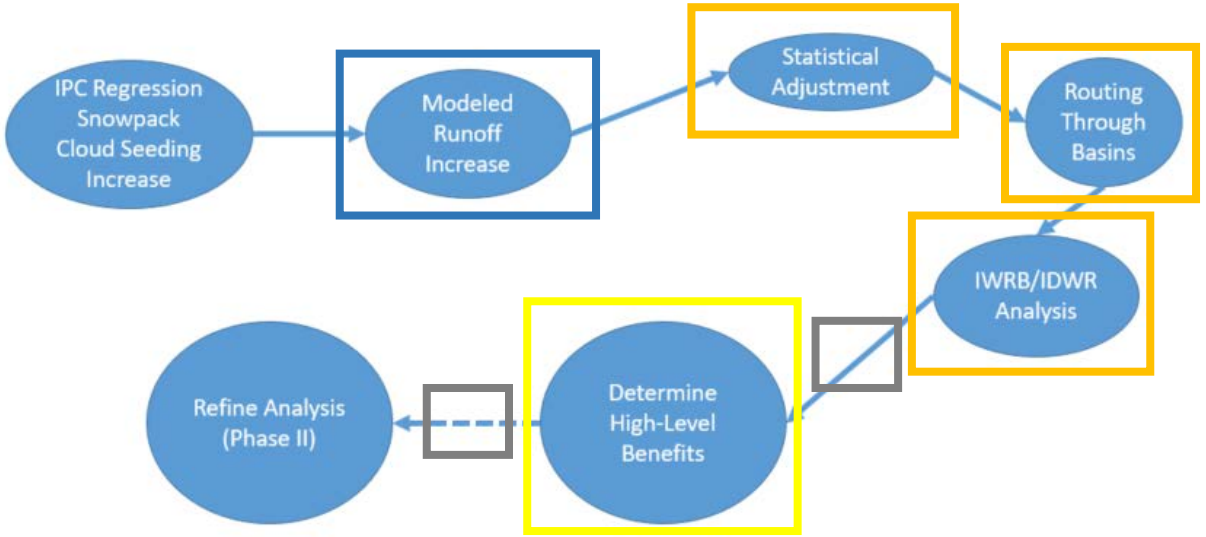
Process

1. Develop hydrologic data; With ***and*** without Cloud Seeding– BSU
    - Unrefined data
    - Limited availability of calibrated models

2. Evaluate Data and route through system– IDWR
    - Determine increase in supply using bias correction method
    - Route increased flow through system using the IWRB/IDWR analysis

3. Determine which areas of the system that could see increased supply – IDWR

4. Identify assumptions/necessary refinements– IDWR



Budget- Future Work

Phase 2: Refine Analysis → Increase Level of Certainty

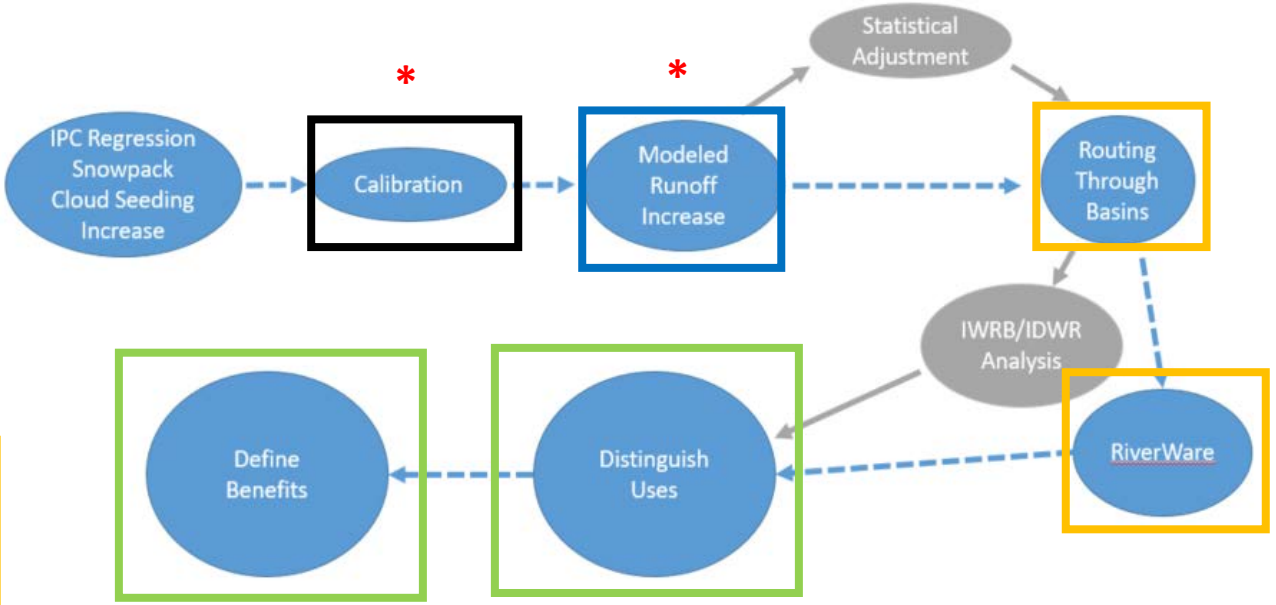
Process

1. Calibrate models for all basins: NCAR
   - Multiple uses for calibrated basin models
   - Proposed cost share with IPC

2. Develop hydrologic data; with ***and*** without Cloud Seeding– NCAR
   - Generate hydrologic data using calibrated models
   - Evaluation of data

3. Route through system– IDWR
   - Determine increase in supply using refined hydrologic data sets →
     "with cloud seeding" - "without cloud Seeding"= Increase
   - Preform routing analysis of increased flow through system
     - Develop an adapted version of the USBR Snake River Planning Model

4. Distinguish Uses and determine Benefits– IDWR



* **A funding commitment is required for these tasks. Funding was budgeted by IWRB in its 2021 Fiscal Year Budget resolution but will require IWRB approval of proposed expenditures.**

BEFORE THE IDAHO WATER RESOURCE BOARD

IN THE MATTER OF AQUIFER STABILIZATION AND CLOUD SEEDING IN THE UPPER SNAKE, WOOD, AND BOISE RIVER BASINS	RESOLUTION TO APPROVE ONE-TIME FUNDING FOR THE COOPERATIVE CLOUD SEEDING PROGRAM'S 2020-2021 OPERATIONS & MAINTENANCE EXPENSES

WHEREAS, House Bill 547, passed and approved by the 2014 legislature, allocates $5,000,000 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, cloud seeding was identified as a strategy in the Eastern Snake Plain Aquifer Comprehensive Management Plan (ESPA CAMP) for which stabilization and recovery of the ESPA is a principal goal, and was identified as a strategy in the draft Treasure Valley Comprehensive Management Plan; and

WHEREAS, a well-managed cloud seeding program can increase winter snowpack as much as 10% or more, and thereby increase surface water runoff, resulting in more surface water for all uses, including aquifer management projects, and less supplemental ground water pumping; and

WHEREAS, the Idaho Power Company (IPC) established a remote-operated "Pilot Program" and brought its operational experience gained from its Payette River Basin program to the Upper Snake River Basin as a result of the ESPA CAMP; and

WHEREAS, discussions between the IWRB, IPC, and other water users resulted in the creation of a Collaborative Cloud Seeding Program (Program) to expand IPC's cloud seeding operations in the Upper Snake River Basin and establish IPC run programs in the Boise River Basin, and Wood River Basin with support from the IWRB and water users; and

WHEREAS, the IWRB's 2017 through 2021 Fiscal Year Budget Resolutions for the Secondary Aquifer Stabilization and Secondary Aquifer Planning, Management, and Implementation Fund (Fiscal Year Budget Resolution) authorized expenditure of funds for operation and maintenance (O&M) costs associated with the Program and further stated the IWRB's goal that both the State and the water users financially participate with IPC in the Collaborative Cloud Seeding Program; and

WHEREAS, the IWRB has paid one third of the total Program O&M costs since the 2017-2018 winter cloud seeding season; and

WHEREAS, water users in the Boise, Wood and Upper Snake River basins have historically contributed different percentages of the cost for annual cloud seeding activities per basin, with the lowest individual basin contribution during the 2019-2020 cloud seeding season being approximately 17 percent of total basin costs; and

WHEREAS, IPC has paid a larger portion these Program expenses by covering the remainder of the total annual cost for O&M; and

WHEREAS, in accordance with IWRB direction, a Cloud Seeding Benefits Allocation Study (Benefits Analysis) is underway to quantify the amount of additional water received by different water user groups in each corresponding basin as a result of Cloud Seeding. The Benefits Analysis is intended help identify an equitable funding cost-share distribution among program beneficiaries; and

WHEREAS, the IWRB, through its 2021 Fiscal Year Budget Resolution, authorized payment for one third of the total estimated costs for O&M and one-time funding to help offset Program O&M funding shortages in each basin while the Benefits Analysis is being completed and a more equitable cost-share distribution determined; and

WHEREAS, IPC estimates the total cost for O&M for the 2020-2021 Cloud Seeding season will be $2,493,000, and the IWRB will assume payment of up to $831,000, approximately one third of the total; and

NOW THEREFORE BE IT RESOLVED that the IWRB agrees to commit additional one-time funding to help offset anticipated O&M funding shortages from the water users in each basin and to equalize the percentages being paid by the water users in each basin while the Benefits Analysis is being completed and a more equitable cost-share distribution is determined for the individual basins.

NOW THEREFORE BE IT FURTHER RESOLVED that the IWRB authorizes expenditures not to exceed $417,000 from the Secondary Aquifer Planning, Management, and Implementation Fund, for the 2020-2021 cloud seeding season in addition to O&M funding up to $831,000 already approved in the 2021 Fiscal Year Budget Resolution; one-time authorized expenditures per basin shall not exceed the following and are contingent upon anticipated water user contributions as identified below:

Basin	Total Program O&M Cost	Water User Cost Share (Approx 17%)	IPC Share (1/3)	IWRB Share (1/3)	One-Time IWRB Contribution (Approx 17%)
Boise River	$601,000	$100,000	$200,333	$200,333	$100,333
Wood River	$536,000	$89,000	$178,667	$178,667	$89,667
Upper Snake River	$1,356,000	$225,000	$452,000	$452,000	$227,000
Total	**$2,493,000**	**$414,000**	**$831,000**	**$831,000**	**$417,000**

NOW THEREFORE BE IT FURTHER RESOLVED that the IWRB authorizes its chairman or designee, Brian Patton, Executive Officer to the IWRB, to execute the necessary agreements or contracts with program participants.

DATED this 19th day of November, 2020.

_____
ROGER W. CHASE, Chairman
Idaho Water Resource Board

ATTEST _____
VINCE ALBERDI, Secretary

Memorandum

To: Idaho Water Resource Board

From: Wesley Hipke

Date: November 10, 2020

Re: ESPA Managed Recharge Program Status Report

I. IWRB Managed Recharge Summary

The Idaho Water Resource Board (IWRB) supports ESPA water user recharge efforts intended to improve and recover groundwater levels in the ESPA. As such, the IWRB is currently recharging storage water supplied by the Surface Water Coalition (SWC) and the Coalition of Cities (Cities). The IWRB started managed recharge of storage water for other entities on September 4, 2020 and a current summary is provided in Table 1. The Surface Water Coalition (SWC) has assigned 58,300 acre-feet (af) of storage to the IWRB from the IGWA settlement agreement. As part of the Coalition of Cities settlement agreement with SWC the City of Idaho Falls has assigned 1,125 af of storage water and the City of Pocatello is expected to assign 6,300 af of storage water for the IWRB to recharge for them. The current plan is to recharge the full volume of the water related to SWC settlement agreements in the Upper Valley above Minidoka Dam.

Table 1. Storage Water Recharged Fall 2020 Summary for Other Entities

Water Source	Area	Start	# Days	Current Rate (cfs)	Median Rate (cfs)	Total Recharged (Acre-feet)*
Storage Water	Upper Valley	Sept. 4	67	425	383	53,061

* As of November 9, 2020 – Reported recharge volumes are preliminary and subject to change.

The IWRB's natural flow recharge water rights came into priority on October 28, 2020 and a current summary is provided in Table 2. With fall/winter US Bureau of Reclamation (USBR) releases from Minidoka Dam (around 550 cfs) and reach gains between the dam and the Milner Pool normally result in approximately 600 to 650 cfs being available for managed recharge at the Milner Pool. Twin Falls Canal Company (TFCC) and Southwest Irrigation District (SWID) are planning on diverting their current levels (40 and 55 cfs, respectively) throughout the 2020/2021 recharge season. American Falls Reservoir District No. 2 (AFRD2) is planning on diverting the remaining water available up to an additional 600 cfs. If the total available flow for managed recharge increases above 700 cfs, North Side Canal Company (NSCC) is slated to recharge the additional water. NSCC is currently conducting maintenance on one of their hydropower plants and will not be able to conduct any recharge until after the first of December. Especially at the start of the recharge season, however, throughout season there are ongoing adjustments to balance recharge diversions with inflows to the Milner Pool and operations of the Milner Dam/Pool.

Table 2. IWRB Managed Recharge 2020/2021 Summary

Water Source	Area	Start	# Days	Current Rate (cfs)	Median Rate (cfs)	Total Recharged (Acre-feet)*
Snake River	Lower Valley	Oct. 28	19	587	266	7,508

* As of November 9, 2020 – Reported recharge volumes are preliminary and subject to change.

II. ESPA Recharge Program Projects and Buildout Activities

The IWRB has actively supported development of additional recharge capacity throughout the ESPA to meet the managed recharge goal of an average 250,000 af/yr. For managed recharge projects involving infrastructure improvements to which the IWRB provided funding, a Memorandum of Intent (MOI) was developed to establish a long-term agreement (twenty years) between the IWRB and the entity implementing the project. The MOI acknowledges: 1) the IWRB provided financial assistance for a project; and 2) the entity agreed to deliver and prioritize delivery of the IWRB's recharge water as compensation for financial assistance from the IWRB.

The IWRB allocated over $20 million dollars from 2013 through fiscal year 2021 for infrastructure improvements to increase managed recharge throughout the ESPA. Since 2014 the IWRB has added over 2,000 cfs of managed recharge capacity throughout the ESPA. The status of the current projects in the Lower and Upper Valleys is summarized in Table 3.

Table 3. Current IWRB ESPA Managed Recharge Projects						
IWRB Partner	**Project Name**	**Project Type**	**Status**	**IWRB Funds**	**Scheduled Completion**	**Description /** Key Items
TFCC	TFCC Injection Wells	Construction	Active	$178,000	Spring 2021	**Construction of recharge wells** • Easements – Summer/Fall 2020 • USBR EIS – Fall/Winter 2020 • UIC permitting – Winter 2020-Spring 2021 • Well construction – Spring 2021 • Testing injection well –Spring 2021
A&B ID	A&B Injection Wells	Construction	Active	$202,000	Summer/ Fall 2021	**Construction of recharge wells** • USBR easements / project transfer – Sept 2020 • USBR EIS – Fall/Winter 2020 • UIC permitting – Winter 2020-Spring 2021 • Start Construction – Spring/Summer 2021 • Testing injection well – Spring/Fall 2021
AFRD2	MP 31 BLM Embankment	Construction	Active	$320,000	Apr 2021	**Construction of Embankment to protect BLM road** • Meeting with BLM concerning issues – May 2020 • Design Study Complete – Oct 2020 • Process for oversight & Invitation to Bid – Oct-Dec 2020 • Hire contractor – Jan 2021 • Start construction – Feb 20201
Fremont-Madison ID	Egin Lakes Phase II	Construction	Active	$580,000	Spring 2021	**Construction of recharge capacity expansion** • BLM approval – Oct 2018 • Finish berms expanding Egin Lakes site – July 2020 • Construct Tibbets berms in new area – Apr/May 2021
Butte Market Lake Co.	Injection Well Test	Testing / Construction	Active	$110,000	Fall 2020/ Spring 2021	**Construction of recharge site** • Evaluation of area complete – Jan 2018 • Drilling & equipping monitor well – Fall 2020 • Background water quality sampling – Fall 2020-Spring 2021 • Test well – Spring 2021

IWRB Partner	Project Name	Project Type	Status	IWRB Funds	Scheduled Completion	**Description /** Key Items
IWRB	Upper Valley – Large Scale Recharge Project	Study	Planning	$99,500	2021	**Potential large scale managed recharge projects** • Initiate detailed feasibility investigation of three potential areas – Nov 2020 • High level review of site & delivery corridors, determine data needs and potential constraints – Winter-Summer 2021 • Collect & analyze data – Summer-Fall 2021 • Conceptual designs, cost & permitting requirements – Fall-Winter 2021
Enterprize Canal Co.	Willow Creek/Swan Hwy Recharge Site	Evaluation / Study	Planning	$100,000	Spring 2021	**Evaluation, design, & cost of potential recharge project** • Start of study – June 2020 • Design criteria, site investigation – Fall-Winter 2020 • Preliminary design & cost estimate – Winter/Spring 2021

IDAHO
Water Resource Board

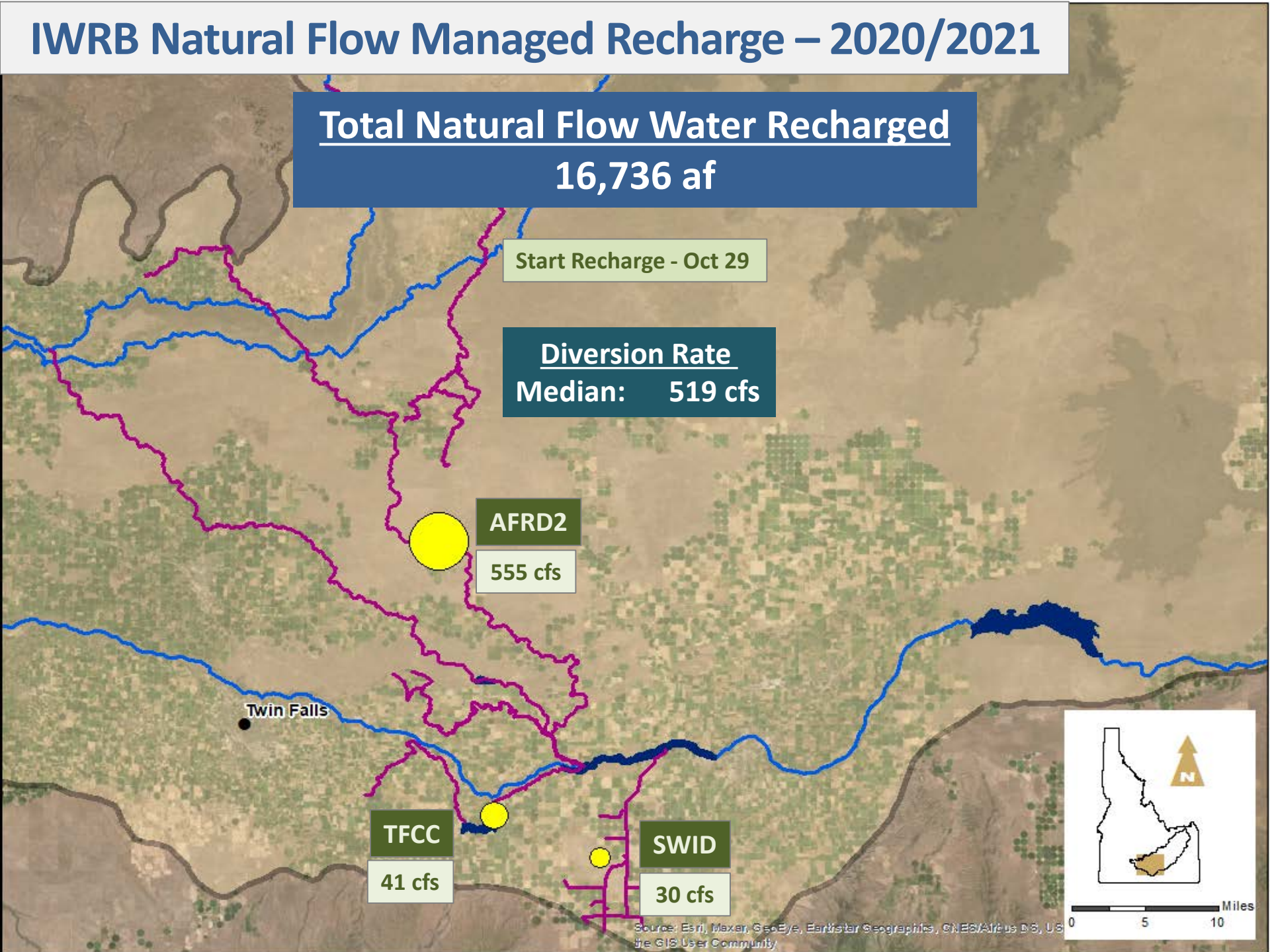
IWRB Managed Recharge Program

IWRB Board Meeting

Wesley Hipke
IWRB Recharge Program Manager

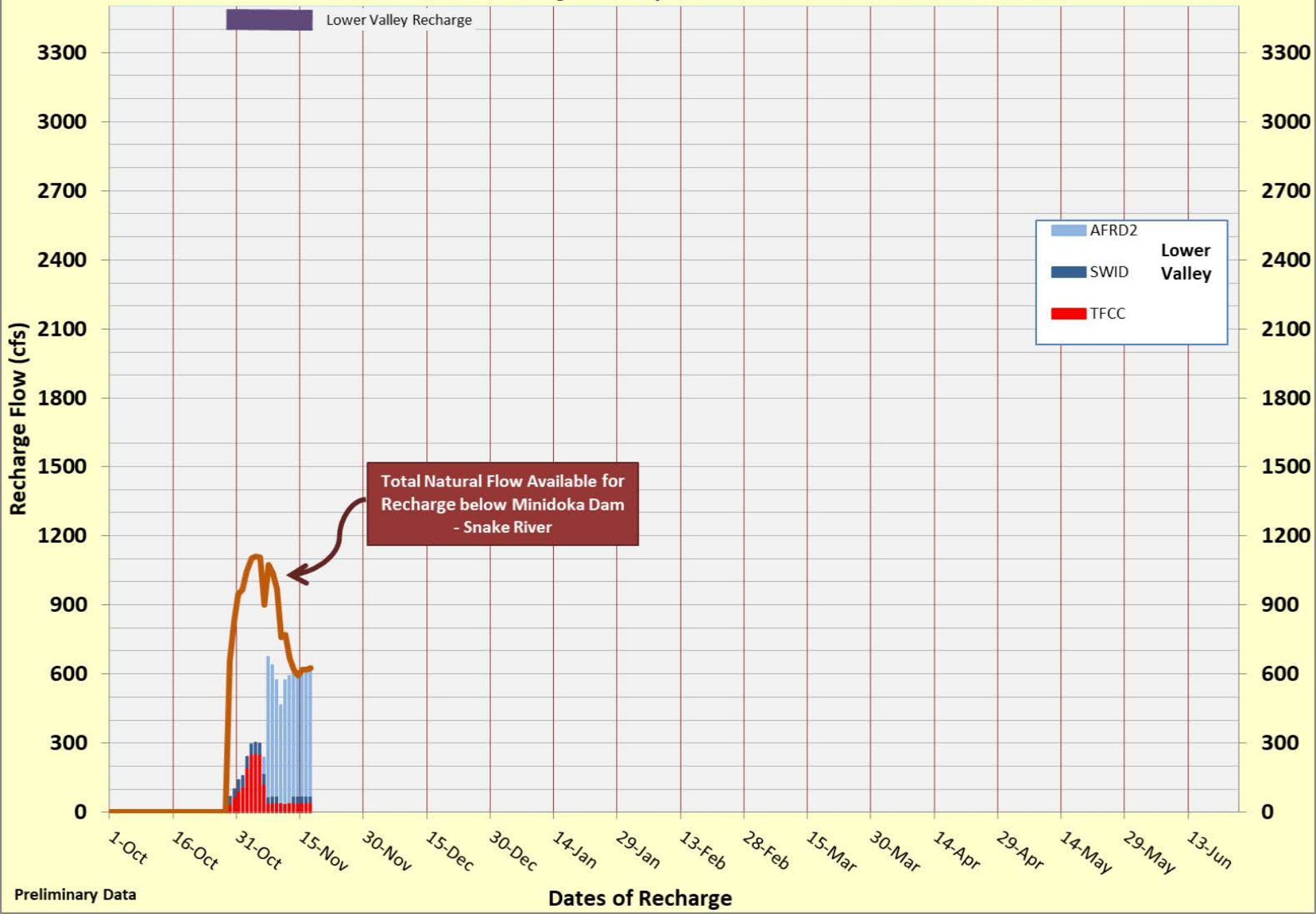
November 19, 2020

IWRB Natural Flow Managed Recharge – 2020/2021



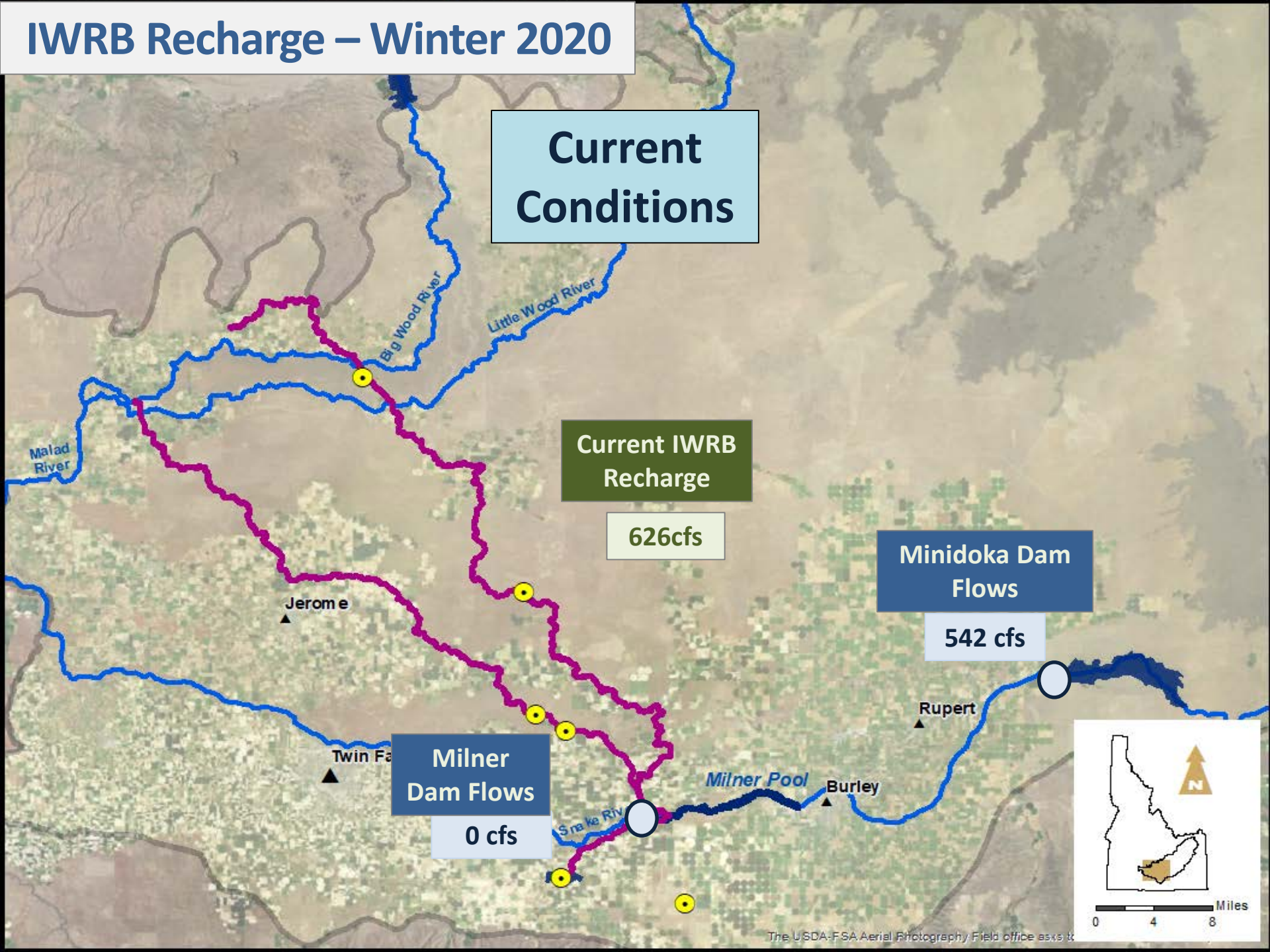
Natural Flow - IWRB Recharge Rates - 2019/2020 Season

Total Volume of Recharge = **16,736** af (October 23, 2019 to November 17, 2020)

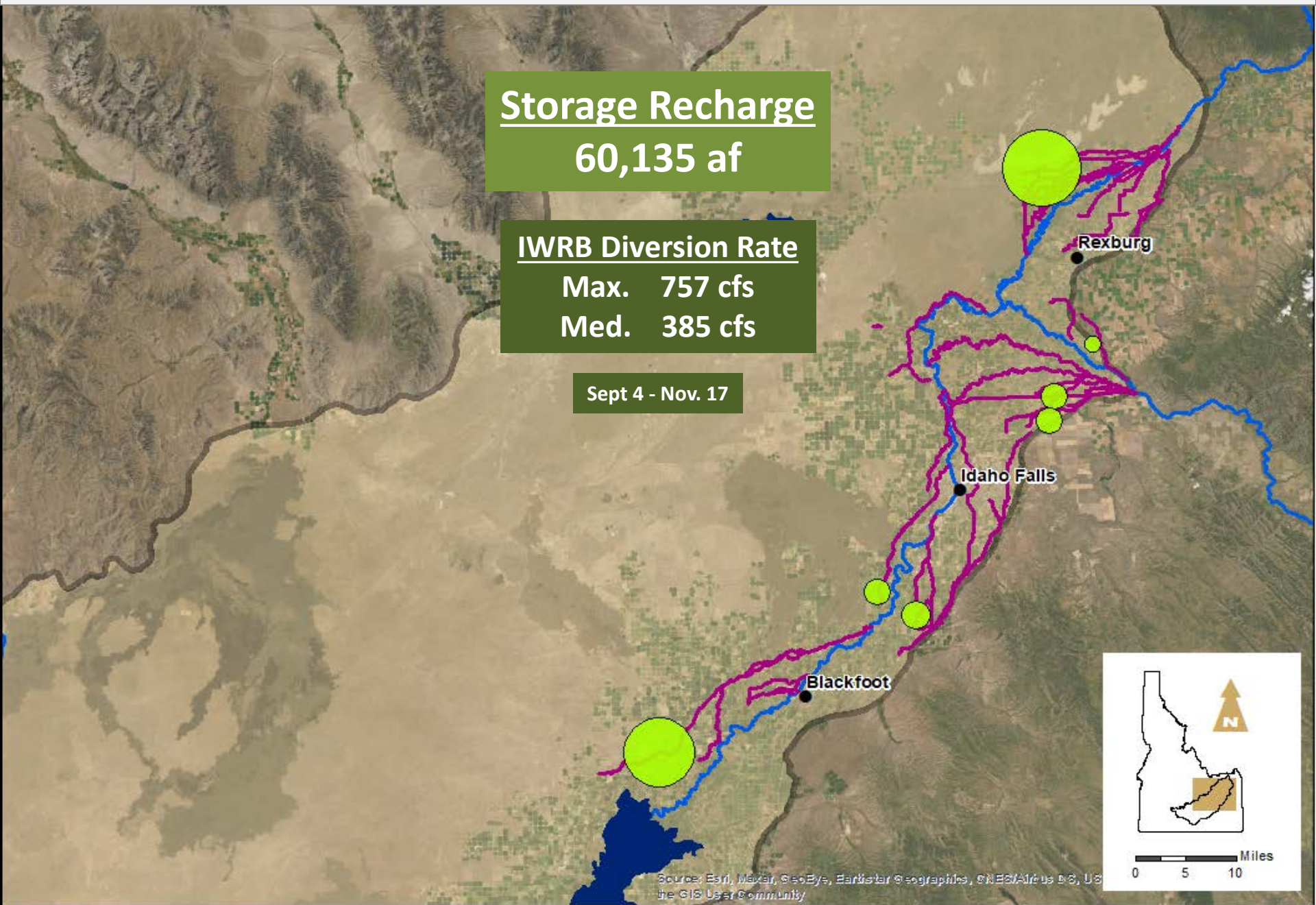


Preliminary Data

IWRB Recharge – Winter 2020

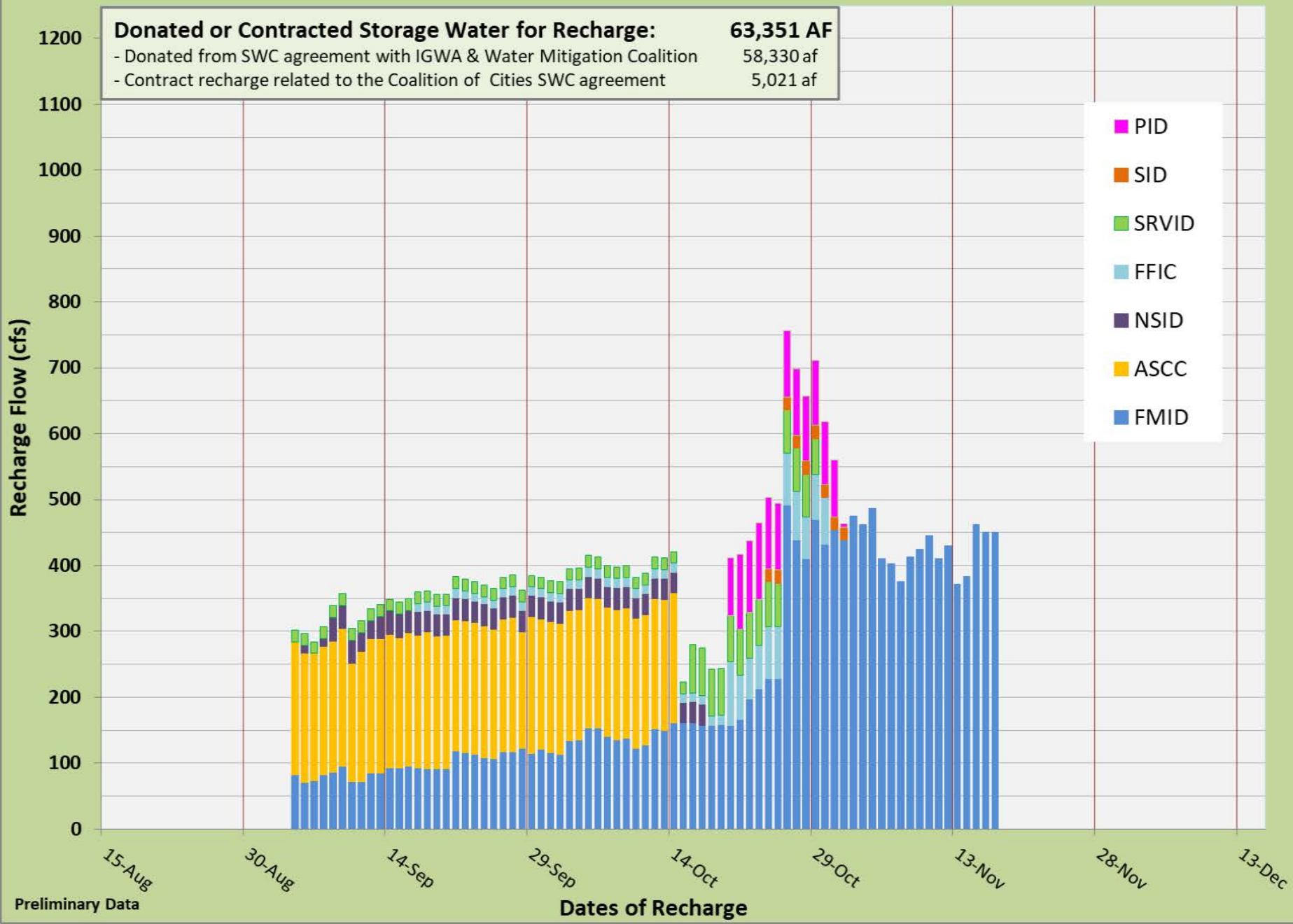


IWRB ESPA Managed Recharge for Others – Fall 2020

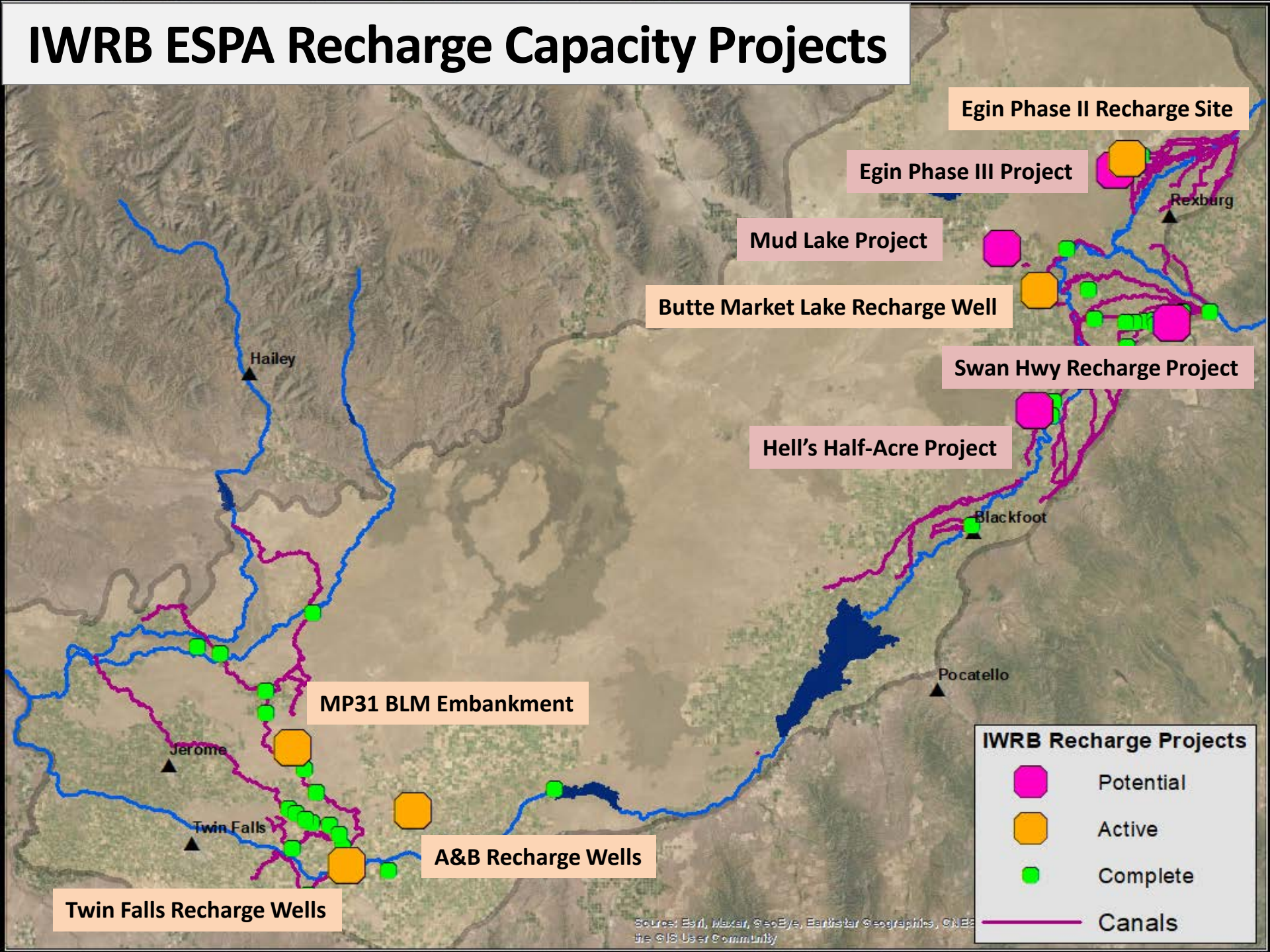


Storage Water - IWRB Recharge Fall 2020

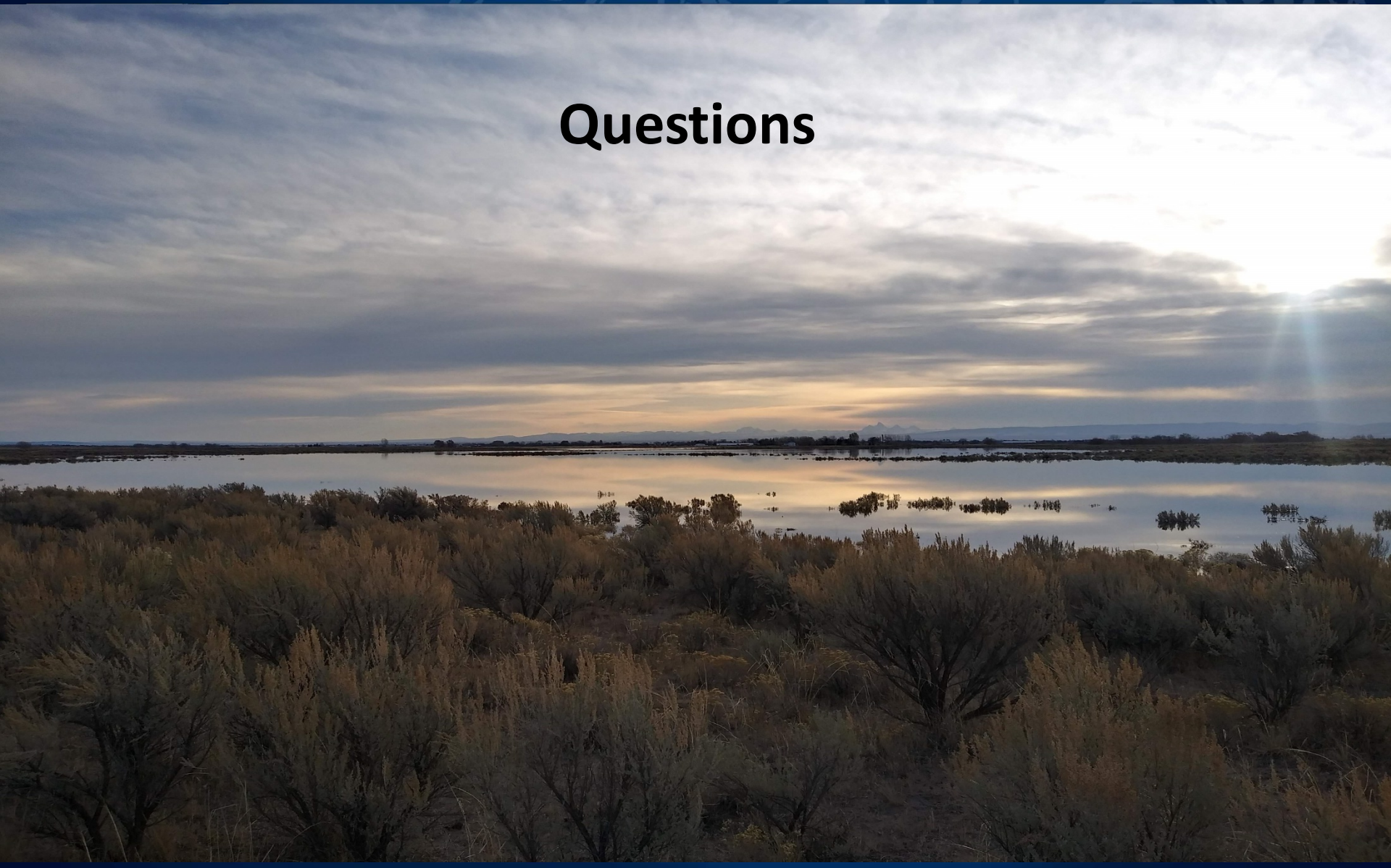
Estimated Total of **60,135** AF as of Nov. 17, 2020



IWRB ESPA Recharge Capacity Projects



Questions



BEFORE THE IDAHO WATER RESOURCE BOARD

IN THE MATTER OF THE IDAHO WATER RESOURCE BOARD RECHARGE PROGRAM	RESOLUTION REGARDING AGREEMENT NOT TO DIVERT A PORTION OF IWRB WATER RIGHTS 01-7054, 01-7142, and 01-10609 DURING THE 2020–2021 RECHARGE SEASON

WHEREAS, the Eastern Snake Plain Aquifer (ESPA) has been losing approximately 216,000 acre-feet annually from aquifer storage since the 1950's resulting in declining ground water levels in the aquifer and reduced spring flows to the Snake River; and

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

WHEREAS, the legislature provides $5 million annually to the Secondary Aquifer Fund through the Department of Water Resources budget for aquifer management; and

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

WHEREAS, numerous other parties are also undertaking actions for management of the ESPA through various agreements, including the Idaho Ground Water Appropriators, the Surface Water Coalition, the Southwest Irrigation District, the A&B Irrigation District, the Coalition of Cities, and others; and

WHEREAS, the IWRB has developed water delivery agreements with several canal companies and irrigation districts and invested more than $20.4 million in infrastructure to develop the aquifer recharge program, which currently has annual average operations costs of about $3.7 million; and

WHEREAS, since 2015 when management of the ESPA began in earnest, about 2.2 million acre-feet have been added to storage in the ESPA from IWRB recharge and other management actions, total outflow from the Thousand Springs has increased by approximately 850 cfs, and the Sentinel Well Index has increased by about 3.5 feet; and

WHEREAS, the IWRB holds water rights 01-7054, 01-7142, and 01-10609 which collectively allow the diversion of up to 7,769 cfs from the Snake River at or upstream of Milner Dam for aquifer recharge; and

WHEREAS, consistent with Idaho State Water Plan Policies 4B, 4E, 8A and the 2009 Swan Falls Reaffirmation Agreement, the water rights held by the IWRB may be used to their full extent such that the flows at Milner Dam are reduced to zero at any time of the year; and

WHEREAS, while recognizing and affirming the zero flow at Milner policy, the IWRB also recognizes that, consistent with Idaho State Water Plan Policies 4B, 4E, 8A and the 2009 Swan Falls Reaffirmation Agreement, it is appropriate for it to work cooperatively with all stakeholders to explore and develop a managed recharge program that achieves, to the extent possible, benefits for all uses including hydropower below Milner Dam; and

WHEREAS, discussions regarding use and management of the Snake River flows above Milner during the winter time under the IWRB's water rights 01-7054, 01-7142, and 01-10609 and the IWRB's Aquifer Recharge Program as outlined in the ESPA CAMP are ongoing and will require the involvement of all stakeholders;

NOW THEREFORE BE IT RESOLVED that the IWRB agrees not to divert 200 cfs of its recharge water rights 01-7054, 01-7142, and 01-10609, during the time period of December 1, 2020 through February 15, 2021. Provided, however, that if the IWRB does not reach 250,000 acre-feet of recharge during 2020–2021 recharge season, Idaho Power Company will provide an acre-foot for acre-foot replacement for the shortfall from its American Falls Reservoir Storage, up to a maximum of 4,258 acre-feet.

NOW, THEREFORE BE IT RESOLVED that, while the IWRB agrees not to divert 200 cfs of its recharge water rights 01-7054, 01-7142, and 01-10609, the IWRB recognizes that the 200 cfs may be used by new or existing water users and it cannot guarantee that any of the 200 cfs will remain in the Snake River past Milner or will reach Idaho Power Company's downstream hydropower projects.

NOW, THEREFORE BE IT RESOLVED that the IWRB authorizes its chairman to execute the necessary agreements with Idaho Power Company regarding this agreement not to divert 200 cfs of water rights 01-7054, 01-7142, and 01-10609 during a portion of the 2020–2021 recharge season.

NOW, THEREFORE BE IT RESOLVED that this agreement not to divert is for a portion of the 2020–2021 recharge season and will set no precedent for the IWRB's future use of water rights 01-7054, 01-7142, and 01-10609 or for its Managed Aquifer Recharge Program under the ESPA CAMP.

DATED this 19th day of November, 2020.

_____

ROGER W. CHASE, Chairman
Idaho Water Resource Board

ATTEST _____
VINCE ALBERDI, Secretary

Memorandum

To: Idaho Water Resource Board

From: Brian Patton

Date: November 10, 2020

Re: Governor's Salmon Recovery Workgroup

Paul Arrington, Executive Director of the Idaho Water Users Association and member of the Governor's Salmon Recovery Workgroup will provide an update on the Salmon Recovery Workgroup.

Memorandum

To: Idaho Water Resource Board (IWRB)

From: Neeley Miller, Planning & Projects Bureau

Date: November 11, 2020

Re: Priest Lake Water Management Project Update

ACTION: No action is requested at this time

Background

As a result of limited water supply and drought conditions in northern Idaho in 2015 and 2016 (and 2019) it has been difficult to maintain required lake pool levels and downstream flow in the Priest River during the recreational season.

Phase 1: The Priest Lake Water Management Study was completed in February 2018. The study included the following recommendations:

- Temporarily raising the surface level of Priest Lake up to 6 inches during the recreational season for dry years and integrating real-time streamflow data to allow more operational flexibility
- Outlet dam structural and operational improvements
- Replacing the current existing porous breakwater with an impervious breakwater structure and dredging a portion of the Thorofare channel

Phase 2: The Priest Lake Water Management Project – Preliminary Engineering & Design concluded in the fall 2019.

Phase 3: Final Engineering & Design which includes finalizing regulatory permitting and bidding assistance began in November 2019 and concluded in August 2020.

Phase 4: Construction and Construction Management

The IWRB authorized the expenditure of funds not to exceed $5 million from the Revolving Development Account for the construction of the Outlet dam portion and Thorofare portion of the Priest Lake Water Management Project as well as for the construction management and for other costs associated with the project.

Schedule

- Aug 2020 – IWRB authorized funding resolution and issuance of Limited Notice to Proceed
- Sept 2020 – Staff issued Full Notice to Proceed, On-site Preconstruction Meeting, Steering Committee
- Nov 2020 - Apr 2021 – Anticipated construction period for both projects

Memorandum

To: Idaho Water Resource Board

From: Brian Patton

Date: November 10, 2020

Re: Potential Legislation of Interest

Garrick Baxter of the Attorney General's office will discuss potential legislation of interest to the Water Resource Board.

Memorandum

To: Idaho Water Resource Board

From: Neeley Miller, Planning & Projects Bureau

Date: November 11, 2020

Re: 2020 Flood Management Grant Program Updated Criteria

Action: Consider Adoption of updated Flood Management Grant Program Criteria

FY 2020 Flood Management Grant Program

House Bill 646 passed and approved by the 2020 Legislature included a $1,000,000 transfer from the General Fund transferred to the Water Management Fund, with $800K for the Flood Management Grant Program and $200K for the Mid-Snake Water Quality Monitoring and Modeling effort. The IWRB authorized $860K in flood grants at the July 2020 IWRB meeting utilizing the funds from HB 646 and some additional funds from flood grant projects that had come in under budget in a prior year.

Due to some reporting issues that have been identified during the IDWR/IWRB annual audit, staff is recommending the IWRB adopt updated Flood Management Grant criteria adjusting some of reporting requirements included in the original criteria.

Attachment(s):

Resolution to Adopt 2020 Flood Management Grant Updated Criteria
Updated 2020 Flood Management Grant Criteria

2020 IWRB Flood Management Grant Program UPDATED Criteria

The Idaho Water Resource Board (IWRB) Flood Management Grant Funding Program provides financial assistance on a competitive statewide basis to Flood Control Districts, Drainage Districts, Irrigation Districts, Canal Companies, Municipalities, Counties and other public entities interested in pursuing flood damaged stream channel repair, stream channel improvement, flood risk reduction, and flood prevention projects. (See HB 712, HB 285, HB 646; Statutes 42-1760; IDAPA 37.02.02)

Pursuing flood damage repair and improvement projects can help prevent or reduce flood damage in Idaho's streams and rivers. To be considered for grant funding, entities must be able to provide evidence of flood damage, or evidence of conditions that create the risk of flooding in a stream channel and submit a funding request document outlining the proposed repairs and/or improvements to the stream channel.

Eligible Entities: Flood Control Districts, Drainage Districts, Irrigation Districts, Canal Companies, Municipalities, and Counties. Other public entities are eligible to apply.

Eligible Geographic Area: Statewide

Program Budget:

- $800,000
- No more than 50% ($500,000) of the total budget may be spent within a single IWRB district. This limit may be waived if there are no competing funding demands.

Funding Amount: up to $200,000 per project; one project per application

- Funding awards will be reallocated unless Flood Management work begins prior to November 1, 2020.
- Funding will not be distributed unless the project is fully permitted. Sponsor is responsible for providing permit documentation to IWRB staff.

Matching Funds for Projects:

- Entities requesting funding for flood management grant projects must provide at least 50% matching cost-share funding with non-state dollars. Projects that include higher cost share amounts will receive a higher ranking during project evaluations
- In-kind services can be used for 30% of the total projects costs. Legal/Administrative in-kind services are limited to 5% of total project costs.
- EXAMPLE: For a $100K project, sponsor would have to provide at least $50K in matching cost share funding. Of the $50K, the sponsor could provide up to $30K in in-kind services of which $5,000 could be in legal/administrative costs and $20K in cash to meet the matching cost-share requirement)

Evaluation Criteria: To maximize the effective and efficient use of available funds, applications and sponsor's grant document will be evaluated, scored *(135 point scale),* and ranked according to the following criteria:

First Time Applicants *(5 points)*

- First time applicants will receive points *(5 points)*

Effectiveness of Project *(60 points)*

- What is the urgency of the project and anticipated costs? *(10 points)*
- What are the objectives and benefits of the project? *(10 points)*
- How does the proposed project solution address the objectives? *(10 points)*
- How will the project measure success of its objectives, and describe the proposed monitoring plan. *(5 points)*

- Is the proposed budget and schedule realistic and is the budget appropriate for the scope of work provided? Has the applicant provided detailed construction expenses documenting how money will be spent to complete the project? *(15 points)*
- Are project sponsors using relevant and appropriate information to develop the proposed project? (Sponsor should include references to relevant studies, assessments, reports, management plans, etc.) How will the project account for expected future changes to hydrology, sediment regimes, or water supply? *(10 points)*

Readiness of Project *(50 points)*

- Lead sponsor of project is identified and there is a description of other affected stakeholders and jurisdictions. *(10 points)*
- Project sponsors will provide documentation that affected local stakeholders and jurisdictions have been consulted. If the project is located within a Flood Control District, the sponsor must provide documentation showing the Flood Control District supports the project, otherwise the project will be declared ineligible. *(10 points)*
- Specify cash matching funds that will be provided for the project, including any in-kind services. Indicate what funding sources are secured or pending. The applicant must provide at least 50% matching cost share funding with non-state dollars. In-kind services can be used for 30% of the total projects costs. Legal/Administrative in-kind services are limited to 5% of total project costs. *(10 points)*
- Projects that propose matching cost-share amounts above 50% will receive additional points in the ranking *(1 point for each additional 1% increase up to 70% to receive up to 20 additional points).*

Organization Capacity *(20 points)*

- What is the sponsor's history of successful accomplishments on projects similar to this one? The sponsor shall provide several past project examples, if possible. *(10 points)*
- What level of sponsor and consultant staffing will be directed toward the implementation of the proposed project? Discuss the number of sponsor and consultant staff and amount of time dedicated for each for the project. Will the project utilize volunteers? If so, how? Include brief resumes or list of qualifications for each member of the project team. *(10 points)*

Application Process:

Application Submittal Notice: April 3, 2020

Application Deadline: June 19 2020

Project Funding Recommendations: July 2020 Finance Committee

Funding Awarded: July 31, 2020 Board meeting

Payment Process:

- Funds will be distributed upon sponsor submitting funding reimbursement requests to the IWRB.
- Sponsor funding requests shall include a cover letter which shall include a description of the project activities, dates for performing the project activities, and contractor or supplier invoices.
- A total of 5% shall be retained from each payment request until the project has been completed, and the applicant has fulfilled their deliverable requirements. The 5% award-withholding will be included with the final payment request disbursement.

IWRB Districts are as follows:

District No. 1: Boundary, Bonner, Kootenai, Shoshone, Benewah, Latah, Clearwater, Nez Perce, Lewis and Idaho counties.

District No. 2: Adams, Valley, Washington, Payette, Gem, Boise, Canyon, Ada, Elmore and Owyhee counties.

District No. 3: Camas, Gooding, Jerome, Twin Falls, Cassia, Blaine, Lincoln, Minidoka, Lemhi, Custer and Butte counties.

District No. 4: Clark, Fremont, Jefferson, Madison, Teton, Bingham, Bonneville, Power, Bannock, Caribou, Oneida, Franklin and Bear Lake counties.

** No more than 50% ($500,000) of the total budget may be spent within a single IWRB district. This limit may be waived if there are no competing funding demands.*

BEFORE THE IDAHO WATER RESOURCE BOARD

IN THE MATTER OF FLOOD MANAGEMENT GRANTS	RESOLUTION TO ADOPT UPDATED CRITERIA

WHEREAS, House Bill 646 passed and approved by the 2020 Legislature transferred $800,000 from the General Fund to the Water Management Fund for a Flood Management Grant Program administered by the Idaho Water Resources Board (IWRB) to be used for the purpose of flood-damaged stream channel repair, stream channel improvement, flood risk reduction, or flood prevention projects; and

WHEREAS, House Bill 646 allows for the award of grants larger than $50,000 for the Flood Management Program, at the discretion of the IWRB; and

WHEREAS, House Bill 646 directs the IWRB to require the availability of fifty percent (50%) matching funds for all projects to be considered under the grant program; and

WHEREAS, House Bill 646 directs the IWRB to prioritize projects on a competitive statewide basis; and

WHEREAS, in April 2020 the IWRB adopted a resolution establishing criteria for the award of flood grant projects, and

WHEREAS, the IWRB authorized $860K in flood grants at the July 2020 IWRB meeting utilizing the funds from HB 646 and some additional funds from flood grant projects that had come in under budget in a prior year, and

WHEREAS, some reporting issues were identified during the IDWR/IWRB annual audit, staff is recommending the IWRB adopt Updated Flood Management Grant Criteria that adjusts the strict reporting dates included in the original criteria.

NOW, THEREFORE BE IT RESOLVED that the IWRB adopts the attached updated criteria for the award of Flood Management Grants.

DATED this 19th day of November 2020.

_____
ROGER W. CHASE, Chairman
Idaho Water Resource Board

ATTEST _____
VINCE ALBERDI, Secretary

Memorandum

To: Idaho Water Resource Board (IWRB)

From: Craig Tesch

Date: November 19, 2019

Re: Raft River Hydrologic Investigation Update

Alexis Clark of the Idaho Geologic Survey (IGS) and I will deliver a brief presentation to the Board on the status of the Raft River Basin Hydrologic Investigation. In November 2019, the IWRB entered into a contract with IGS to provide $107,500 for Year 1 project work that included an effort to gather and analyze existing data in preparation for future phases. The Year 1 summary report is attached.

In July 2020, the IWRB was awarded approximately $830,000 of a $1.2 million proposal to the Department of Energy (DOE) to fund various components of the Raft River project during its remaining three years. The DOE funding can only be used to drill, measure, and sample new monitoring wells. This leaves a gap in funding to complete an important component of the project necessary for future modeling efforts, which is the development of a water budget and hydrogeologic framework. I have provided a resolution for consideration to authorize funding the development of a water budget and hydrogeologic framework over the next three years through the IGS ($375,000), and to fund the field contractor for the next year ($100,000).

IDAHO GEOLOGICAL SURVEY

MOSCOW OFFICE
University of Idaho
Morril Hall, Third Floor
875 Perimeter Dr. MS 3014
Moscow, ID 83844-3014

BOISE OFFICE
Idaho Water Center
Suite 201
322 E. Front Street
Boise, ID 83702

208-885-7991 • igs@uidaho.edu • www.idahogeology.org

To: Mike McVay, Idaho Department of Water Resources (IDWR)

Craig Tesch, IDWR

Brian Patton, Idaho Water Resource Board (IWRB)

From: Alexis Clark, Idaho Geological Survey (IGS)

Date: November 9, 2020

Re: Raft River Basin Hydrogeologic Investigation – Phase 1 Project Summary

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Project overview and objectives

The Raft River basin in south-central Idaho supports important agricultural resources for the state's economy. Declining groundwater level trends over several decades starting in the 1950s and 1960s, currently on the order of about two to three feet per year in some areas, have reduced the available basin yield, presenting challenges and opportunities. The Idaho Geological Survey (IGS), together with the Idaho Department of Water Resources (IDWR) and the Idaho Water Resources Research Institute (IWRRI), conducted a one-year hydrogeologic investigation (Phase 1) during 2019-20. IGS completed this work under IDWR contract (CON01427) with Idaho Water Resources Board (IWRB) funding.

The investigation extent includes the full Raft River watershed boundary (8-digit hydrologic unit code 17040210) in portions of Cassia, Oneida, and Power Counties, Idaho, and Box Elder County, Utah. The area includes Administrative Basin 43 at the northern end of the basin and the Raft River Critical Ground Water Area (CGWA). The investigation also comprises a small portion of the Eastern Snake Plain Aquifer Groundwater Management Area (ESPA GWMA), **Figure 1**.

Phase 1 project objectives were to:

- Compile existing hydrologic datasets,
- Perform field reconnaissance in support of future data collection, and
- Identify perceived data gaps and provide recommendations to support any future investigations.

This brief project summary document and associated datasets are being made available on IDWR's website for public distribution. This repository may be updated with future datasets and hydrologic analyses.

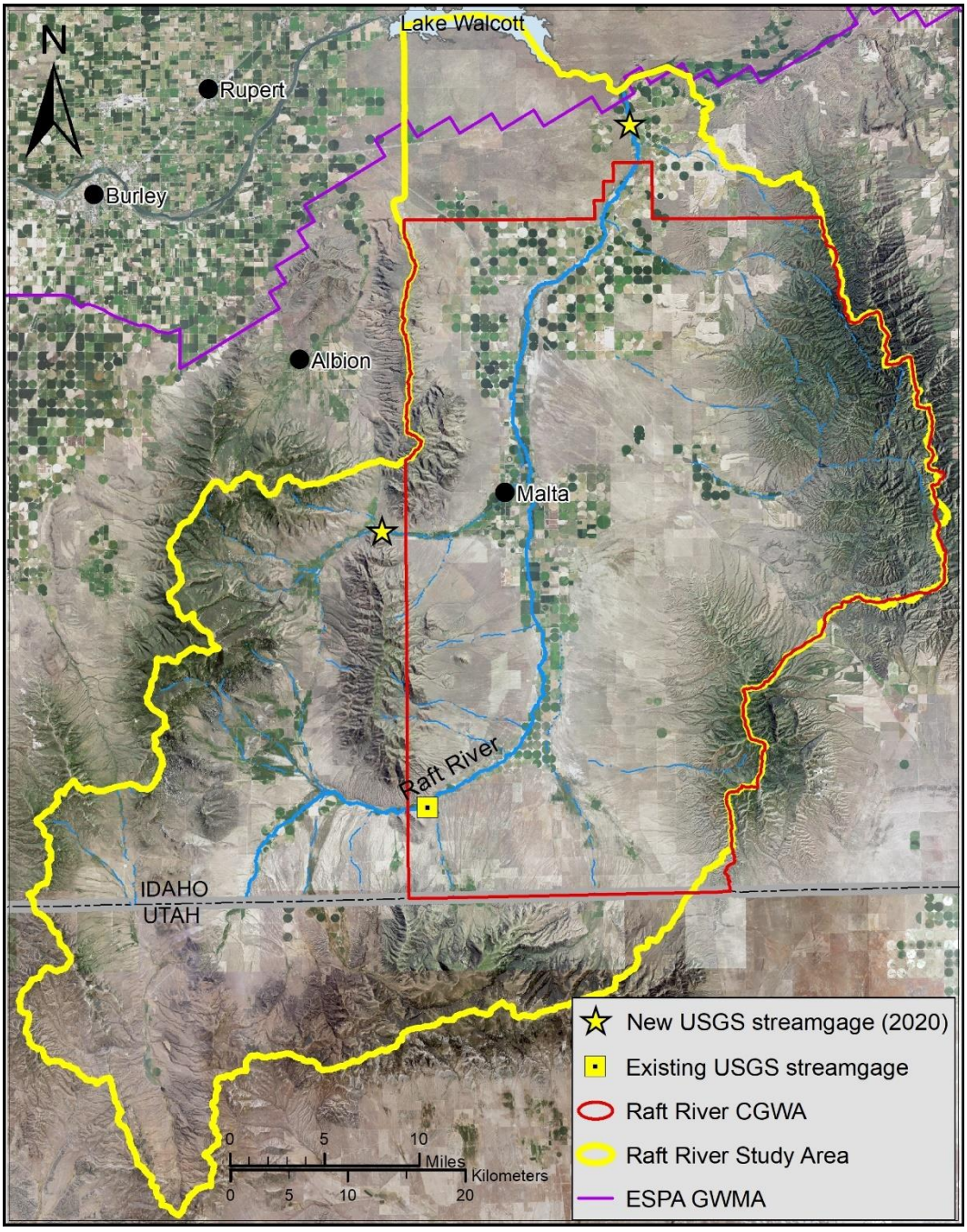


Figure 1. Raft River investigation area (background image modified from NAIP imagery created from various years).

Project deliverables

Key tasks completed and outcomes of the investigation included:

- Compilation and processing of publicly available hydrologic datasets for the project. These datasets are being made available on IDWR's project webpage and include, but are not limited to, climatic data, land cover, crop data layers, groundwater levels, stream discharge, surface water and groundwater diversion volumes, and previous hydrogeologic reports.

- Analysis of existing well driller's reports to determine new well placement, estimate well depth, and inform well designs. To that end, well driller's reports for 344 wells in Idaho, and 24 wells in Utah have been reviewed, interpreted, and transferred to an electronic format.
- Construction of a preliminary Rockworks® three dimensional subsurface geologic model based on interpolation of 340 selected well lithologic records.
- Field reconnaissance in summer 2020, which led to the installation of two new U.S. Geological Survey (USGS) dedicated stream gages (**Figure 1**) and four stream pressure transducers sites for monitoring flow conditions throughout the basin.
- Project communications, and assistance with IDWR website development and population.
- Stakeholder outreach by attending the Water District 143 annual meeting, working with local landowners, coordinating with a local consultant (Jaxson Higgs), and discussing the project with the geothermal industry.

Recommendations

IGS identified a number of perceived data gaps during this current investigation, which addressed a timespan of over 40 years since the last comprehensive study. Recommendations are based on the need for an updated comprehensive assessment of the basin's hydrology and are intended to supplement information collected to date:

- New monitoring wells:
    - Paired monitoring well installation is recommended near the Raft River to evaluate potential hydraulic communication between surface water and groundwater.
    - Monitoring well installation is recommended in areas of the basin not currently instrumented (**Figure 2**).
    - Collection of aquifer parameters (transmissivity, hydraulic conductivity, and storativity) through aquifer testing is recommended during the installation of new monitoring wells.
- Continued spot monitoring of selected streams at ungaged locations for the presence of flow, with measurement of stream discharge volumes, as permissible.
- Development of a new water budget and hydrogeologic framework.
- In support of water budget and framework development, the following items are recommended:
    - Development of irrigated lands coverages to delineate changes in irrigated, semi-irrigated, and non-irrigated lands over time.
    - Preparation of ETIdaho values beyond 2016 for estimating ET associated with the basin's land uses.
    - Spatial assignment of surface water diversions records to the point of diversion and place of use based on review of water rights.

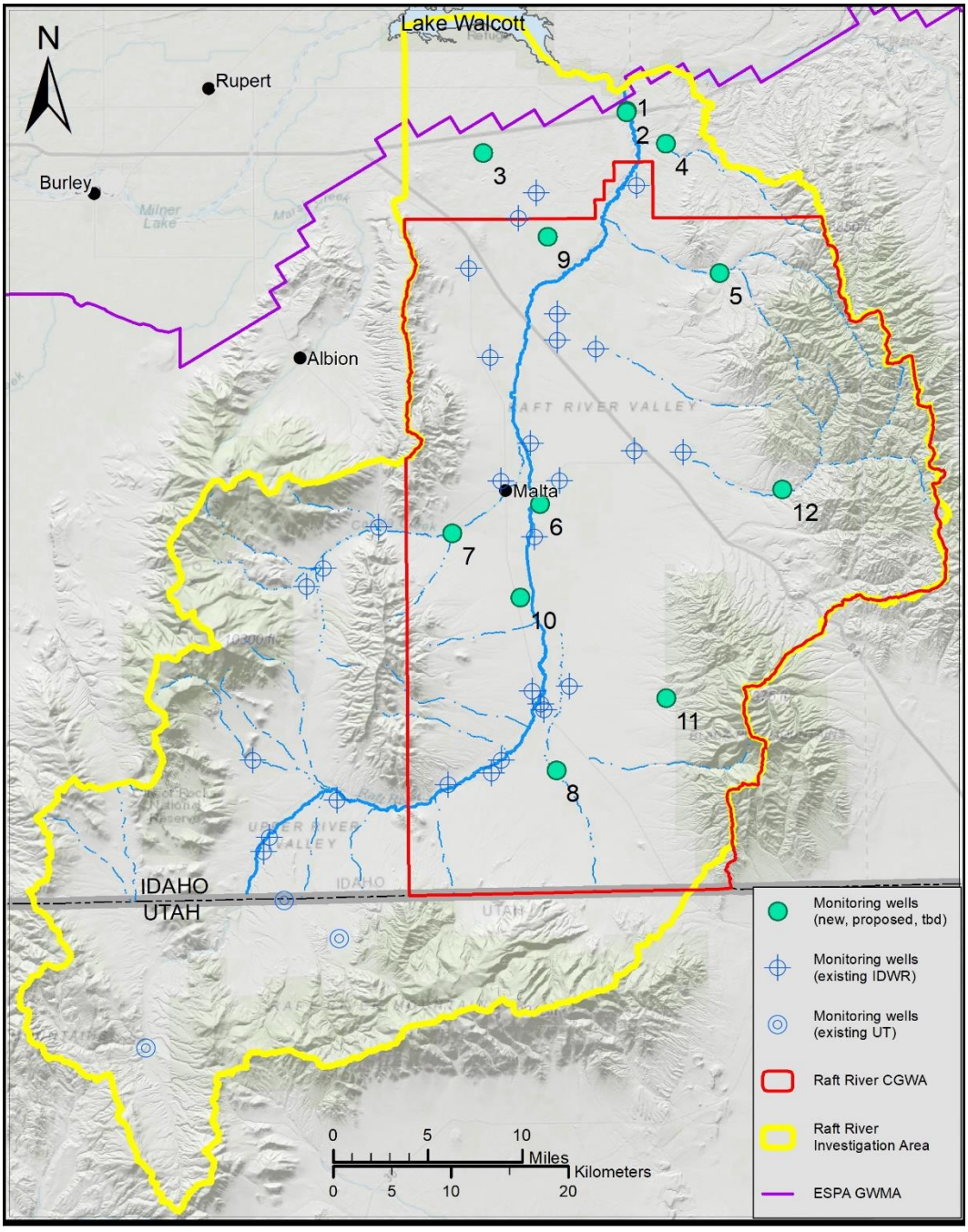


Figure 2. Proposed locations for new monitoring well installation.

Acknowledgements

IGS thanks Mike McVay and Craig Tesch with IDWR and Meg Aunan with IWRRI for their collaboration and contributions, Jaxon Higgs with Water Well Consultants, Inc. for his assistance during the project, and the IWRB for funding and making this project possible.

BEFORE THE IDAHO WATER RESOURCE BOARD

IN THE MATTER OF RAFT RIVER BASIN HYDROLOGIC PROJECT TO SUPPORT ESPA RECHARGE AND MODELING EFFORTS	A RESOLUTION TO APPROVE FUNDING FOR PHASE 2 COMPONENTS OF THE RAFT RIVER BASIN HYDROLOGIC PROJECT

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

WHEREAS, House Bill 256 passed and approved by the 2019 Legislature allocated $5 million in ongoing General Fund dollars to the IWRB's Secondary Aquifer Fundy to statewide water sustainability and aquifer stabilization; and

WHEREAS, many aquifers across Idaho are declining or have existing or potential conjunctive administration water use conflicts, including the Eastern Snake Plain Aquifer (ESPA), which has been losing approximately 216,000 acre-feet annually from aquifer storage since the 1950's resulting in declining ground water levels in the aquifer and declining spring flows from the aquifer; and

WHEREAS, the State Water Plan, approved by the 2012 Legislature, recognized that measurement, data collection, quantification and monitoring of Idaho's water supply and use are essential for sound water resource planning, management and administration; and

WHEREAS, the Sustainability Policy Section of the State Water Plan identifies the need to obtain more accurate water supply, water measurement and forecasting information, and a need to disseminate water supply forecast to water users in cooperation with other federal and state agencies; and

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

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

WHEREAS, the Raft River Basin contributes tributary underflow to the ESPA, was designated a Critical Ground Water Area in 1963, and is experiencing large groundwater level declines. It contains 117,000 acres of agriculture dependent on a sustainable water supply and supports the only operating commercial geothermal power plant in Idaho; and

WHEREAS, the last comprehensive hydrologic study of the Raft River Basin was conducted 40 years ago by the United States Geologic Survey; and

WHEREAS, the Idaho Department of Water Resources (IDWR) and the Idaho Geologic Survey developed a proposal for a four-year hydrologic characterization of the Raft River Basin (Raft River Basin Hydrologic Project, "project") which involves data gathering and analysis, installation of stream gages and monitoring wells, water quality sampling, and development of a conceptual hydrologic framework and water budget; and

WHEREAS, IDEQ approved funding of a three-year DOE SEP for the IWRB to implement a variety of tasks throughout the project that include the addition of up to 12 new aquifer monitoring wells and the completion of a water quality sampling campaign for a total cost of $832,000; and

WHEREAS, the project is broken into multiple phases. The IWRB funded Phase 1 of the project in September 2019 for $203,500; and

WHEREAS, Phase 2 will include development of a water budget and hydrogeologic framework over three years at an estimated cost of $375,000, and continuation of a contracted field technician for one year at an estimated cost of $100,000, and IDWR seeks funding from the IWRB to complete these Phase 2 project components; and

NOW THEREFORE BE IT RESOLVED that the IWRB authorizes expenditures not to exceed $475,000 in Fiscal Year 2021 from the Secondary Aquifer Fund for expenses associated with Phase 2 of the Raft River Basin Project.

BE IT FURTHER RESOLVED that the IWRB authorizes its chairman or designee, Brian Patton, to execute the necessary agreements or contracts to implement the Raft River Basin Project.

DATED this 19th day of November, 2020.

_____
ROGER W. CHASE, Chairman
Idaho Water Resource Board

ATTEST _____
VINCE ALBERDI, Secretary

Raft River Basin Hydrologic Investigation Update

Presented by Craig Tesch and Alexis Clark

November 19, 2020

Project Timeline

- September 2019 – Presented 4-yr project plan to the IWRB
- November 2019 – Contracted with IGS for Year 1 project work
- December 2019 – Submitted 3-yr, $1.2 million proposal to DOE
- January 2020 – Attended WD143 meeting
- July 2020 – DOE awarded $830k for drilling new wells and monitoring only
- November 2020 – Year 1 update, and request of $375k for IGS to develop water budget and hydrogeologic framework over the next three years

III. Project Summary – All Years

The following table provides a summary of all project tasks and funding.
Green cell = Funding secured or identified. Red cell = Currently unfunded.

Agency	Summary	IWRB Funds	IDWR Funds	DOE Funds	Total Cost
	Year 1 (12/1/19-12/1/20)				
IGS	Data gathering and analysis	$107,500			
IDWR	Contractor: field work and data processing	$96,000			
USGS	Stream gages (2 gages)		$25,307		
	Subtotal	**$203,500**	**$25,307**		**$228,807**
	Year 2 (12/1/20-12/1/21)				
USGS	Stream gages – O&M (2 gages)		$18,000		
IDWR	Drilling wells (4 wells, instrumentation, water quality, geophysics)			$275,000	
IDWR	Contractor: field work and data processing	$96,000			
IGS	Water budget and hydrogeologic framework	$125,000			
	Subtotal	**$221,000**	**$18,000**	**$275,000**	**$514,000**
	Years 3-4 (12/1/21-12/31/23)				
USGS	Stream gages – O&M (2 gages)		$36,000		
IDWR	Drilling wells (8 wells, instrumentation, water quality, geophysics)			$557,000	
IDWR	Contractor: field work and data processing	$192,000			
IGS	Water budget and hydrogeologic framework	$250,000			
	Subtotal	**$442,000**	**$36,000**	**$557,000**	**$1,035,000**
	Total	**$866,500**	**$79,307**	**$832,000**	**$1,777,807**

Raft River Hydrogeologic Investigation (2019-2020)

Idaho Water Resources Board Meeting
Boise, Idaho
November 19, 2020

Alexis Clark, P.G. #1533
Hydrogeologist
Idaho Geological Survey
University of Idaho
Boise, Idaho

IDAHO GEOLOGICAL SURVEY

www.idahogeology.org

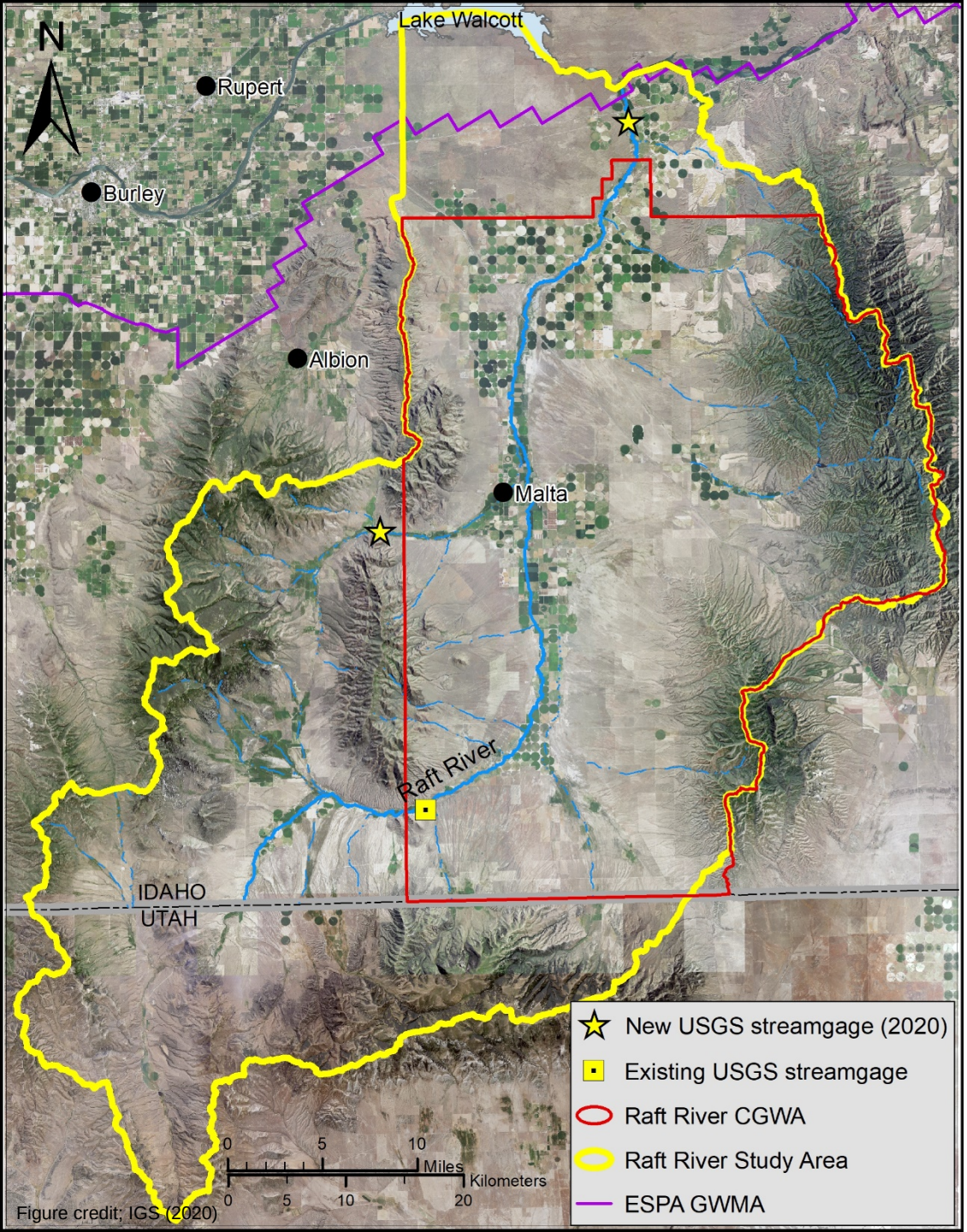


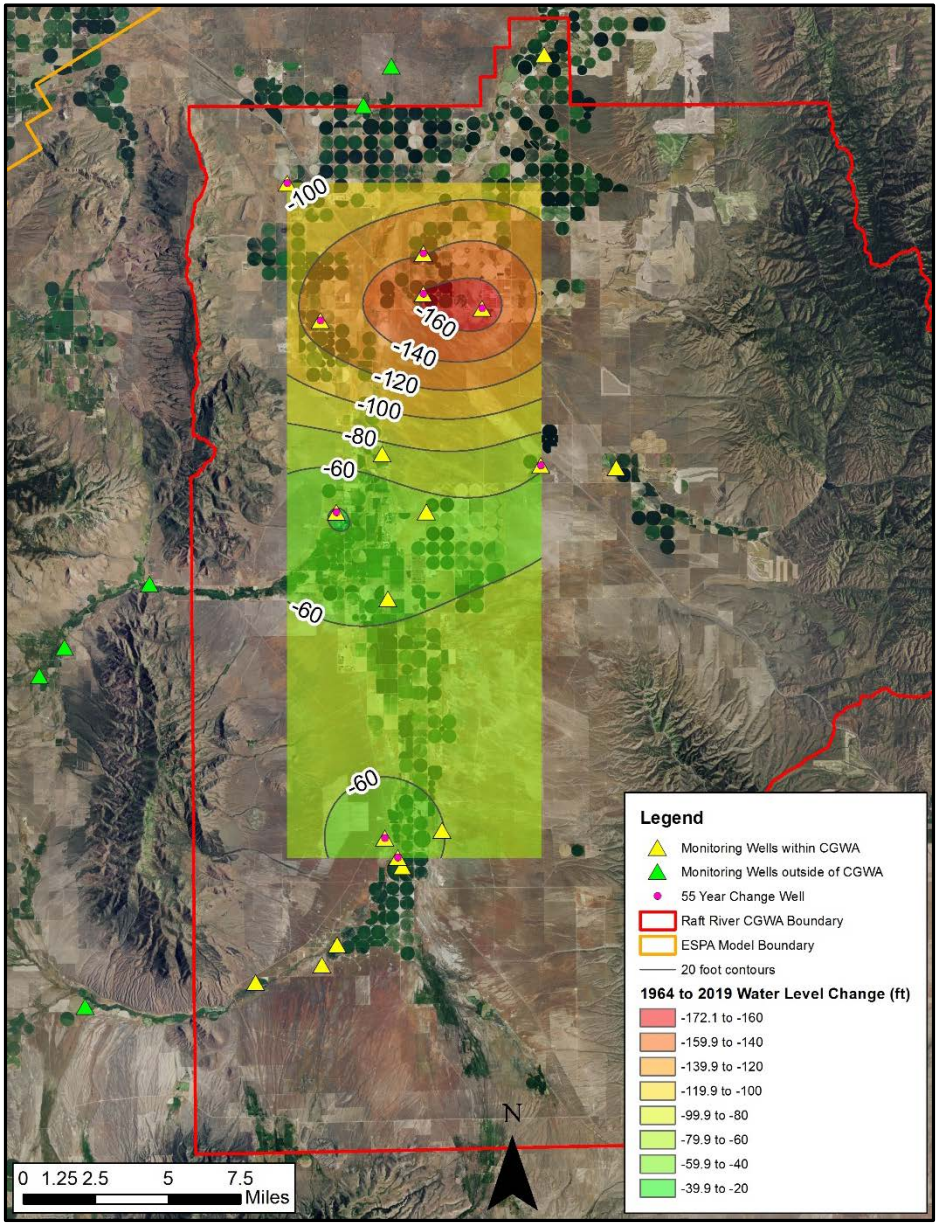
Figure credit; IGS (2020)

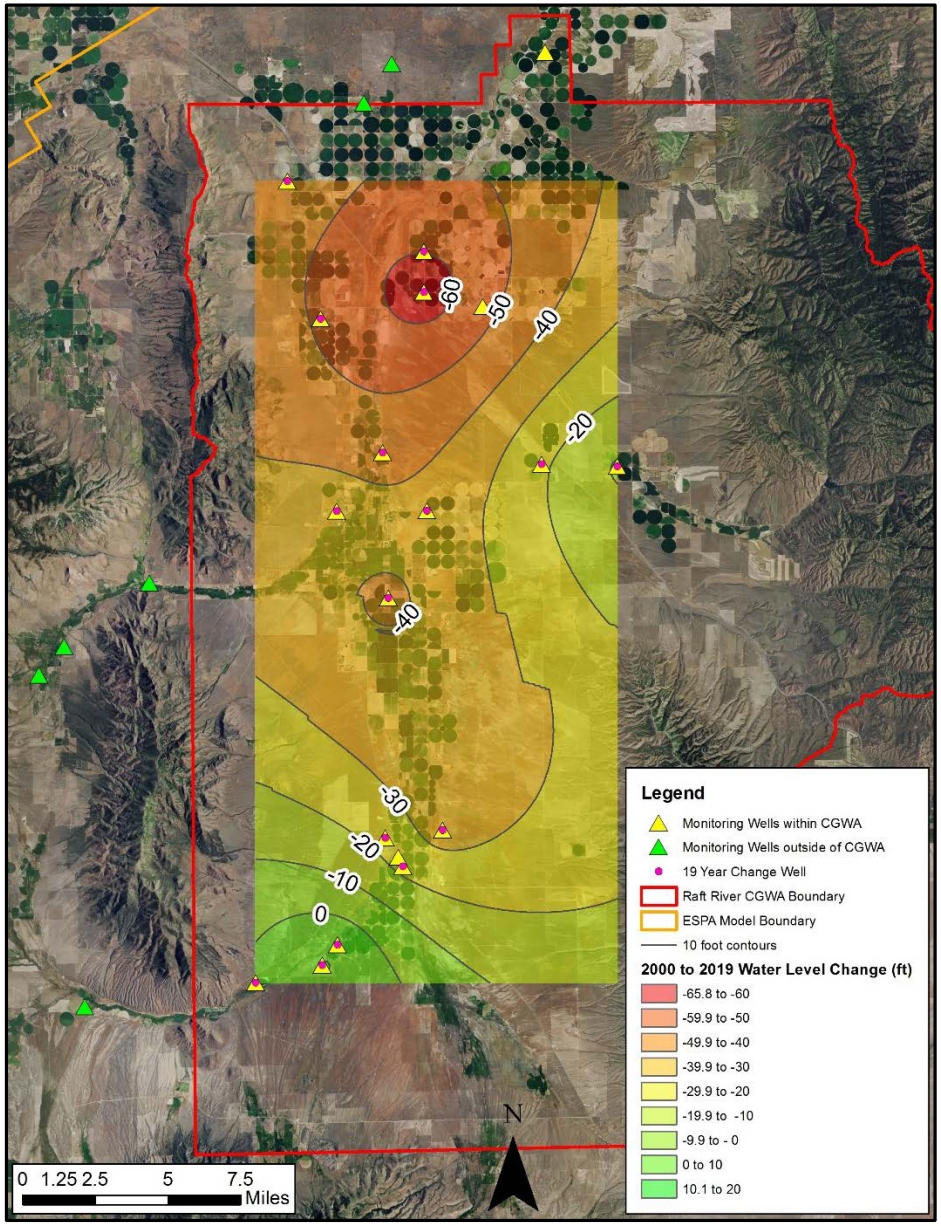
Raft River - Hydrogeologic investigation (2019-20)

- Idaho (Cassia, Power and Oneida Counties)
- Utah (Box Elder County)
- Incorporates
  - Raft River CGWA
  - Administrative Basin 43
  - ESPA GWMA (small portion)
  - Watershed (17040210)

Raft River project drivers

- Contributes underflow as a tributary basin to the ESPA
- Located in a Critical Ground Water Area (1963) with large ground water level declines (average=1.74 ft/yr)
  - Greatest declines approx. 2-3 ft/yr in some areas
  - Areas away from pumping centers show relatively stable groundwater level trends (i.e., southern portions of basin and basin margins)
- Identified local land subsidence and surface water quality impacts
- Contains 117,000 acres of agriculture that depend on a sustainable water supply for irrigation





55-Year Water Level Change

19-Year Water Level Change

Data source and figure credit: IDWR (2019)

Raft River hydrogeology project goals

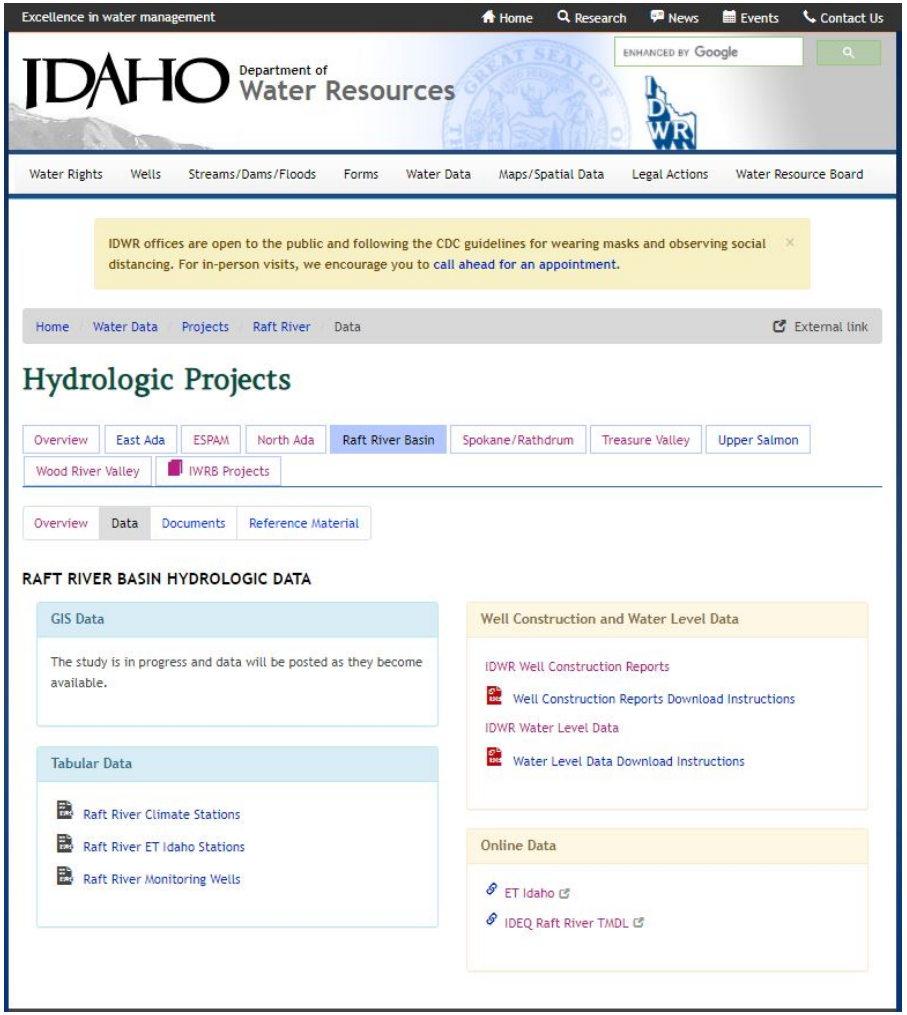
- Compile existing information to help characterize basin hydrology
- Conduct field reconnaissance activities to support new data collection
- Identify perceived data gaps
- Provide any recommendations for future work

Raft River data compilation

- Well lithologic logs
- Groundwater levels
- Climatic datasets (precipitation and evapotranspiration)
- Stream discharge records
- Surface water and groundwater diversion volumes
- Water quality data
- Crop data layers
- National land cover datasets
- Topographic maps and digital elevation models
- Surface geologic maps
- Previous hydrogeologic reports

Products

- Data compilation
- Data repository on IDWR website
  - Public access
  - Communicate project status
  - Enable future updates

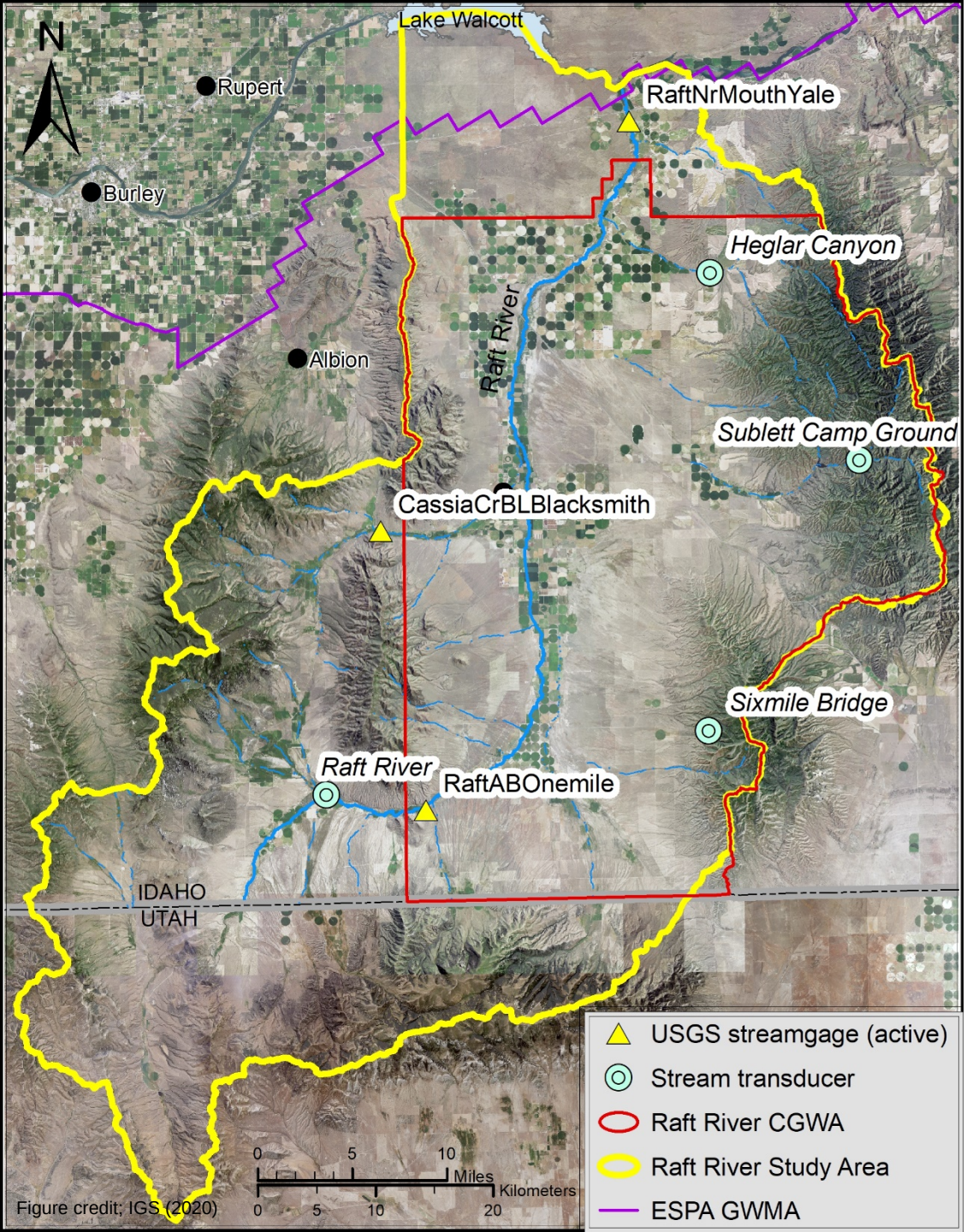


https://idwr.idaho.gov/water-data/projects/raft-river/

Raft River investigation field activities

Raft River
Photo credit: Meg Aunan (IWRRI)

Sixmile Canyon
Photo credit: Meg Aunan (IWRRI)



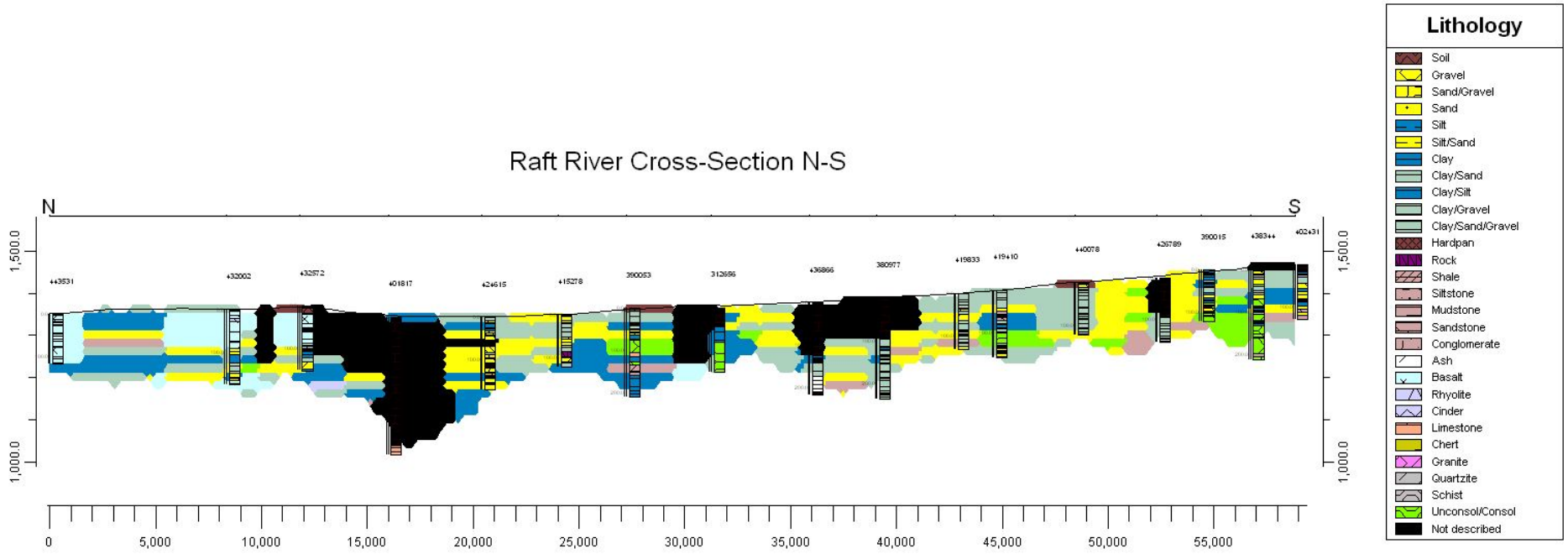
Surface water monitoring instrumentation (2020)

- New USGS streamgages (2 locations installed in 2020)
  - Raft River (nr mouth)
  - Cassia Creek
- Existing USGS streamgage
  - Raft River (above Onemile)
- Pressure transducer equipment (4 sites)
- Additional sites pending evaluation for transducer installation

- Well log review
  - Over 370 wells
  - Most >250 ft deep
- Preliminary Rockworks® 3D subsurface model
  - Nearly 340 logs
  - Pending updates and finalization
- Uses
  - New monitoring well siting
  - Hydrogeologic framework
  - Future modeling efforts
  - Existing ESPA model interface

Figure credit; IGS (2020)

Rockworks – preliminary model



Horizontal axis and vertical axis in meters

Figure credit; IGS (2020)

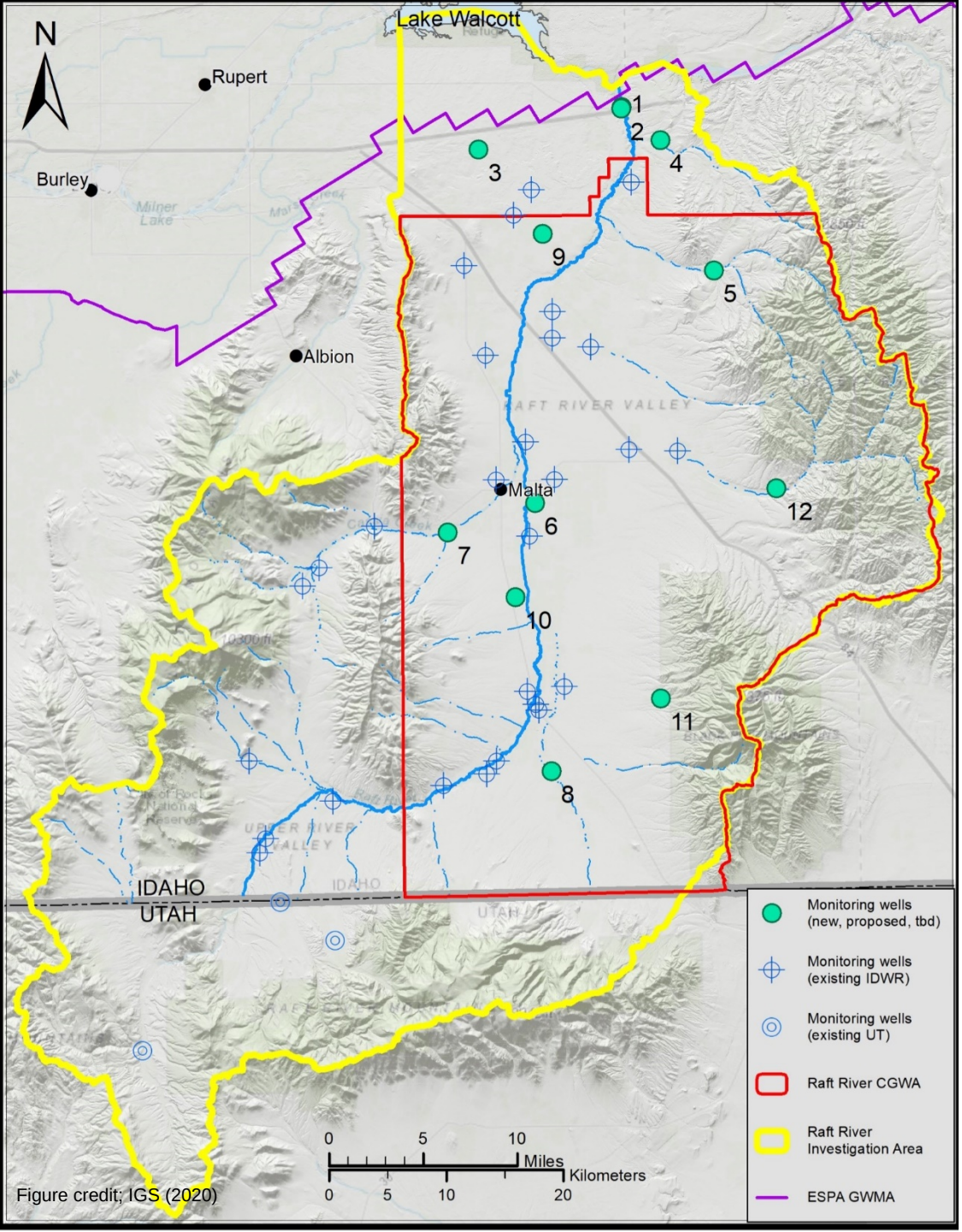


Figure credit; IGS (2020)

New monitoring well recommendations, tbd

- Surface water/groundwater interaction
- Spatial distribution (basin margins)
- Aquifer characterization
  - Well logging
  - Downhole geophysical survey
  - Aquifer testing, as feasible

Stakeholder communications

- Attendance at Water District 143 meeting
- Coordination with local consulting firm, Water Well Consultants
- Discussion with Ormat Technologies Inc. (the geothermal company operating the Raft River Geothermal Facility)

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GEOLOGICAL SURVEY

Thank you!

Raft River Valley, Idaho
Photo credit: Alexis Clark (IGS)

Raft River Valley, Idaho (from Stanrod Rd)
Photo credit: Meg Aunan (IWRRI)

Summary

- Year 1 work complete
- Summary report and data available on the IDWR website
- IDWR staff are requesting funding authorization of $375k from the IWRB for IGS to develop the water budget and hydrogeologic framework over 3 years, and $100k for Year 2 continuation of our field contractor (Meg Aunan)


Questions?

Memorandum

To: Idaho Water Resource Board

From: Jennifer Strange

Date: November 10, 2020

Re: Proposed Meeting Dates 2021

ACTION: IWRB approval of regular board meeting dates requested.

The following dates for 2021 Regular Meetings are presented for consideration by the Board.

- January 20-21, 2021
- March 18-19, 2021
- May 20-21, 2021
- July 29-30, 2021
- September 16-17, 2021
- November 18-19, 2021

All meetings are planned to be held in Boise with an option to provide an online platform when health concerns are high due to the covid-19 pandemic. Notice will be given for meeting locations that differ, and when 2-day meetings change to a 1-day meeting.