CURRENT LAW: WATER RIGHTS ON THE EASTERN SNAKE PLAIN AQUIFER

December 9, 2015

Eastern Idaho Water Rights Coalition Meeting

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HOLDEN, KIDWELL, HAHN & CRAPO, P.L.L.C.

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WATER LAW BASICS

TOPICS

- Water Rights Basics
- Conjunctive Management of Surface Water and Ground Water
- The Surface Water Coalition ("SWC")Water Call
- What Is Next For Municipal Interests?

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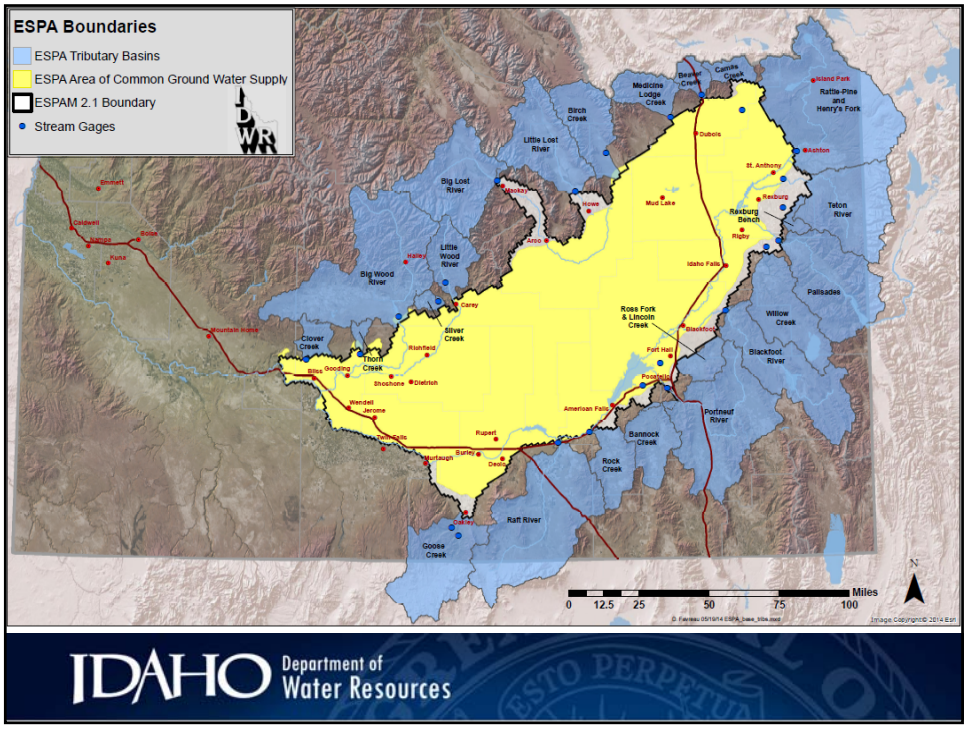
ESPA Boundaries
ESPA Tributary Basins
ESPA Area of Common Ground Water Supply
ESPAM 2.1 Boundary
Stream Gages
IDWR
Big Lost River
Little Lost River
Birch Creek
Medicine Lodge Creek
Beaver Creek
Camas Creek
Island Park
Ashton
St. Anthony
Rexburg
Teton River
Rexburg Bench
Ririe
Idaho Falls
Palisades
Willow Creek
Blackfoot River
Portneuf River
Bannock Creek
Rock Creek
Raft River
Goose Creek
Mud Lake
Howe
Arco
Little Wood River
Big Wood River
Hailey
Carey
Silver Creek
Ross Fork & Lincoln Creek
Blackfoot
Fort Hall
Pocatello
American Falls
Rupert
Burley
Declo
Kimberly
Twin Falls
Jerome
Wendell
Shoshone
Dietrich
Gooding
Bliss
Thorn Creek
Clover Creek
Mountain Home
Kuna
Nampa
Caldwell
Emmett
Miles
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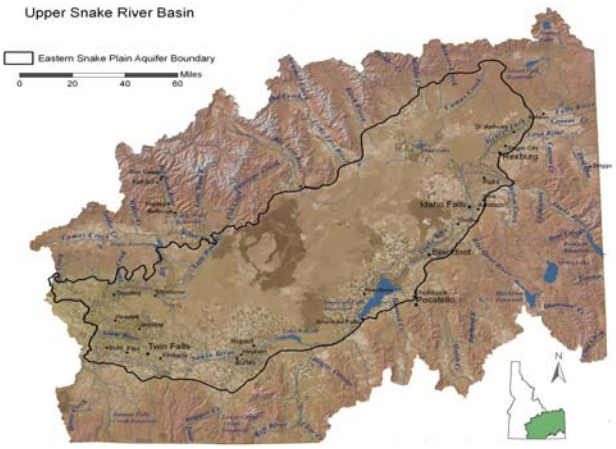
N
Image Copyright© 2014 Esri
IDAHO Department of Water Resources

THE ESPA


Upper Snake River Basin
Eastern Snake Plain Aquifer Boundary
Miles
0 20 40 60
Rexburg
Idaho Falls
Blackfoot
Pocatello
Twin Falls
N

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WATER LAW BASICS

- There are primarily four (4) "A's" to water law:
  1. Appropriation
  2. Adjudication
  3. Administration
  4. Amendment (a "transfer")

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WATER LAW BASICS

- A water right is a piece of paper that authorizes the listed owner to use the State of Idaho's water (either surface water from rivers, streams, etc., or ground water from its aquifers) subject to certain limitations.
- The piece of paper could have been obtained from an old court action (a "decree"), a license issued by the State of Idaho through the permitting process, or, more recently, a "partial decree" issued in the Snake River Basin Adjudication.

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WATER LAW BASICS

- A water right is an appurtenance to real property.
- A water right is more than just permission to use the State of Idaho's water—It is a real property right.
  - See Idaho Code § 55-101 (definition of real property specifically includes water rights)
- IDWR = Idaho Department of Water Resources
  - IDWR is the governmental agency over water resources.
  - IDWR is overseen by a director (currently Gary Spackman)

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WATER LAW BASICS

- Therefore, while a water right holder has a right to use water, is remains subject to a public trust that the water will be applied to a recognized beneficial use.
  - There are some limits.

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WATER LAW BASICS

- New water rights today can only be obtained through a permitting and licensing process.
- There is a moratorium order issued by IDWR in 1993 that does not allow for issuance of any new permits for development of large-scale irrigation water rights.
  - However, there are some limited exceptions (such as municipal water rights).

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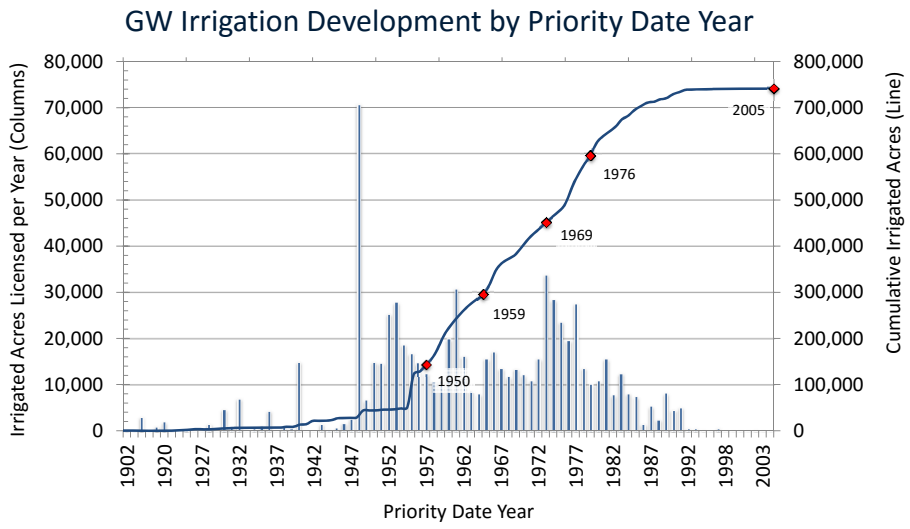

Cumulative Ground Water Irrigated Acres Developed from 1902 to Present

WATER LAW BASICS

- A water right must be used for a recognized beneficial use—There is no definitive list of beneficial uses (the list could be added to in the future)—but generally speaking, these are the most common beneficial uses:
  - Irrigation; Commercial; Industrial; Domestic; Recreation & Aesthetics; Ground Water Recharge.
  - One of more unique beneficial uses is a municipal beneficial use—It covers virtually all kinds of beneficial uses (irrigation, domestic, commercial, industrial, etc.).
    - It does not cover ground water recharge.

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WATER LAW BASICS

- What does a water right look like? Other than the owner of the water right, there are seven elements:

Element	Example
Source	Snake River
Point of Diversion	Twp. 1N, R38E, Sec. 4, NW1/4NW1/4
Priority Date	June 1, 1940
Nature of Use	Irrigation
Diversion and/or Volume	1.5 cfs
Period (Season) of Use	April 1st - October 31st
Place of Use	Twp. 1N, R38E, Sec.4, NW1/4 NW1/4 (40 acres); SW 1/4NW1/4 (40 acres)

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WATER LAW BASICS

- #2 "A": Adjudication
- Water rights in the Snake River Basin were recently inventoried in the Snake River Basin Adjudication (the "SRBA").
  - Conceptually, the SRBA (or any adjudication) is a process to consolidate all of the "pieces of paper" that are out there on one list.
  - Now, there are no longer any questions about what water rights exist—there are over 158,000 water rights in the Snake River Basin.
  - The SRBA was recently completed after 27 years.
  - The actual decree is over 300,000 pages.

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WATER LAW BASICS

- The SRBA was a product of a settlement agreement with the Idaho Power Company from 1984 known as the "Swan Falls Agreement."
- For purposes of today's discussion, there are two important components:
  1. The SRBA.
  2. Establishment of minimum flows that must be met at the Murphy Gage (Murphy is south of Boise) on the Snake River:
     1. At least 5600 cfs must be at the Murphy Gage between November 1st and April 1st of the following year (the non-irrigation season).
     2. At least 3900 cfs must be at the Murphy Gage between April 1st and November 1st (during the irrigation season).**

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WATER LAW BASICS

- In order to accomplish the SRBA, a court was established in Twin Falls (the "SRBA Court").
- The SRBA Court is now addressing northern Idaho adjudications.
- Also, however, the court is now effectively a "water court":
  - All administrative appeals from IDWR actions go there.
  - The district judge is Eric Wildman.

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SRBA SIGNING—August 25, 2014

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WATER LAW BASICS

- A water right must be used consistent with its elements, otherwise the use is illegal.
  - Example: You cannot use an irrigation water right for industrial purposes. This is an "enlargement" of the water right.
- #4 "A": Amendment ("transfer").
  - However, it is possible to "convert" a water right to another beneficial use or change certain elements of a water right—This is done through a process outlined in Idaho Code § 42-222 in what is called a water right "transfer."

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WATER LAW BASICS

- #3 A: Administration—Main topic today.
- Water is allocated and distributed in Idaho under the "prior appropriation doctrine."
  - Under this doctrine, the holder of a water right with an earlier priority date is entitled to receive all of the water under the right before the junior right receives <u>any</u> water.
- This means that the more senior the water right, the better the right.
- Easy to do with surface water; Plenty of fighting when it comes to ground water.

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WATER LAW BASICS

- Water Right Administration:
  - This refers to IDWR's statutory responsibility to enforce priority administration, including the curtailment of junior water rights when required to meet senior needs.
  - This is mostly accomplished by IDWR through organized units called "water districts."
  - A water district has a "watermaster" who then employs other staff, including "deputy watermasters," who are on the ground opening and shutting headgates every day.
  - Water districts have been formed for surface water distribution and ground water distribution.

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WATER LAW BASICS

- Water District 1 is the water district that has jurisdiction over all of the diversions on the Snake River and its tributaries (including distribution of storage water) above Milner Dam.
- Water distribution is a function of supply and demand, and is very complicated, but Water District 1 is very sophisticated.
- Watermaster for WD01 is Lyle Swank.
  - If you are interested in the fine details of water distribution and accounting in WD01, they have recently completed a manual outlining how this is accomplished:
    - http://www.waterdistrict1.com/water%20accounting%20manual.pdf

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WATER LAW BASICS

- Water District 1 website: http://www.waterdistrict1.com/
- WD01 projects priority dates every day:

PROJECTED PRIORITIES FOR SEPTEMBER 19, 2015 (ACTUAL DATE):

Snake River above Lorenzo	10/11/1900
Henrys Fork	10/11/1900
Fall River	10/11/1900
Teton River	10/11/1900
Teton lower N. Fork	10/11/1900
Willow Creek	10/11/1900
Snake River Lorenzo to Blackfoot	10/11/1900
Snake River below Blackfoot	10/11/1900

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WATER LAW BASICS

- WD01 coordinates with the United States Bureau of Reclamation (the "BOR") for release and accounting of storage water into the Snake River.
- Definitions:
  - Natural Flow Water: Water that, without human interference, makes its way into the stream/river system.
  - Storage Water: Water that is stored in reservoirs (either on-stream or off-stream) resulting from human interference (dams). Water is stored in the non-irrigation season and released during the irrigation season when needed. On-stream reservoirs can complicate the accounting of these water "types."
- Summary Statement: Storage water owned by the spaceholder flows past curtailed natural flow rights to the headgates of the spaceholders.

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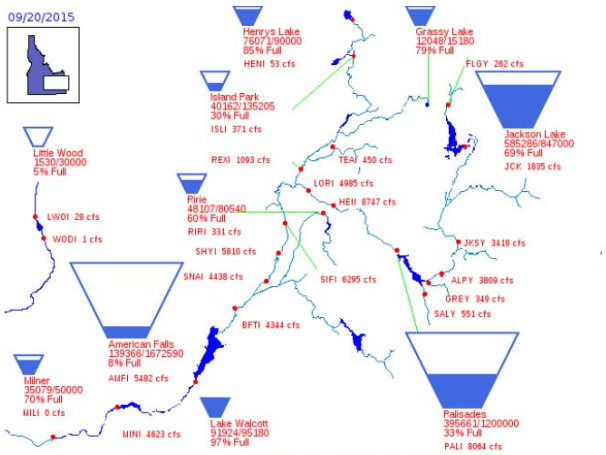
Bureau of Reclamation, Pacific Northwest Region
Major Storage Reservoirs in the Upper Snake River Basin



PROVISIONAL DATA - SUBJECT TO CHANGE!

Average daily streamflows indicated in cubic feet per second.
Reservoir levels current as of midnight on date indicated.
Click on gaging stations (red dots) for streamflow hydrographs.

Upper Snake River system is at 32 % of capacity.
(Jackson Lake,Palisades, Grassy Lake,Island Park,Ririe,American Falls,LakeWalcott)

Total space available: 2733141 AF
Total storage capacity: 4045695 AF

23

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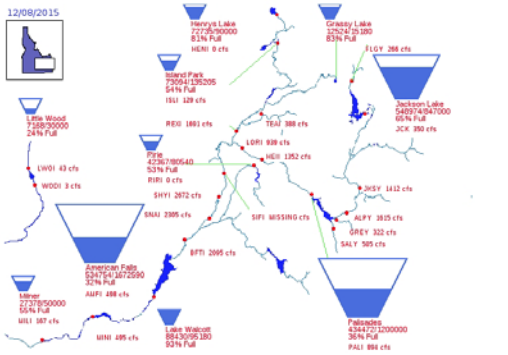
Major Storage Reservoirs in the Upper Snake River Basin



PROVISIONAL DATA - Subject to change

Average daily streamflows indicated in cubic feet per second.
Reservoir levels current as of midnight on date indicated.
Click on gaging stations (red dots) for streamflow hydrographs.

Upper Snake River system is at 43 % of capacity.
(Jackson Lake,Palisades, Grassy Lake,Island Park,Ririe,American Falls,LakeWalcott)

Total space available: 2311080 AF
Total storage capacity: 4045695 AF

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WATER LAW BASICS

- WD01 does its best to project priority dates day-to-day, but the ultimate determination of what water "type" was used is done after the irrigation season through after-the-fact accounting.
- The accounting tells you how much natural flow water you diverted and how much storage you diverted.
- Unused storage water carries over to the next year.

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WATER LAW BASICS

- *It's the Law* Article from the Post Register on Upper Snake Reservoirs:
- Water District #1, based in Idaho Falls, is the instrumentality by which the Idaho Department of Water Resources administers water rights in the Upper Snake River Basin. Water District #1 tracks the accumulation of water during the non-irrigation season to the reservoirs pursuant to the prior appropriation doctrine where the senior storage water right holder is entitled to have its right completely filled before any junior right holder is entitled to accumulate storage at all. Water District #1 then coordinates delivery of the accumulated storage water during the upcoming irrigation season. Water District #1 considers nine reservoirs, which collectively store 4.2 million acre-feet, to be in the Upper Snake River Basin storage system.
- These reservoirs, along with the years they were constructed, are: Milner Reservoir (1903-1905), Lake Walcott (1904-1906), Jackson Lake (1912-1916), Henry's Lake (1922), American Falls Reservoir (1925-1928), Island Park Reservoir (1937-1939), Grassy Lake Reservoir (1937-1939), Palisades Reservoir (1951-1957), and Ririe Reservoir (1970-1977).
- Of the nine reservoirs, only Milner Reservoir and Henry's Lake are privately owned. Milner Reservoir is jointly owned by the North Side Canal Company and Twin Falls Canal Company, and Henry's Lake is owned by the North Fork Reservoir Company. Storage water accumulated in these private reservoirs is owned solely by these entities.
- The remaining seven reservoirs are owned and operated by the United States Bureau of Reclamation (the "BOR"). Water stored in these reservoirs is used by a number of irrigation entities who have contracts with the BOR for use of the storage water. BOR reservoirs were originally constructed with federal funds, and the construction costs were then recouped by the federal government through long-term repayment contracts with water users. The contract holders continue to annually pay their pro rata share of ongoing repair and maintenance of the dam and reservoir. Some reservoirs, such as Island Park, only have one contract holder, while others, such as Palisades, have many contract holders for its use.

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WATER LAW BASICS

- If you a senior user and you are not receiving your full supply and your right is in priority, you can place a "call on the river" a/k/a as a "delivery call" to enforce your right to receive water.
- There are times where closing headgates upstream of a calling diversion will not result in delivery of surface water to diversion points downstream because the water will sink before getting to the diversion. This is a "futile call."
  - Once a futile call situation is declared, the watermaster will let the upstream junior turn back on and use water unless the system connects once again.

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WATER LAW BASICS

- Water right administration is <u>easy for surface water sources</u> because there are an established number of diversions that can be opened and closed and water can be readily measured.
- Water right administration is <u>hard for groundwater sources</u> because the time-delayed impacts from groundwater pumping to senior surface water can't really be measured to the detailed extent of a surface water diversion.
  - In other words, the impacts from pumping may not show up for years—so how do you determine when to curtail a junior ground water right by a calling senior surface water right?

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WATER LAW BASICS

- The hydraulic connection between the ESPA and the Snake River has been known for more than a century, but it was not until 1994 that the State of Idaho developed *Rules for Conjunctive Management of Surface and Groundwater Resources* (the "CM Rules").
- "Conjunctive Administration" (sometimes incorrectly referred to as "Conjunctive Management") refers to administration of ground water and surface water rights by priority.
  - Rather than treat surface and ground water sources as separate sources, both sources are treated as the same water source—the difficult question then becomes how that is done.

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WATER LAW BASICS

- CM Rules are found at IDAPA 37.03.11.
- Once the CM Rules were adopted, spring users (fish farmers) and others used them as a basis for filing delivery calls with IDWR.
  - The first call was the "Musser Call" filed in 1993 (this forced IDWR to adopt the CM Rules).
- The CM Rules provided a serviceable structure from responding to delivery calls, but they lacked any judicial precedent—in other words, there was a period of unknowns.
- Some water calls were filed in the late 1990s, but were put on hold by IDWR.

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WATER LAW BASICS

- There is a hydraulic connection between surface water flow in the Snake River and in the ESPA.
- This means that there are sections (or "reaches") of the Snake River that lose water to the ESPA, and there are reaches where water from the ESPA feeds the Snake River.
- There are discrete discharge sites (Springfield (near Aberdeen) and Thousand Springs) into the Snake River, but also non-visible discharge (reach gains) to the Snake River.

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WATER LAW BASICS

- The surface water entities were well organized, but after the CM Rules were promulgated, what about the ground water users?
  - Statutes were added in 1995 to allow for the formation of "Ground Water Districts."
  - The main intent of ground water districts was to band ground water users together in order to levy assessments to raise funds to respond to delivery calls and implement mitigation measures.
  - A number of ground water districts have been formed.
- The ground water districts function together under an umbrella organization known as the Idaho Ground Water Appropriators, Inc., or "IGWA."

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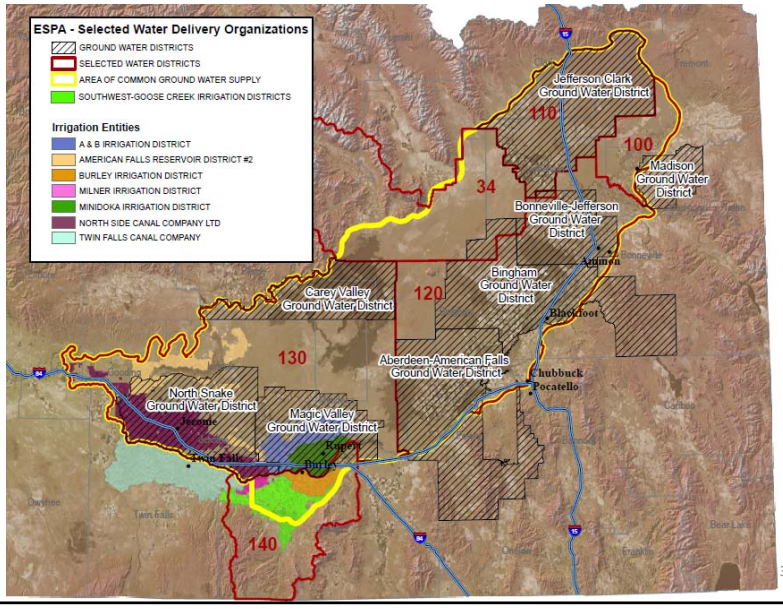
WATER LAW BASICS



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SWC CALL

- SWC = the “Surface Water Coalition”
- The SWC consists of seven Magic Valley area canal companies and irrigation districts:
  - Twin Falls Canal Company
  - Northside Canal Company
  - Minidoka Irrigation District
  - American Falls Reservoir District #2
  - Burley Irrigation District
  - A&B Irrigation District
  - Milner Irrigation District

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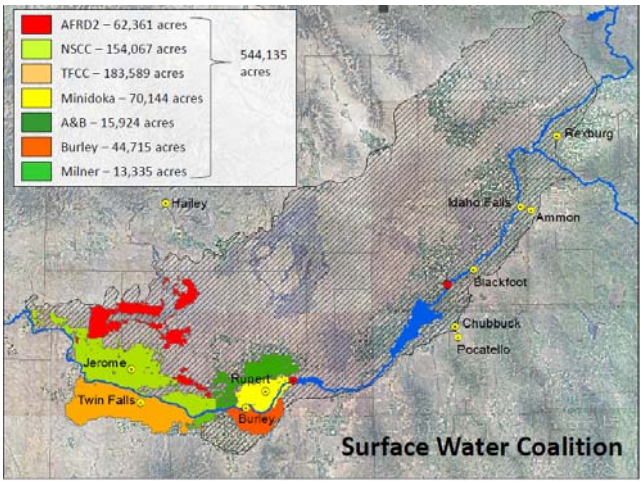
SWC CALL



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SWC CALL

- The SWC developed water rights junior to most surface water rights in the Upper Snake River Valley.
  - Their best rights have priority dates of October 11, 1900.
  - Many rights in eastern Idaho are pre-1900 in priority.
- This means that when natural flow supplies (which are augmented by reach gains to the Snake River) drop, they rely heavily on storage water to make up the difference.

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SWC CALL

- During peak irrigation demand, the natural flow supply in the Snake River is almost entirely diverted above American Falls Reservoir.
- In fact, the Snake River just south of Blackfoot can go dry.
- Because of this reality, the SWC relies upon two major sources of water for its needs:
  1. Reach gains from springs and tributary underflow to the Snake River into American Falls Reservoir and other springs.
  2. Release of storage water.

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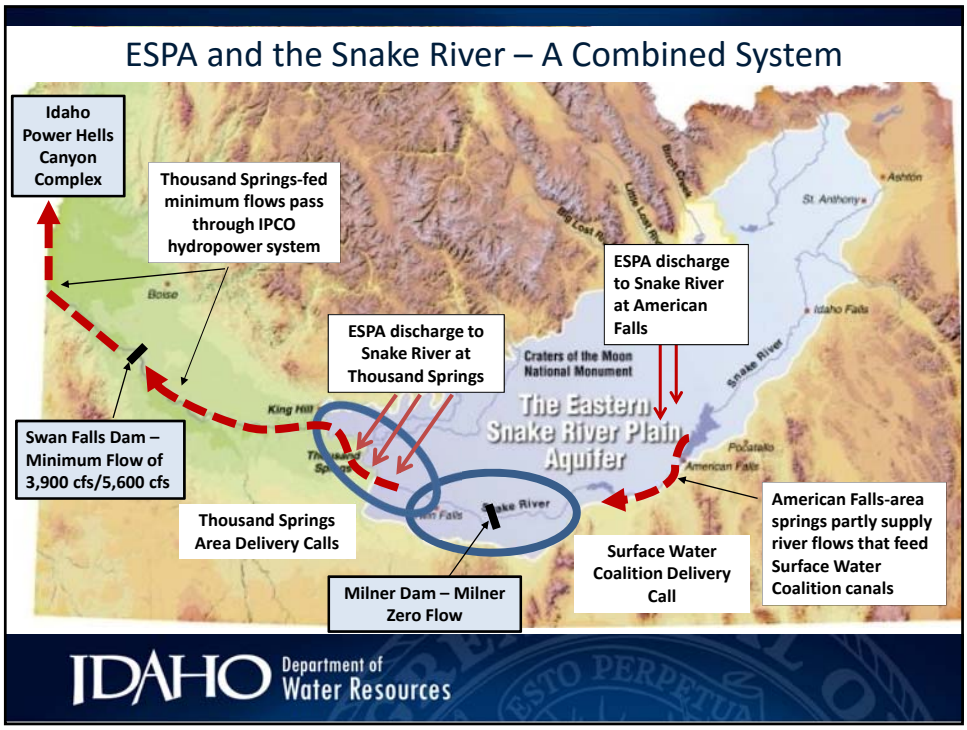

SWC CALL

- Since 2003, IGWA has defended fifteen different delivery calls made by senior surface, spring, and ground water right holders.
  - IGWA has spent millions of dollars on mitigation measures, water right buyouts, and fish farm buyouts.
- Most of the calls were from spring users.
  - There is a lingering issue over the "trim line" used in the Rangen Call that was just argued before the Idaho Supreme Court on December 7, 2015.

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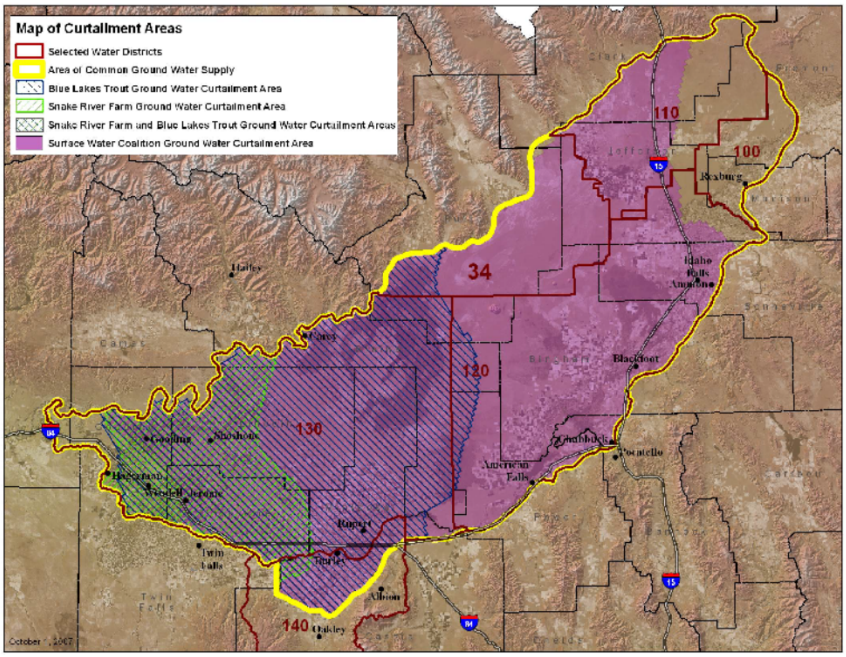

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SWC CALL

- The SWC Call was filed in January of 2005 and is ongoing.
- Why did they file?
  - Drought between 2001-2004 which caused reduced water supply resulting in impacts to farmers' operations, decreasing reach gains, and lack of aquifer management.
- As a result of the SWC Call, IDWR developed a "methodology order" used to essentially require the SWC to provide information to IDWR support its irrigation demand plus what it should be able to reasonably carry over in reservoir storage water ("reasonable carryover")(collectively, the "demand"), and IDWR developed a forecast methodology to determine the runoff, or the "supply."
  - If supply exceeded demand, then the ground water users could irrigate that year with no mitigation obligation.
  - However, if demand exceeded supply, the difference between demand and supply was the amount of "material injury."
- Proof of the ability to mitigate must be provided within fourteen (14) days of IDWR's order.

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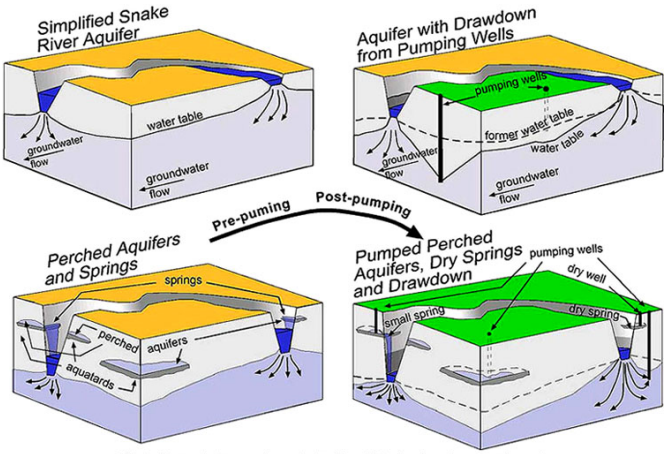
SWC CALL



Effects of groundwater pumping on in river flow. Note drawdown from pumping wells, decreased spring flow, and increased river infiltration.

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SWC CALL

- IDWR also developed and has fine-tuned the Eastern Snake Plain Aquifer Model, or "ESPAM".
- This model predicts the decrease in reach gains to the Snake River as a result of ground water pumping.
- The courts have said this is the "best available science," meaning that despite inherent limitations in models, it does not matter—the ESPAM will be used for conjunctive administration.

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SWC CALL

- Between 2005 and 2015, this water call has been extensively litigated.
  - Any defense you can think of has been raised by IGWA, and the court has ruled on it.
- While the litigation has been ongoing, IDWR has used its methodology to determine material injury.
  - In some years, there was no injury and therefore no mitigation obligation.
  - In other years there has been injury and therefore a mitigation obligation.

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SWC CALL

- What options were there for responding to an injury determination?
  - Rent storage water and provide it to the SWC.
    - This has been the major source of mitigation water.
    - Renting storage water is not always easy to do because of the "last to fill" rule.
  - Undertake other measures to reduce pumping from the ESPA.
    - CREP and other programs.
  - Ground water recharge.
  - Shut off wells.
    - The benefits that would accrue to the Snake River are calculated using ESPAM.

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SWC CALL

- IGWA's goal was for ground water users to never be curtailed, and they have done a very good job—no well has ever been curtailed as a result of the SWC Call.
  - But wells were almost curtailed in the Rangen Call.
  - IDWR is serious about curtailment and will do it.
    - Director Spackman has said that the courts have given him no choice.

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SWC CALL-THE PERFECT STORM IN LATE 2014-2015

- In the Fall of 2014, Judge Wildman held that IDWR's methodology order did not respect prior appropriation enough. Over the winter, IDWR developed a third methodology order based on this decision.
- Director Spackman: "Under this new methodology, the mitigation obligation for ground water users will occur more frequently and be of greater magnitude by about 50,000 acre-feet."
  - Thus, there is more assurance and larger determination of injury for the benefit of the senior.

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How Does the Methodology Work?

IN-SEASON INJURY

- April – forecast the SWC's water supply
- April - forecast the SWC's demand (i.e. crop need)
- April – if demand > supply, in-season injury to the SWC exists and Juniors must mitigate or curtail
- July - repeat water supply/demand/injury analysis
- Aug/Sep - repeat water supply/demand/injury analysis

CARRYOVER INJURY

- November - determine injury, if any, to "reasonable carryover" (up to 125,000 acre-feet)
- If injury to "reasonable carryover" exists, Juniors mitigate or curtail

IDAHO Department of Water Resources

SWC CALL-THE PERFECT STORM

- Warm weather in 2015 and changing water conditions.
  - The rains in 2014 left reservoir levels high, but a warm early spring resulting in the highest demand for water in late March and early April that WD01 had ever seen.

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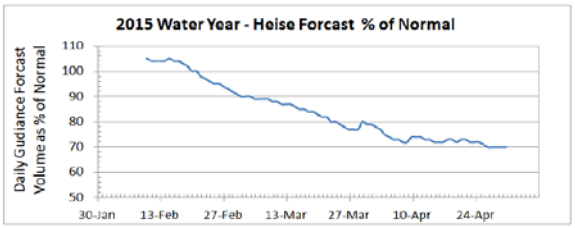
SWC CALL

National Water and Climate Center, Natural Resources Conservation Service, USDA, Portland OR
Contact: Cara McCarthy (503) 414-3068
5/1/2015 7:12
Disclaimer: This is a completely automated product based on SNOTEL data.
SNOTEL data is often verified and edited 1-5 days after the collection of the data and therefore
the most recent forecast may be based on unedited data. This product is not meant to replace or
supercede monthly forecasts produced in collaboration with the National Weather Service.
Stations used in analysis: 868,419,353,761,764,577,816,314
Forecast name: Snake River nr Heise Units: 1000 ac-ft
Forecast ID: 13037500 1981-2010 Average: 3240
Forecast target: Apr-Jul Volume

	Chances of exceeding						
Volumes	9 in 10	7 in 10	5 in 10	3 in 10	1 in 10	5 in 10 % avg	
Period of record norm (51-13)	2175	2627	3026	3701	4076	102	
Most recent official (none)							
	9 in 10	7 in 10	5 in 10	3 in 10	1 in 10	5 in 10 % avg	Skill (r2)
01-May	1791	2042	2239	2446	2759	69	0.69



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SWC CALL

- The result was a material injury determination of 89,000 acre-feet.
- If mitigation was not provided, in order to generate 89,000 acre-feet of benefit to the Snake River, all water rights junior to approximately 1982 would be curtailed.
- The water rights which were subject to curtailment equaled approximately 86,000 acres.
- The material injury determination could now be revisited—and could be much worse (next slide):

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SWC CALL

Summary of Demand Shortfall Projections as of May 3, 2015				
	April As-Applied Order (4/16/15)	April As-Applied w/ May 1 Forecast	July As-Applied w/ April Div. & BLY	July As-Applied w/ April Div. & 2012 Analog Yr.
A&B	0	0	0	0
AFRD2	-15,300	-35,464	-54,728	-67,938
BID	0	0	0	0
Milner	0	0	0	0
Minidoka	0	0	0	0
NSCC	0	0	-26,327	-184,543
TFCC	-73,700	-90,250	-170,259	-318,387
Total	**-89,000**	**-125,714**	**-251,314**	**-570,868**
Approx. Curtailment Priority Date	1982	1980	1974	1957
Approx. Curtailed Acres	86,000	121,000	259,000	594,000

These numbers are calculated using the 3rd Amended Methodology Order for the Surface Water Coalition Delivery Call. Natural flow supplies are predicted using the NRCS's May 1 50% Exceedance Forecast of April-July Runoff Volume at the Heise Gage (i.e. 2,239,000 AF).

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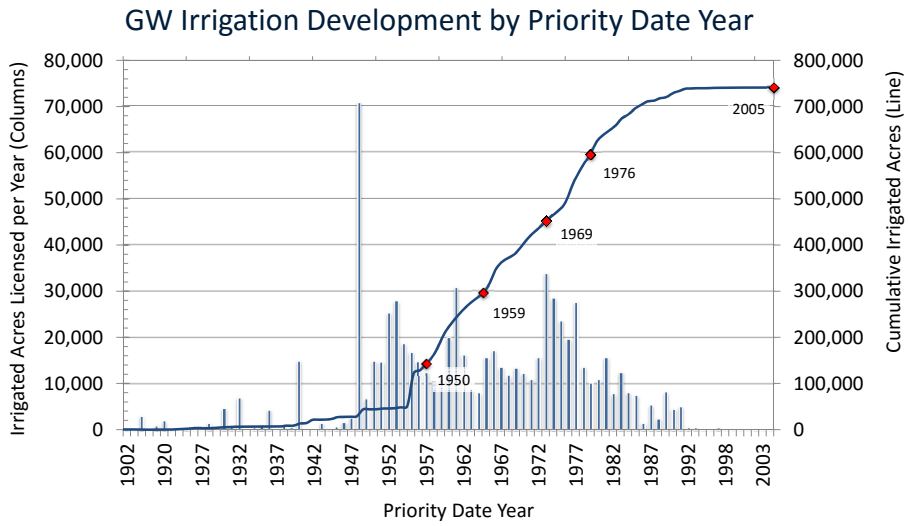
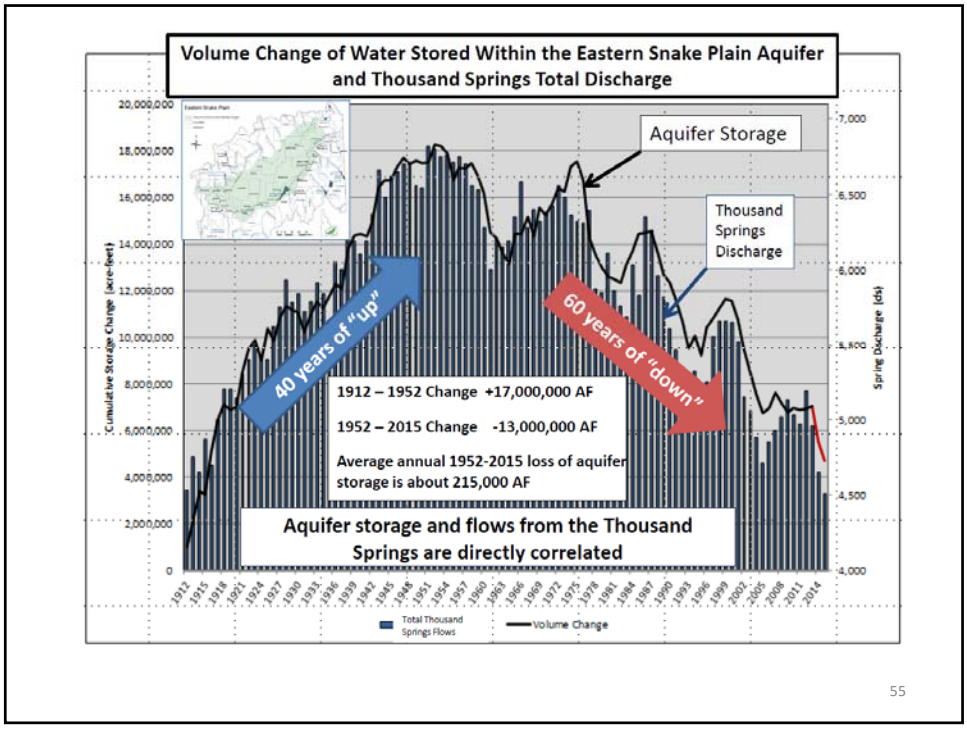


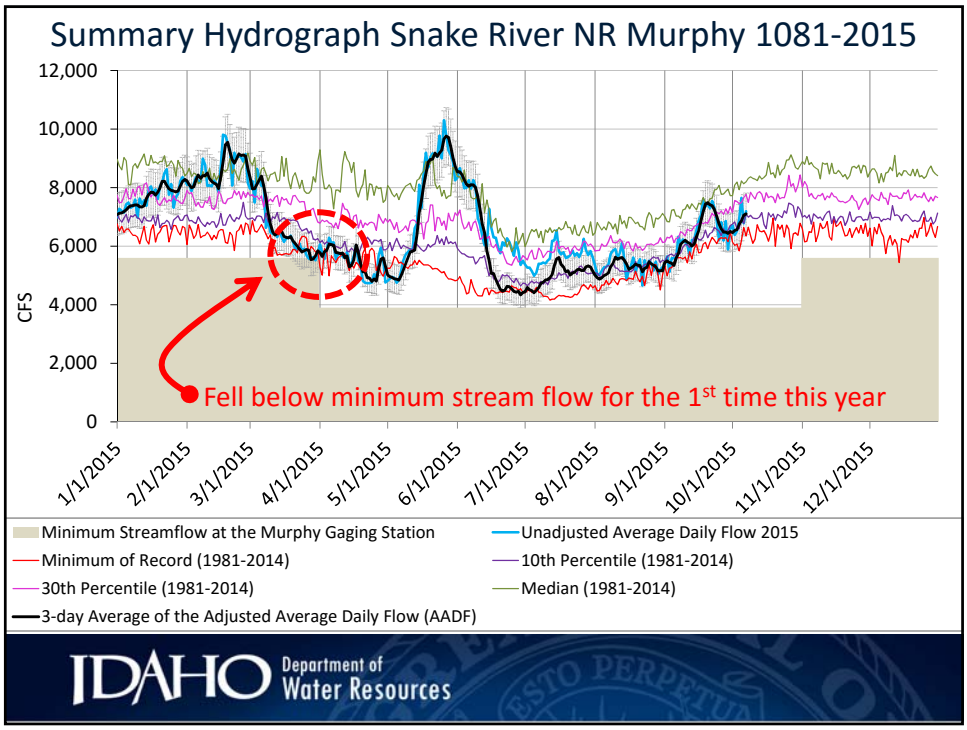
Cumulative Ground Water Irrigated Acres Developed from 1902 to Present

SWC CALL

- IGWA could not meet the mitigation obligation.
- This forced a settlement discussion, primarily because of the involvement of Speaker of the House Scott Bedke.
- Why wasn't this settled long ago?
  - It depends on who you talk to.
- Speaker Bedke mediated a settlement agreement.
- The settlement agreement acknowledged problems on the following two slides:

54


Volume Change of Water Stored Within the Eastern Snake Plain Aquifer and Thousand Springs Total Discharge
Aquifer Storage
Thousand Springs Discharge
40 years of "up"
60 years of "down"
1912 – 1952 Change +17,000,000 AF
1952 – 2015 Change -13,000,000 AF
Average annual 1952-2015 loss of aquifer storage is about 215,000 AF
Aquifer storage and flows from the Thousand Springs are directly correlated
Cumulative Storage Change (acre-feet)
Spring Discharge (cfs)
Total Thousand Springs Flows
Volume Change
55


Summary Hydrograph Snake River NR Murphy 1081-2015
CFS
Fell below minimum stream flow for the 1st time this year
Minimum Streamflow at the Murphy Gaging Station
Unadjusted Average Daily Flow 2015
Minimum of Record (1981-2014)
10th Percentile (1981-2014)
30th Percentile (1981-2014)
Median (1981-2014)
3-day Average of the Adjusted Average Daily Flow (AADF)
IDAHO Department of Water Resources

SWC CALL

- We have a declining aquifer, but it is not all the ground water users' fault.
  - Conversion of most farm ground from flood irrigation to sprinkler.
  - Winter water savings program with the BOR (this stopped diversion of storage water during the winter, which recharged the aquifer).
  - Ground water development was encouraged by Idaho Power Company and others.
  - Climate change: More drought cycles and declining precipitation.

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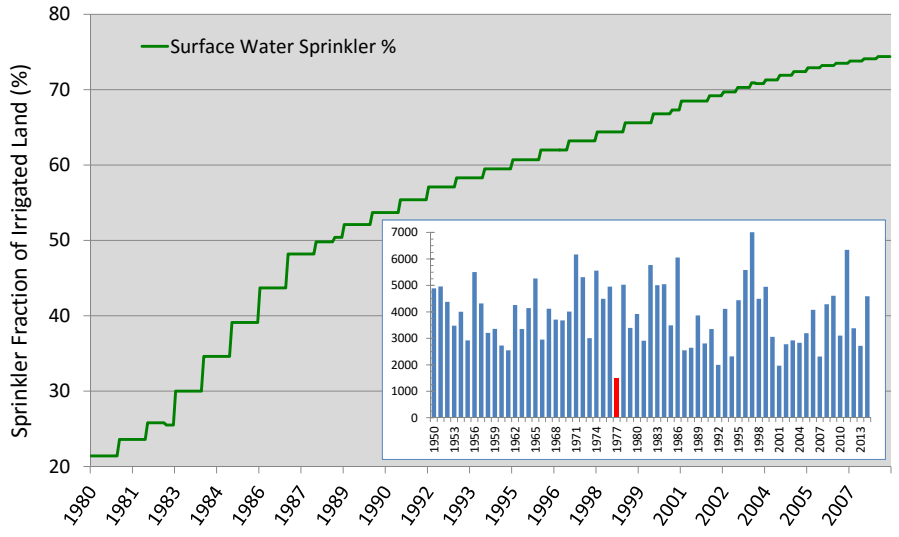

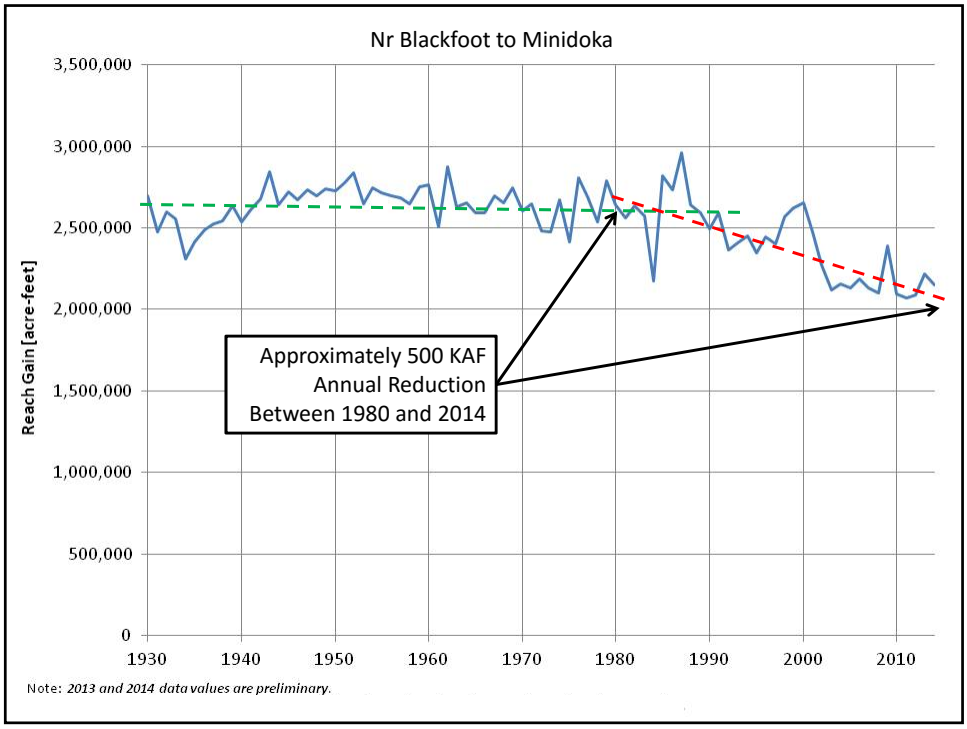

SWC CALL AGREEMENT

- Disaster was averted.
- Settlement Agreement addressed issues in 2015 (near-term) and beyond (2016 and forward).

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SWC Settlement Terms

- Objectives
  - Mitigation
  - Safe Harbor
  - Stabilize aquifer levels and increase water supplies
  - Minimize economic impact
  - Increase reliability of measurement/compliance/enforcement
- Near Term Practices
  - 110,000 acre-feet of storage water
  - $1.1 Million towards existing conversions
- Long Term Practices
  - Ground water diversions reduced by 240,000 acre-feet/year
  - 50,000 acre-feet/year of storage water
  - Continue existing conversions
  - Shorten irrigation season (April 1 – October 31)
  - Measuring devices by 2018
  - State sponsored recharge equal to 250,000 acre-feet/year

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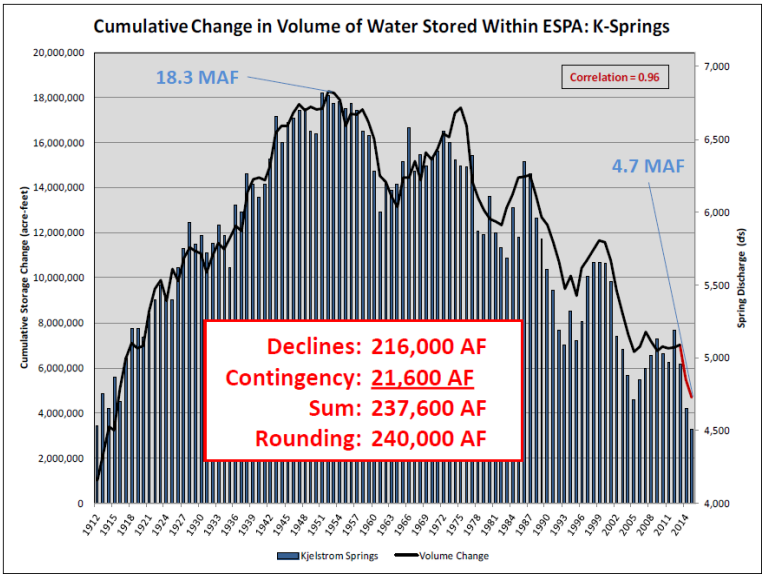
SWC CALL



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SWC CALL AGREEMENT

Term Sheet Benchmarks and Ground Water Level Goal

Goal: "stabilize and ultimately reverse the trend of declining ground water levels and return ground water levels to levels equal to the average ground water levels from 1991-2001"

Benchmarks: (1) by 2020 ground water levels will equal ground water levels in 2015; (2) by 2023 ground water levels will be halfway between 2015 ground water levels and goal; and (3) by 2026 goal is reached and ground water levels equal or exceed 1991-2001 average.

Metrics: ground water levels as measured in 19 mutually agreed to "sentinel" observation wells

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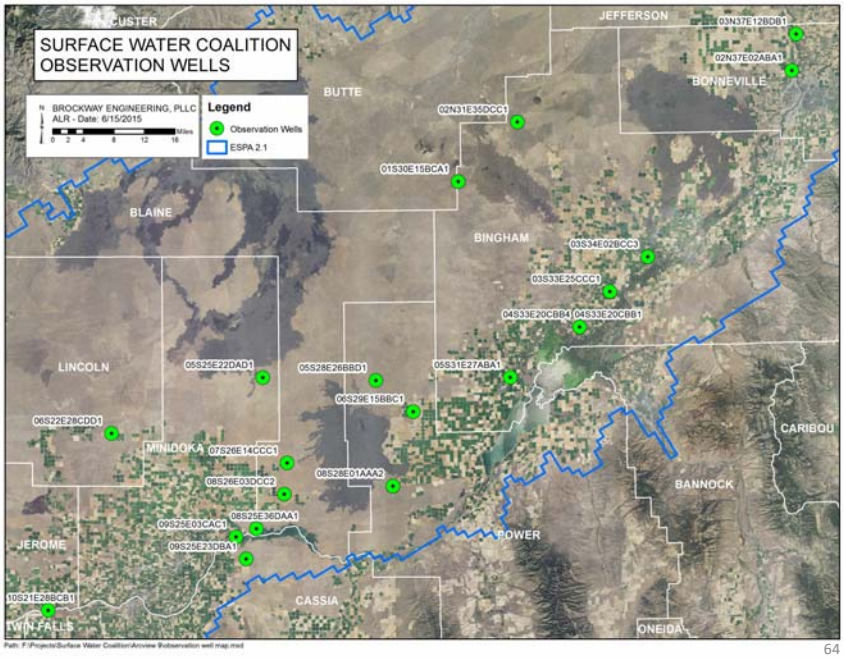

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SWC CALL AGREEMENT—STILL QUESTIONS ABOUT HOW TO ALLOCATE 240K IN REDUCTIONS

240kAF REDUCTION ALLOCATED BY DISTRICT

District	Current AF Diverted*	% Share of 240kAF	% Reduction	AF Reduction	Future AF Diverted
A&B ID	173,384	7.7%	10.7%	18,588.09	154,796
Aberdeen-American Falls GWD	303,532	13.6%	10.7%	32,540.96	270,991
Bingham GWD	469,143	21.0%	10.7%	50,295.72	418,847
Bonneville-Jefferson GWD	117,800	5.3%	10.7%	12,629.06	105,171
Carey Valley GWD	7,995	0.4%	10.7%	857.13	7,138
Fremont-Madison ID	13,600	0.6%	10.7%	1,458.02	12,142
Jefferson-Clark GWD	333,467	14.9%	10.7%	35,750.22	297,717
Madison GWD	86,448	3.9%	10.7%	9,267.89	77,180
Magic Valley GWD	332,327	14.8%	10.7%	35,628.00	296,699
North Snake GWD	209,758	9.4%	10.7%	22,487.66	187,270
Raft River GWD	20	0.0%	10.7%	2.14	18
Southwest ID	191,172	8.5%	10.7%	20,495.10	170,677
TOTALS	**2,238,646**	**100%**		**240,000.00**	**1,998,646**

*Presently calculated based on IDWR crop irrigation requirement data; will be replaced with actual measured diversions for each district (data being collected)

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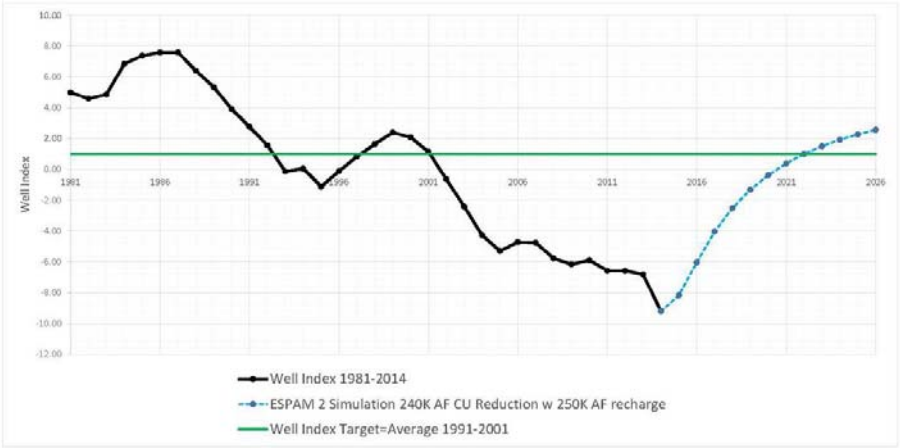
Increased Ground Water Levels: 19 Sentinel Wells

7/15/2015

Figure 1: IGWA-SWC Well Index with ESPAM2 Simulated Benefit from 240K AF of Consumptive Use Reduction & 250K AF Recharge



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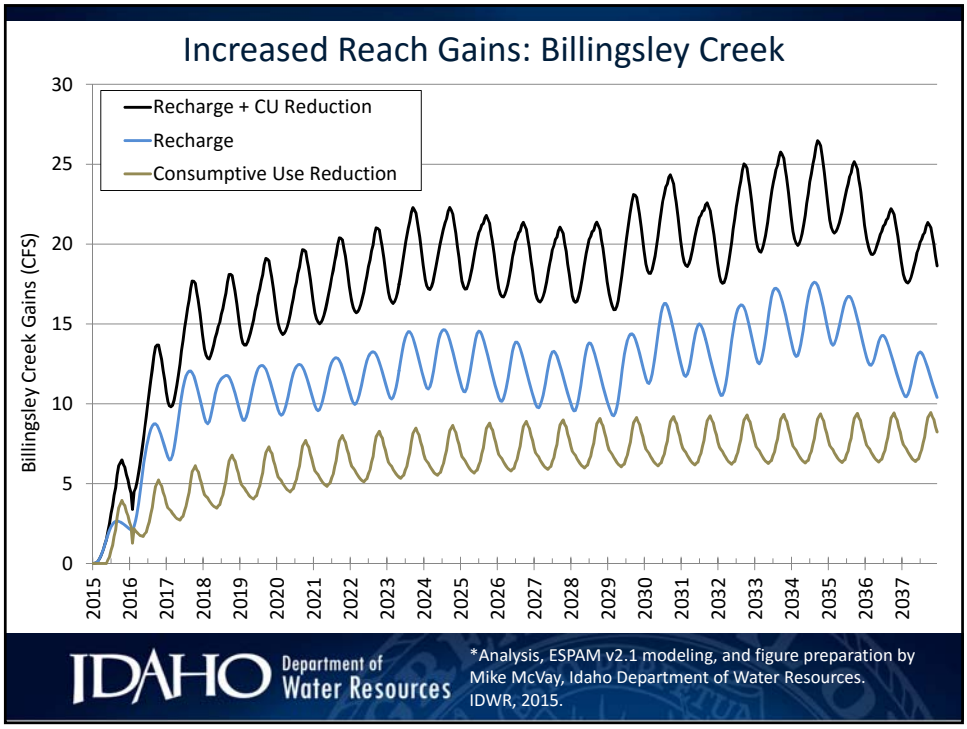
*Analysis, modeling results, and figure conducted and prepared by Lynker Technologies in support of the Surface Water Coalition Term Sheet.


Increased Reach Gains: Billingsley Creek
Recharge + CU Reduction
Recharge
Consumptive Use Reduction
Billingsley Creek Gains (CFS)
0
5
10
15
20
25
30
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
2026
2027
2028
2029
2030
2031
2032
2033
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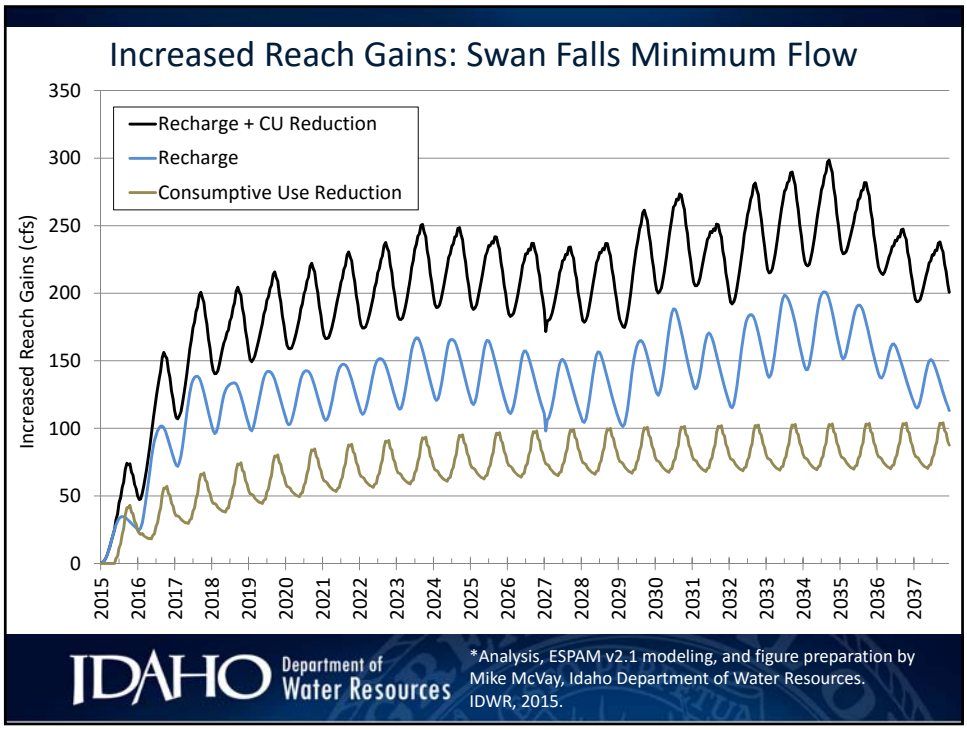
IDAHO Department of Water Resources
*Analysis, ESPAM v2.1 modeling, and figure preparation by Mike McVay, Idaho Department of Water Resources. IDWR, 2015.


Increased Reach Gains: Swan Falls Minimum Flow
Recharge + CU Reduction
Recharge
Consumptive Use Reduction
Increased Reach Gains (cfs)
0
50
100
150
200
250
300
350
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
2026
2027
2028
2029
2030
2031
2032
2033
2034
2035
2036
2037
IDAHO Department of Water Resources
*Analysis, ESPAM v2.1 modeling, and figure preparation by Mike McVay, Idaho Department of Water Resources. IDWR, 2015.

SWC CALL AGREEMENT

- SWC-IGWA Agreement should be celebrated, but there are no specific provisions for municipalities.
- The condition requiring ground water district members to reduce pumping by 240KAF could effectively mean that a municipality can no longer grow.

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SWC CALL AGREEMENT

- No “Safe Harbor”:
  - If you do not sign on to the SWC-IGWA Agreement or are a member of one of its member ground water districts, your water rights will effectively be managed as though you were not part of the Agreement.
    - In other words, you face the possibility of curtailment each year.

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SWC CALL OPTIONS

- Options:
  1. Submit your own CM Rule 43 mitigation plan.
  2. Join a ground water district for mitigation purposes and be subject to the SWC-IGWA Agreement.
     - You will pay an assessment each year to pay for ground water district's pro rata share of expenses associated with the Agreement.
  3. Do nothing and hope for an ample water supply.
     - IDWR will curtail water rights.

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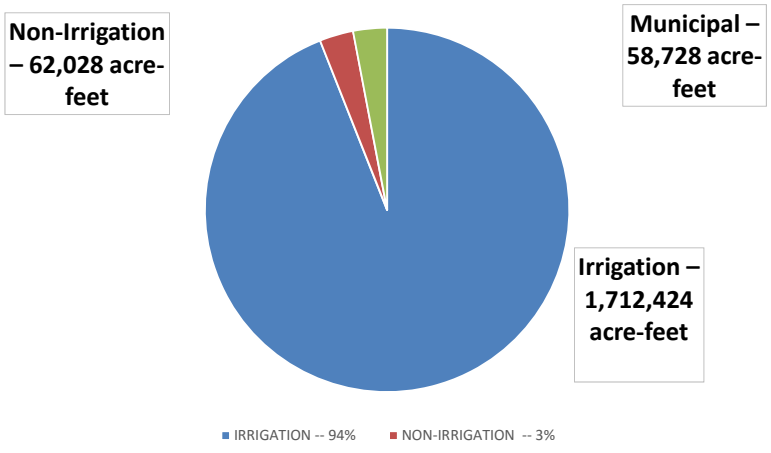
2010-2014 WMIS Pumping Data



SWC CALL

- Current questions about the SWC-IGWA Agreement:
  - Implemented as an approved CM Rule 43 mitigation plan? or
  - Designation of the ESPA as a Ground Water Management Area ("GWMA")?
- Ongoing questions about internal allocation of 240,000 AF of reduction between IGWA ground water districts.

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RANGEN CALL

- Very Short Summary: Mitigated with an over-the-rim pump project and other mitigation, and other work.

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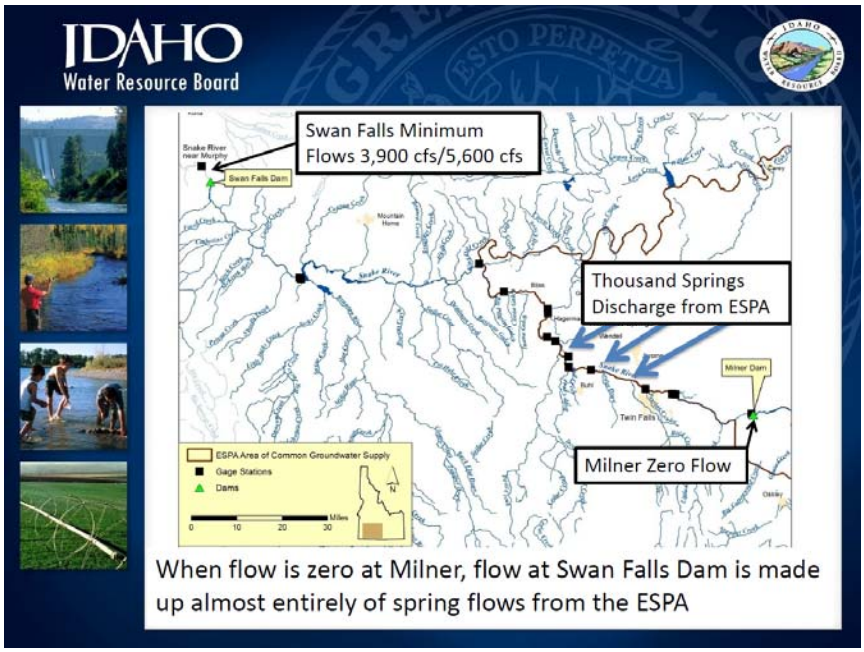
IDAHO
Water Resource Board
Swan Falls Minimum
Flows 3,900 cfs/5,600 cfs
Thousand Springs
Discharge from ESPA
Milner Zero Flow
ESPA Area of Common Groundwater Supply
Gage Stations
Dams
When flow is zero at Milner, flow at Swan Falls Dam is made up almost entirely of spring flows from the ESPA

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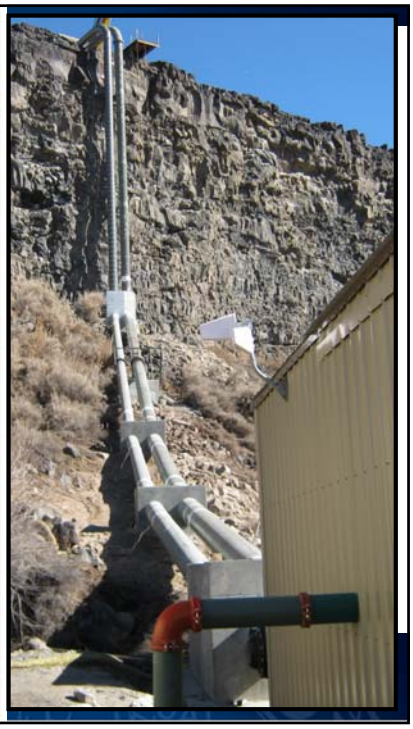
Mitigation Pipeline Outlet
Rangen Facility
Mitigation Pipeline Pump Box
Snake River
Magic Springs
Head of Mitigation Pipeline
Magic Springs Pipeline



RECHARGE

- Great idea to help with aquifer levels.
- However, ability to recharge is limited by the priority doctrine.

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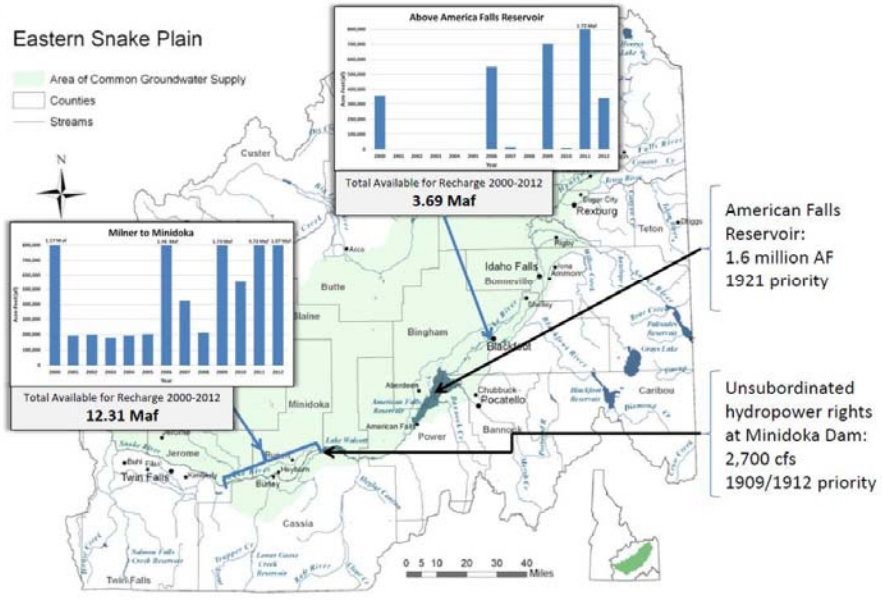
Water Available for Recharge 2000 - 2012



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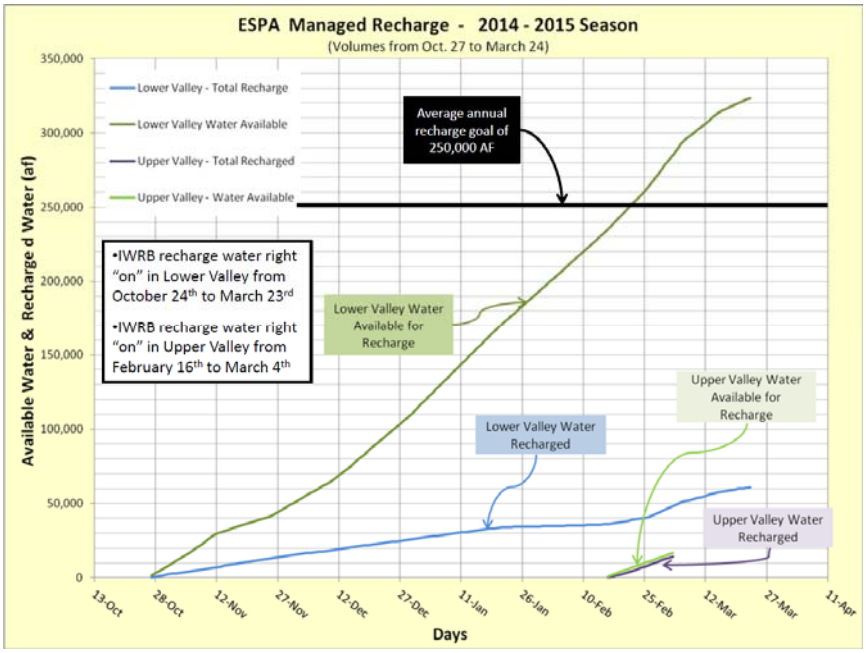

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QUESTIONS?

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