Environment
& Sustainability
Committee

City of Idaho Falls
Environment & Sustainability
CUSP Committee Meeting
Chair: Kris Millgate
Vice-Chair: Stephanie Austad

February 26, 2020
10:30 a.m.
Activity Center
1575 N. Skyline Dr.
Idaho Falls, ID 83402

MINUTES

Roll Call:

Adams C.	X	Evaly, J.	X	Millgate K.	X	Silverman H.	
Austad S.	X	Haney, C.	X	Morales K.	X	Vazhnik V.	
Cherry B.	X	Lepler K.		Sehlke G.			

Call to Order:

The meeting called to order at 10:37 a.m. by committee chair Kris Millgate.

Approval of Minutes:

Bob Cherry motioned to approve the 02/12/20 minutes
Katelyn Morales seconded the motion
All in Favor

Speaker: David Richards, City of Idaho Falls Water Superintendent
See attached Water Quantity presentation
(cont. from 02/12/20 meeting)

No treatment required for our aquifer water. City of IF chlorinates for water storage.

Aquifer extends from Rexburg to Thousand Springs.
Total (Ground and surface) Water Use: 2015: 1.6% is cities; 86.3 Agricultural Irrigation; Other: 12.2 (Mgal per day) USGS Circular 1441

Groundwater Use: 2015: 4.6% cities; 91.6% Irrigation; 3.8% other (Mgal per day)

Surface Water Coalition:
2017: Agreement to recharge aquifer in north to mitigate problems in south Idaho
2018: Cities to provide 7650 acre-feet per year mitigation and 9640 if not mitigated.
Provides a safe harbor from spring rights water calls
Agreement term limits: Dec 31, 2053
Combined City pumping reaches 120,000 acre-feet per year,

Sand Creek Recharge Site: Recharges from sand creek to the recharge site. 2500 to 3000 acre feet into ground. 3200 acre feet = 1 billion gallons
City of IF tests the water that goes into the recharge site to ensure contaminated water isn't going into aquifer.

Water Saving Tools in Toolbox:
Convert city parks from groundwater to surface water irrigation
Metering
Local-scape; xeriscape
Wastewater effluent recharge
Direct wastewater reuse

Adams: What is the biggest threat to our water supply?
Richards: The agricultural contaminants (bacteria, nitrates, semi VOCs (man-made pesticides), nitrates.

Austad: What are we currently doing to educate about local-scaping?
Richards: Mayor has created committee to find ways to use less water (street scapes). Talking to nurseries to promote local plants.

Committee contact: city horticulturalist Lee Washburn

Cherry: Is their goal to do demonstrations?
Richards: Yes, they are planning a demonstration. Master gardeners also have a demo near Sandy Downs that is demonstrating local plants. There is also a native plant society.

Adams: Is there anyone integrating sod/planting requirements so the plants are not directly adjacent to concrete, but instead has a buffer area of mulch?
Richards: Yes.

Speaker: Carlin Feisthamel, Idaho DEQ water quality engineer

We have very clean water in eastern Idaho with no industry that creates a lot of contamination. We rarely see any pesticide contamination and is usually not groundwater borne.

Discussed water quality in Eastern Idaho. Some areas have action plans for nitrate and the results are trending positively.

What is IDEQ doing to protect the aquifer:
Limit use of flood irrigation; using ground water and pivots to just use what you need directly at the plant
But that increases aquifer downdraw and so aquifer recharge is needed.
At discharge sites, you have a large amount of water going through a small amount of dirt, so the potential for contamination increases.

IDEQ has a monitoring program for discharge sites; monitor raw water going in (bacterial main concern because it is the most rapid health consequence). Monitor for VOCs (oil-based) herbicides, pesticides, e-coli, heavy metals. Also do a down-gradient well and up-gradient well. Non-detectable levels of non-coliform source contamination. Looking at making the Sand Creek site larger.

Cherry: Can you tell if e-coli is animal or human caused?
Feisthamel: Hard to tell. We do occasional events of e-coli in the island park area (very rare) because of fractured basalt and how fast the water enters the aquifer.

Adams: What are risks associated with flood events overcoming the agricultural lagoons and causing contamination?
Feisthamel/Richards: Some smaller cities still have lagoons. City wellheads must be located above flood levels.

Cherry: How will climate change affect our water quality?
Feisthamel/Richards: We have seen an increase in water use due to hotter weather. Starting to see a little more bacteria growth due to warmer ground conditions and thus warmer pipes.

Austad: Has there been any attempt to estimate the life of the aquifer?
Feisthamel: Not that he is aware of.

Millgate: Does the city directly dump waste into the snake river?
Feisthamel/Richards: Not untreated water. There may be areas where stormwater is discharged. They typically go through a stormwater pond first, which are designed to treat naturally. Wastewater treatment put 9-10 M gallons per day into the river. The city has the right to that water until it returns to the river. The city does not receive any credit for returning it to the river - cannot remove again. Pharmaceuticals are a big issue.

Austad: What are the biggest things that each household could do?
Richards: Flushable wipes clog pumps – they are not flushable; medications; non-organics are also issues.

Haney: How often should private wells be tested and how do you go about it?
Feisthamel: Go to Teton Labs – test for total coliform bacteria ($20). At least 2 times/year. Nitrates once every few years (1-3 mg/liter is average in our area).

Public Comment:

No public attendees.

Summary of Steering Committee Meeting:

lack of guidance out of the gate is common concern
committed to providing deliverables to steering chair in September

To consider:

If steering committee puts together a community survey, what would EnS want to ask? (1 or 2 questions)

Target Practice:

Decide not to debate more targets and hold at 3 targets for now

Finalize Targets:

Waste
Water
Energy

Mini Committee assignments:

Waste: Catherine Haney,
Water: Stephanie Austad, Jennifer Evaly, Kris Millgate, Heather Silverman
Energy: Colby Adams, Bob Cherry. Katelyn Morales
Unassigned: Katrin Lepler, Gerry Sehlke, Veronika Vazhnik,

Adams: add resilience to each target
Kris: education is also part of every target
Cherry: add section at end of report for other targets to investigate.

Call for Agenda Items:

Focus on energy in March
Invite Idaho Falls Power
Cancelling March 25 meeting due to spring break
Notify city of cigarette smell and cat in meeting room

Set Next Meeting Date/Time:

March 11, 2020 10:30 am – Activity Center

Adjourn:

Meeting adjourned at 12:05 p.m. by committee chair Kris Millgate.

END NOTES

Recorded by:
Stephanie Austad
Committee vice-chair
and Kris Millgate
Committee chair

CITY OF IDAHO FALLS

GROUNDWATER RECHARGE

CUSP PRESENTATION – FEBRUARY 2020

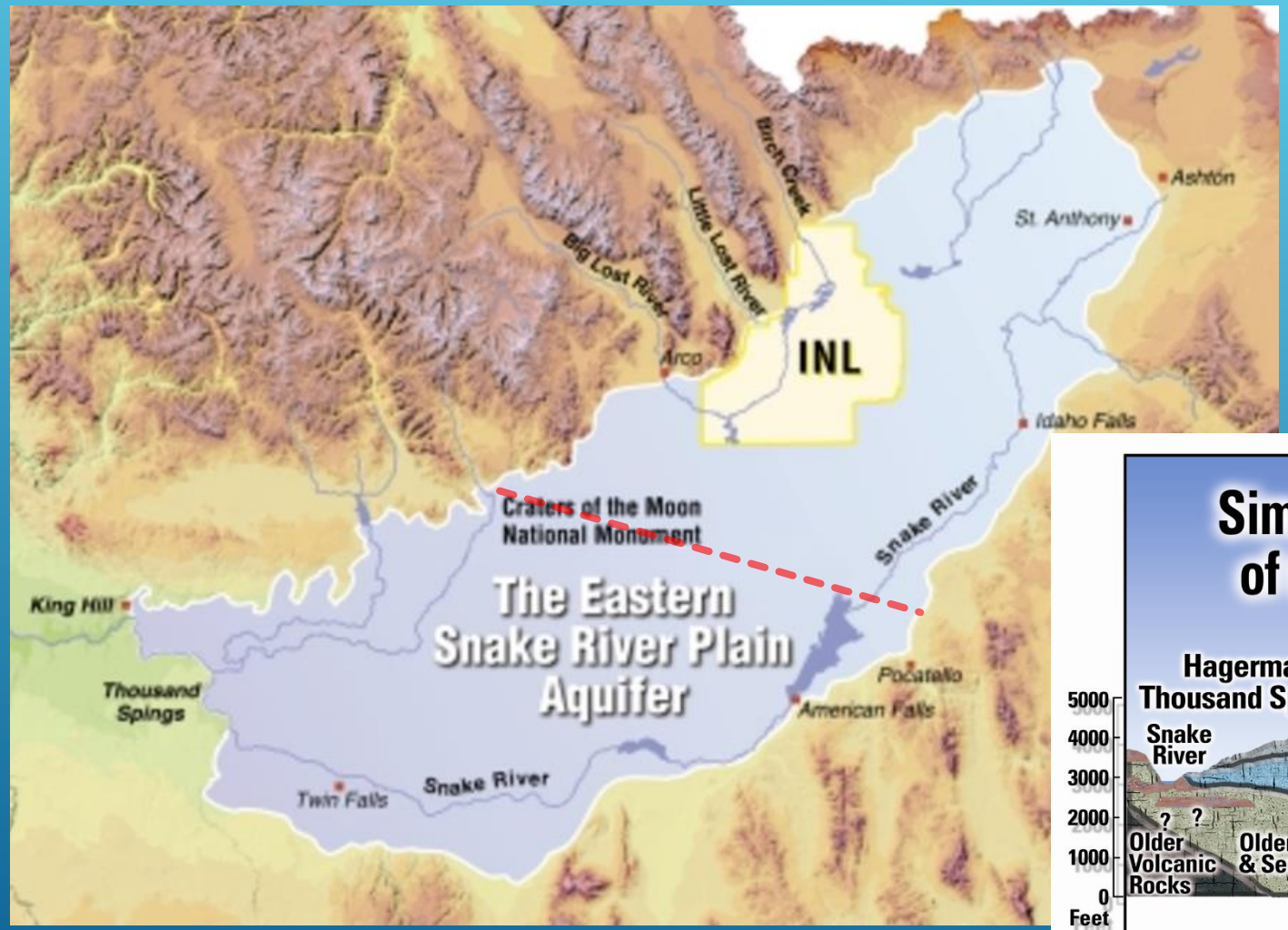
By: David Richards, PE

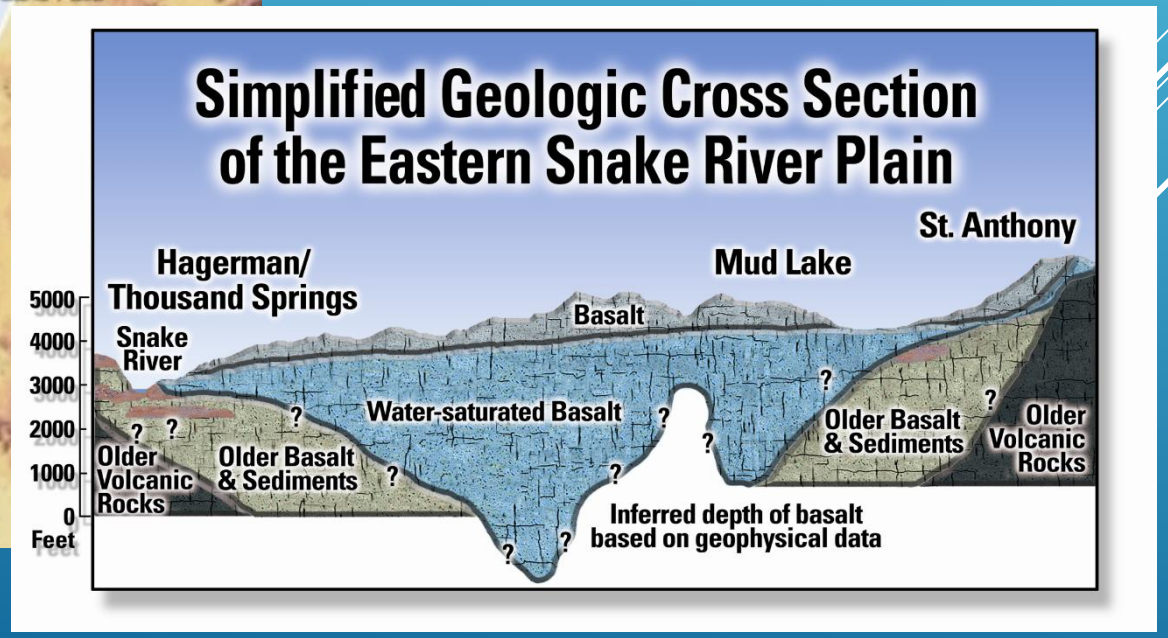
Water Superintendent

IDAHO FALLS PUBLIC WORKS

CITY OF IDAHO FALLS – GROUNDWATER RECHARGE

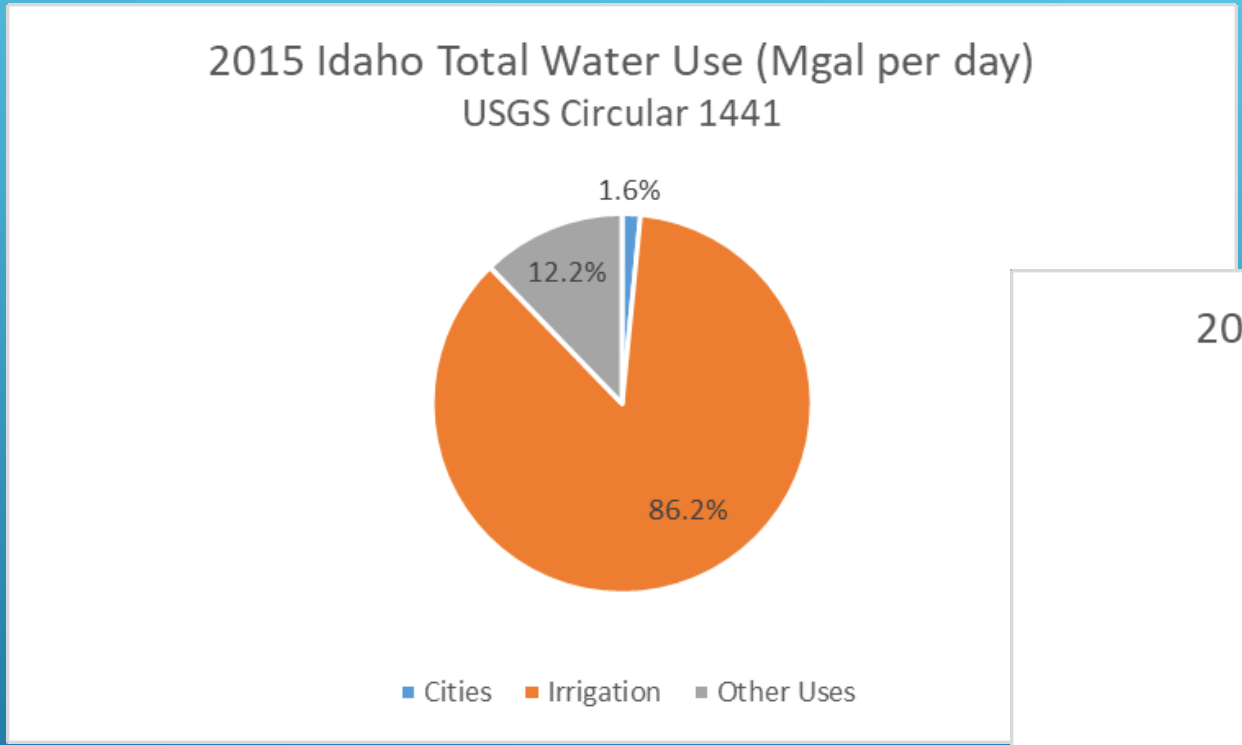
The Eastern Snake Plain Aquifer (ESPA)

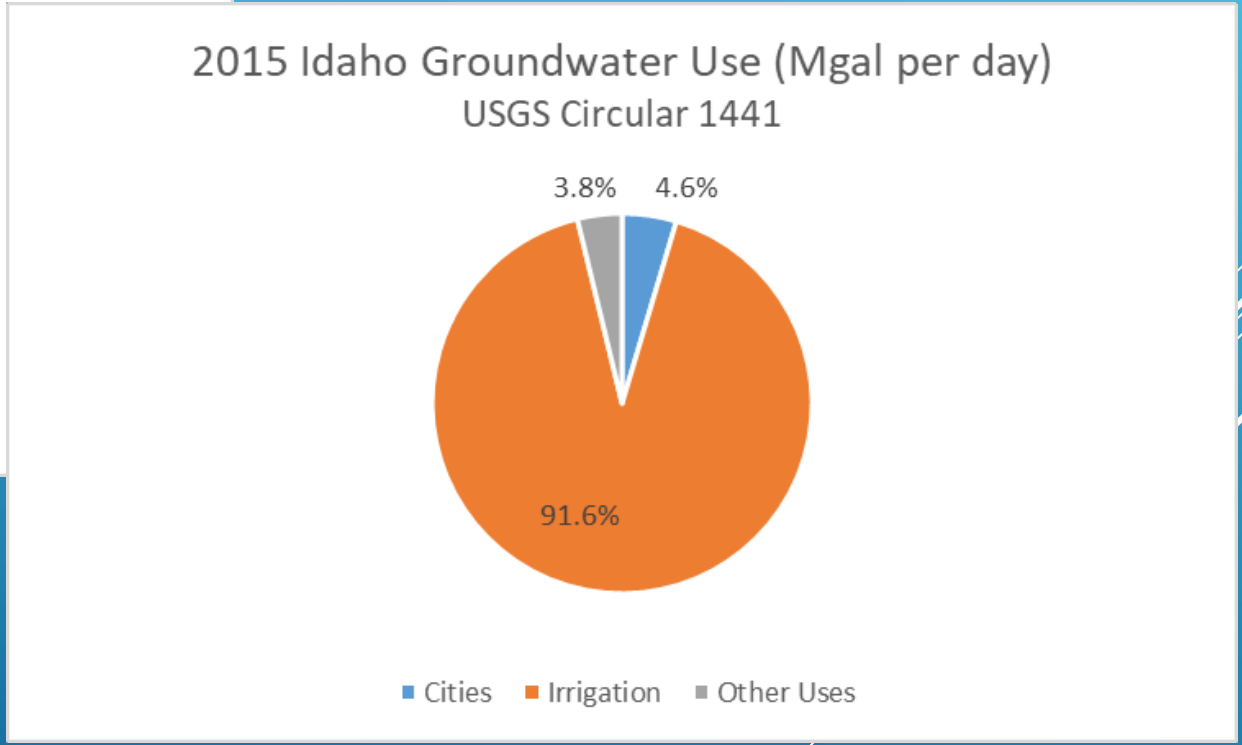




CITY OF IDAHO FALLS – GROUNDWATER RECHARGE

2015 Idaho Water Use Statistics





CITY OF IDAHO FALLS – GROUNDWATER RECHARGE

Surface Water Coalition/Coalition of Cities Settlement Agreement - 2018

SETTLEMENT AGREEMENT ("AGREEMENT") BETWEEN THE SURFACE WATER COALITION[1], PARTICIPATING MEMBERS OF IDAHO GROUND WATER APPROPRIATORS, INC.[2], AND SIGNATORY CITIES[3]

WHEREAS, Idaho water rights are constitutional property rights defined by the prior appropriation doctrine; and

WHEREAS, the Idaho Department of Water Resources ("IDWR") administers ground water and surface water rights under the prior appropriation doctrine, the Conjunctive Management Rules ("CM Rules"; IDAPA 37.03.11 et seq.), statutes, and decisional law; and

WHEREAS, the SWC owns surface water rights for irrigation purposes; and

WHEREAS, IGWA's members own ground water rights for irrigation and other purposes; and

WHEREAS, IGWA owns spring water rights for fish propagation; and

WHEREAS, the Cities own municipal ground water rights, some of which are junior to water rights owned by the SWC or IGWA; and

WHEREAS, the SWC filed a delivery call in 2005 with IDWR under the CM Rules; and

WHEREAS, ground water rights of the Cities and IGWA members have been subject to IDWR administration, including curtailment, as a result of the SWC delivery call; and

WHEREAS, in the Rangen, Inc. delivery call as part of assessing an individual city's mitigation obligation, IDWR determined the amount of a city's pumping that was junior to the

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1 The Surface Water Coalition ("SWC") consists of A&B Irrigation District, American Falls Reservoir District No. 2, Burley Irrigation District, Milner Irrigation District, Minidoka Irrigation District, North Side Canal Company, and Twin Falls Canal Company.

2 The participating members of Idaho Ground Water Appropriators, Inc. are Aberdeen-American Ground Water District, Bingham Ground Water District, Bonneville-Jefferson Ground Water District, Carey Valley Ground Water District, Henry's Fork Ground Water District, Jefferson-Clark Ground Water District, Madison Ground Water District, Magic Valley Ground Water District, North Snake Ground Water District, and Southwest Irrigation District. The acronym "IGWA" is used in this Agreement to refer to all of these Districts collectively.

3 The cities of Bliss, Burley, Carey, Declo, Dietrich, Gooding, Hazelton, Heyburn, Idaho Falls, Jerome, Paul, Pocatello, Richfield, Rupert, Shoshone, and Wendell are referred to in this Agreement individually as a "Signatory City" and collectively as the "Signatory Cities." The Signatory Cities and additional cities who participate in this Agreement in the future, pursuant to section I.B, are referred to herein individually as a "City" and collectively as the "Cities." The SWC, IGWA, and Signatory Cities are referred to herein individually at "Party" and collectively as the "Parties."

Major Agreement Provisions

- Cities to provide 7,650 acre-feet per year mitigation
  - Delivery to IWRB for managed aquifer recharge
  - Private managed aquifer recharge
  - Groundwater to surface water conversions
  - Dry up of irrigated lands
- Cities to provide 9,640 acre-feet per year mitigation
  - If goals of IGWA-SWC Settlement Agreement not met
- Mitigation volume compliance met on 5-yr rolling average
- Annual reporting
- Will be incorporated into ESPA Groundwater Management Plan
- Safe harbor from spring rights water calls
- Agreement term limits
  - City pumping reaches 120,000 acre-feet per year (currently at 62,500 acre-feet per year), or
  - December 31, 2053

IDAHO FALLS PUBLIC WORKS

CITY OF IDAHO FALLS – GROUNDWATER RECHARGE

Internal City Mitigation Allocation Agreement

Proposed Allocation of Mitigation Obligation Among Participating Cities
Proposed Cities, IWGA, and SWC Settlement Framework

Annual Mitigation Volume (af)	7,650
Weighted by Pumping (%)	50%
Weighted by Priority (%)	50%

Priority Weighting	
Year	Weight
1940	0.5
1990	2.0

(1) City	(2) 2011 - 2015 Average Pumping (af/y)	(3) Proportion of Total Pumping (%)	(4) Mitigation Volume by Pumping (af/y)	(5) Avg Annual Pumping Rate (cfs)	(6) Peak Month Pumping Rate (cfs)	(7) Weighted Priority Date of Peak Month Pumping (cfs)	(8) Priority Weight	(9) Priority Weighted Pumping (af/y)	(10) Proportion of Total Priority Weighted Pumping (%)	(11) Mitigation Volume by Priority (af/y)	(12) Total Mitigation Volume (af/y)	(13) Proportion of Total Mitigation Volume (%)
Bliss	52.9	0.1%	3.2	0.1	0.1	8/1/1960	0.8	40.4	0.1%	3.7	6.9	0.1%
Burley	6,416.2	10.3%	392.8	8.9	17.0	10/1/1935	0.5	3,208.1	7.6%	290.3	683.1	8.9%
Carey	120.1	0.2%	7.4	0.2	0.4	2/21/1979	1.4	171.7	0.4%	15.5	22.9	0.3%
Declo	122.9	0.2%	7.5	0.2	0.3	10/17/1954	0.6	78.4	0.2%	7.1	14.6	0.2%
Dietrich	60.5	0.1%	3.7	0.1	0.2	12/31/1910	0.5	30.2	0.1%	2.7	6.4	0.1%
Gooding	1,074.1	1.7%	65.8	1.5	2.9	9/17/1930	0.5	537.1	1.3%	48.6	114.4	1.5%
Heyburn	501.6	0.8%	30.7	0.7	1.5	8/27/1989	1.9	974.3	2.3%	88.2	118.9	1.6%
Hazelton	98.7	0.2%	6.0	0.1	0.2	6/21/1917	0.5	49.3	0.1%	4.5	10.5	0.1%
Idaho Falls	27,407.3	43.9%	1,677.9	37.8	82.5	8/27/1961	0.8	21,623.3	51.2%	1,956.8	3,634.7	47.5%
Jerome	3,270.4	5.2%	200.2	4.5	7.7	2/5/1945	0.5	1,713.7	4.1%	155.1	355.3	4.6%
Paul	397.7	0.6%	24.3	0.5	1.1	2/6/1935	0.5	198.8	0.5%	18.0	42.3	0.6%
Pocatello	14,960.3	23.9%	915.9	20.6	42.5	3/9/1939	0.5	7,480.1	17.7%	676.9	1,592.8	20.8%
Pocatello (irr)	3,173.9	5.1%	194.3	n/a	n/a	5/31/1967	1.0	3,054.1	7.2%	276.4	470.7	6.2%
Richfield	805.2	1.3%	49.3	1.1	1.2	12/14/1975	1.3	1,011.4	2.4%	91.5	140.8	1.8%
Rupert	2,516.8	4.0%	154.1	3.5	8.1	1/8/1927	0.5	1,258.4	3.0%	113.9	268.0	3.5%
Shoshone	783.2	1.3%	47.9	1.1	2.1	10/1/1951	0.6	461.9	1.1%	41.8	89.7	1.2%
Wendell	716.9	1.1%	43.9	1.0	2.1	5/15/1945	0.5	375.7	0.9%	34.0	77.9	1.0%
Total	**62,478.7**	**100.0%**	**3,825.0**					**42,266.9**	**100.0%**	**3,825.0**	**7,650.0**	**100.0%**
Total Pocatello	18,134.2	29.0%	1,110.2					10,534.2	24.9%	953.3	2,063.5	27.0%

Notes:

(1) Participating cities in ESPA Cities Settlement Agreement.
(2) Five-year average annual pumping data provided by cities.
(3) 2011 - 2015 Average Pumping (2) for City / Total 2011 - 2015 Average Pumping.
(4) Proportion of Total Pumping (3) x Annual Mitigation Volume (af) x 50%.
(5) 2011 - 2015 Average Pumping (2) / 365.25 days / 1.9835 af/cfs.
(6) Avg Annual Pumping Rate (5) x Peaking Factor.
(7) Weighted Priority Date of Peak Month Pumping.
(8) Priority weight computed using Non-Linear Weighting method.
(9) 2011 - 2015 Average Pumping (2) x Priority Weight (8).
(10) Priority Weighted Pumping (9) for City / Total Priority Weighted Pumping.
(11) Proportion of Total Priority Weighted Pumping (10) x Annual Mitigation Volume (af) x 50%.
(12) Mitigation Volume by Pumping (4) + Mitigation Volume by Priority (11).
(13) Total Mitigation Volume (12) for City / Total Mitigation Volume.

3,190.9 Acre-feet with addition of Ammon, Atomic City, Blackfoot, Firth & Rexburg.

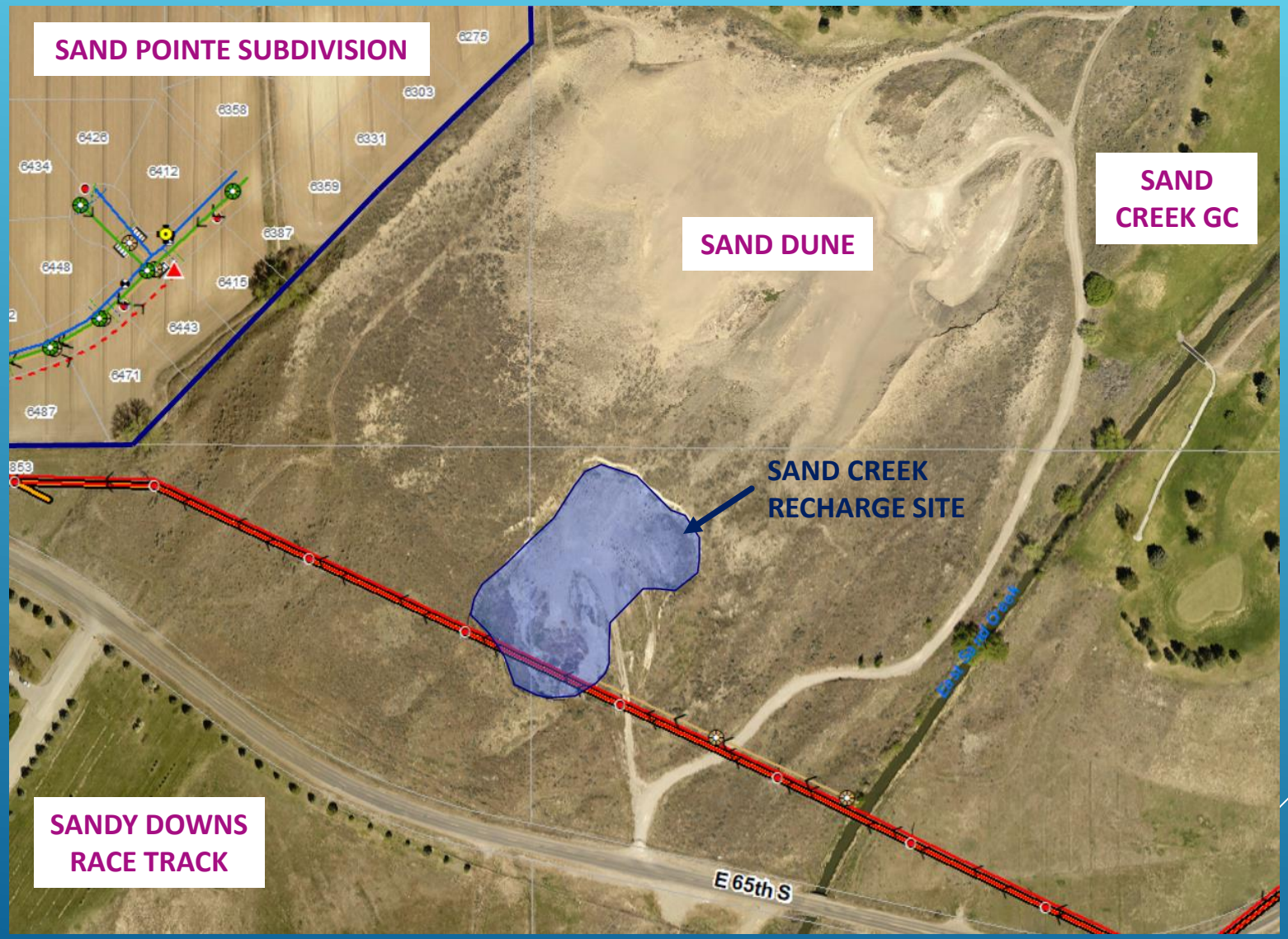
Major Provisions

- Mitigation amount factors
  - Volume pumped by City
  - Priority date of existing City water rights
- Idaho Falls mitigation amount
  - 3,634.7 acre-feet per year initially
  - 3,190.9 acre-feet per year with addition of more cities to agreement

IDAHO FALLS PUBLIC WORKS

CITY OF IDAHO FALLS – GROUNDWATER RECHARGE

Sand Creek Recharge Site Vicinity



IDAHO FALLS PUBLIC WORKS

CITY OF IDAHO FALLS – GROUNDWATER RECHARGE

Source Water Sustainability – Managed Aquifer Recharge

Eagle Scout Project

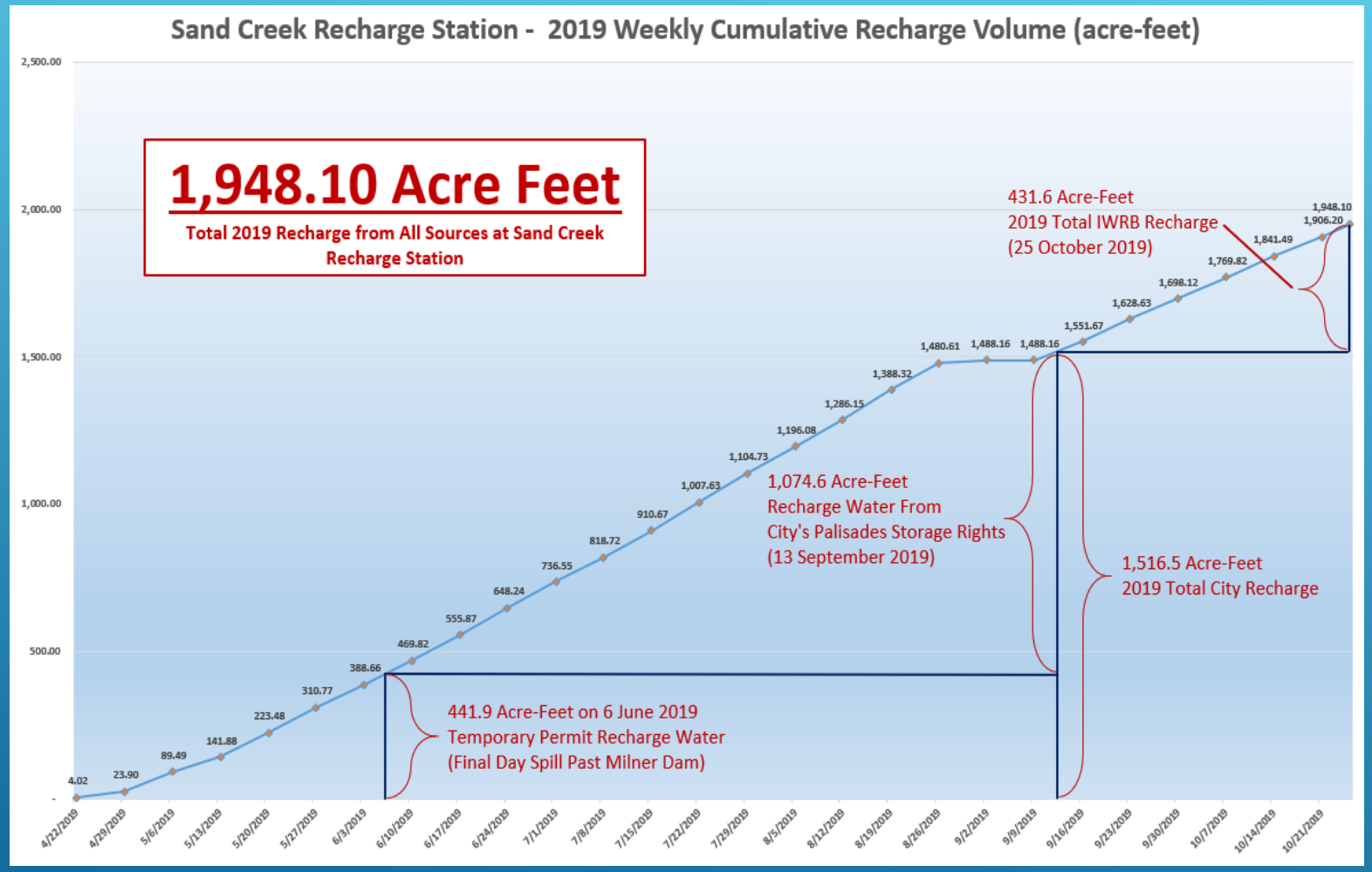
Diversion Gate

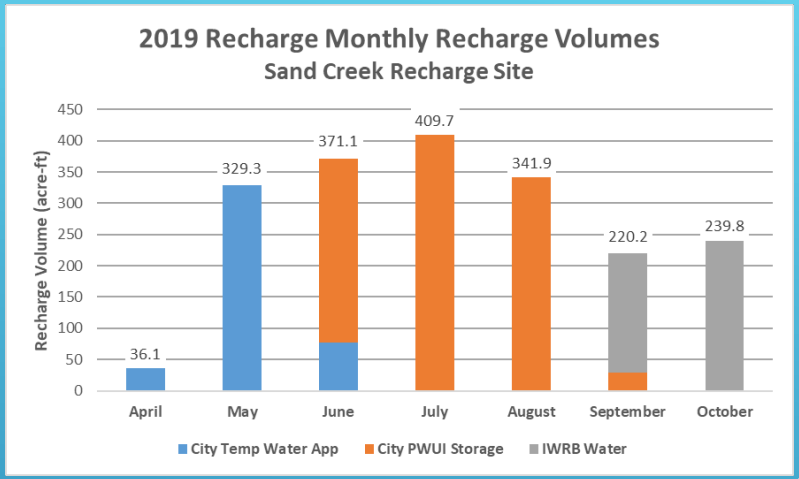
First Fill

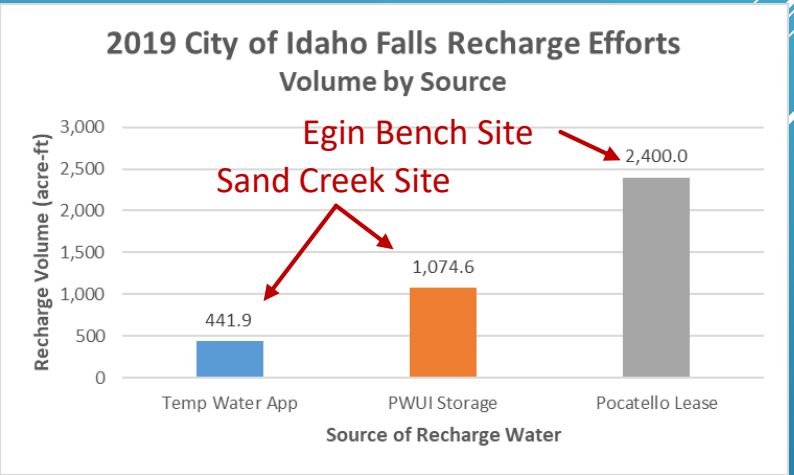
Sand Creek Recharge Site – First Private MAR Site in Idaho

CITY OF IDAHO FALLS – GROUNDWATER RECHARGE

City of Idaho Falls 2019 Mitigation Efforts







2019 Groundwater Quality Monitoring: 156 Bacteria Tests; 1,917 Field Parameter Tests; 686 Laboratory Tests

CITY OF IDAHO FALLS – GROUNDWATER RECHARGE

City of Idaho Falls Next Steps for Mitigation

Tools in Our Toolbox:

- Conversion of large City parks from groundwater to surface water irrigation.
  - Pinecrest Golf Course
  - Tautphaus Park
  - Freeman Park
  - Community Park
- Conservation measures
  - Metering
  - Local-scape; Xeriscape
- Additional local recharge sites
- Wastewater effluent recharge
- Direct wastewater reuse

CITY OF IDAHO FALLS GROUNDWATER RECHARGE

CUSP PRESENTATION – FEBRUARY 2020

ANY QUESTIONS???

IDAHO FALLS PUBLIC WORKS