AGENDA

IDAHO WATER RESOURCE BOARD

Aquifer Stabilization Committee Meeting No. 1-23
Thursday, March 2, 2023
1:00 p.m. (MT)

Water Center
Conference Rooms 602 C&D / Online Zoom Meeting
322 E. Front St.
BOISE

Board Members & the Public may participate via Zoom
Click here to join our Zoom Meeting
Dial in Option: 1(253) 215-8782
Meeting ID: 824 5298 0352 Passcode: 783702

1. Introductions and Attendance
2. Recharge Program Update
3. Recharge Infrastructure Update
4. IWRB ESPA Recharge Program Build-Out
5. Other Items
6. Adjourn

Committee Members: Chair Dean Stevenson, Al Barker, and Brian Olmstead

* 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 in person and 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 at (208) 287-4800.

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Water Resource Board

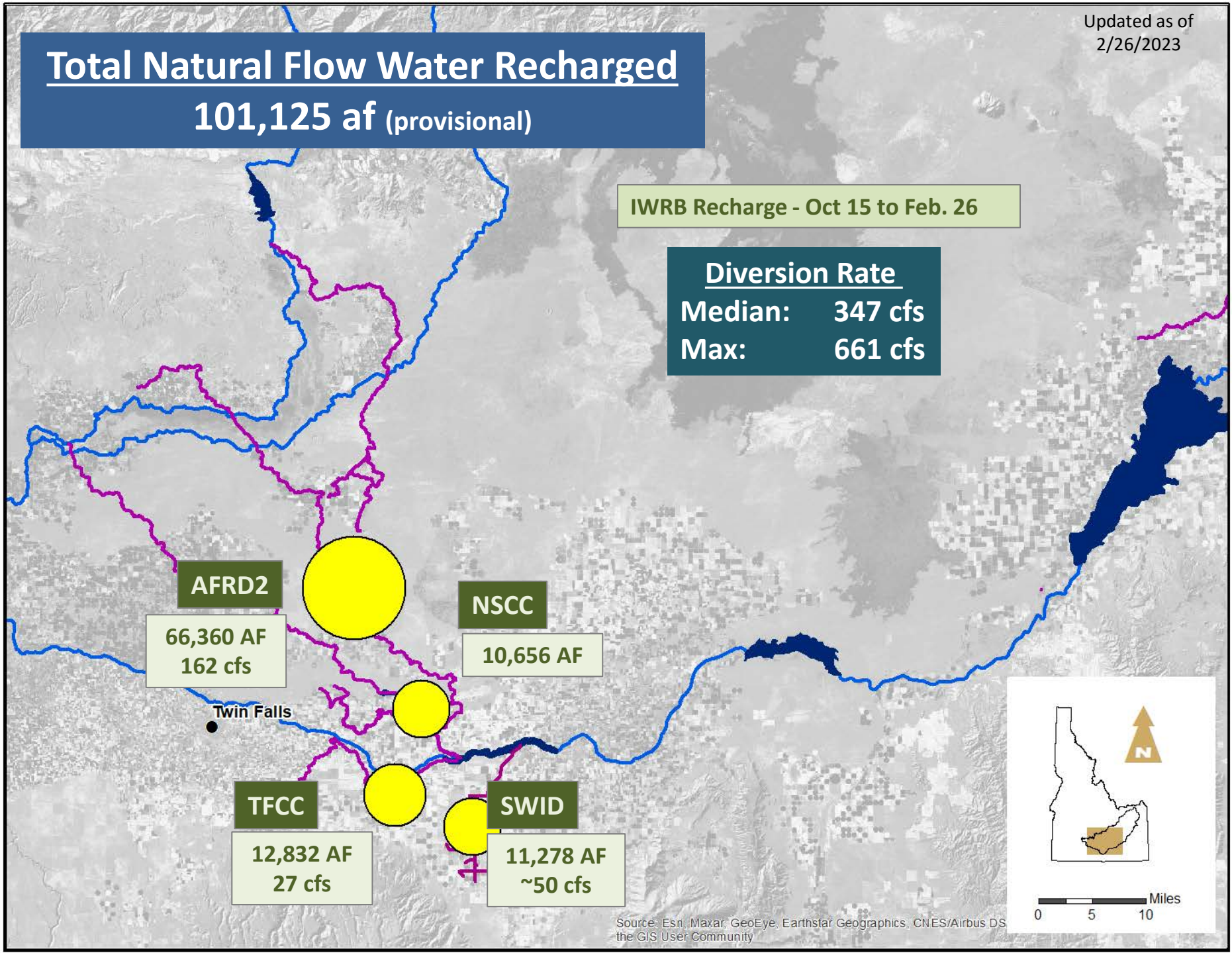
IWRB Managed Recharge Program

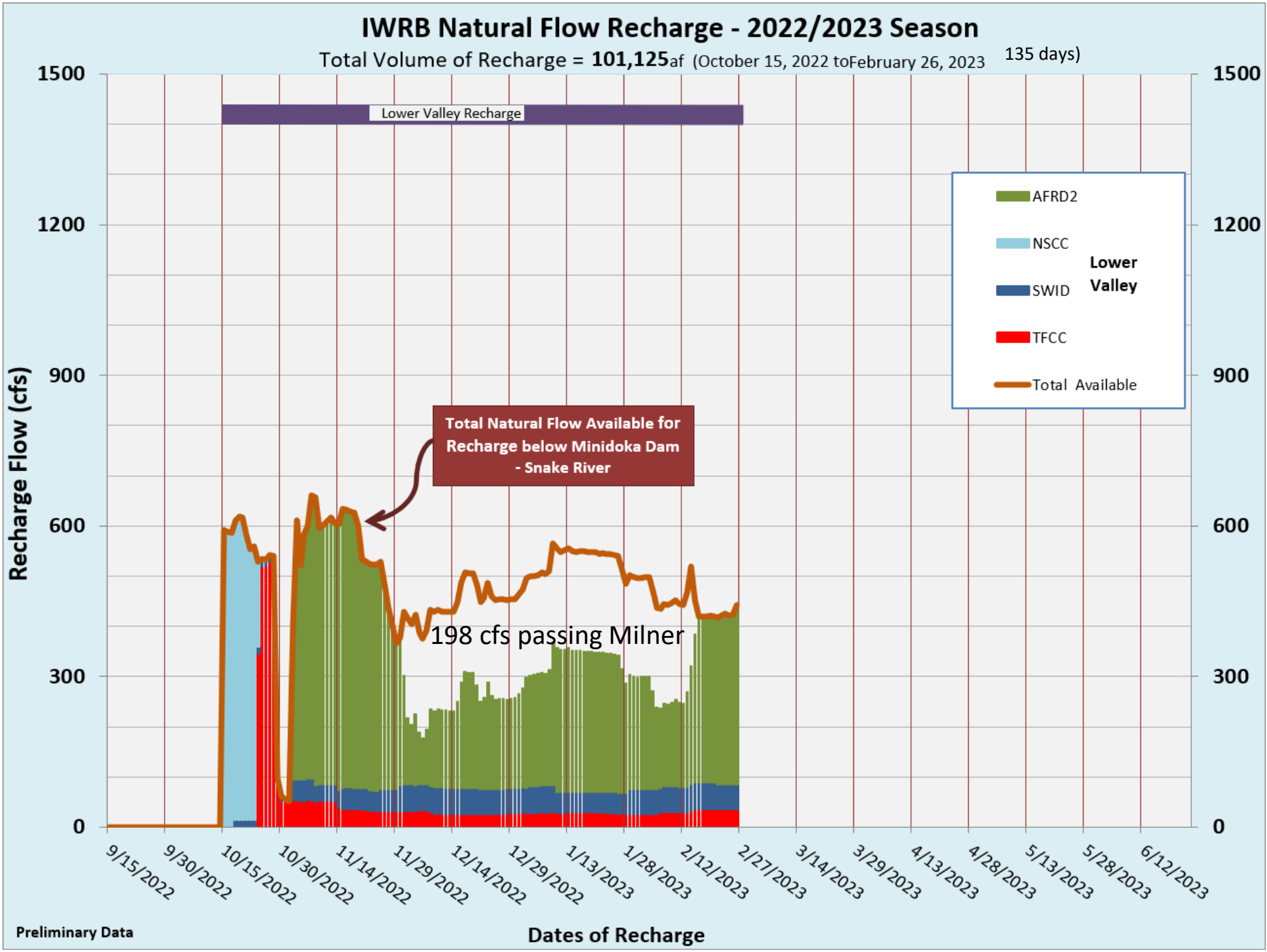
Aquifer Stabilization Committee Meeting

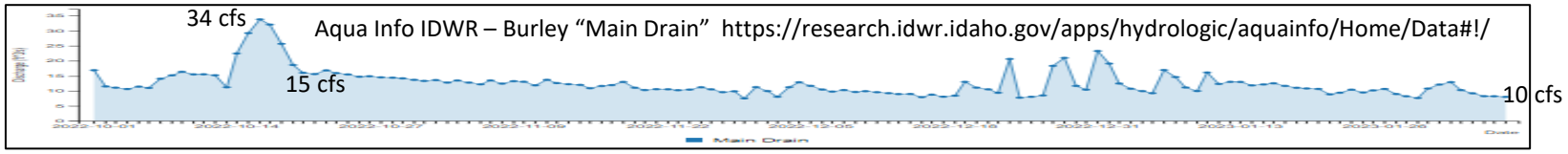
Neal Farmer

Recharge Program

March 2, 2023


Updated as of
2/26/2023
Total Natural Flow Water Recharged
101,125 af (provisional)
IWRB Recharge - Oct 15 to Feb. 26
Diversion Rate
Median: 347 cfs
Max: 661 cfs
AFRD2
66,360 AF
162 cfs
NSCC
10,656 AF
Twin Falls
TFCC
12,832 AF
27 cfs
SWID
11,278 AF
~50 cfs
N
Miles
0
5
10
Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS
the GIS User Community


IWRB Natural Flow Recharge - 2022/2023 Season
Total Volume of Recharge = 101,125af (October 15, 2022 toFebruary 26, 2023 135 days)
Lower Valley Recharge
AFRD2
NSCC
SWID
TFCC
Lower Valley
Total Available
Total Natural Flow Available for Recharge below Minidoka Dam - Snake River
198 cfs passing Milner
Recharge Flow (cfs)
1500
1200
900
600
300
0
9/15/2022
9/30/2022
10/15/2022
10/30/2022
11/14/2022
11/29/2022
12/14/2022
12/29/2022
1/13/2023
1/28/2023
2/12/2023
2/27/2023
3/14/2023
3/29/2023
4/13/2023
4/28/2023
5/13/2023
5/28/2023
6/12/2023
Dates of Recharge
Preliminary Data



Milner Reservoir Winter Dynamics

Flow Rate (cfs)

Milner Pool Level (feet)

Total Milner Diversions

Minidoka Releases

Milner Pool Level

150 cfs

119 cfs

25 cfs

73 cfs

71 cfs

Milner Drawdown for Dam Rip Rap Inspection

Start of Recharge

25 mph wind

- **Gains are in the range of 100-150 cfs in October ("drain out")**
- **By the 1st of the year gains are in the range of 70 cfs.**
- **Approximately 4-day lag time between diversion action and pool level equilibrate.**
- **2,800 ac-ft volume from 8.2 ft. up to 9.2 ft.**
- **460 cfs might be sweet spot for Total Diversions.**

470 cfs – 427 cfs = 43 cfs gains after about November 15

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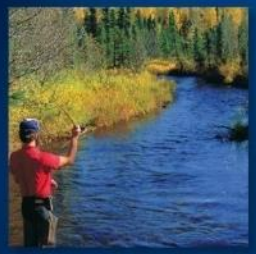
Water Resource Board



Questions

ESPA Managed Recharge Infrastructure Buildout Update

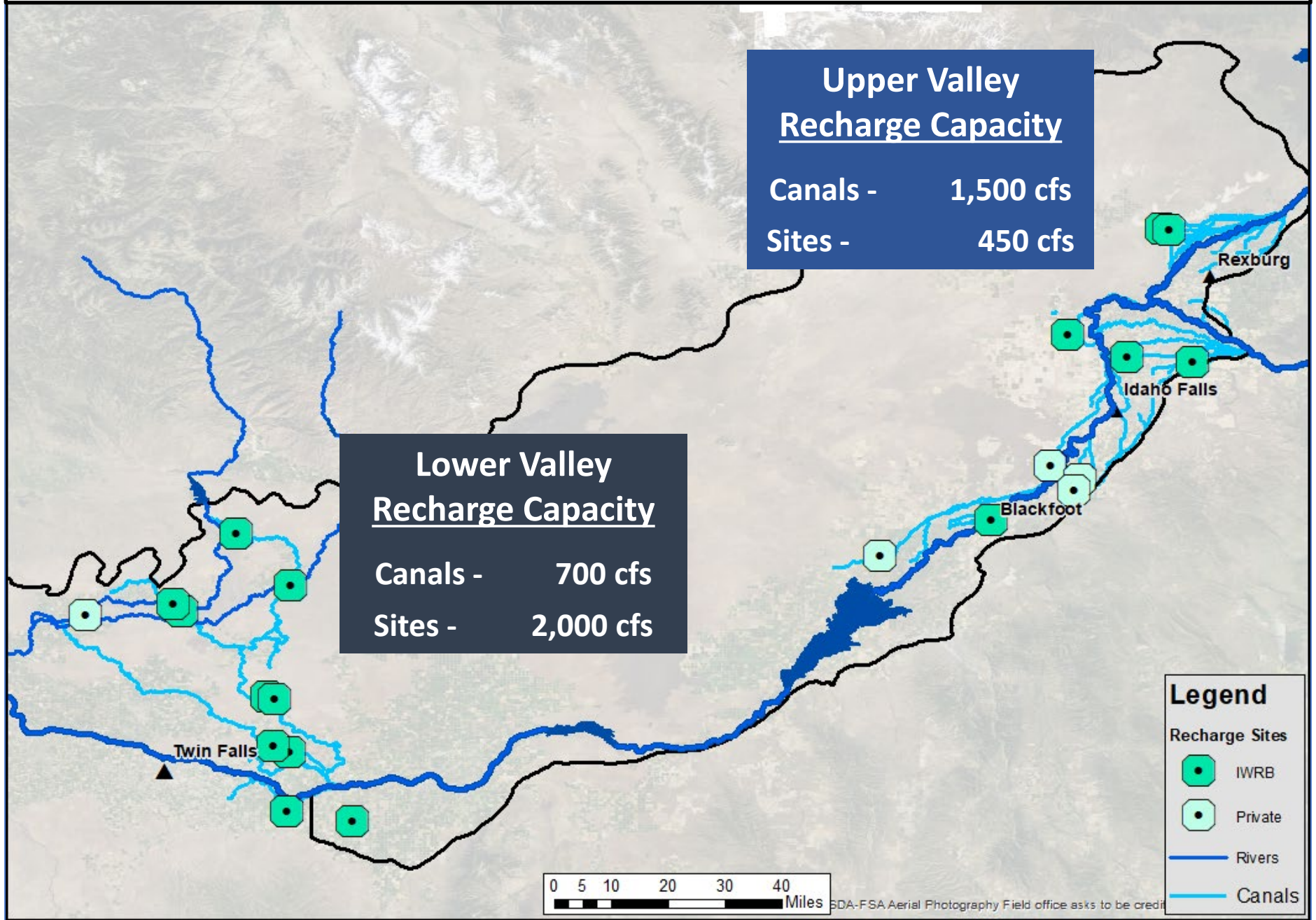
Aquifer Stabilization Committee Meeting

Wesley Hipke

Water Projects Section Supervisor

March 2, 2023

IWRB Recharge Sites & Capacity



Developing Future Capacity

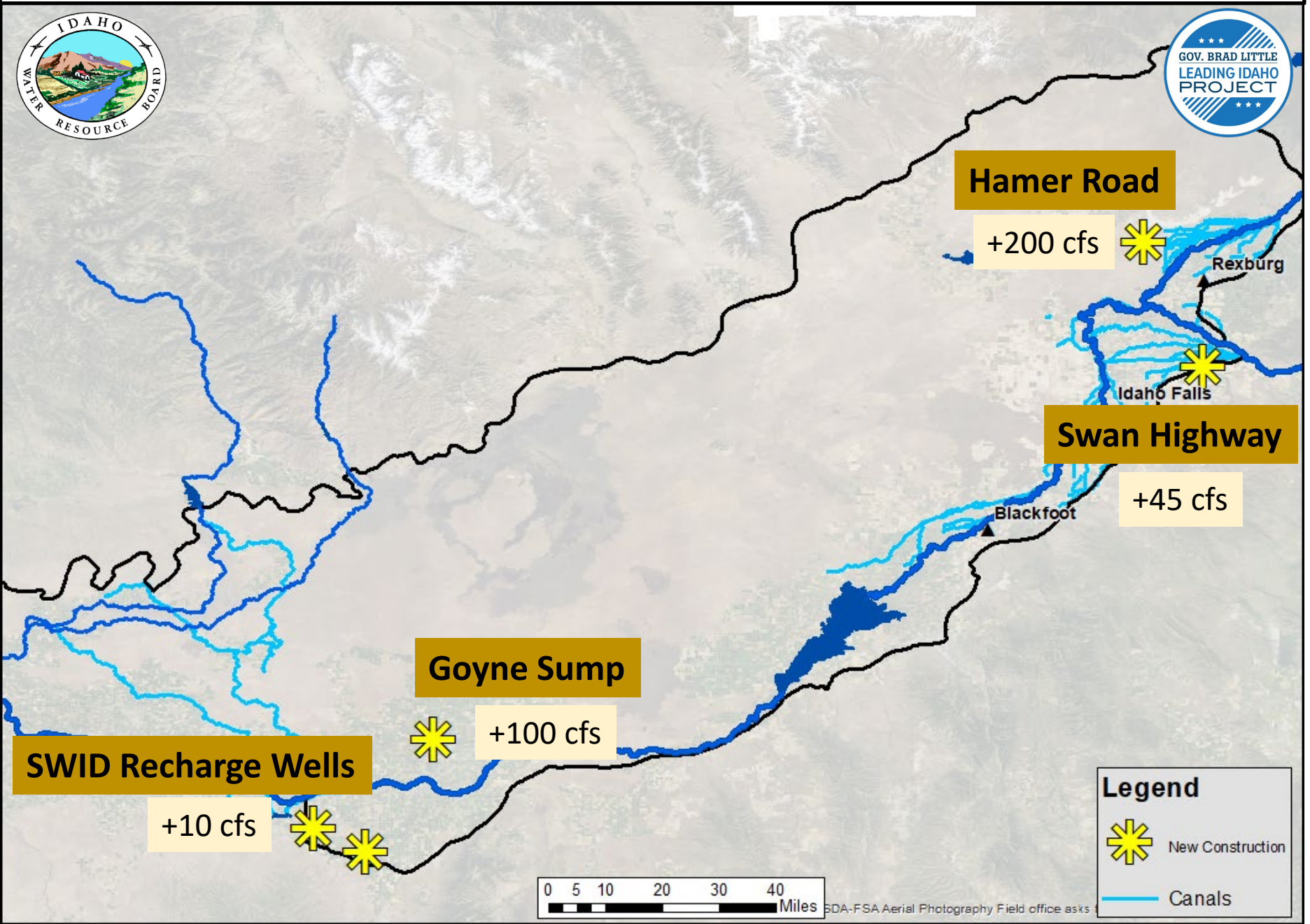
Upper Valley

- Develop more off-site capacity
- Short, Medium, and Long-term aquifer response

Lower Valley

- Opportunistic
- Diversify Locations

Current ARPA Infrastructure Projects



IWRB – ARPA
Recharge Projects

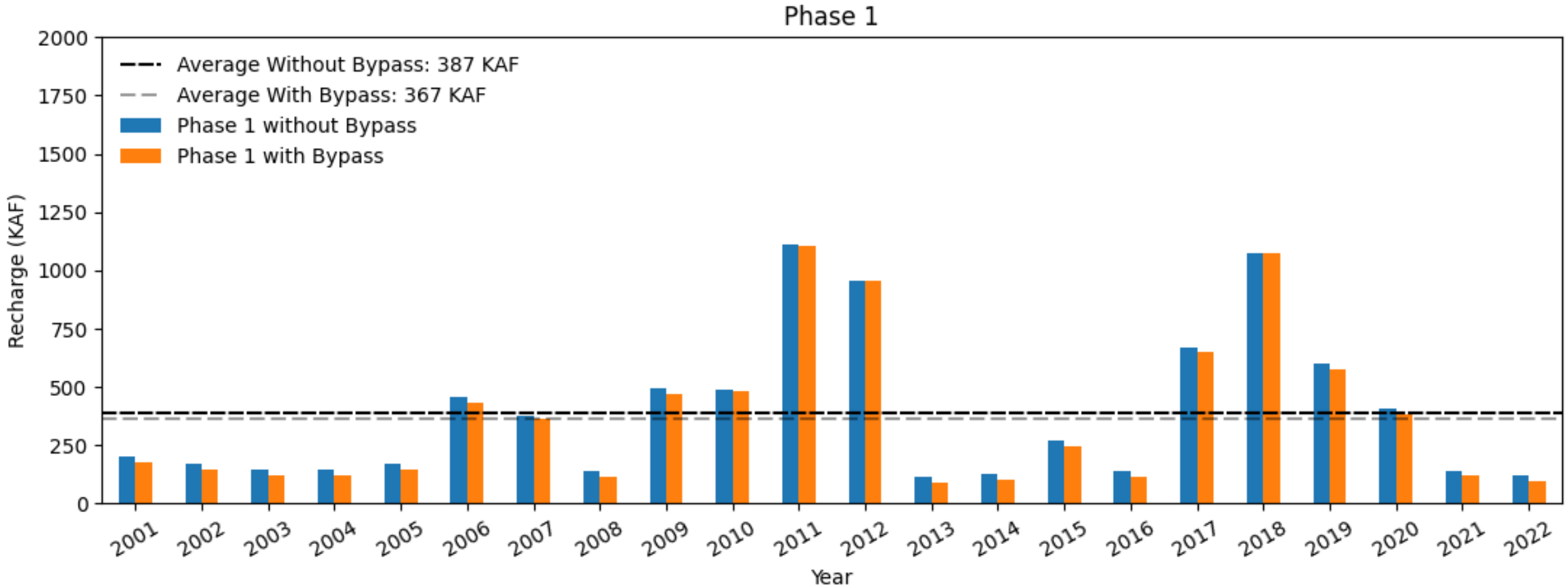
ARPA Funds Committed:

$12,032,047

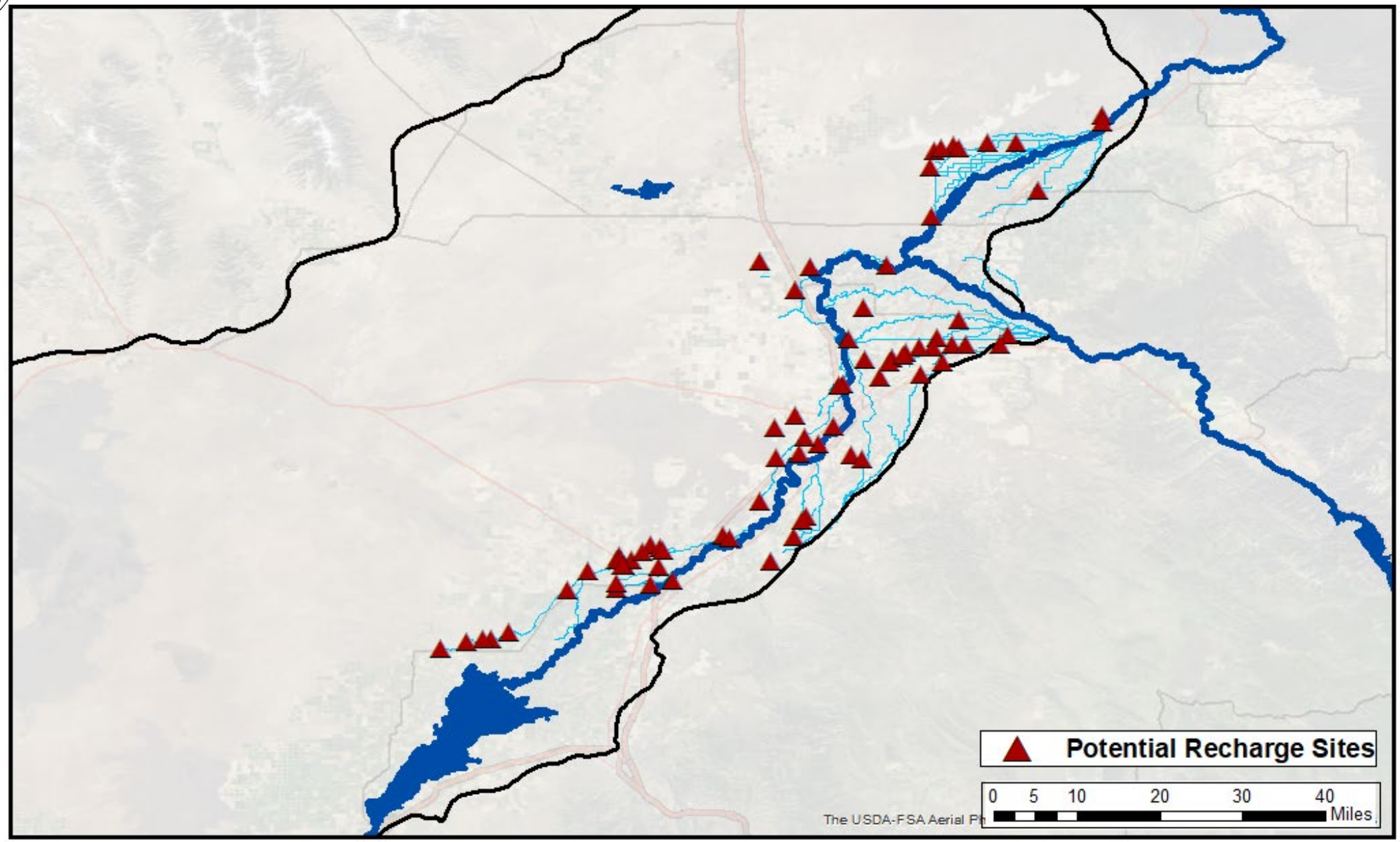
Potential Added Capacity: 355 cfs

Potential IWRB Recharge Annual Average

- IWRB Recharge Capacity (max. current & in-progress) 4,635 cfs
- Long-Term Average (using historic water availability) 387 Kaf
- Long-Term Average with 200 cfs bypass (Dec. thru Feb 15th) 367 Kaf



Known Potential Recharge Sites



Type of Benefit for Potential Recharge Sites

Tier I: Short-Term Benefit

- **1.5 years or less** - 50% of the Recharge Water returns
- 10% or more of the Recharged Water returns within 4 months

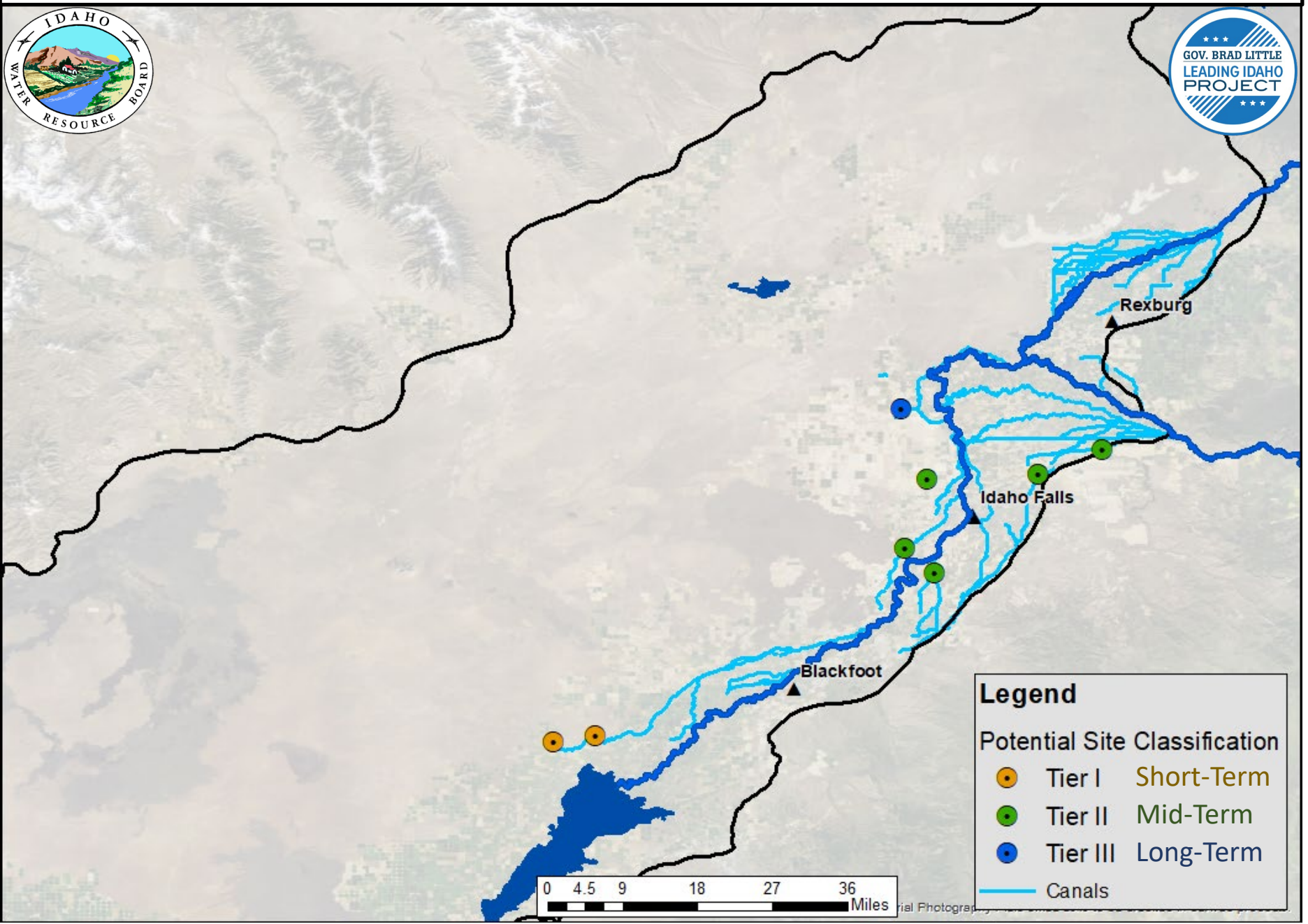
Tier II: Mid-Range Benefit

- **1.5 to 2 years** - 50% of the Recharge Water to returns
- 5% to 10% of the Recharged Water returns within 4 months

Tier III: Long-Term Benefit

- **2 years or more -** 50% of the Recharge Water to returns
- Less than 5% of the Recharged Water returns within 4 months

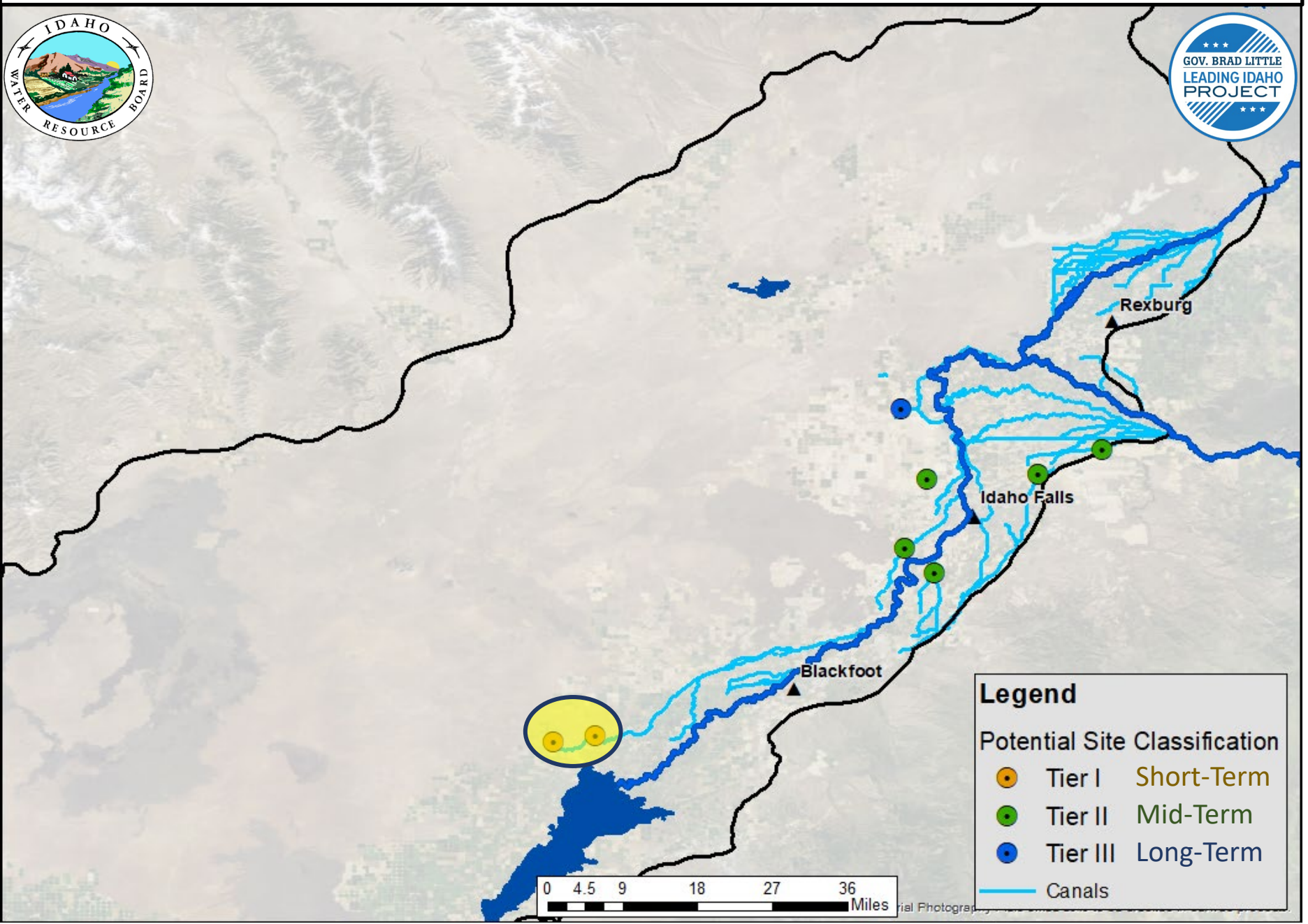
Potential Infrastructure Projects



Active Potential Recharge Projects

- Aberdeen Springfield
- New Sweden ID
- Snake River Valley ID
- Osgood Pipeline
- Progressive ID
- Enterprize Canal
- Butte Market Lake

Potential Infrastructure Projects



Aberdeen - Springfield Canal Recharge Projects

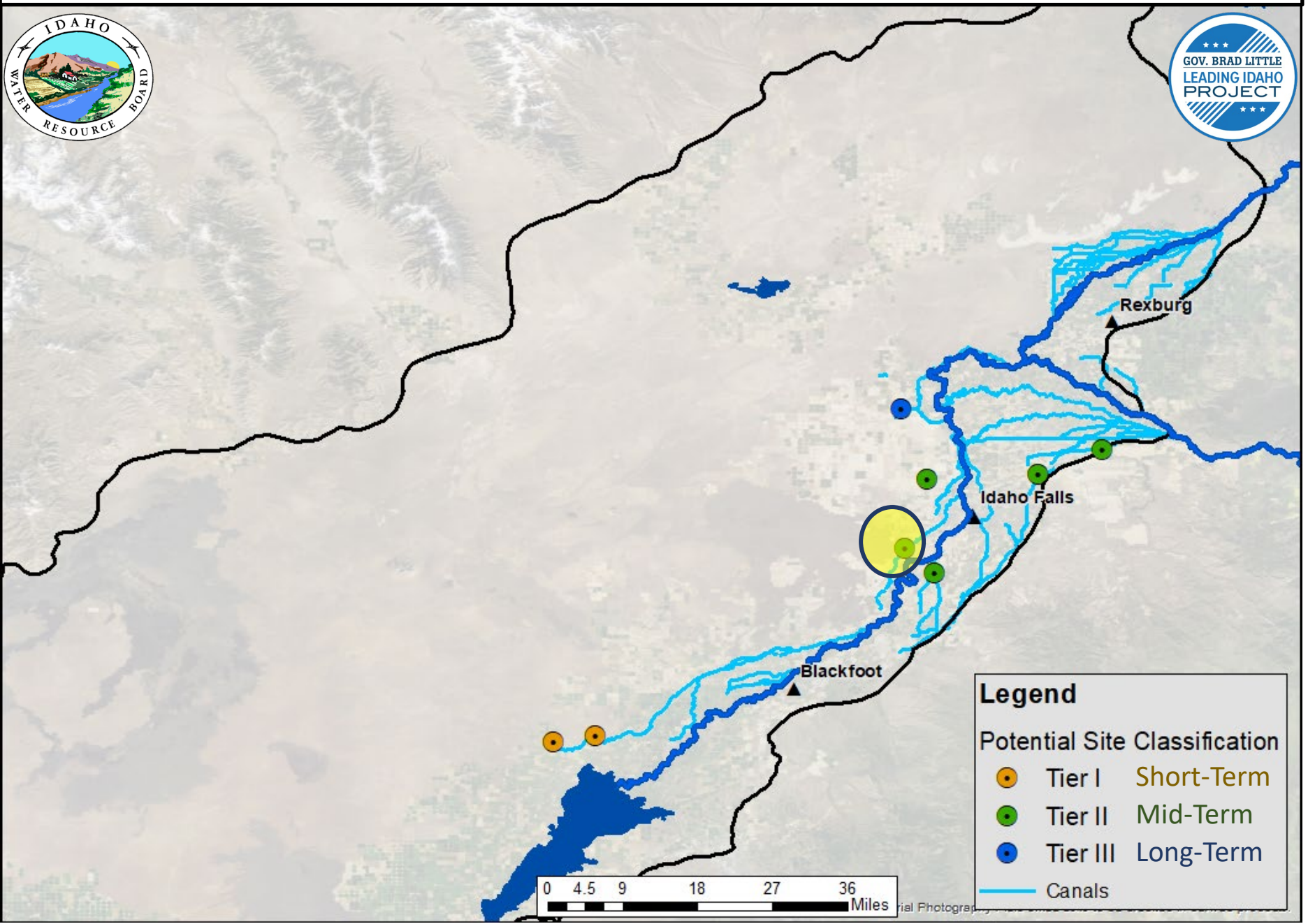
Recharge Basins:

- Private Parties Investigating
- Opportunity to partner

Issues:

- Canal capacity
- Testing sites

Potential Infrastructure Projects

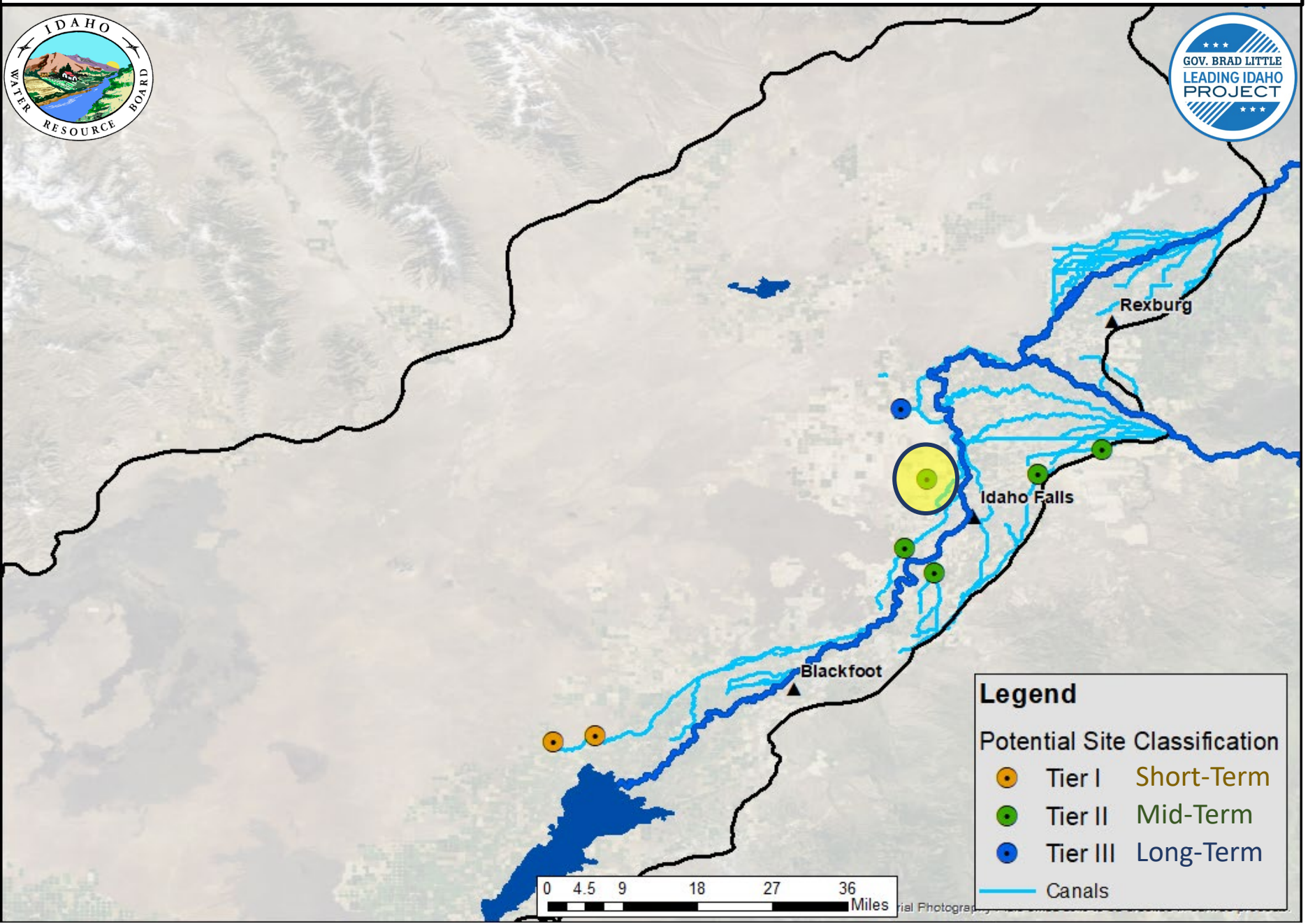


New Sweden ID Recharge Project

Basalt Canal Recharge Basin:

- Sept. Tested Site
- NSID talking with landowner to purchase 10 acres
- Proposal – March/April

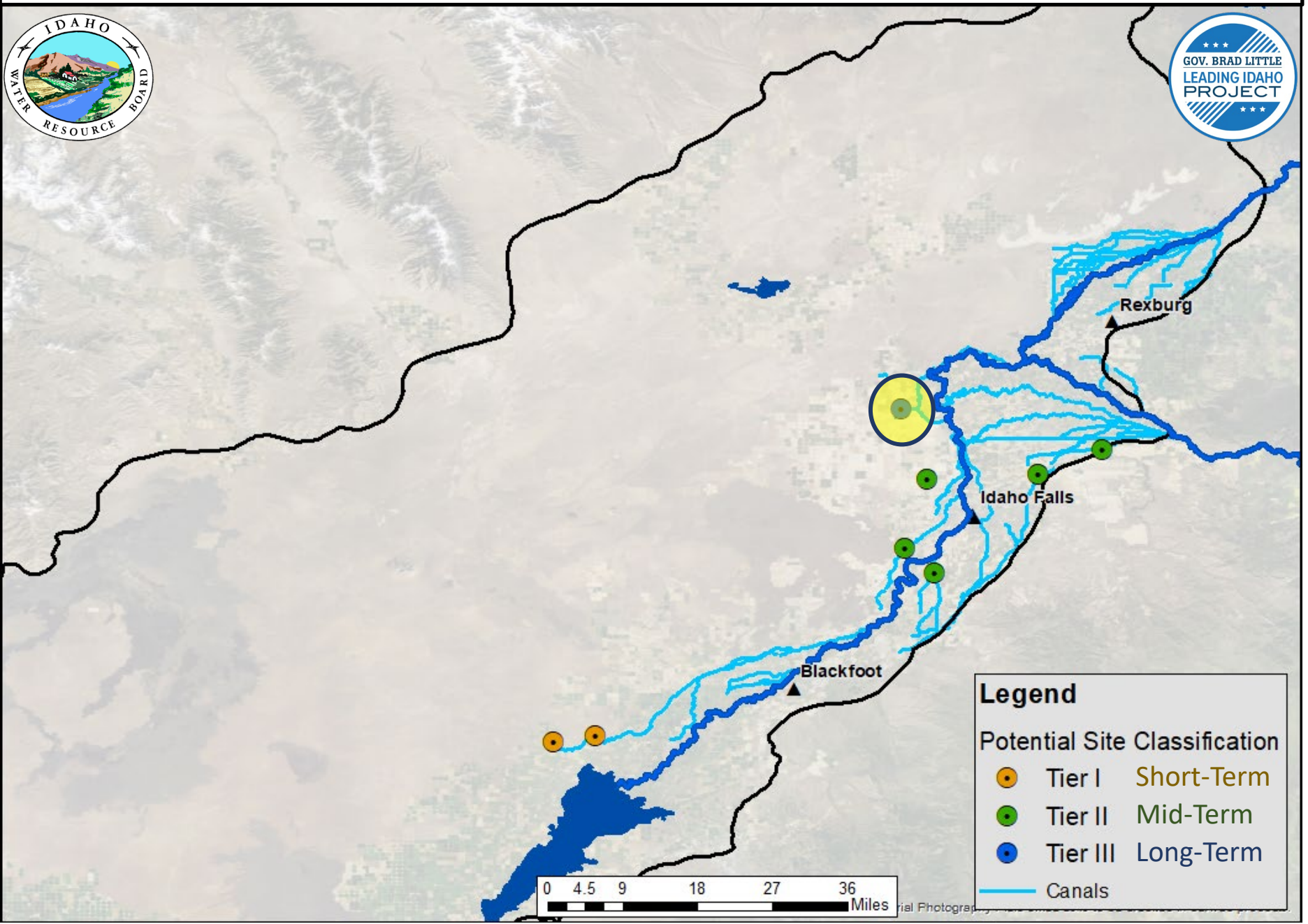
Potential Infrastructure Projects



Osgood Canal Pipeline Project

- Pipeline for soft conversions
- Opportunity for recharge wells
- Pre-engineering – Fall ‘22
- Proposal – Summer / Fall ‘23

Potential Infrastructure Projects



Butte Market Lake Projects

Test Recharge Well

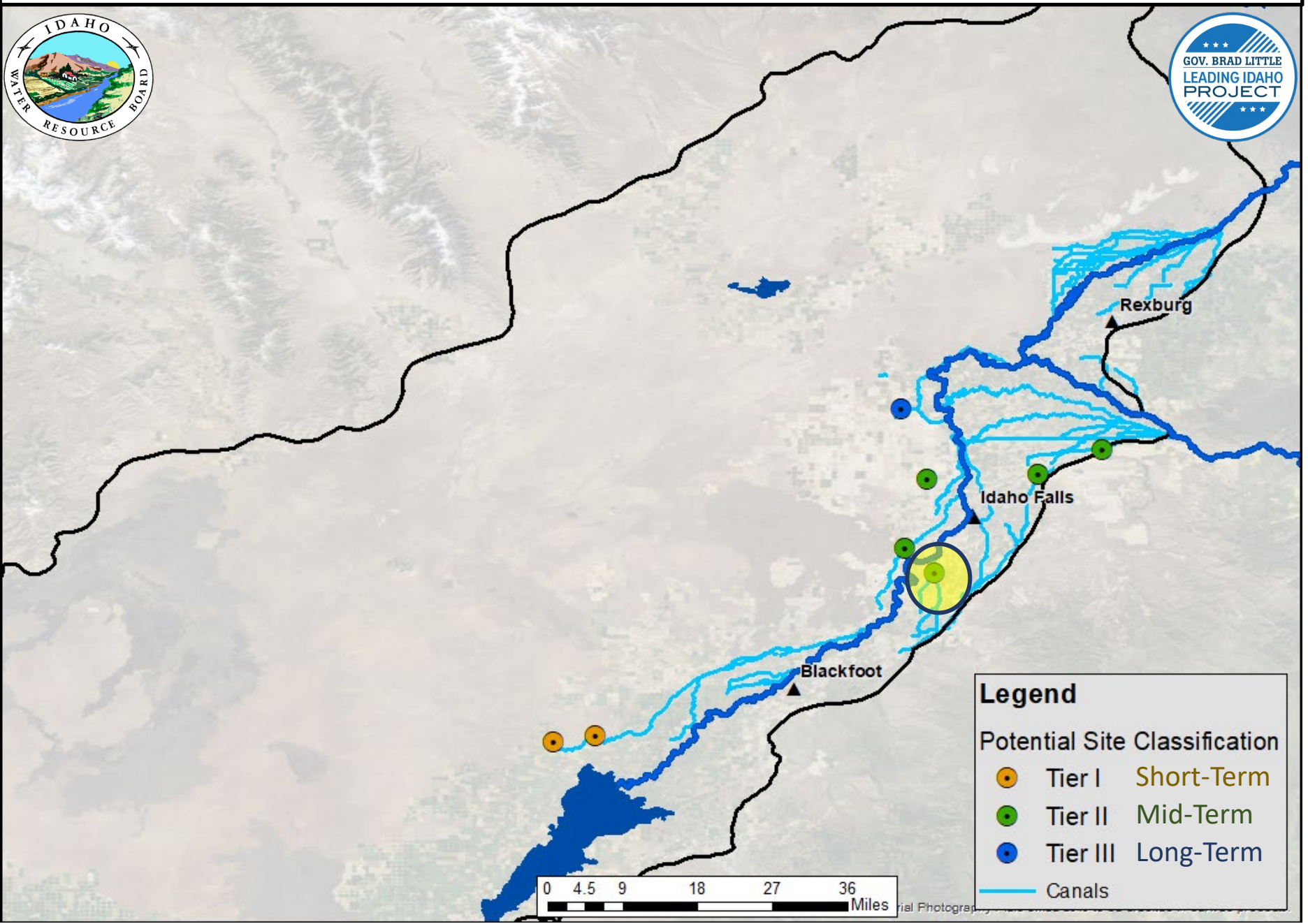
- Drilled Winter ‘20
- Tested Fall ’21 - ~10 cfs
- Water Quality Test Spring ’23
- Proposal for site build-out - Summer ’23

Current Canal Capacity

April & October 300 cfs

June 100 cfs

Potential Infrastructure Projects



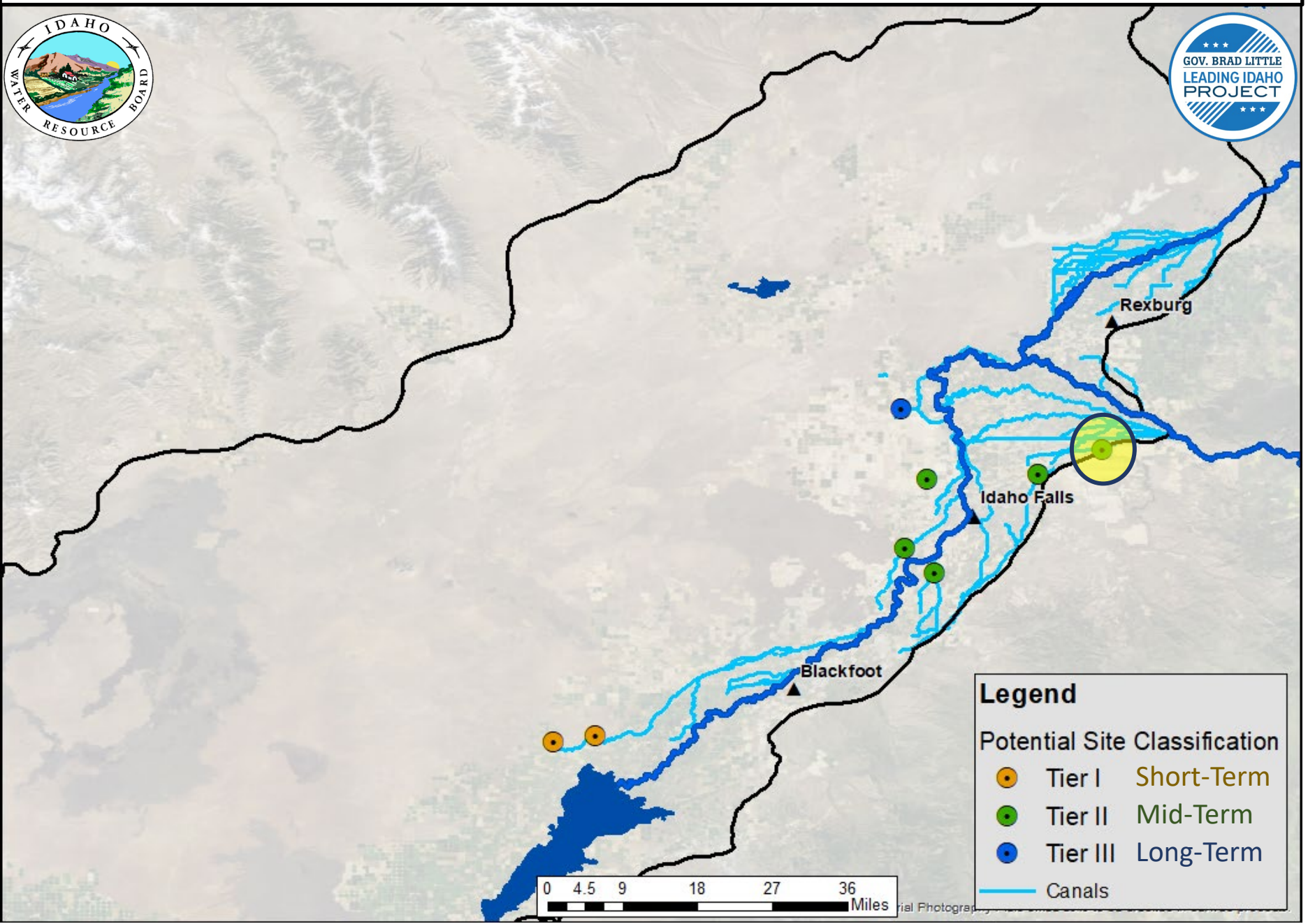
Snake River Valley ID Recharge Well

- Proposal for test well – March
- Drill / Test well – Spring

Current Canal Capacity

April & October	700 cfs
June	400 cfs

Potential Infrastructure Projects



Progressive ID Projects

Recharge Well Tests

- Test upper alluvium and deeper basalt
- Cost proposal – March ‘23
- Drill wells - Spring ’23

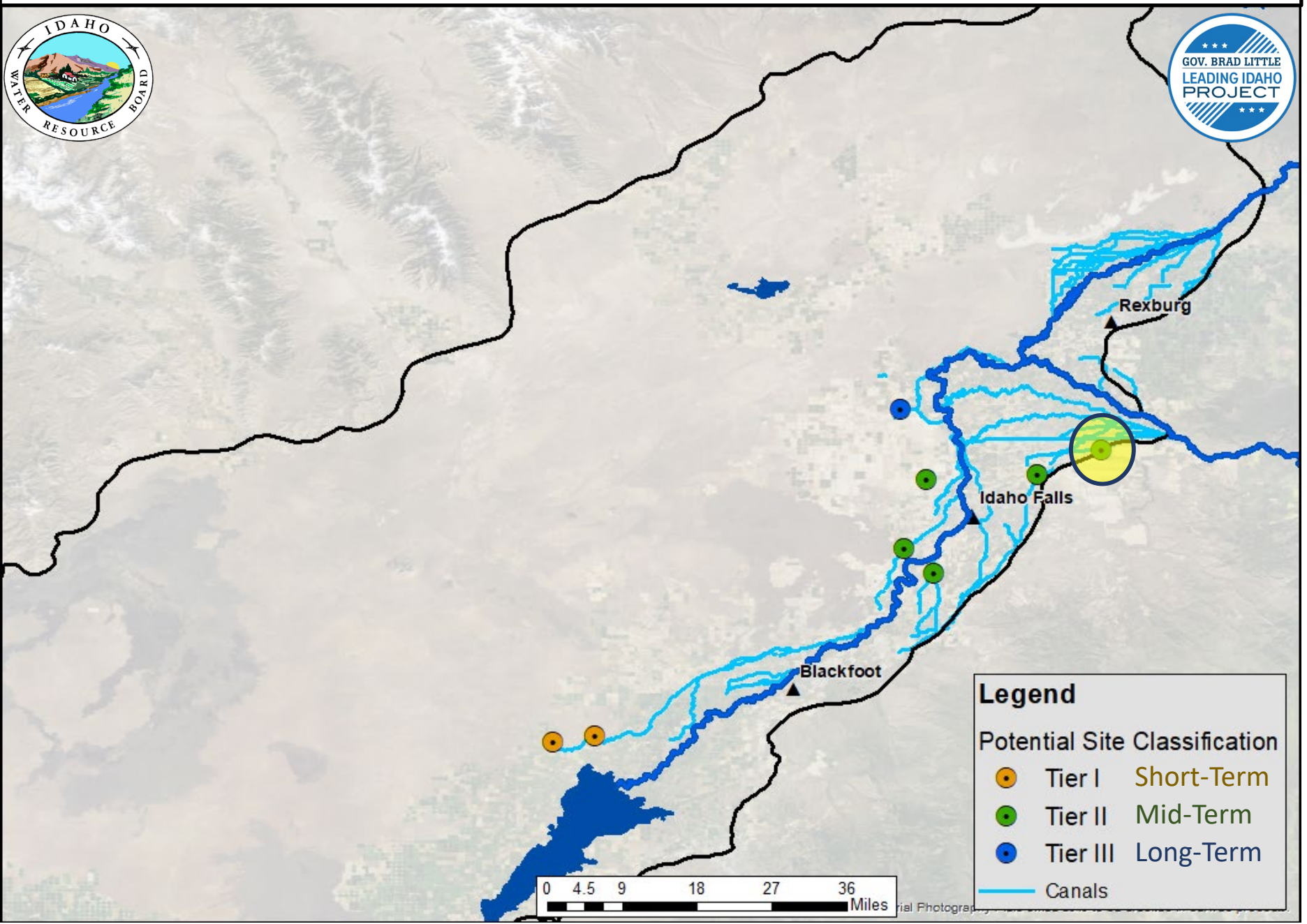
Riker Pit

- Tested Site - Oct. ’22
- Proposal - Spring ‘23

Current Canal Capacity

April & October	850 cfs
June	270 cfs

Potential Infrastructure Projects



Enterprize Canal
55th Rd Site

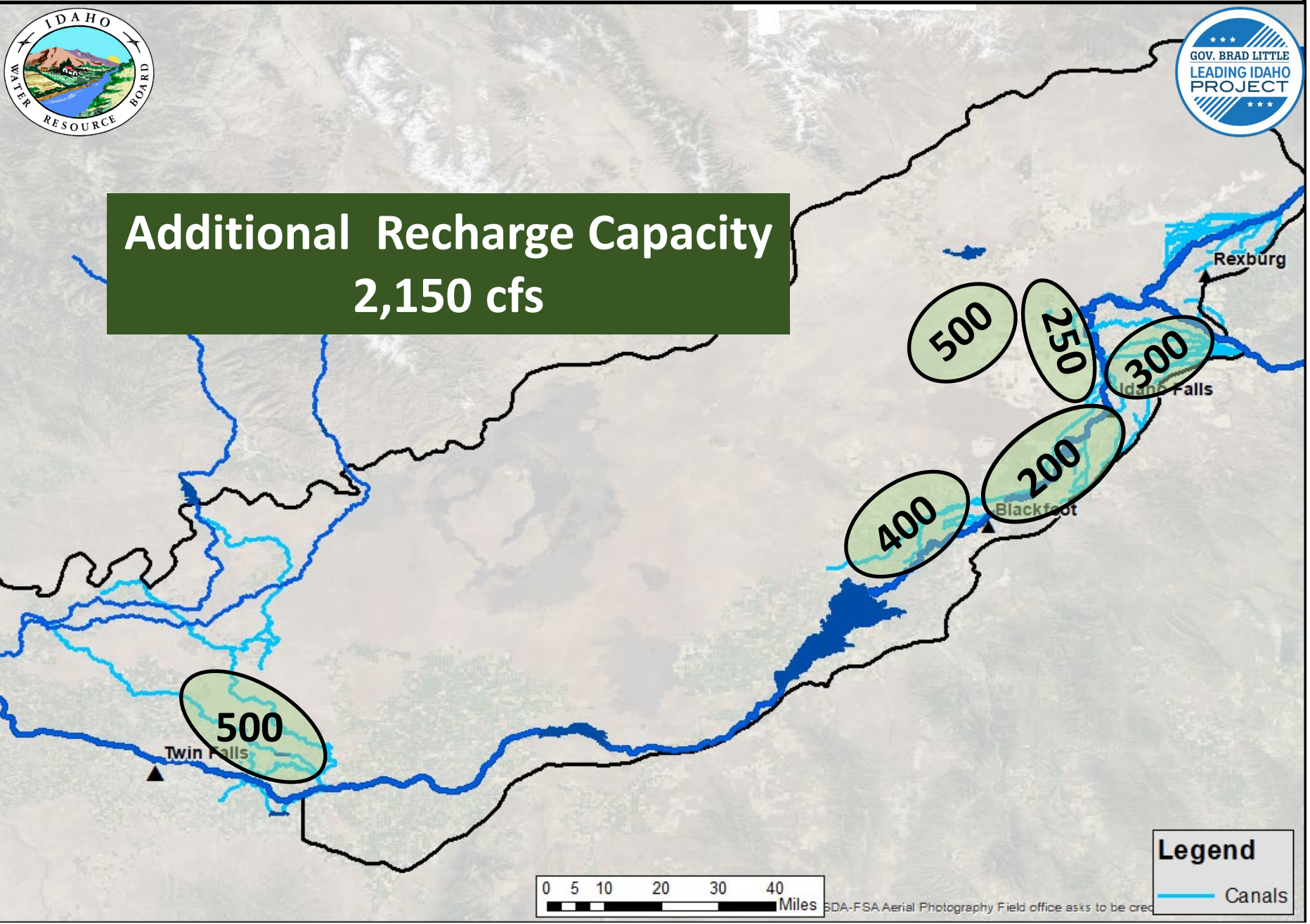
- Proposal Submitted
- If approved construction
  Summer/Fall ‘23

Enterprize Canal – 55th Road Site

55th Rd Site

DTW		120 ft
Retention		20%
Pot. Capacity		45 cfs
Response:		
Heise	44%	5 m
Shelly	20%	1.4 yr
Blackfoot	30%	2.1 yr
Est. Cost		**$1.7 M**

IWRB Max Recharge Program Build-Out

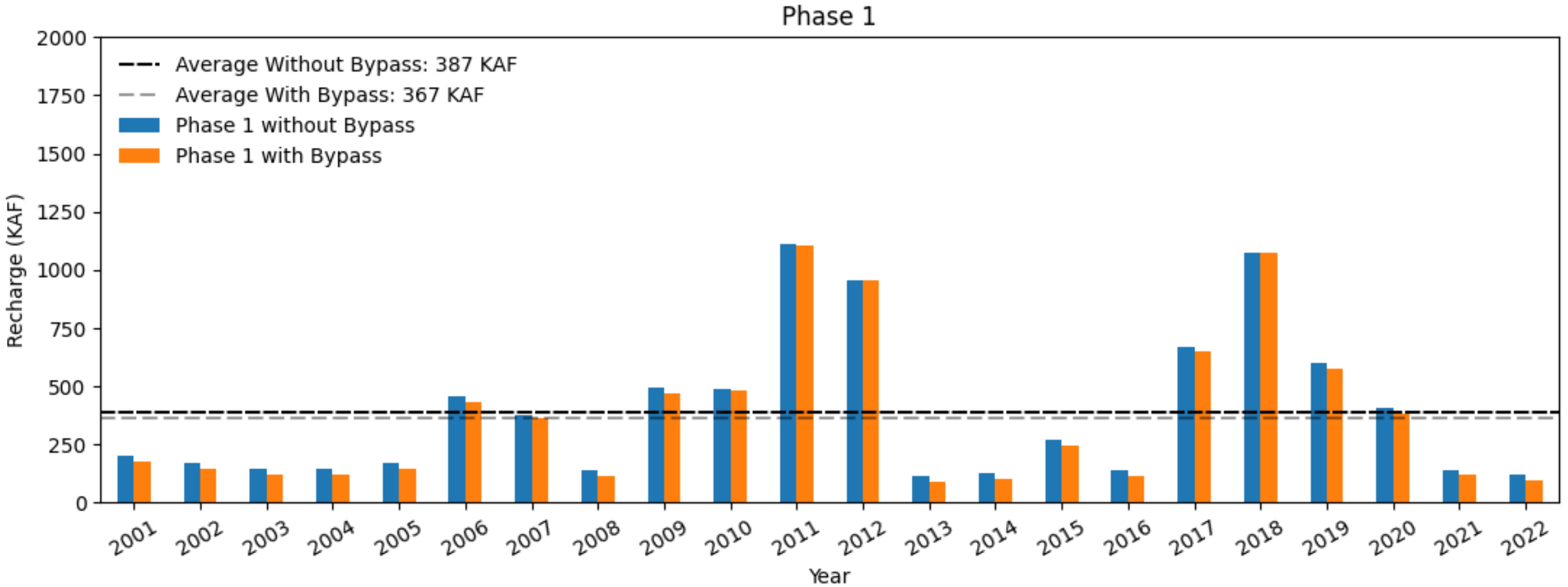


Max IWRB Recharge Buildout

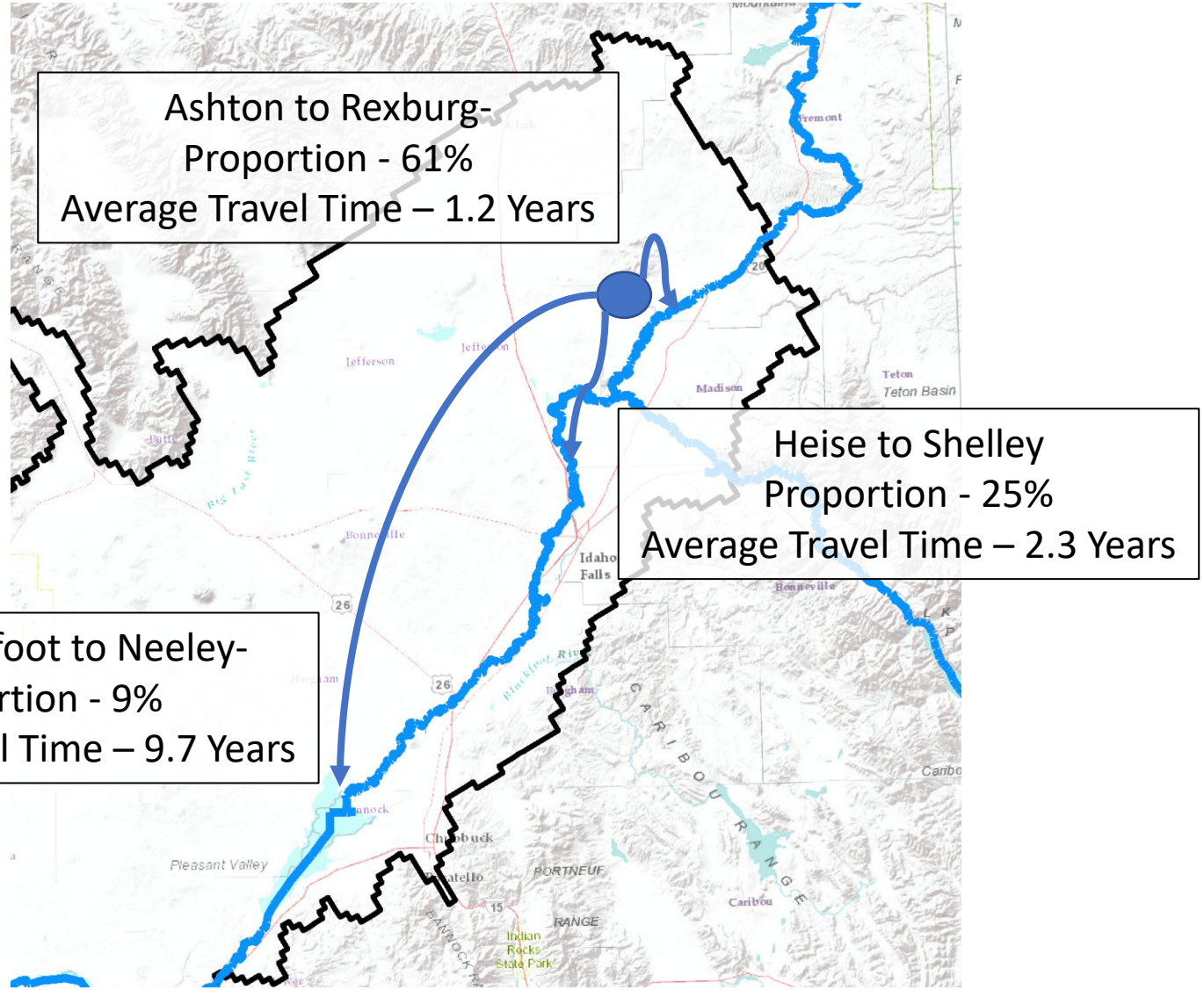
- Northside Canal
- American Falls - Blackfoot Area
- Mid-Snake Area
- South Fork Area
- Butte Market Lake Area
- Mud Lake Project

Potential Max IWRB Recharge Annual Average

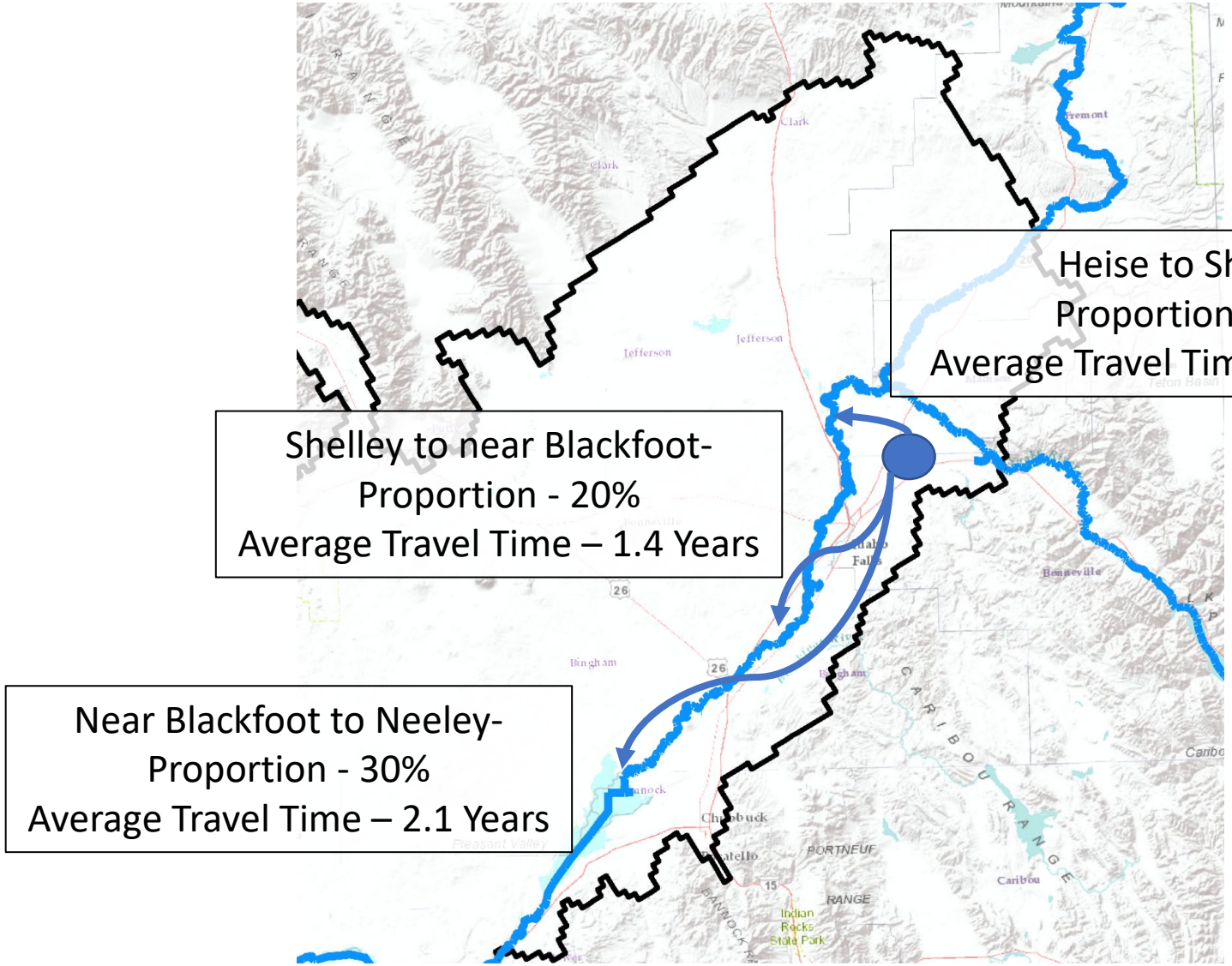
- IWRB Recharge Capacity (max. current & in-progress) 7,140 cfs
- Long-Term Average (using historic water availability) 487 Kaf
- Long-Term Average with 200 cfs bypass (Dec. thru Feb 15th) 467 Kaf



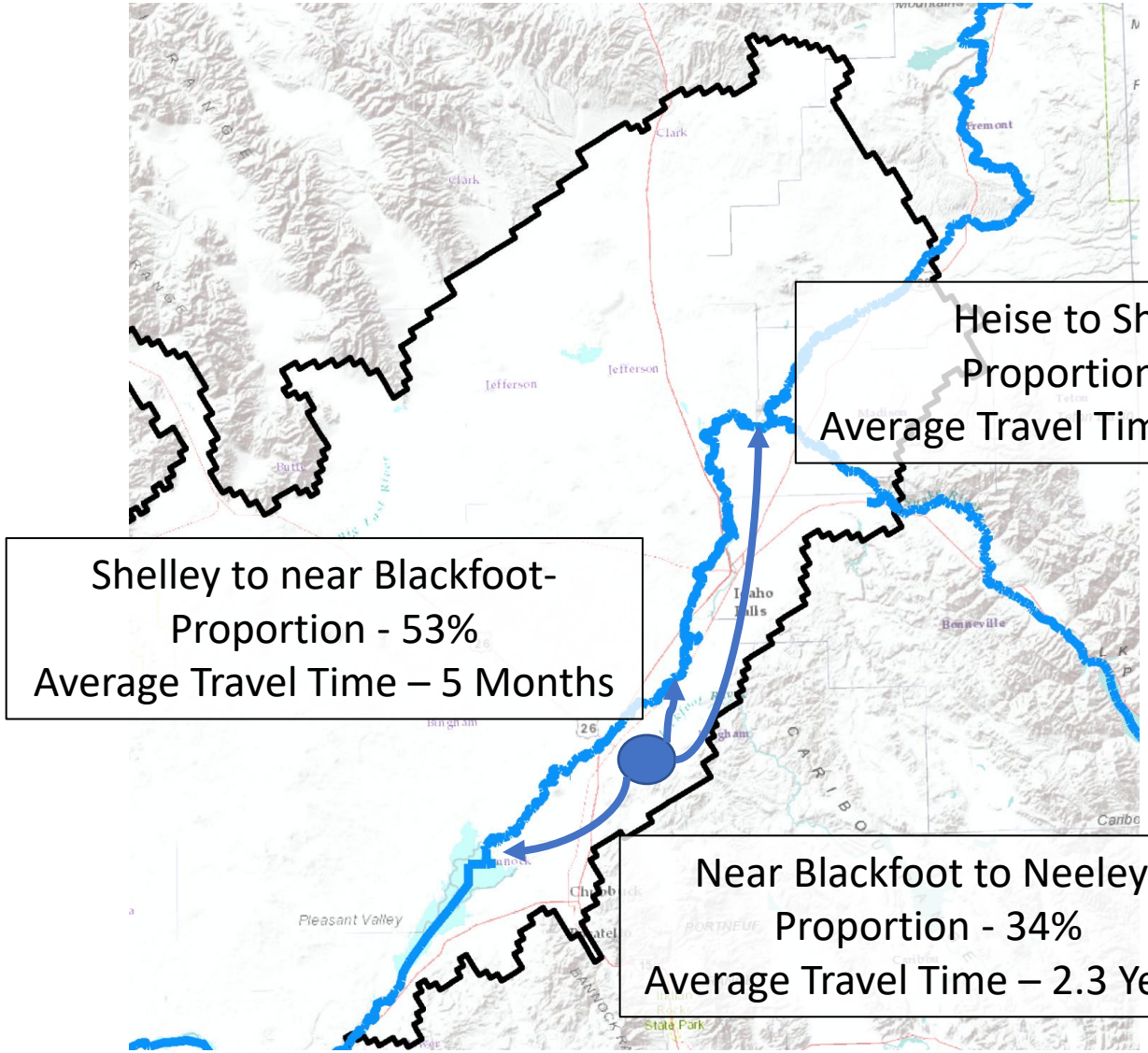
Where does Henry's Fork recharge end up?



Where does South Fork recharge end up?



Where does Main Stem recharge end up?



Heise to Shelley-
Proportion - 9%
Average Travel Time – 2.2 Years

Shelley to near Blackfoot-
Proportion - 53%
Average Travel Time – 5 Months

Near Blackfoot to Neeley-
Proportion - 34%
Average Travel Time – 2.3 Years

IWRB Recharge Cost Comparison

Historic Project Cost

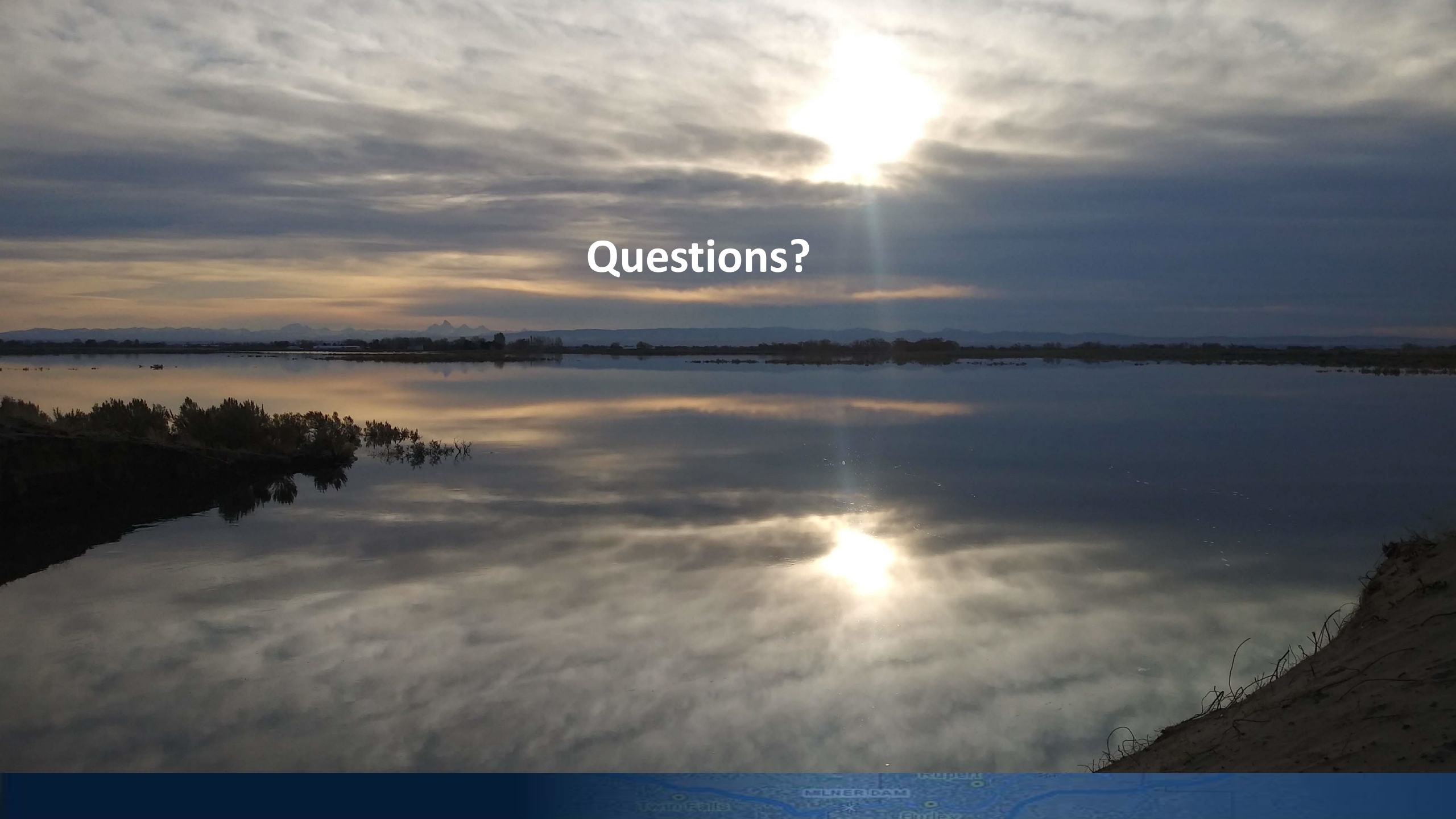
Canal	Capital Cost	Added Capacity	Capital Cost ($/ af) (Amortized 20 yr)	Conveyance & Capital ($/af)
North Side Canal	$5.6 M	560 cfs	$3	$11
Egin Bench Canal – New Recharge Canal	$1.5 M	125 cfs	$6	$13

New Project Cost

Canal	Capital Cost	Added Capacity	Capital Cost ($/ af) (Amortized 20 yr)	Conveyance & Capital ($/af)
ECC – Swan Highway	$3.5 M	45 cfs	$36	$41
ECC – 55th Road	$1.7 M	45 cfs	$17	$22
TOTAL	$5.2	90 cfs	$27	$32

IWRB Max Recharge Cost

Estimated Capital Cost	$700M
Estimated Conveyance Fees	Avg. $4M (range $1M to $12M)
O & M Cost	??


Questions?