

# RECHARGE PERSPECTIVE: TROUT UNLIMITED



Idaho Water Users Association 83<sup>rd</sup> Annual Convention  
January 21, 2020

Peter Anderson, Counsel  
Idaho Water and Habitat Program



Silver Creek Horseshoe  
By Chad Chorney

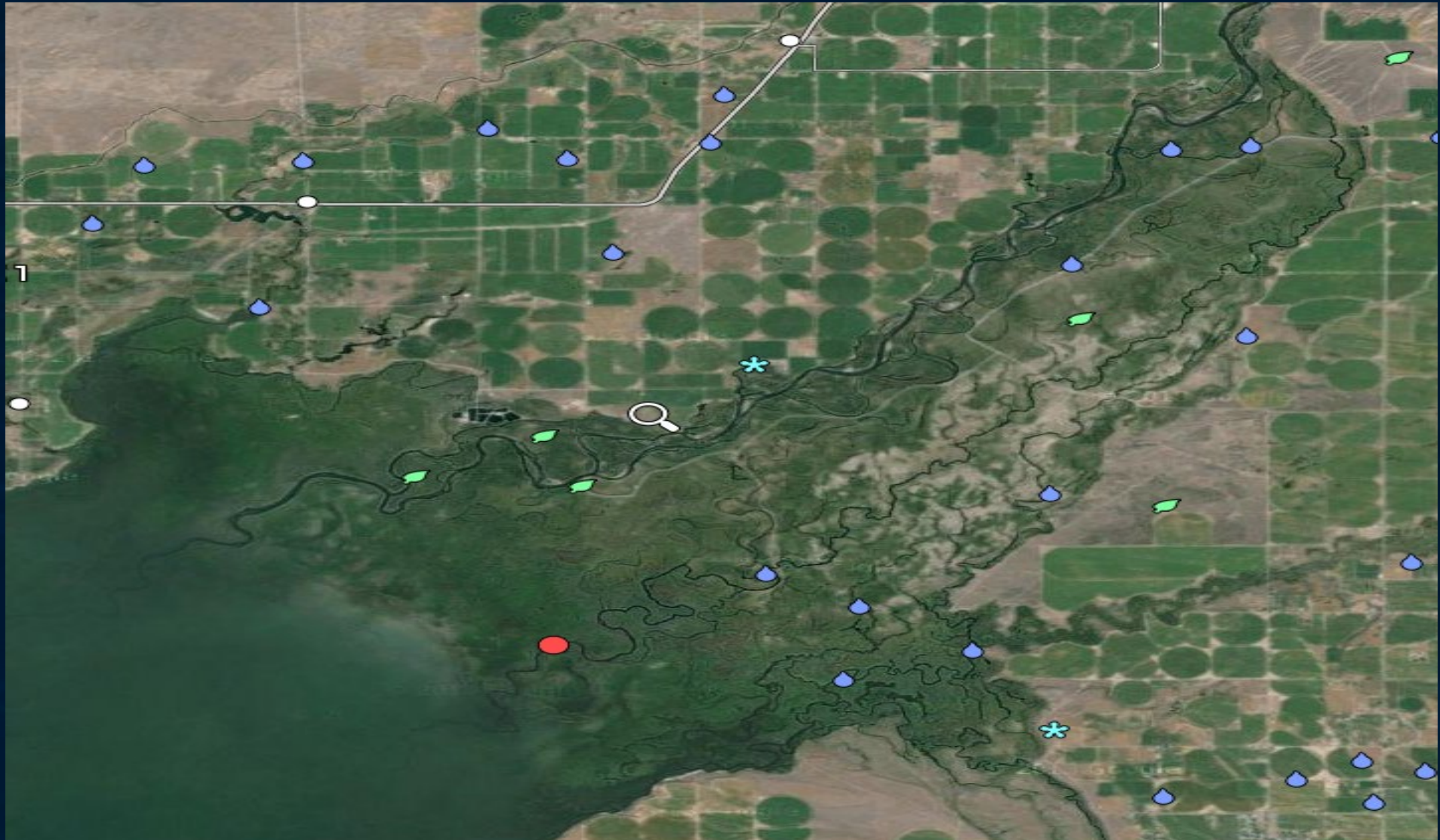
# Overview



- **Importance of Aquifers—Large and Small**
- **Trout Unlimited's Support for Aquifer Recharge**
- **The Challenges of Aquifer Recharge**

The importance of aquifers and their discharge to surface waters is not lost on Trout Unlimited.





Fort Hall Bottoms



Silver Creek in the Fall. Photo courtesy of Chad Chorney



**Billingsley Creek winding through agricultural land—Hagerman Valley Chamber**

**STREAM RESTORATION EFFECTS ON HYDRAULIC EXCHANGE, STORAGE AND  
ALLUVIAL AQUIFER DISCHARGE**

**By**

**CHRISTINE MARIE BRISSETTE**

**Bachelor of Science, University of Vermont, Burlington, Vermont, 2008**

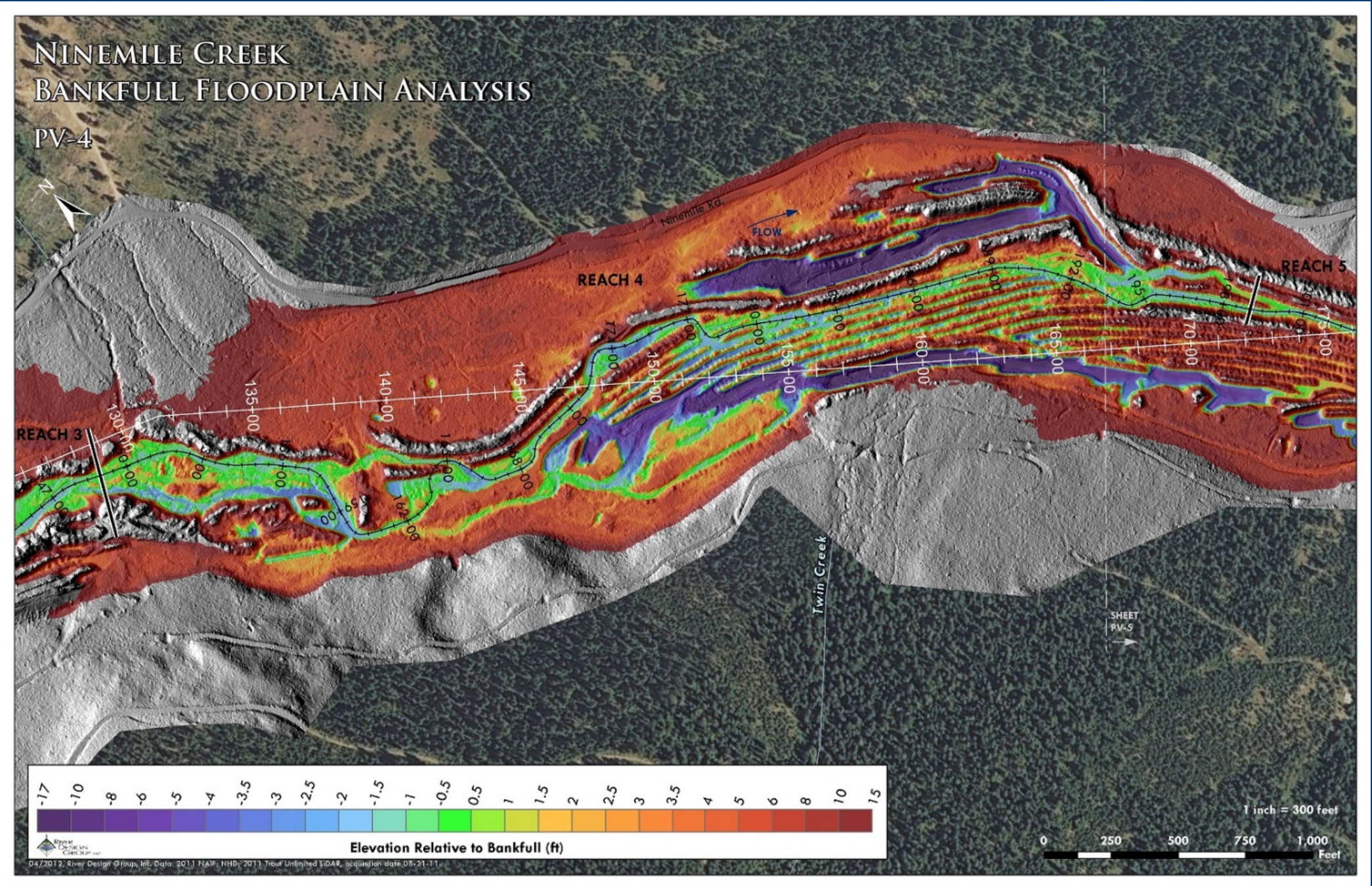
**Thesis**

**presented in partial fulfillment of the requirements  
for the degree of**

**Master of Science  
in Forestry**

**The University of Montana  
Missoula, MT**





# Capturing The Spring Flood:

Every mile of floodplain restoration and reconnection =

1 a-f/day increase in base flows late summer

“Soaking the Sponge” on Ninemile Creek, tributary to Clark Fork River, Montana



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# Trout Unlimited, And Many Conservation Partners, Support Thoughtful Aquifer Recharge

# Recharge in Idaho

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- ESPA CAMP
- Draft TV CAMP
- Wood River Water Collaborative
- Restoration Programs
- Teton River

# ESPA CAMP

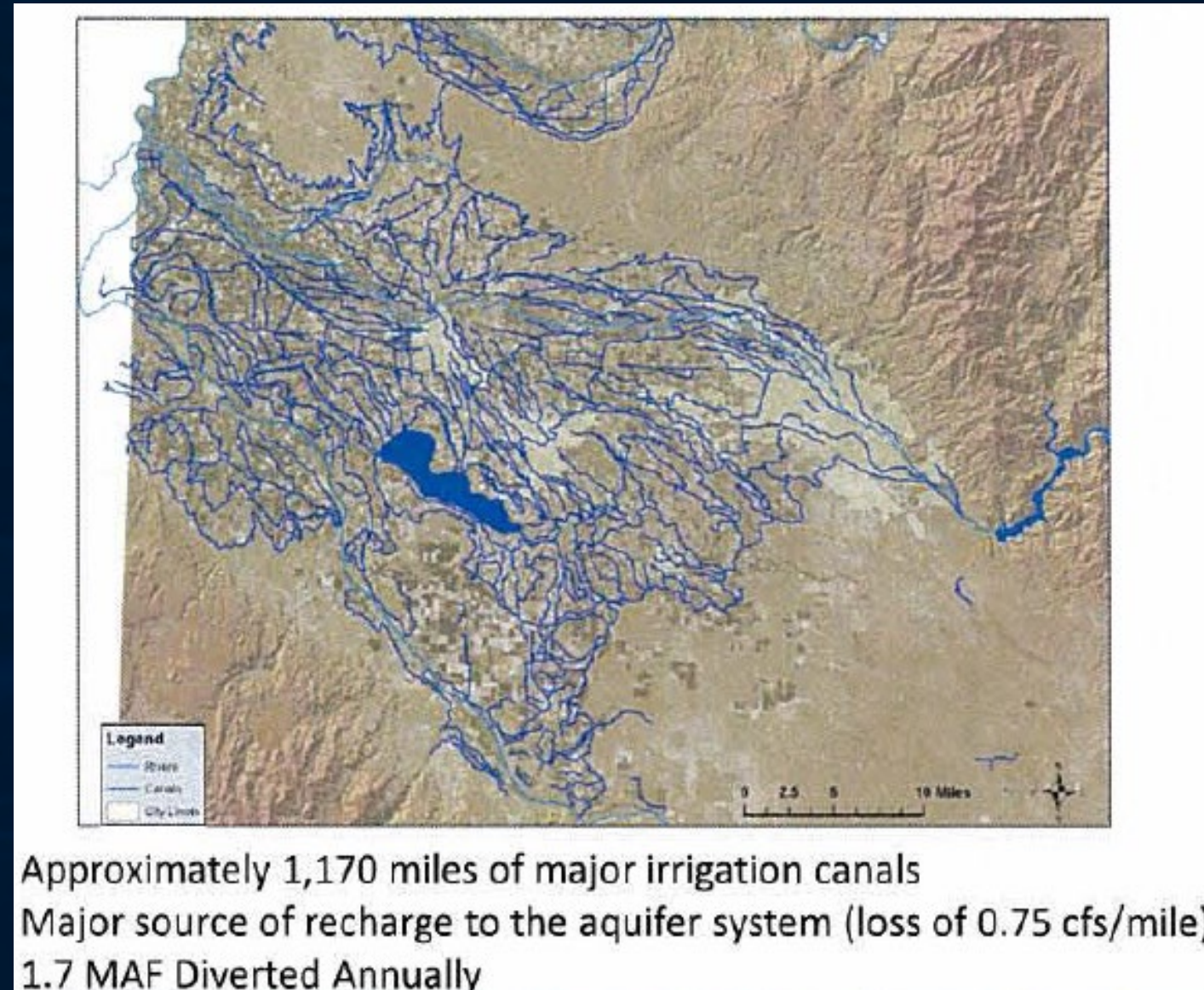


## PLAN HYDROLOGIC TARGETS

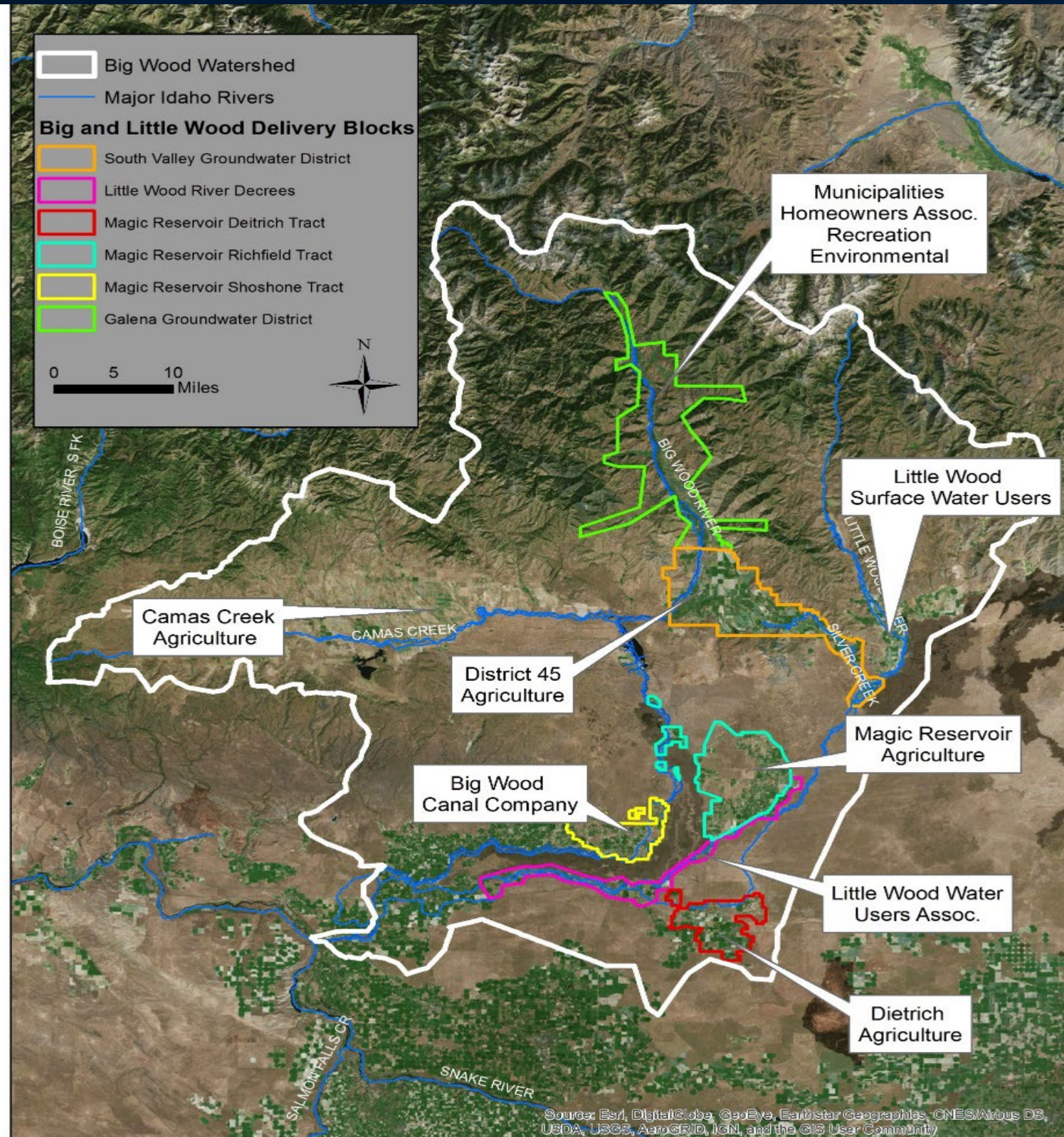
ACTION	PHASE I TARGET (KAF)	LONG-TERM TARGET (KAF)
Ground Water to Surface Water Conversion	100	100
Managed Aquifer Recharge	100	150-250
Demand Reduction		250-350
<i>Surface Water Conservation</i>	50	
<i>Crop Mix Modification</i>	5	
<i>Rotating Fallowing, Dry-Year Lease Agreements and CREP Enhancements.</i>	40	
<i>Buy Outs, Buy Downs, and/or Subordination Agreements</i>	No Target (Opportunity-Based)	
Weather Modification	50*	No Target
<b>TOTAL</b>	<b>200-300</b>	<b>600</b>

# Draft TV CAMP

- Importance of incidental recharge and current distribution system.



# Wood River Water Collaborative

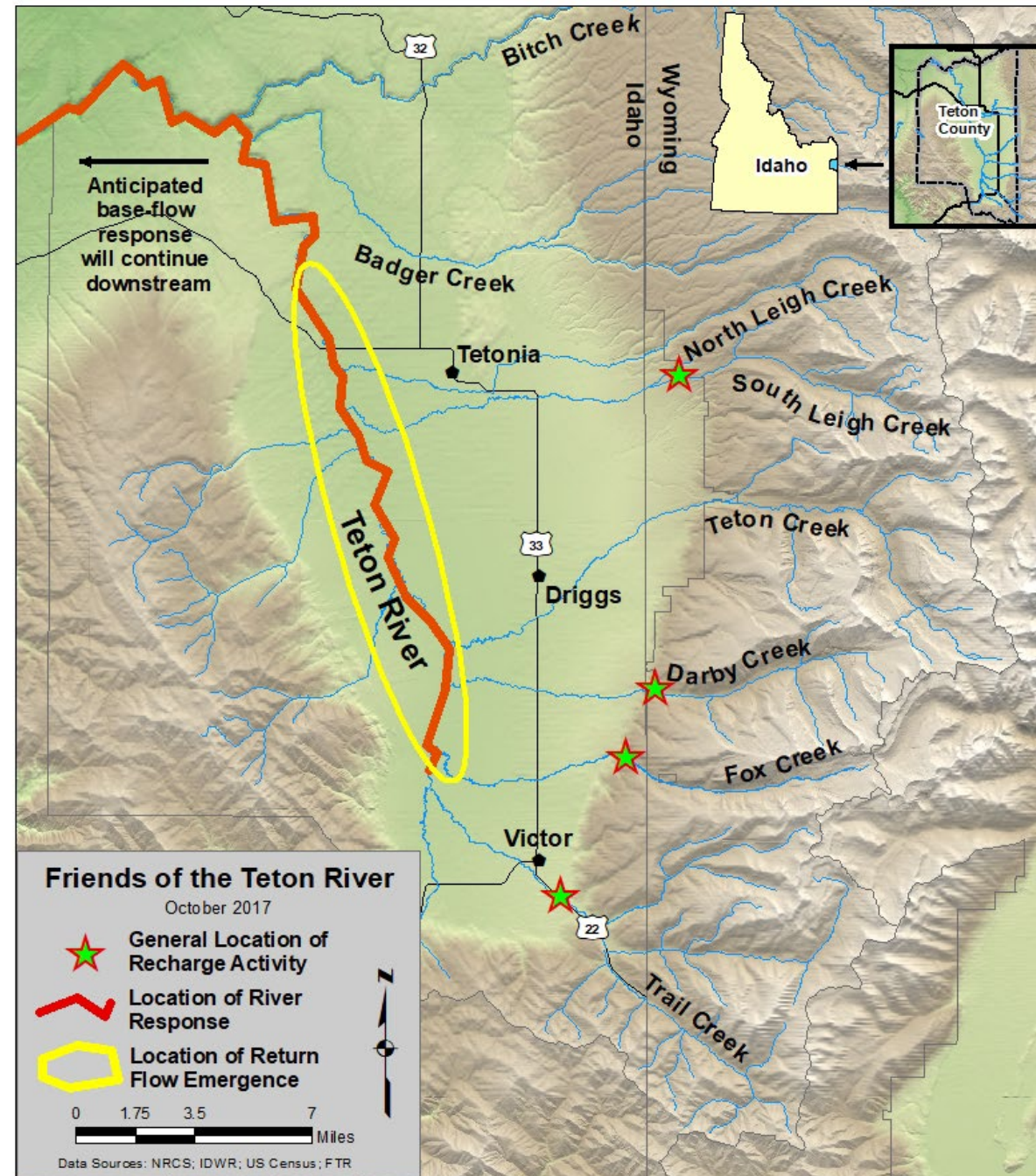


# Teton River Flow Restoration Pilot Program

## Geographic Extent of Anticipated Return Flow Emergence and River Response



Teton Water Users Association





# Wimpey Creek, Lemhi River, Upper Salmon River Basin



Launch Slide Show to play this video





May 18, 2015



June 12, 2019

# Increased Climate Variability

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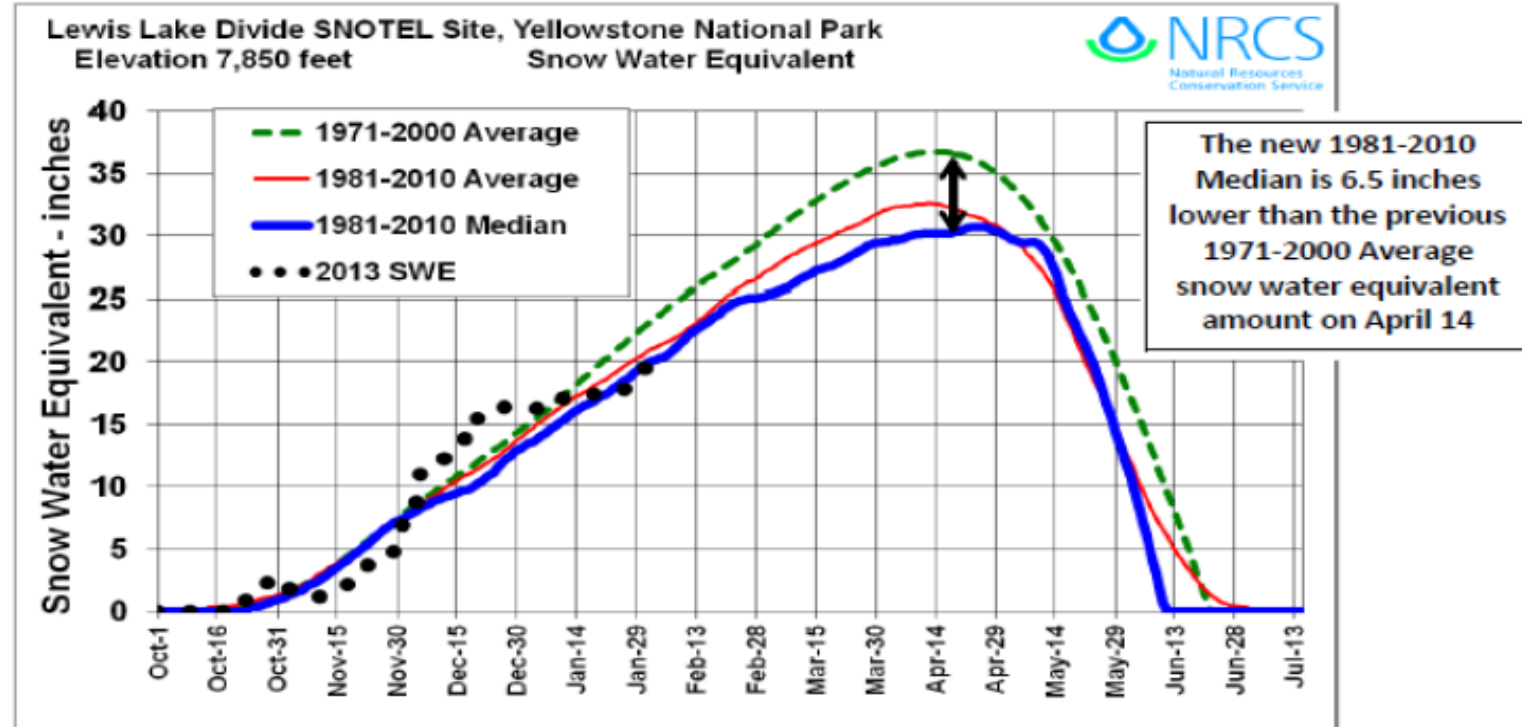
- More fall/winter rain, less snow
- Large rain events
- Earlier spring run-off
- Higher summer temperatures, higher evapotranspiration
- Lower summer stream flows

# Idaho Water Supply Outlook

IDWR State Water Supply Meeting  
February 14 2013



## Idaho Water Supply Outlook Report February 1, 2013



### Use of Median vs. Average to Compare Snow Water Content

Although *average* is a commonly-used and well understood statistic, *median* is also a common descriptor used to express a "middle" value in a set of data. This "middle" value is also known as the *central tendency*. Median is determined by ranking the data from largest to smallest, and then identifying the middle so that there are an equal number of data values larger and smaller than it is. While the average and median can be the same or nearly the same, they are different if more of the data values are clustered toward one end of their range and/or if there are a few extreme values. In statistical terminology, this is called *skewness*. In this case, the average can be significantly influenced by the few values, making it not very representative of the majority of the values in the data set. Under these circumstances, median gives a better representation of central tendency than average.

# RECHARGE:



- Replaces lost snowpack storage
- Stores cool, clean water
- Less evaporation
- Provides base flows for irrigators and fish
- Not subject to flood rule curves

# Challenges:

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- Impacts to river flows--de-watering
- Channel-forming flows are important
- Decreased Wetted Flood Plain
- Increased Entrainment of Fish
- Water Quality Impacts

# Challenges:

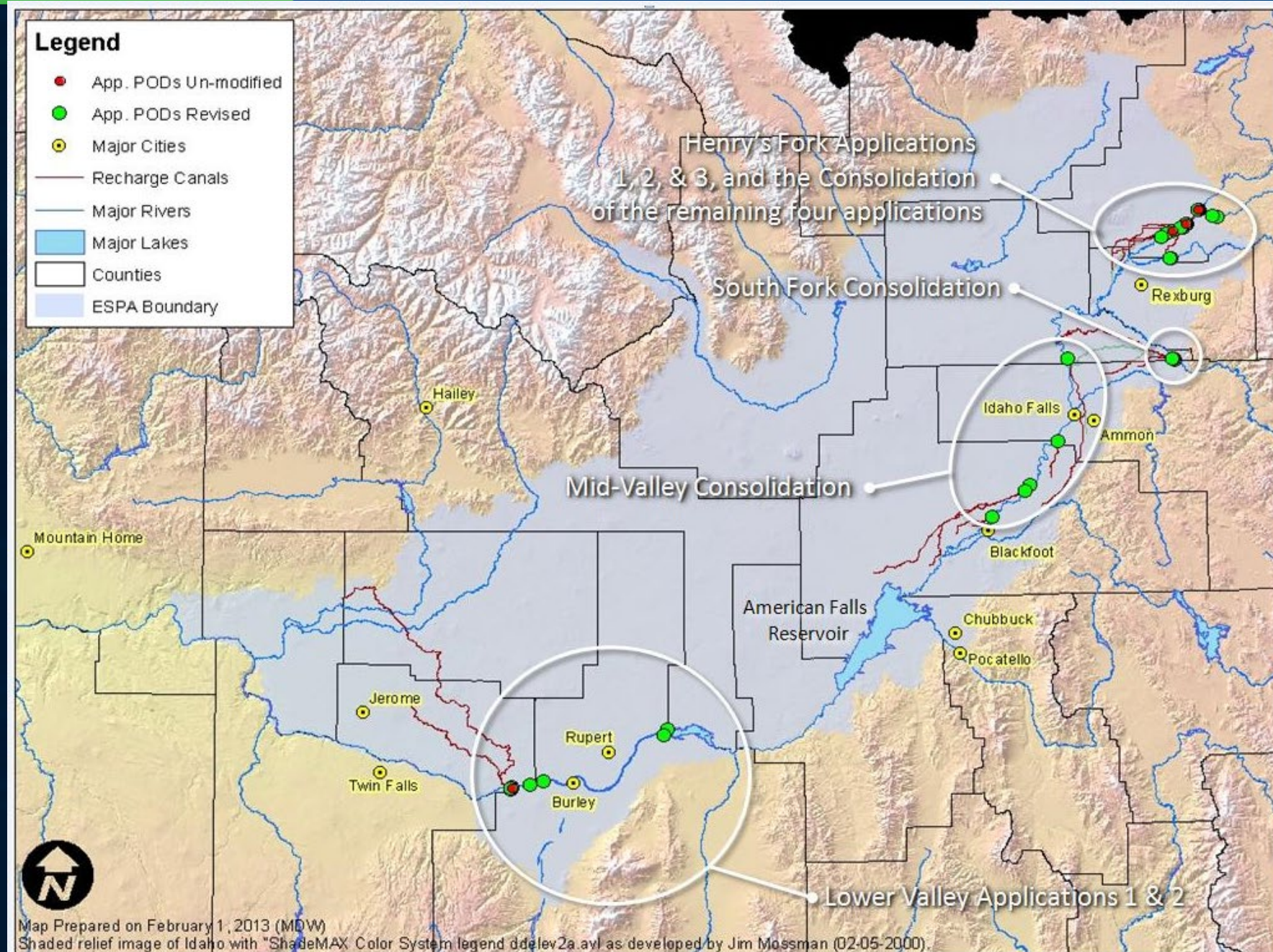
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# IWRB Recharge Applications



# Collaborative Stewardship

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- Environmental Resource Technical Working Group
  - Proactive
  - Voluntary Actions
  - Good Faith







Peter Anderson  
Counsel, Idaho Water and Habitat Program  
[peter.anderson@tu.org](mailto:peter.anderson@tu.org)  
(208) 345-9800

