

Current Water Management Strategies in the Treasure Valley

By Shelley Keen

**For the Osher Institute at Boise State
University**

September 10, 2014

Presentation Outline

- Historical Perspective
- Water Rights
- Break
- Other Current Water Management Strategies
- Questions

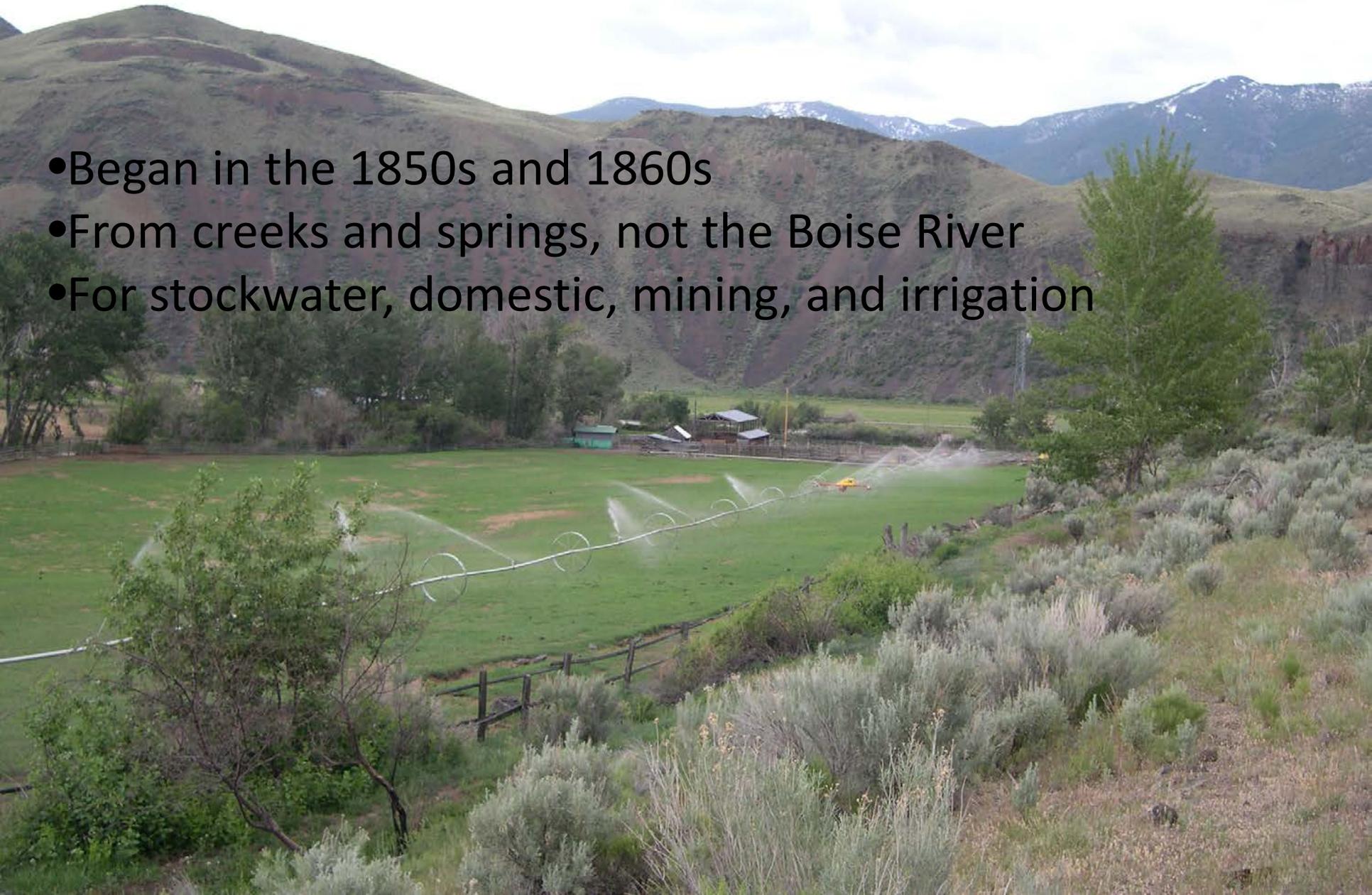
Historical Perspective

Before the 1860s



Early Water Use

- Began in the 1850s and 1860s
- From creeks and springs, not the Boise River
- For stockwater, domestic, mining, and irrigation



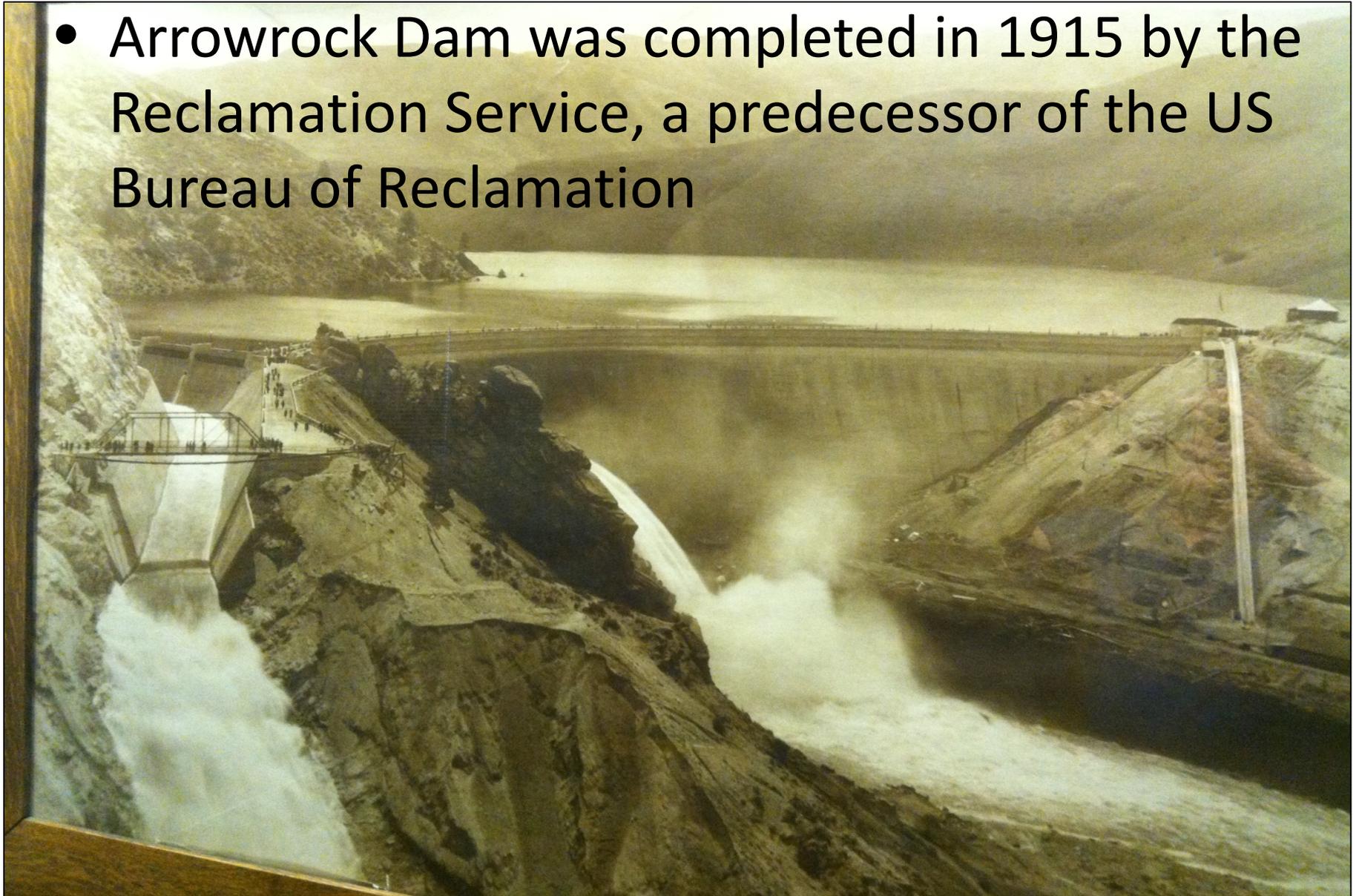
Large Canal Systems

- Farmers Union Ditch Co. has an 1864 irrigation right from the Boise River
- The Boise Project was constructed by the U.S. Bureau of Reclamation from 1905 to 1940

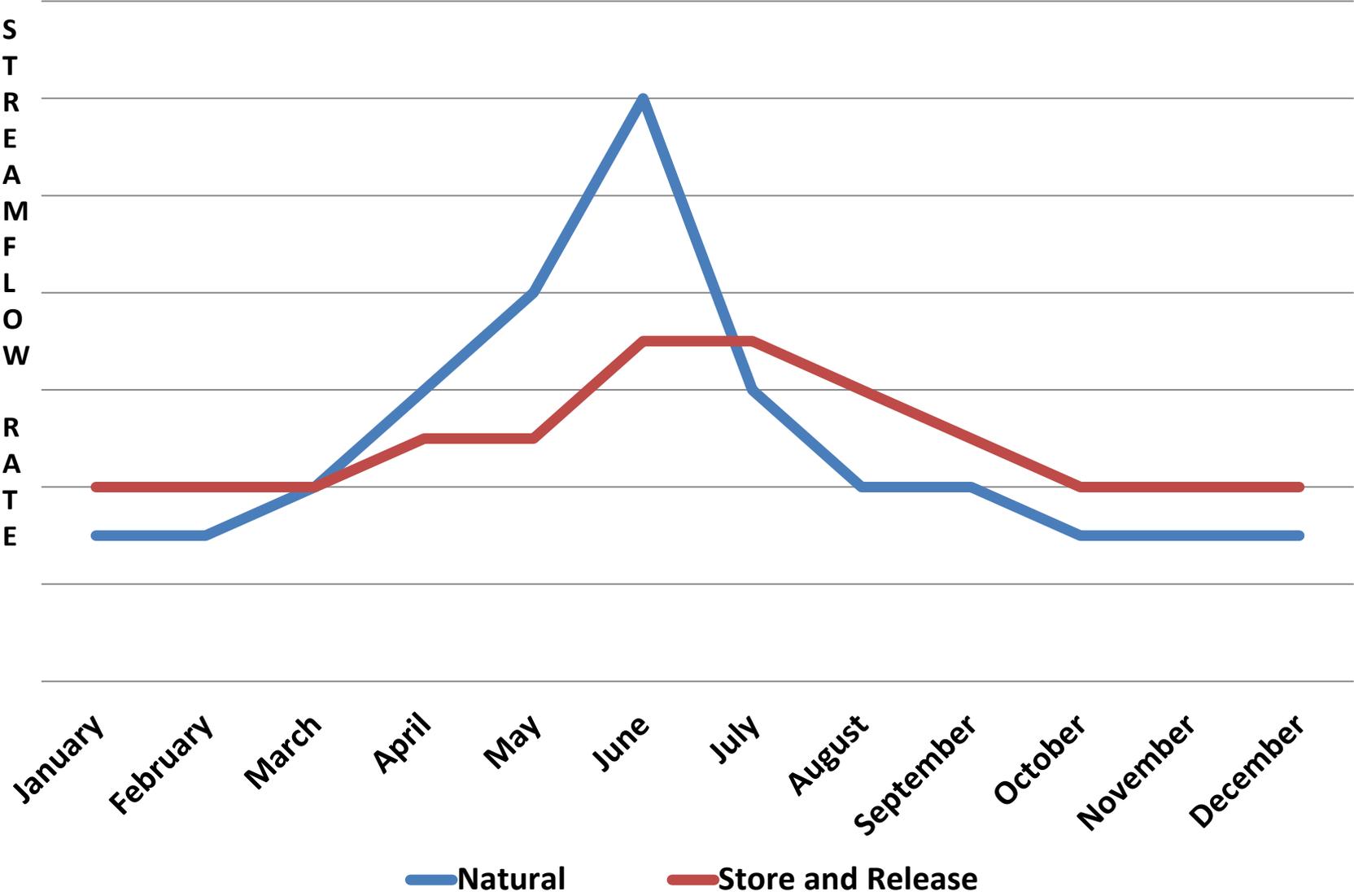


Storage

- Arrowrock Dam was completed in 1915 by the Reclamation Service, a predecessor of the US Bureau of Reclamation



Effects of Irrigation Reservoirs

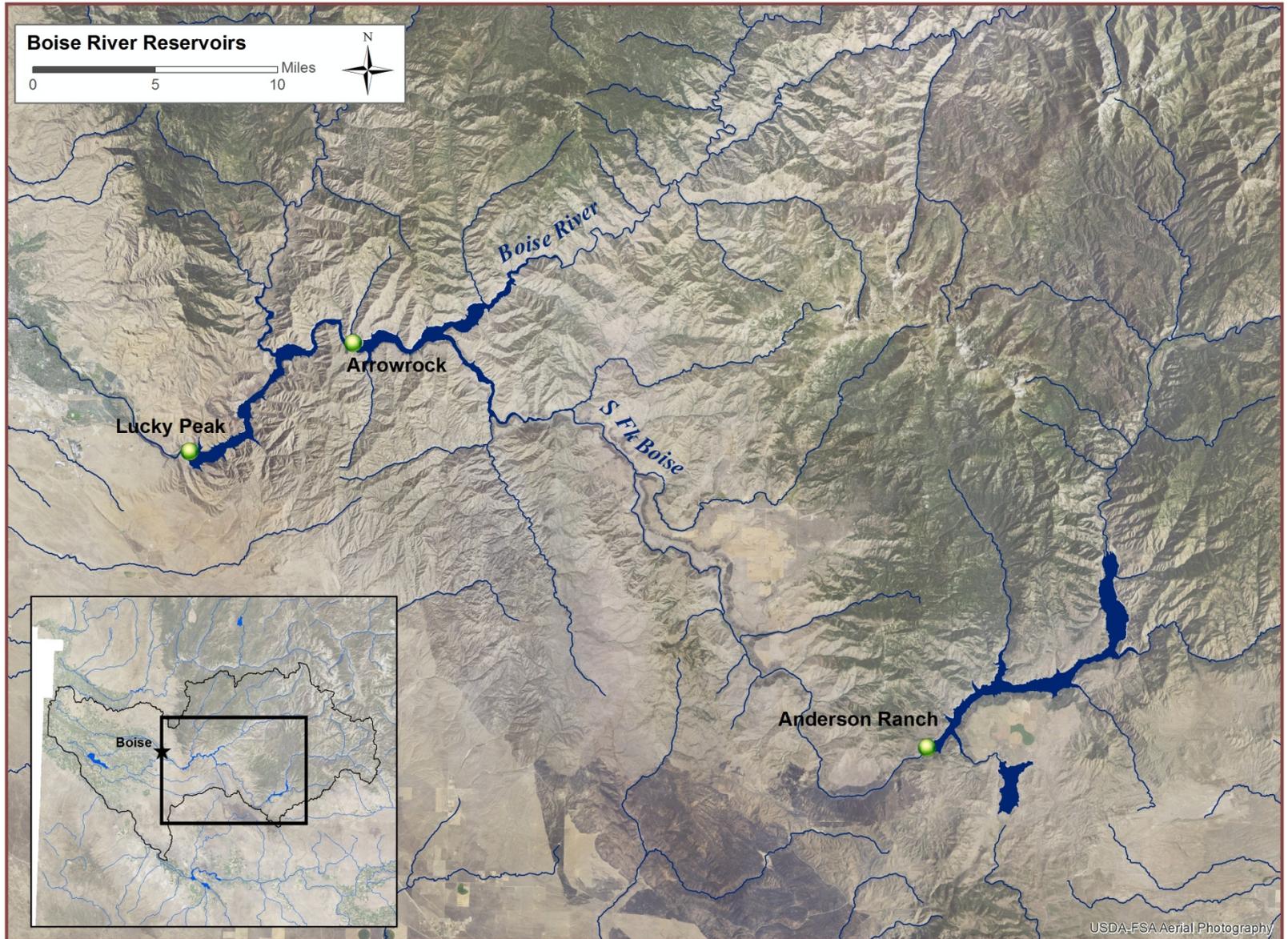


More Storage

- Anderson Ranch Dam completed in 1950 on the South Fork of the Boise River
- Lucky Peak Dam completed in 1955 by the U.S. Army Corps of Engineers



Boise Project Reservoirs



Boise Project

- Irrigation water for about 397,000 acres

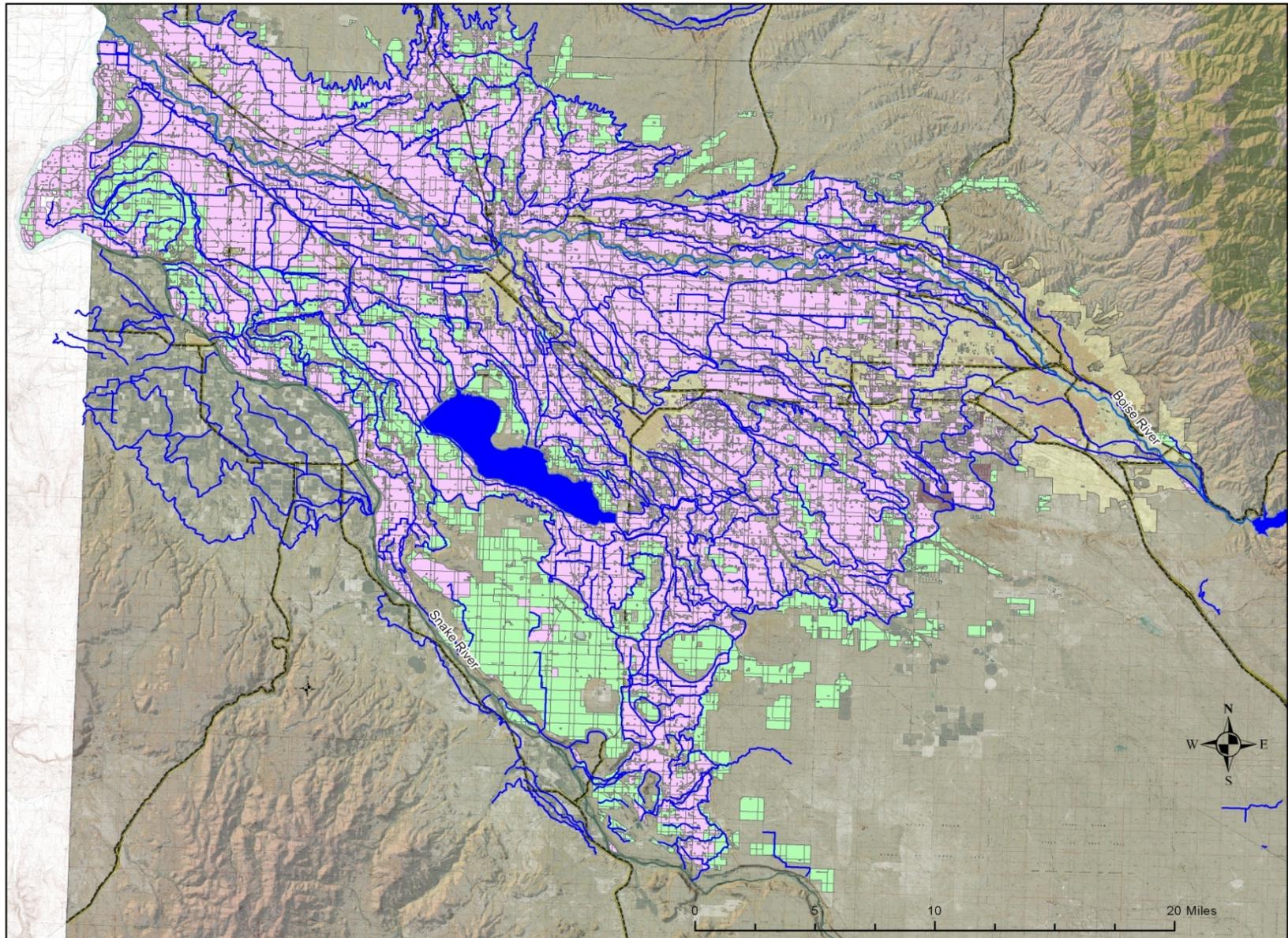


Ground Water

- After World War II, rural electrification and pumping technology made it feasible to irrigate from deep wells



Irrigation Coverage



DCMI

Most of the municipal, domestic, industrial, and commercial water use in the Treasure Valley is ground water from wells delivered through pressurized systems

Multiple Uses



Tragedy of the Commons

- Garret Hardin. *The Tragedy of the Commons*
Science 13 December 1968:
Vol. 162 no. 3859 pp. 1243-1248

“Each man is locked into a system that compels him to increase his herd without limit--in a world that is limited. Ruin is the destination toward which all men rush, each pursuing his own best interest in a society that believes in the freedom of the commons. Freedom in a commons brings ruin to all.”

Water Rights

“There is no substitute for a great water right.”

Colorado Supreme Court Justice Gregory Hobbs at
Understanding the SRBA Resolution, August 25,
2014

Prior Appropriation Doctrine

- Traditional riparian rights were insufficient in the West
- Common law arising from Colorado and California mining camps
- Order from chaos
- First in time is first in right
- Adopted throughout much of the western USA and Canada

Idaho Constitution

- Article XV, Section 3:
 - “The right to divert and appropriate the unappropriated waters of any natural stream to beneficial uses, shall never be denied, except that the state may regulate and limit the use thereof for power purposes.”
 - “Priority of appropriation shall give the better right as between those using the water.”

Nature of Property in Water

- Idaho Code § 42-101:

“All the waters of the state, when flowing in their natural channels, including the waters of all natural springs and lakes within the boundaries of the state are declared to be the property of the state, whose duty it shall be to supervise their appropriation and allotment to those diverting the same therefrom for any beneficial purpose, and the right to the use of any of the waters of the state for useful or beneficial purposes is recognized and confirmed; and the right to the use of any of the public waters which have heretofore been or may hereafter be allotted or beneficially applied, shall not be considered as being a property right in itself, but such right shall become the complement of, or one of the appurtenances of, the land or other thing to which, through necessity, said water is being applied.”

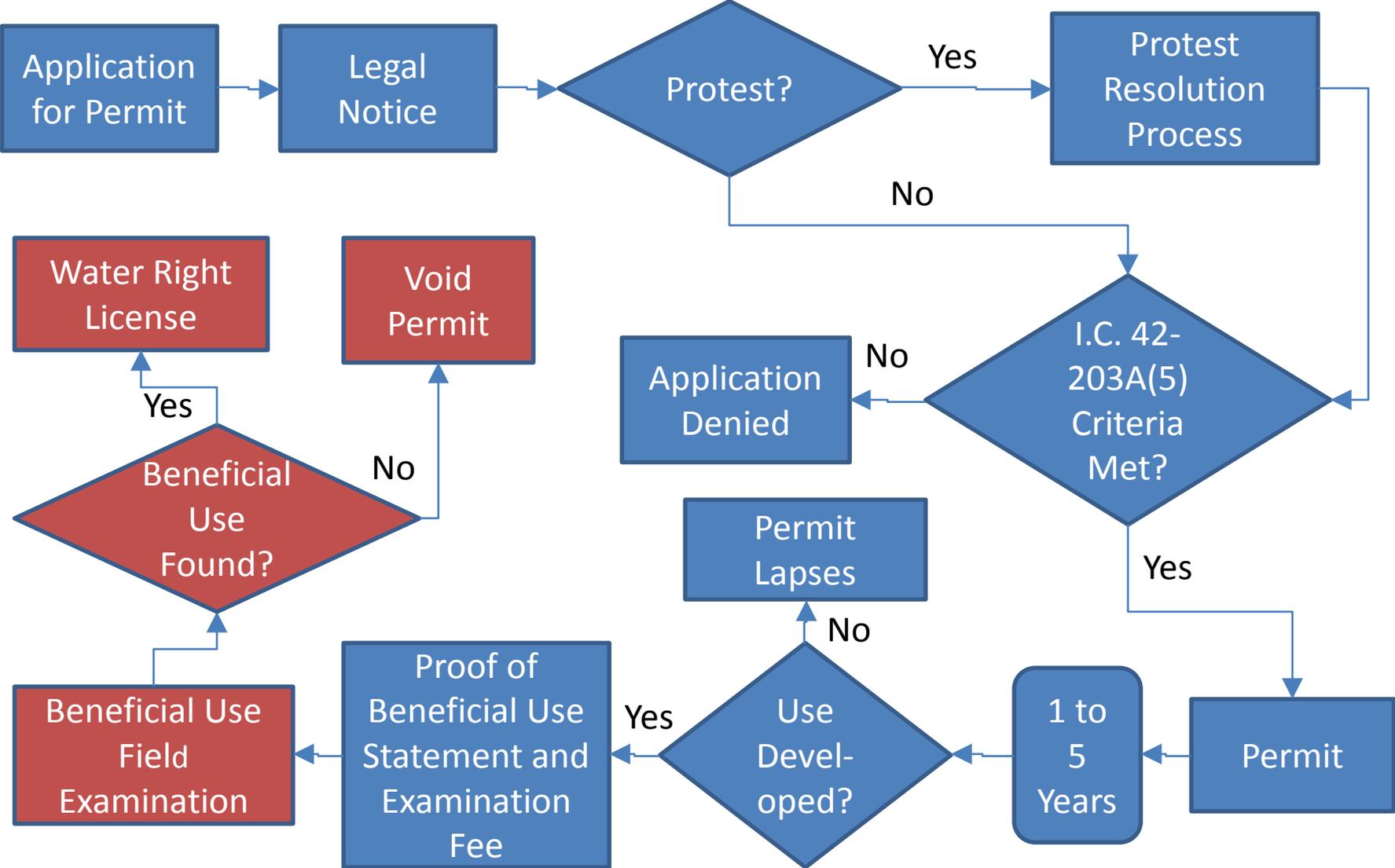
Establishing a Water Right

- Diversion and beneficial use
- Posted notice
- Water right adjudication
- Permit and licensing process
 - 1963 – Permit necessary for ground water
 - 1971 – Permit necessary for surface water
- Domestic exemption

Water Right Adjudications

- The purpose of a water right adjudication is to catalog and confirm through the court all water rights and to which property those water rights belong, binding all property owners and parties to the court decree of those water rights.
- Snake River Basin Adjudication
 - Commenced in 1987 and is ending in 2014
 - Cost of \$94 million

Idaho Department of Water Resources Water Appropriation Process



<http://www.idwr.idaho.gov/> Search Tools

Idaho Department of Water Resources - Internet Explorer

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IDAHO Department of Water Resources

A-Z Index

- Water Rights
- Wells
- Streams, Dams & Flooding
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- About IDWR

Welcome!

The Idaho Department of Water Resources serves the people of Idaho and protects their welfare by making sure water is conserved and available to sustain Idaho's economy, ecosystem and the resulting quality of life. IDWR provides a variety of services for the public, such as water rights research, historical record reproduction of water rights, driller's reports, and dam safety inspections.

[Read more about the history of IDWR »](#)

Need additional help? Try these quick links!

- Using IDWR Water Right Research Internet Tools
- Search Water Rights
- Map Search Tool
- Northern Idaho Adjudication File A Claim
- Water Right Transfers
- Well Drillers' Locator Tool
- New Water Rights Applications

What's New	Most Visited Pages	Frequently Asked Questions
» Snow Water Equivalency Maps	» Rangen Delivery Call-Curtailment Orders	
» Rangen Delivery Call-Mitigation Plans	» Wood River Valley Modeling Project	
» ESPA Curtailment Notice	» Teton Creek Flood Control District	
» Evaluation of Minimum Well Seal Depth	» IWRB Recharge Applications	
» Negotiated Rule Making - ESPA Boundary	» IWRB Board Meeting	

Who or what is the Idaho Water Resource Board?

100%

Application Evaluation Criteria

- Project must not reduce the quantity of water under existing rights. (i.e. no injury).
- Water supply must be sufficient for the purpose intended.
- Application must be made in good faith, not for delay or speculative purposes.
- Applicant must have sufficient financial resources to complete the project.
- Application must not conflict with the local public interest. (Local public interest is defined as the affairs of the people in the area directly affected by the proposed use).
- Project must be consistent with conservation of water resources within the state of Idaho.
- In a case where the place of use is outside the watershed or local area containing the source of water, the affects on the local economy of the source's watershed or local area must be considered.

Elements of a Water Right – Page 2

Page 2

State of Idaho
Department of Water Resources
Water Right License

WATER RIGHT NO. 63-10750

4. If the surface water right(s) appurtenant to the place of use is sold, transferred, leased or used on any other place of use, this right to divert groundwater shall not be used without an approved transfer pursuant to Section 42-222, Idaho Code, or approval of the Department if a transfer is not required.
5. This right when combined with all other rights shall provide no more than 4.5 afa per acre at the field headgate for irrigation of the lands above.

This license is issued pursuant to the provisions of Section 42-219, Idaho Code. The water right confirmed by this license is subject to all prior water rights and shall be used in accordance with Idaho law and applicable rules of the Department of Water Resources.

Signed and sealed this 19th day of May, 2003.

Karl J. Dreher
KARL J. DREHER
Director

for

WR

MICROFILMED
MAY 21 2003

Elements of a Water Right – Page 3

2009 APR 03 PM 02:00
DISTRICT COURT - SRBA
TWIN FALLS CO., IDAHO
FILED _____

IN THE DISTRICT COURT OF THE FIFTH JUDICIAL DISTRICT OF THE
STATE OF IDAHO, IN AND FOR THE COUNTY OF TWIN FALLS

In Re SRBA)
) PARTIAL DECREE PURSUANT TO
Case No. 39576) I.R.C.P. 54(b) FOR
) Water Right 63-19013

NAME AND ADDRESS: CITY OF BOISE
DEPT OF AVIATION & PUBLIC
TRANSPORTATION
PO BOX 500
BOISE, ID 83701

SOURCE: GROUND WATER

QUANTITY: 0.04 CFS

The quantity of water under this right for domestic and
stockwater uses shall not exceed 13,000 gallons per day.

PRIORITY DATE: 12/31/1959

POINT OF DIVERSION: TWIN ROSE S19 SENWSE Within Ada County

PURPOSE AND PERIOD OF USE:	PURPOSE OF USE	PERIOD OF USE	QUANTITY
	Domestic	01-01 TO 12-31	0.04 CFS

PLACE OF USE: Domestic Within Ada County
TWIN ROSE S19 NWSE

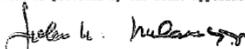
OTHER PROVISIONS NECESSARY FOR DEFINITION OR ADMINISTRATION OF THIS WATER RIGHT:

The quantity of water decreed for this water right is not a
determination of historical beneficial use.

THIS PARTIAL DECREE IS SUBJECT TO SUCH GENERAL PROVISIONS
NECESSARY FOR THE DEFINITION OF THE RIGHTS OR FOR THE EFFICIENT
ADMINISTRATION OF THE WATER RIGHTS AS MAY BE ULTIMATELY
DETERMINED BY THE COURT AT A POINT IN TIME NO LATER THAN THE
ENTRY OF A FINAL UNIFIED DECREE. I.C. SECTION 42-1412(6).

RULE 54(b) CERTIFICATE

With respect to the issues determined by the above judgment or order, it is hereby CERTIFIED, in accordance
with Rule 54(b), I.R.C.P., that the court has determined that there is no just reason for delay of the entry of a
final judgment and that the court has and does hereby direct that the above judgment or order shall be a final
judgment upon which execution may issue and an appeal may be taken as provided by the Idaho Appellate Rules.

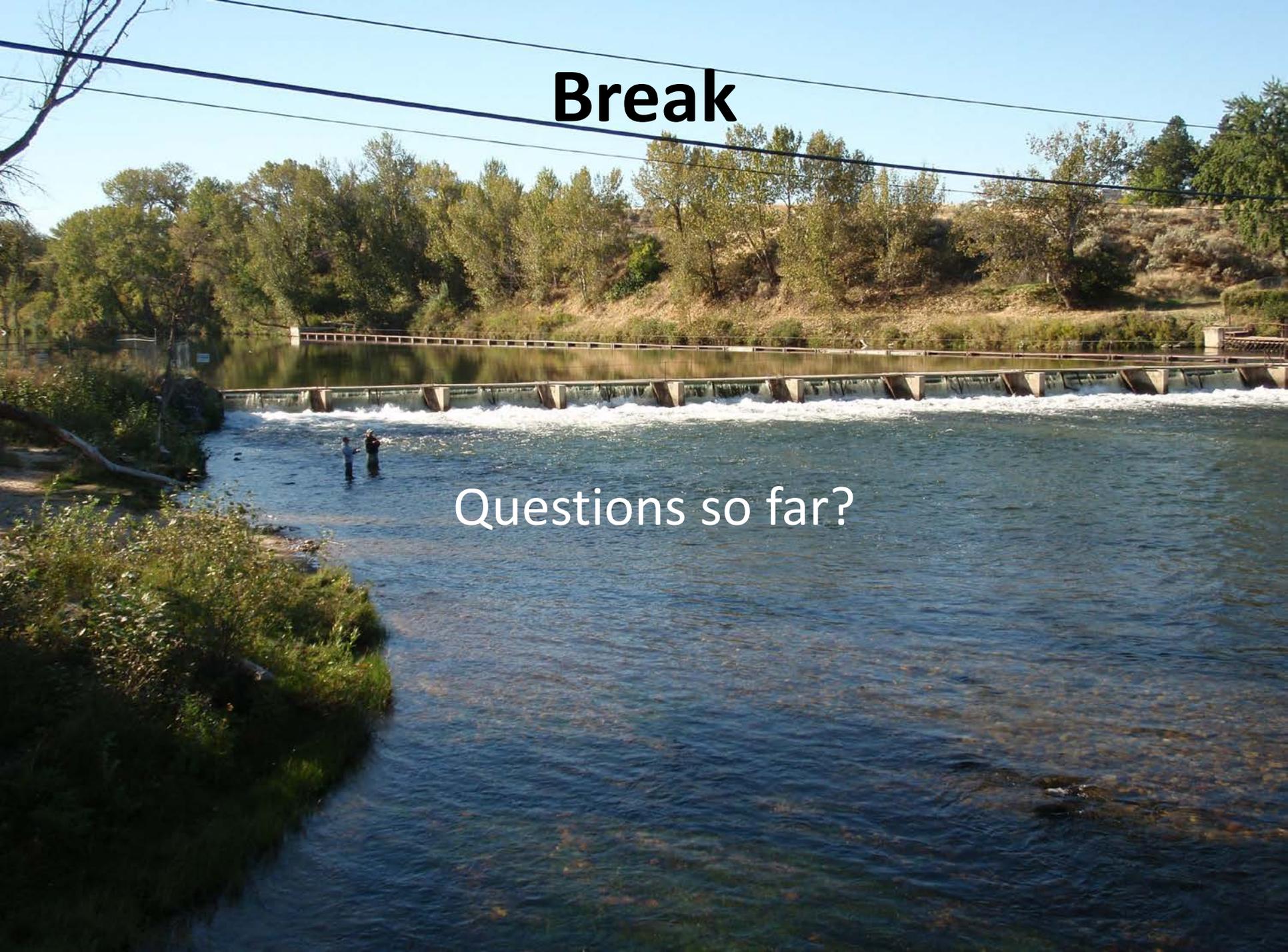


John M. Melanson
Presiding Judge of the
Snake River Basin Adjudication

Water Right Transfers

- Allow water rights to move from lower value uses to higher value uses
- IDWR must authorize changes to:
 - Point of diversion
 - Place of use
 - Nature of use
 - Season of use
- Ownership changes

Break

A wide river flows through a lush, green landscape. In the middle ground, a concrete dam with several spillways is visible, with white water cascading over it. Two people are standing in the river, fishing. The background is a dense forest of trees on a hillside. The sky is clear and blue. Power lines run across the top of the image.

Questions so far?

Other Current Water Management Strategies

Water District 63

- Until 2014, the watermaster regulated surface water diversions downstream from Lucky Peak
- In November of 2013, IDWR issued an order expanding WD 63 to include surface water diversions upstream from Lucky Peak
- SRBA paves the way for conjunctive management of surface and ground water, as in the Eastern Snake Plain Aquifer

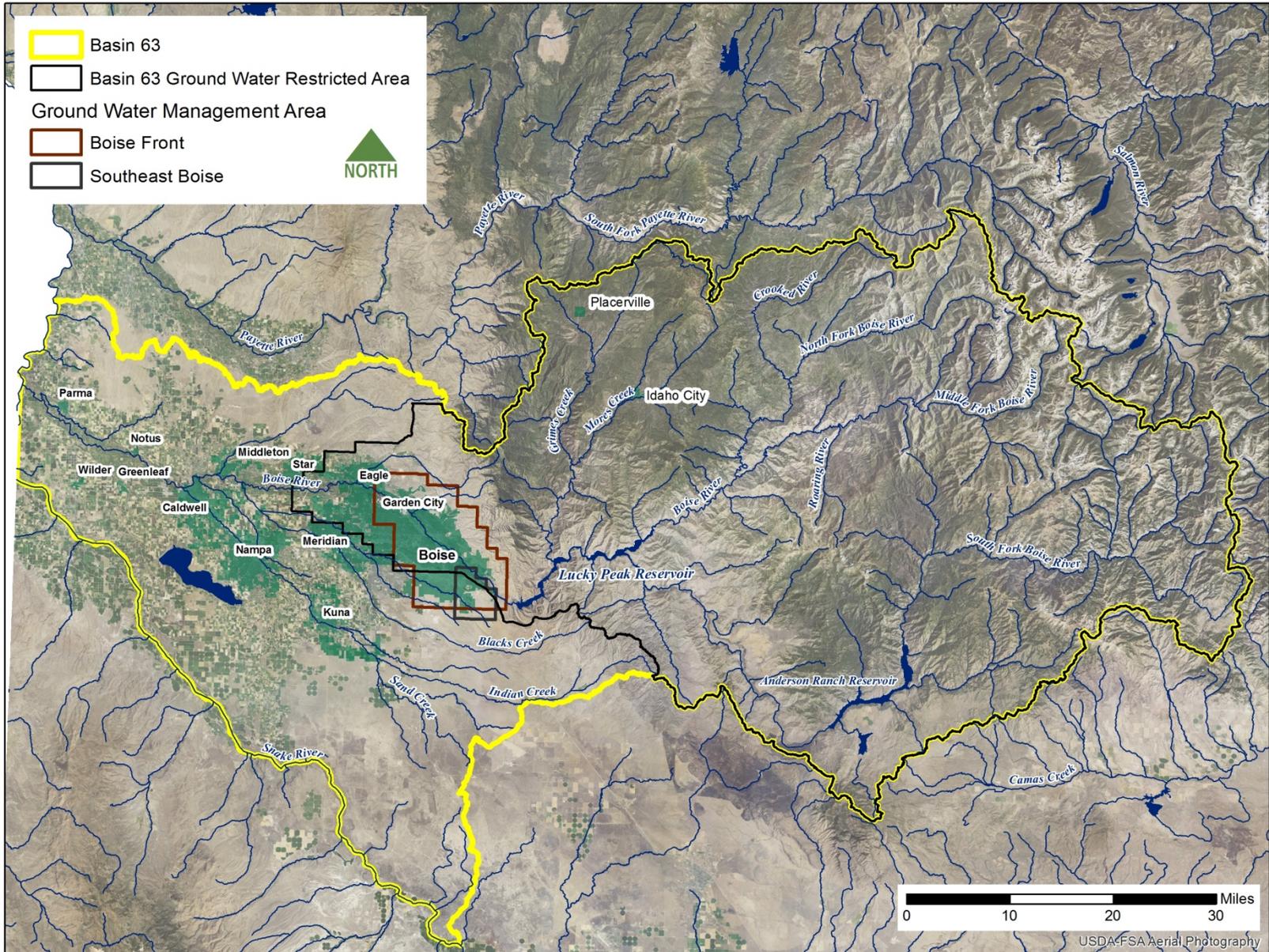
Critical Ground Water Areas

- Water supply is insufficient to satisfy current water rights.
- Ground water levels are declining.
- IDWR may deny applications for new water rights.
- IDWR may regulate diversions by priority.
- None in the Treasure Valley. (The nearest is Cinder Cone Butte CGA northwest of Mountain Home along I-84.)

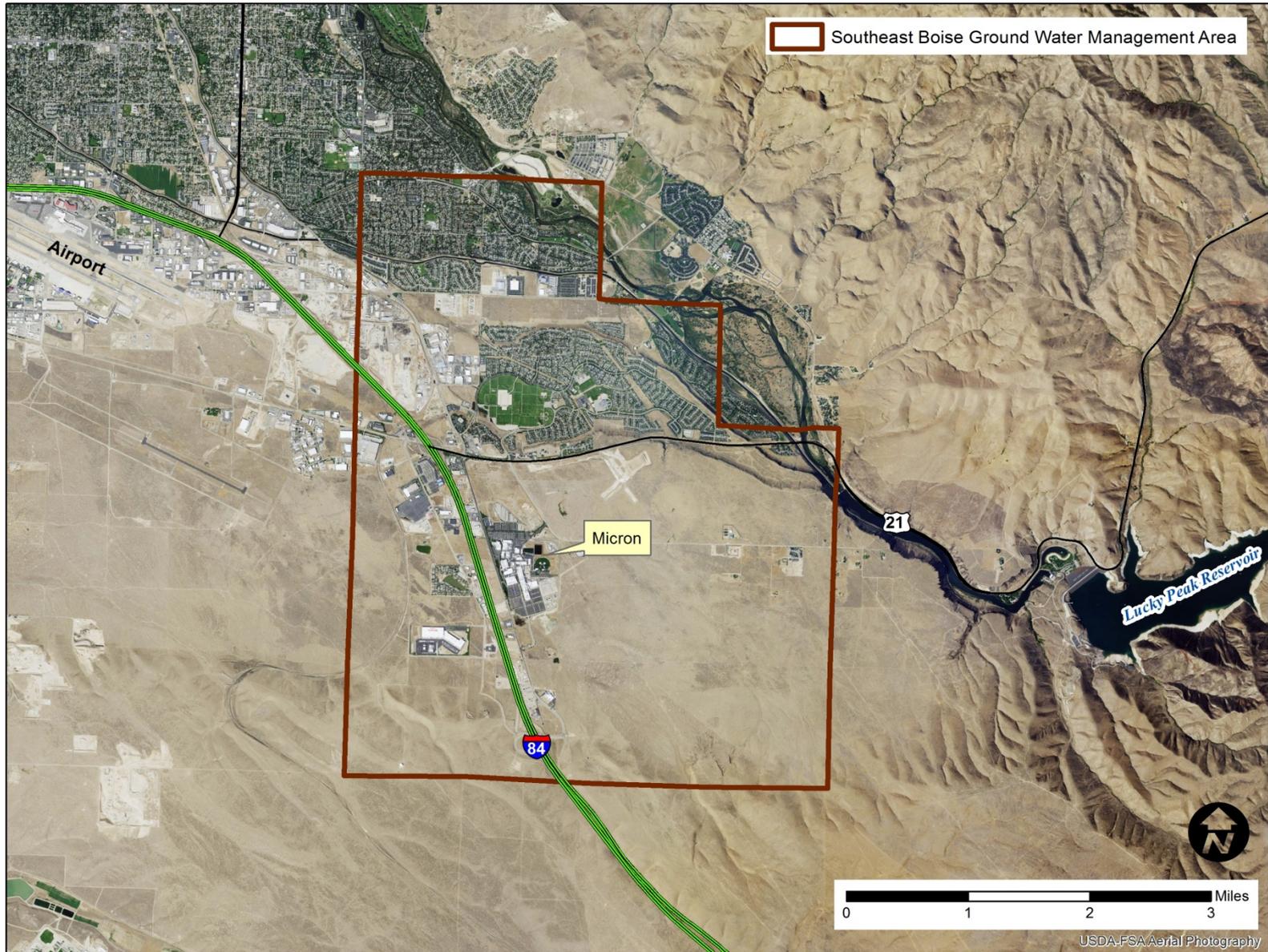
Ground Water Management Areas

- Approaching the conditions of a Critical Ground Water Management Area
- IDWR may deny applications for new water rights.
- IDWR may regulate diversions by priority.
- IDWR usually works with a local advisory group to create a management plan.
- Two in the Treasure Valley.
 - Southeast Boise (in the Micron/Columbia Village area)
 - Boise Front Low Temperature Geothermal

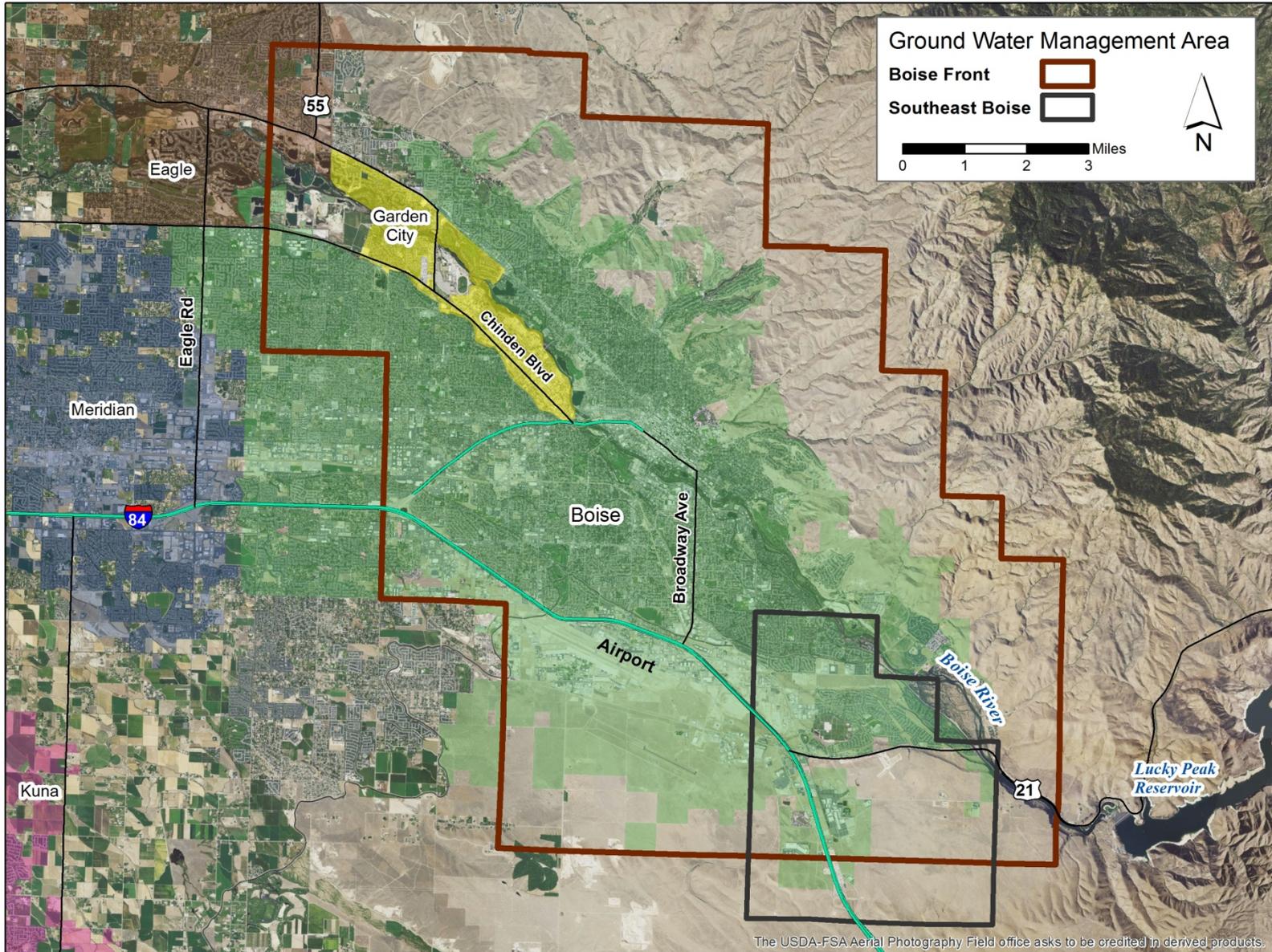
Treasure Valley GWMA



Southeast Boise GWMA



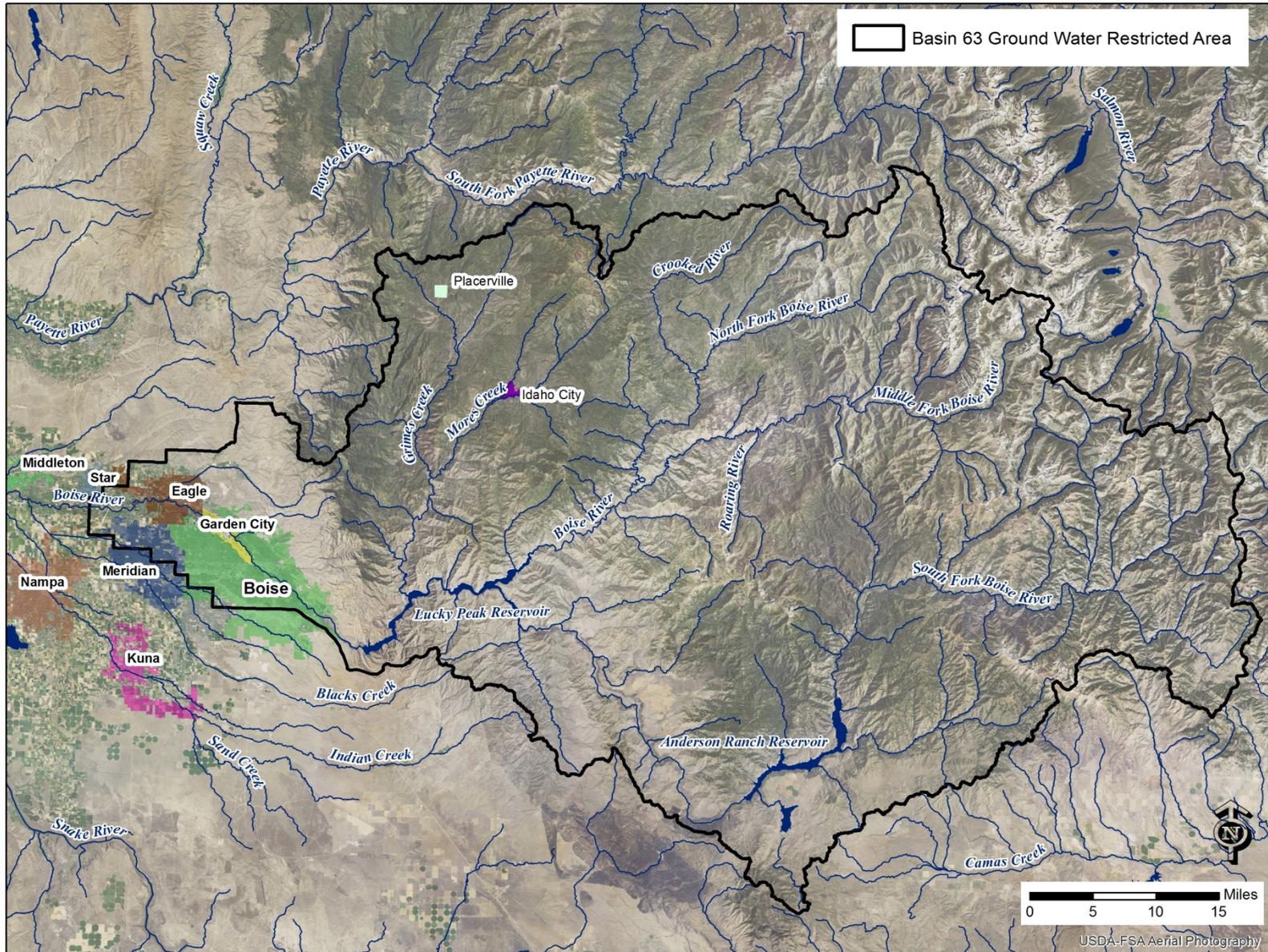
Boise Front GWMA



Recharge and ReInjection

- In the SEBGWMA, water levels are rebounding due to efforts by Micron to divert Boise River water during flood control releases, treat the water, and inject it into the ground via injection wells.
- In the Boise Front GWMA, geothermal water levels are rebounding because some of the users primarily the State of Idaho and the City of Boise are reinjecting water used for heating.

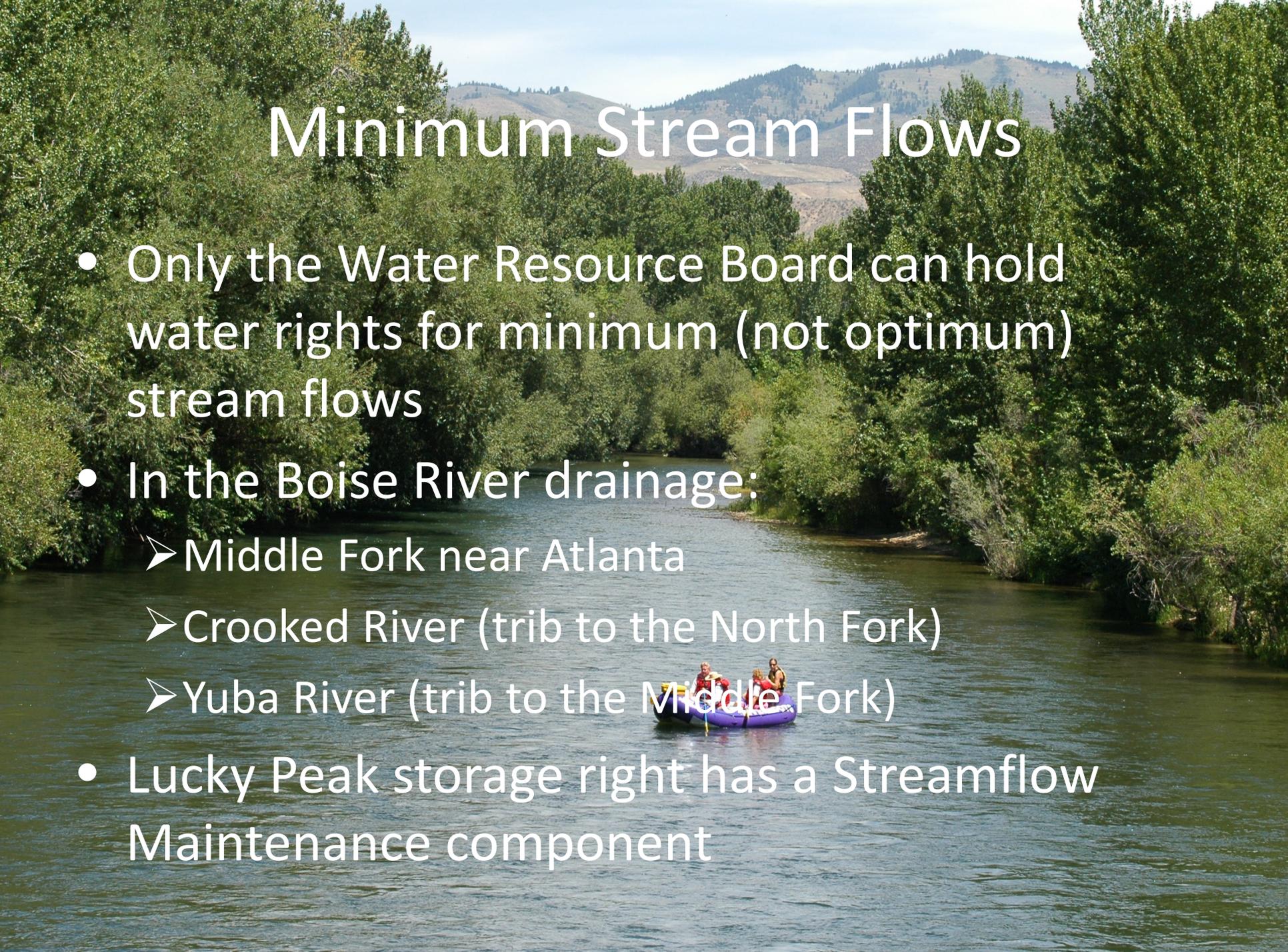
Limiting Access to Shallow Ground Water



Surface Water First Policy

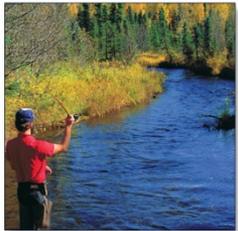
- On new permits for supplemental wells or for subdivision wells, IDWR requires the continued use of surface water as a primary supply
 - It conserves the ground water for other uses that require clean water, e.g. municipal or commercial
 - It minimizes the number and size of wells, which are potential conduits for ground water contaminants
 - It maintains the long-term economic viability of the surface water providers
 - Because the canals leak, it provides a continued supply of water to recharge our aquifers

Minimum Stream Flows

- Only the Water Resource Board can hold water rights for minimum (not optimum) stream flows
 - In the Boise River drainage:
 - Middle Fork near Atlanta
 - Crooked River (trib to the North Fork)
 - Yuba River (trib to the Middle Fork)
 - Lucky Peak storage right has a Streamflow Maintenance component
- 

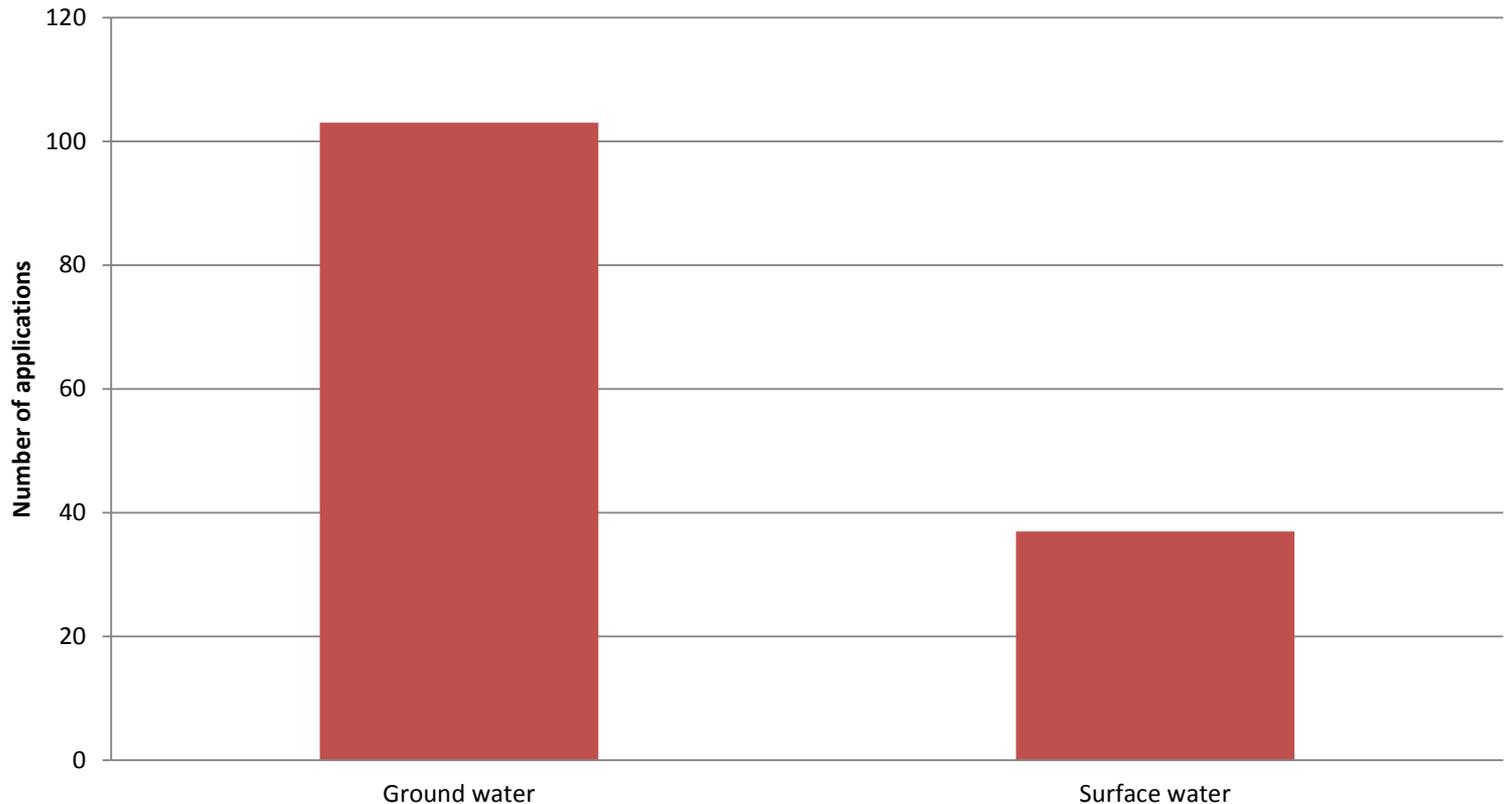
Water Supply Bank – A Water Market for Short-Term Changes

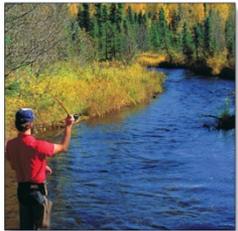
- Rental Pool – for storage water
- Water Supply Bank – for natural flow and ground water
 - Water rights that aren't being used can be leased into the Bank.
 - Leased water rights can be rented from the Bank by those who need water.
 - More popular in areas where it's harder to get new water rights, like the ESPA or Wood River Valley



The Numbers (2011)

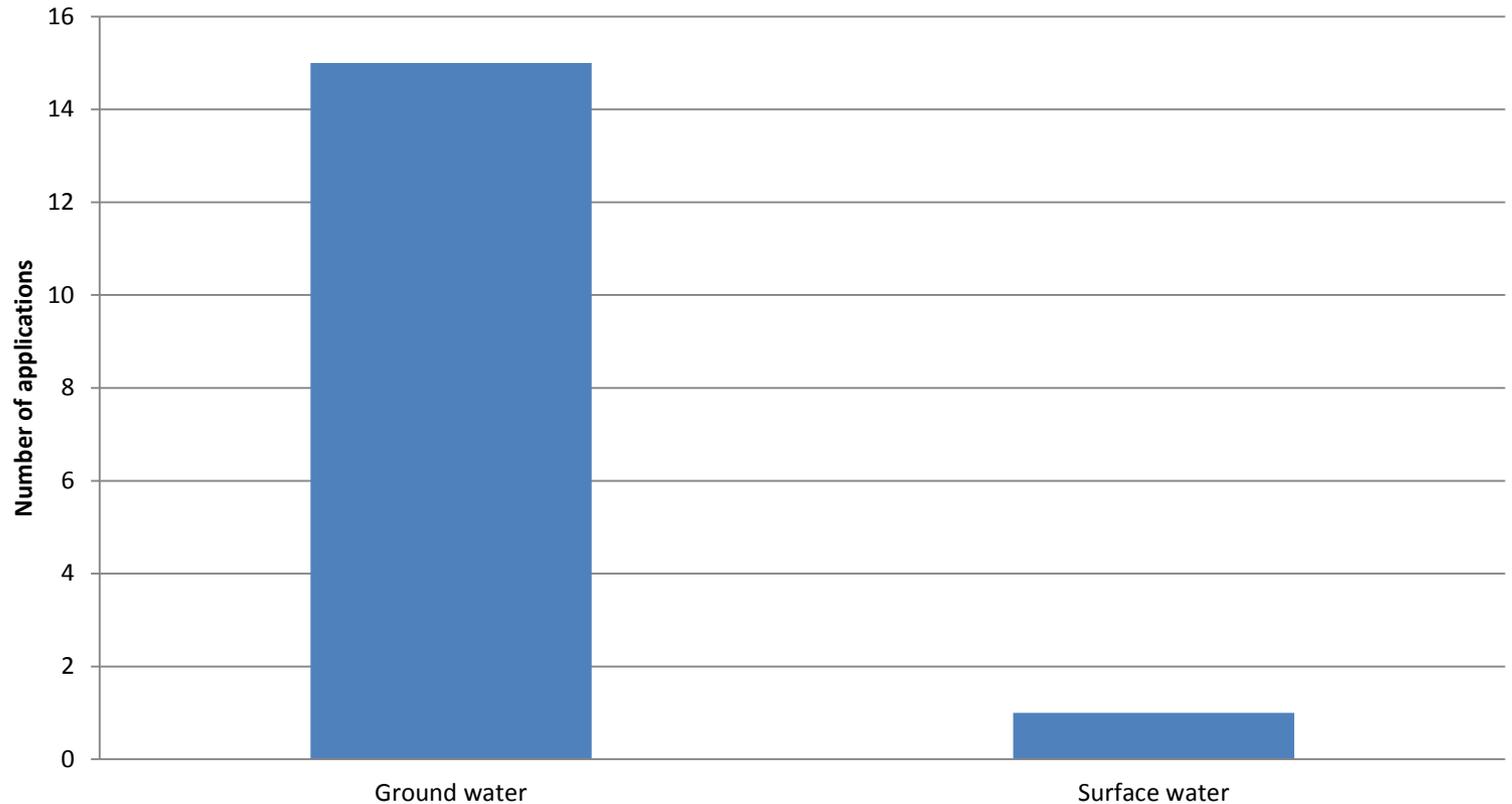
Number of lease applications in Basin 63 by source





The Numbers (2011)

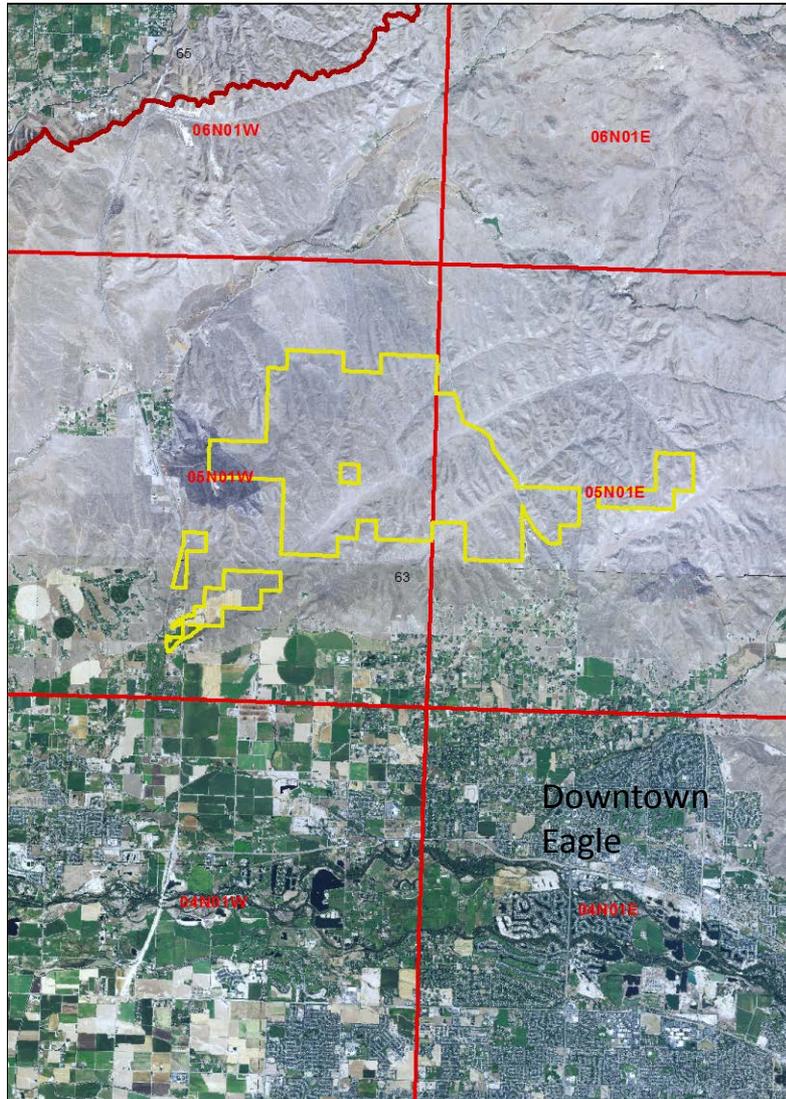
Number of rental apps in Basin 63 by source



Subordination

- On the lower Boise River (near Notus and Parma) lots of applications have been filed for big flows for Aesthetics and Recreation (duck ponds)
- Having to deliver water to those uses in priority could reduce the Boise River water available for future upstream consumptive uses, like municipal use

Reasonably Anticipate Future Needs



City of Eagle RAFN service area for Spring Valley (formerly M3 Eagle, LLC).

Reasonably Anticipated Future Needs Process

- Determine projected service area
- Determine a planning horizon
- Project population growth within the service area over the planning horizon
- Determine the water demand for the population within the service area at the end of the planning horizon
- Subtract existing water rights

Water Planning

An aerial photograph of a suburban residential development. The houses are arranged in a grid-like pattern with winding streets. A large, dark blue pond is situated in the center of the development. Surrounding the residential area are green fields, some of which appear to be agricultural. A multi-lane highway runs along the right side of the image. The overall scene is a mix of built-up areas and natural green spaces.

- State Water Plan
- Basin Plans
- Comprehensive Aquifer Management Planning (CAMP)

Please attend Neeley Miller's presentation next week.



Shelley Keen
Water Rights Section Manager
Idaho Department of Water Resources
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208-287-4947

IDWR Website Demonstration

Idaho Department of Water Resources - Internet Explorer

http://www.idwr.idaho.gov/

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