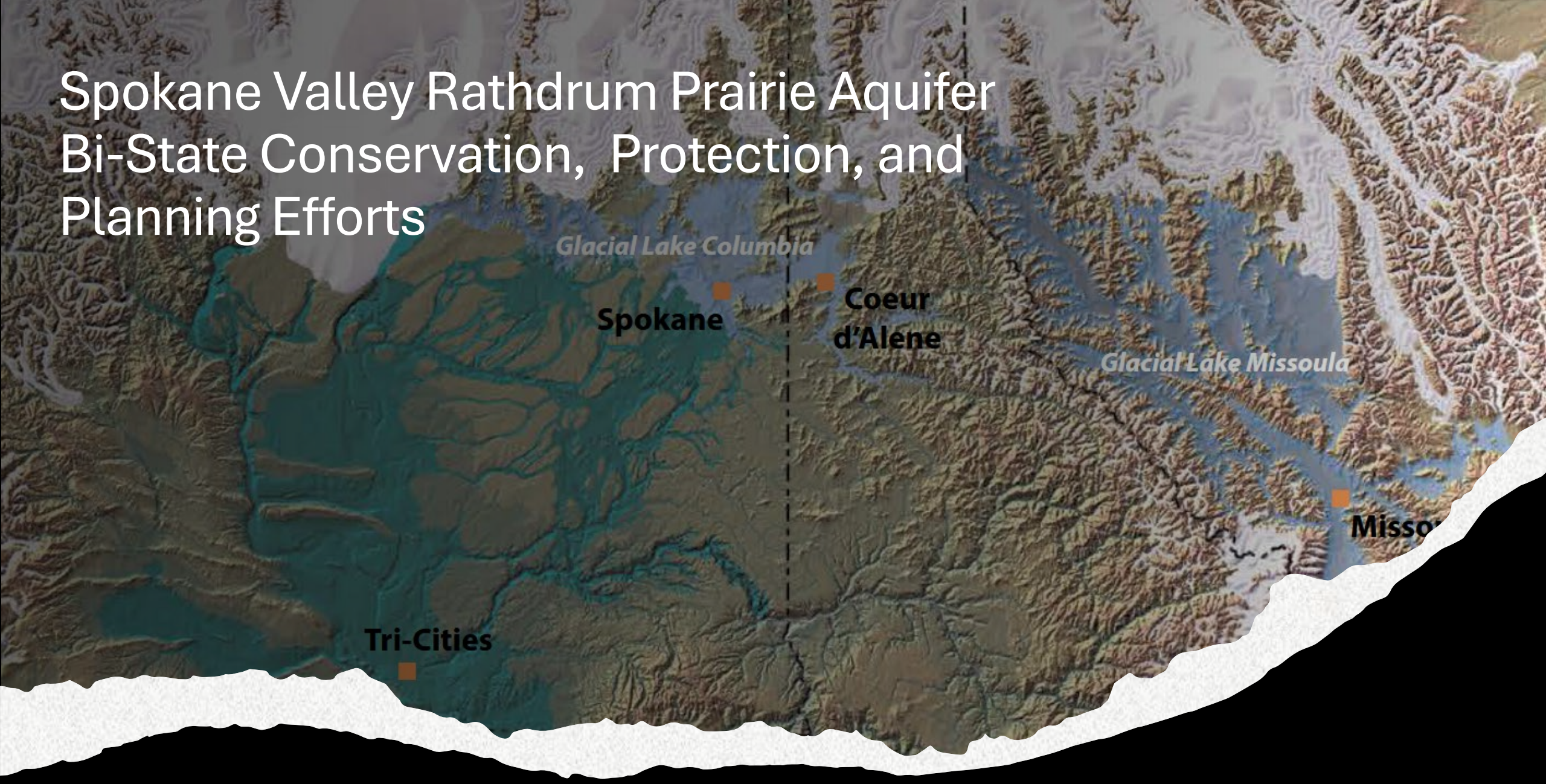
Spokane Valley Rathdrum Prairie Aquifer Bi-State Conservation, Protection, and Planning Efforts

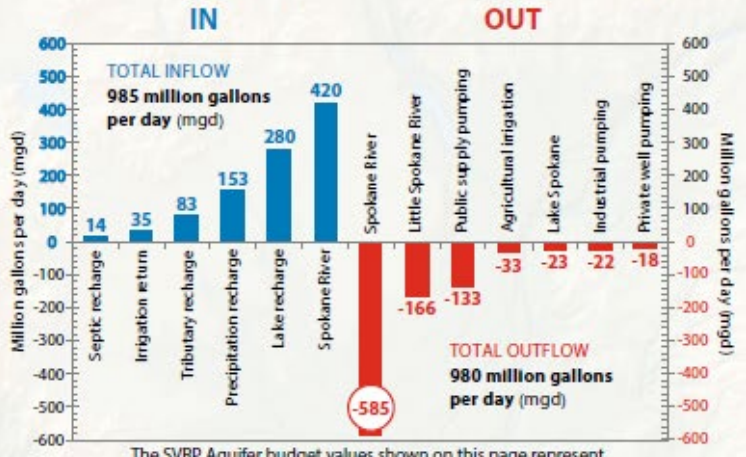


Water Law – Eastern Washington Conference May 28, 2026

Overview

- The SVRPA & the Water Budget
- Aquifer Protection District Focus & Activities
- Idaho Washington Aquifer Collaborative Focus & Activities

Balancing the water budget.



The SVRP Aquifer budget values shown on this page represent average conditions of all days in the years 1995 to 2005.

Water entering the SVRP Aquifer

Water leaving the SVRP Aquifer

The Spokane Valley-Rathdrum Prairie (SVRP) Aquifer is dynamic with water flowing into and out of the system. Like a household budget, a water budget is an accounting of the amount and source of water recharging the SVRP Aquifer, and the amount and destination of water discharging from the SVRP Aquifer. This water budget is organized into two categories: inflow (water that recharges or flows IN to the SVRP Aquifer) and outflow (water that discharges or flows OUT of the SVRP Aquifer). In any successful budget, the IN and OUT numbers should match. More data could narrow the small gap in this budget.

The Spokane River plays a key role in the aquifer water budget: the river provides about 43% of the SVRP Aquifer inflow, and it receives almost 60% of the SVRP Aquifer outflow. The lakes near the SVRP Aquifer contribute about 28% of the inflow.

Human uses are only about 21% of the SVRP Aquifer outflow. Look on page 14 to find out how much SVRP Aquifer water people in Idaho and Washington use.

153 mgd enter the aquifer from precipitation that lands on the ground above the aquifer.

Lake Pend Oreille adds 43 mgd

Spirit Lake adds 36 mgd

Twin Lakes add 26 mgd

Agricultural and golf course irrigation returns 35 mgd

Tributary basins add 83 mgd

Irrigation only wells pump 33 mgd

Hayden Lake adds 45 mgd

Hayden Lake recharge

Fernan Lake adds 10 mgd

Coeur d'Alene Lake adds 89 mgd

Domestic wells pump 18 mgd

The Spokane River adds 420 mgd

Newman Lake adds 15 mgd

Hauser Lake adds 13 mgd

Public supply wells pump 133 mgd

Industrial wells pump 22 mgd

Liberty Lake adds 4 mgd

Septic systems add 14 mgd

166 mgd discharge to the Little Spokane River

585 mgd discharge to the Spokane River

Subsurface flow to Lake Spokane takes 23 mgd

This is Waikiki Spring discharging to the Little Spokane River.

Public water systems pump, store, and deliver SVRP Aquifer water.

Water that goes down a storm drain is included with the precipitation that lands on the ground.

How does APD work?

Revenue:

- Fee Revenue: Annual parcel fee is collected on properties within the designated boundary
- $100,000 per year collected from BNSF

Funding Requests:

- Typically accepted January through March each year.
- APD Board considers funding requests aimed at Aquifer Protection through:
  - Assistance to regulatory bodies
  - Implementing educational programs
  - Coordinating work of public agencies

Source: Aquifer Protection District, 2024-2025 Fiscal Year – Proposed Budget

KOOTENAI COUNTY
AQUIFER PROTECTION DISTRICT

Work Program Elements-Community Support IDEQ and PHD

BNSF Refueling Depot Monitoring

Administration and Oversight

Education and Outreach

- Aquifer Education Kits
- Elementary/High School Lesson Plans, Presentations, Science and Physics Days

Technical Assistance

- PHD water sampling and analysis
- Consultants and regulatory agencies, students, public, property buyers

CRITICAL MATERIALS

Facility inspections, assistance, enforcement and remediation activities

SEWER AND STORMWATER MANAGERMENT

Sewerage management agreements with unsewered municipalities, 5 acre rule implementation/enforcement

Oil water separator maintenance

Inventory of shallow injection wells

WATER QUALITY SAMPLING

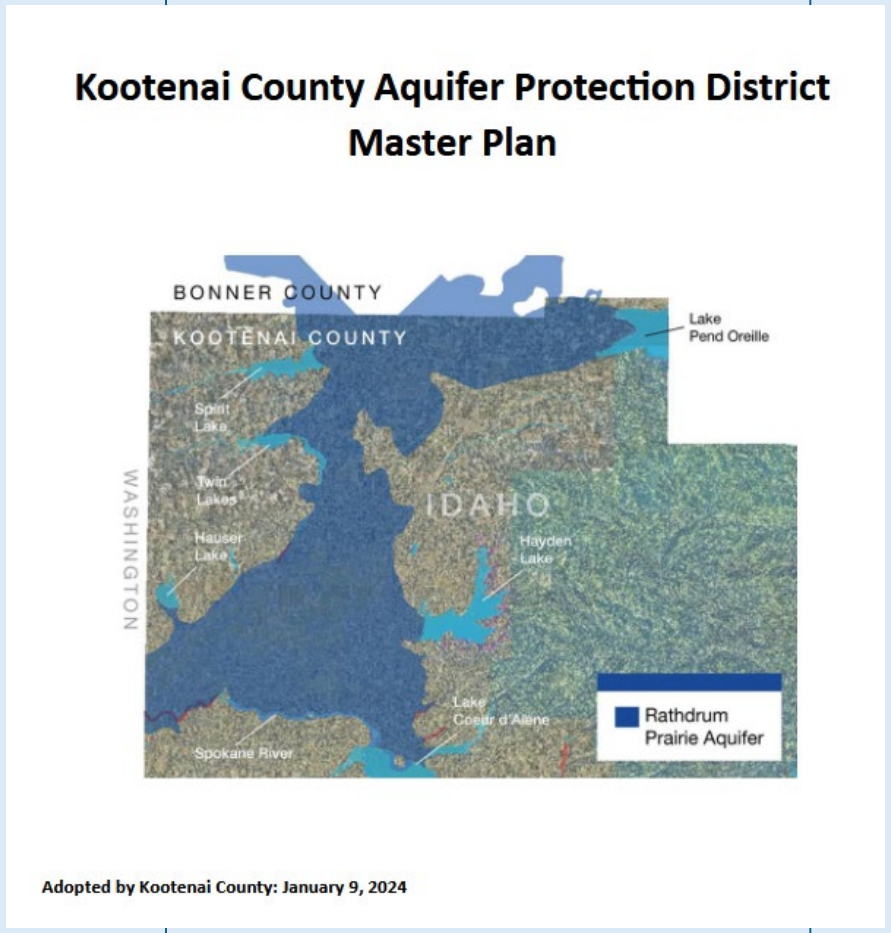
28 groundwater wells

Approximately 90% of Funding.

Source: Aquifer Protection District, 2024-2025 Fiscal Year – Proposed Budget

KOOTENAI COUNTY
AQUIFER PROTECTION DISTRICT

One of the priorities stated in the 2024 APD Master Plan is to coordinate work and leverage resources with government agencies, higher education, business and industry, non-governmental organizations, and other stakeholders, including identifying and addressing gaps in regulation that leave the aquifer vulnerable to contamination.

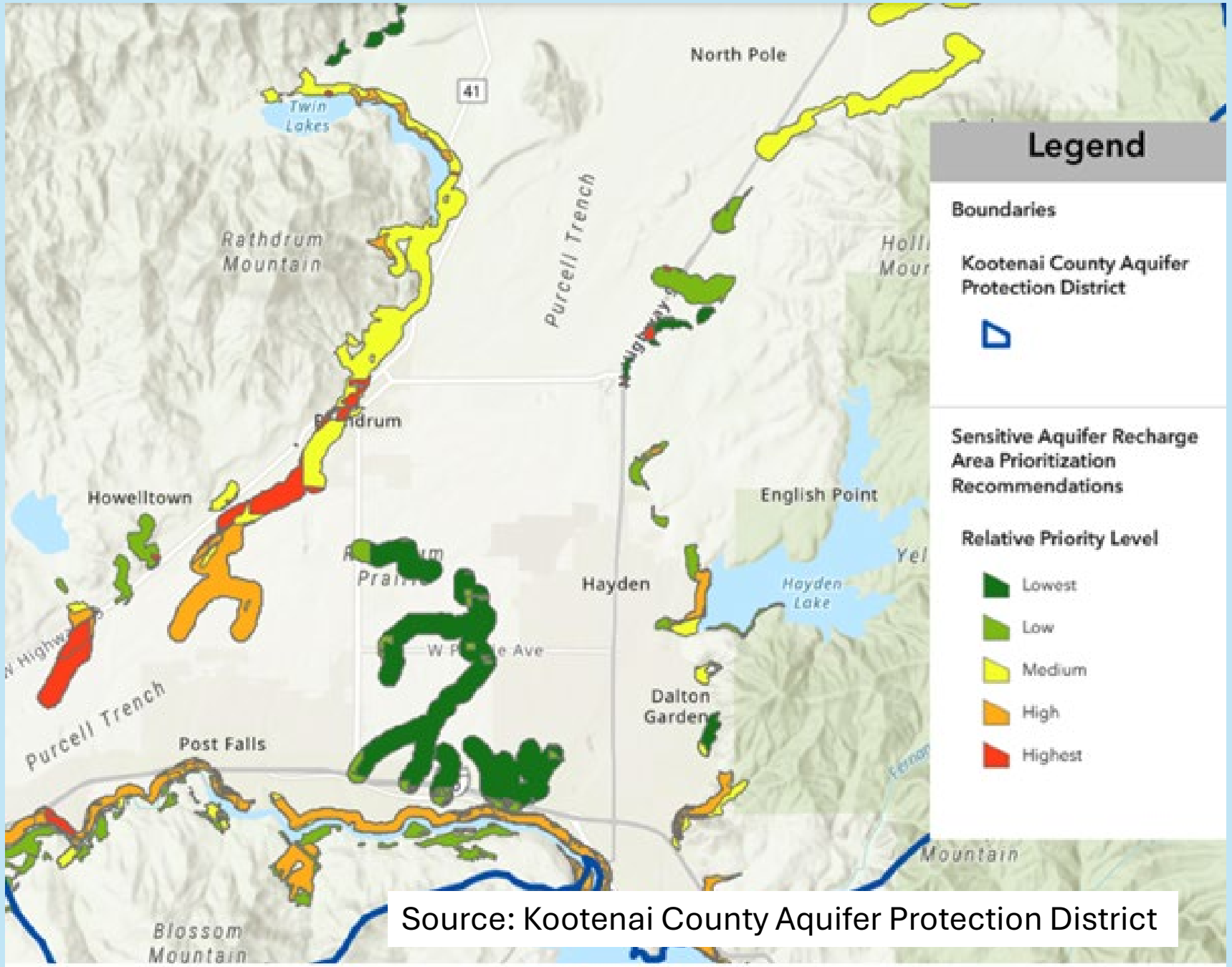


https://www.kcgov.us/DocumentCenter/View/24894/APDMaster-PlanFinal1924

KOOTENAI COUNTY
AQUIFER PROTECTION DISTRICT

Have you met SARA?

Areas overlying the aquifer that are near surface water bodies and likely exhibit relatively high infiltration rates, shallow depth to the aquifer and/or higher risk land use types.



Source: Kootenai County Aquifer Protection District

Kootenai County Surface Mining Operations

Source –IDEQ

Chilco Area

KOOTENAI COUNTY
AQUIFER PROTECTION DISTRICT

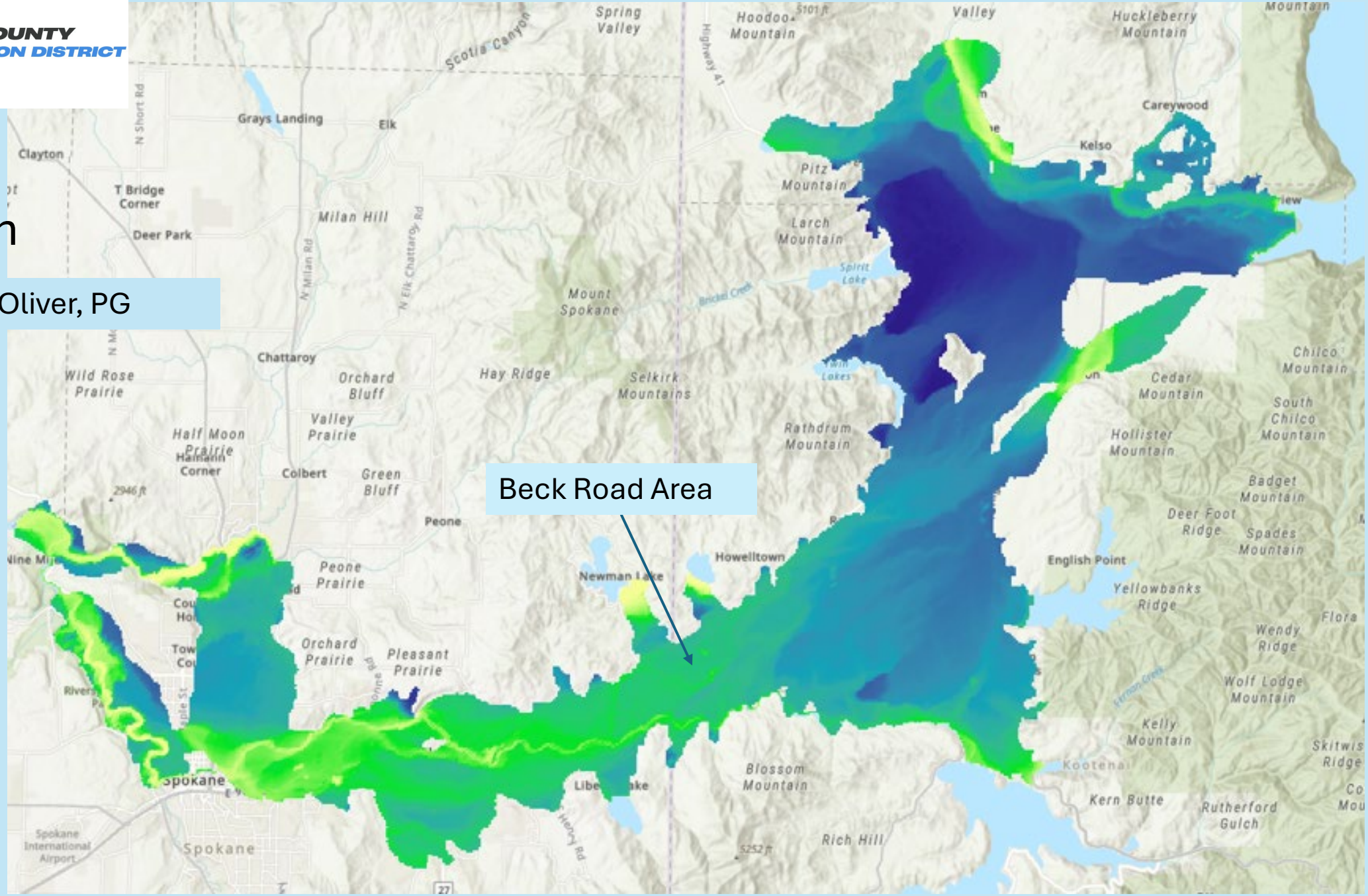
Beck Road area

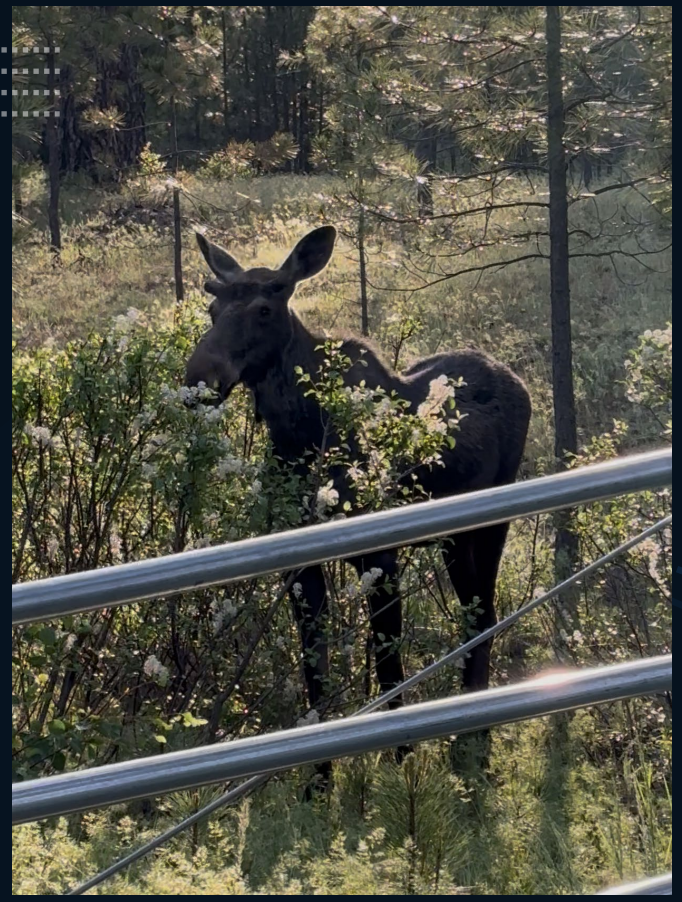
N Greenferry Area

KOOTENAI COUNTY
AQUIFER PROTECTION DISTRICT

SVRPA Depth

Source –IDEQ, Seth Oliver, PG





Kootenai County Comprehensive Plan Update

KEEPING KOOTENAI

KOOTENAI COUNTY AQUIFER PROTECTION DISTRICT

- Ensure groundwater quality for the Spokane Valley Rathdrum Prairie Aquifer in Kootenai County meets state and federal standards.
  - EPA Sole Source Aquifer and Idaho Sensitive Resource Aquifer Designations
  - Sensitive Aquifer Recharge Area (SARA) designations
  - Prioritization of water quality protection
- Aquifer Education
- Open Space Programs


IWAC
IDAHO WASHINGTON AQUIFER
COLLABORATIVE


CONSOLIDATED
IRRIGATION
DISTRICT 19


EGID
East Greenacres Irrigation District


Spokane County
WASHINGTON


CITY OF
MILLWOOD


VERA WATER
EST. 1908
AND POWER


CITY OF
SPOKANE
TM


CITY OF
POSTFALLS


LIBERTY LAKE
SEWER & WATER DISTRICT


City of
Coeur d'Alene
IDAHO


SPOKANE COUNTY
WATER DISTRICT NO. 3


MODEL IRRIGATION
DISTRICT 18


HAYDEN AREA
REGIONAL SEWER BOARD


HAYDEN LAKE
IRRIGATION DISTRICT

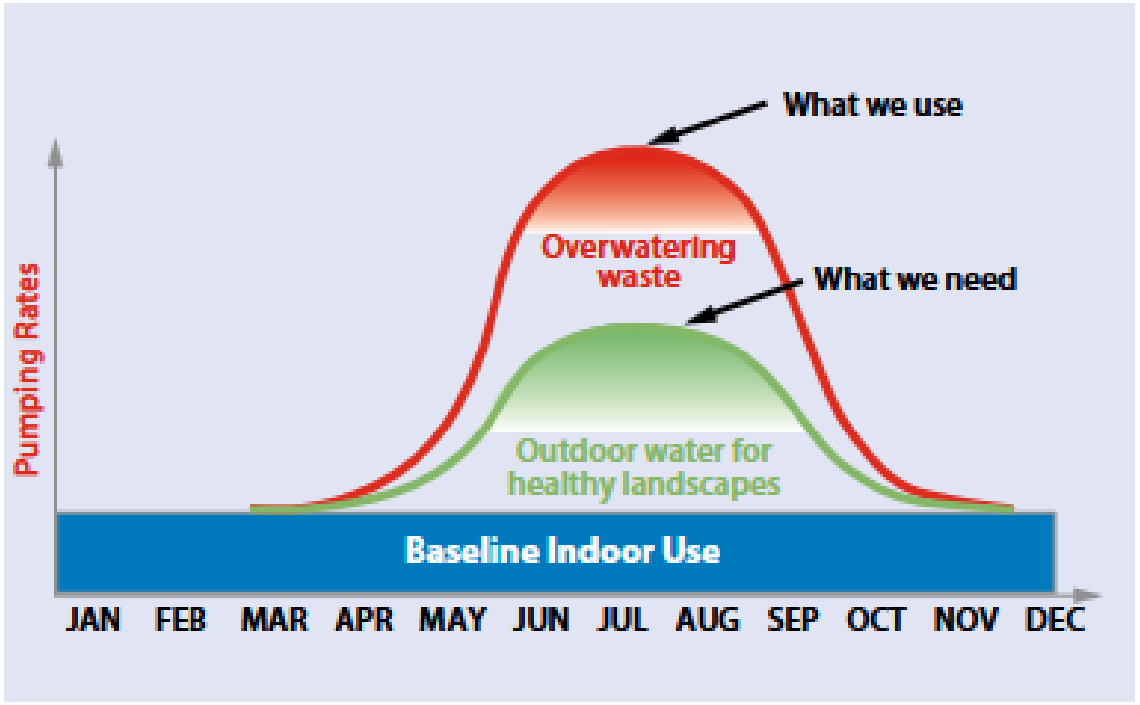

N
NORTH KOOTENAI
WATER & SEWER DISTRICT


M
EST 1905
MODERN
Electric Water Company
reliably serving the Spokane Valley since 1905

Outdoor Watering Nerds

SPOKANE AND KOOTENAI COUNTIES

outdoorwateringnerds.org



Source: 2023 SVRPA Atlas

Looking for Outdoor Watering Solutions?

Outdoor Watering Nerds can connect you to Professionals and Do It Yourself resources for outdoor leak detection, sprinkler repair and retrofit, and landscape design. The Nerds are excited to bring you how-to videos, water saving tips, rebates, classes, and events in Kootenai and Spokane counties. Saving water outdoors protects your pocketbook, economic growth, the Spokane River, and our sole source of drinking water, the Spokane Valley Rathdrum Prairie Aquifer. Good for you. Good for our future.

Website Sponsors

Spokane River forum

SAJB

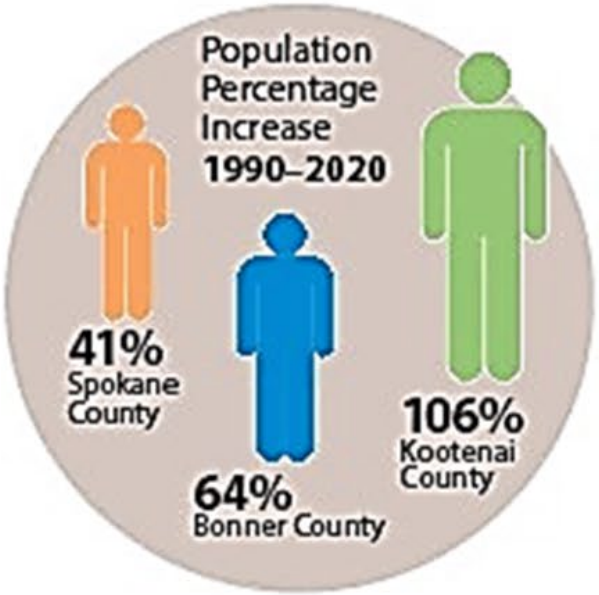
IWAC Idaho Washington Aquifer Collaborative

WE CAN DO BETTER.

Available online at www.iwac.us

Common Concerns in WA and ID

Population Growth/Urbanization/Development

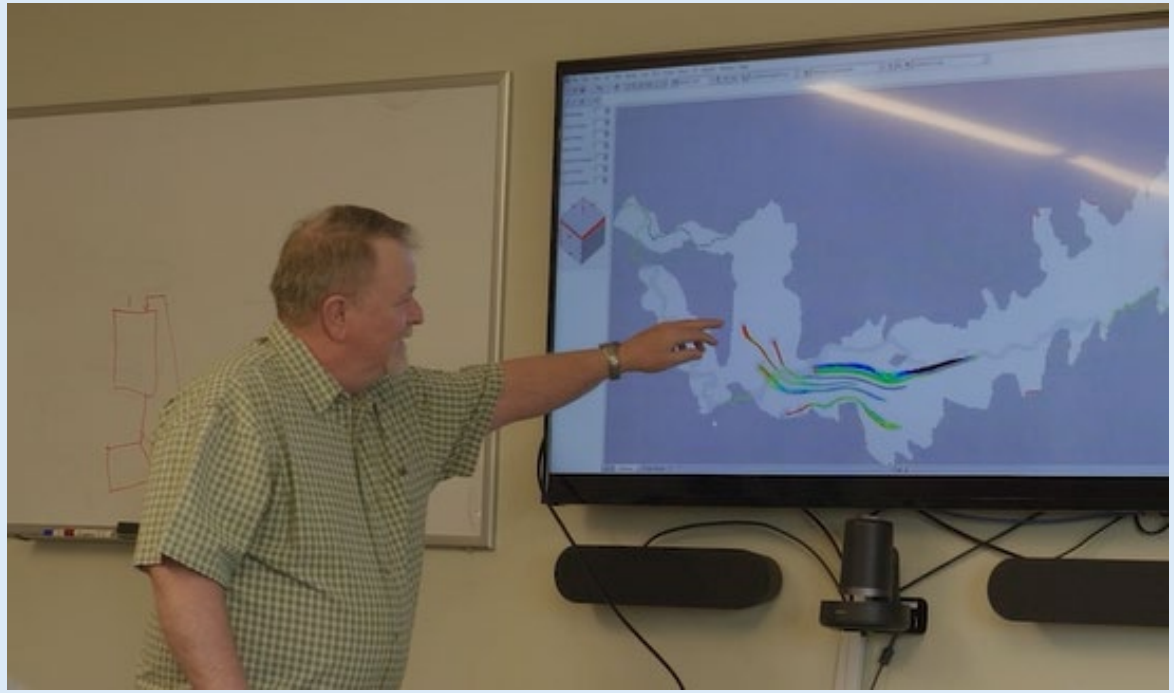


Source: SVRP Aquifer Atlas

IWAC
IDAHO WASHINGTON AQUIFER COLLABORATIVE

USGS
science for a changing world

MODFLOW-USG: An Unstructured Grid Version of MODFLOW for Simulating Groundwater Flow and Tightly Coupled Processes Using a Control Volume Finite-Difference Formulation



Dan Kegley, IWAC President Emeritus, explaining Modflow USG to IWAC members.

GSI
Water Solutions, Inc.

"Phase 2 will consist of first constructing and calibrating an up-to-date groundwater flow model that simulates recent/current conditions in the entire Spokane Valley-Rathdrum Prairie Aquifer system (the SVRP Aquifer), including the Idaho portion of the aquifer (the RPA). GSI will then use the calibrated model to simulate the effects of future population growth and climate change on the aquifer." – GSI Scope of Work, Phase 2.

Wellhead Protection Areas
2-year Time of Travel

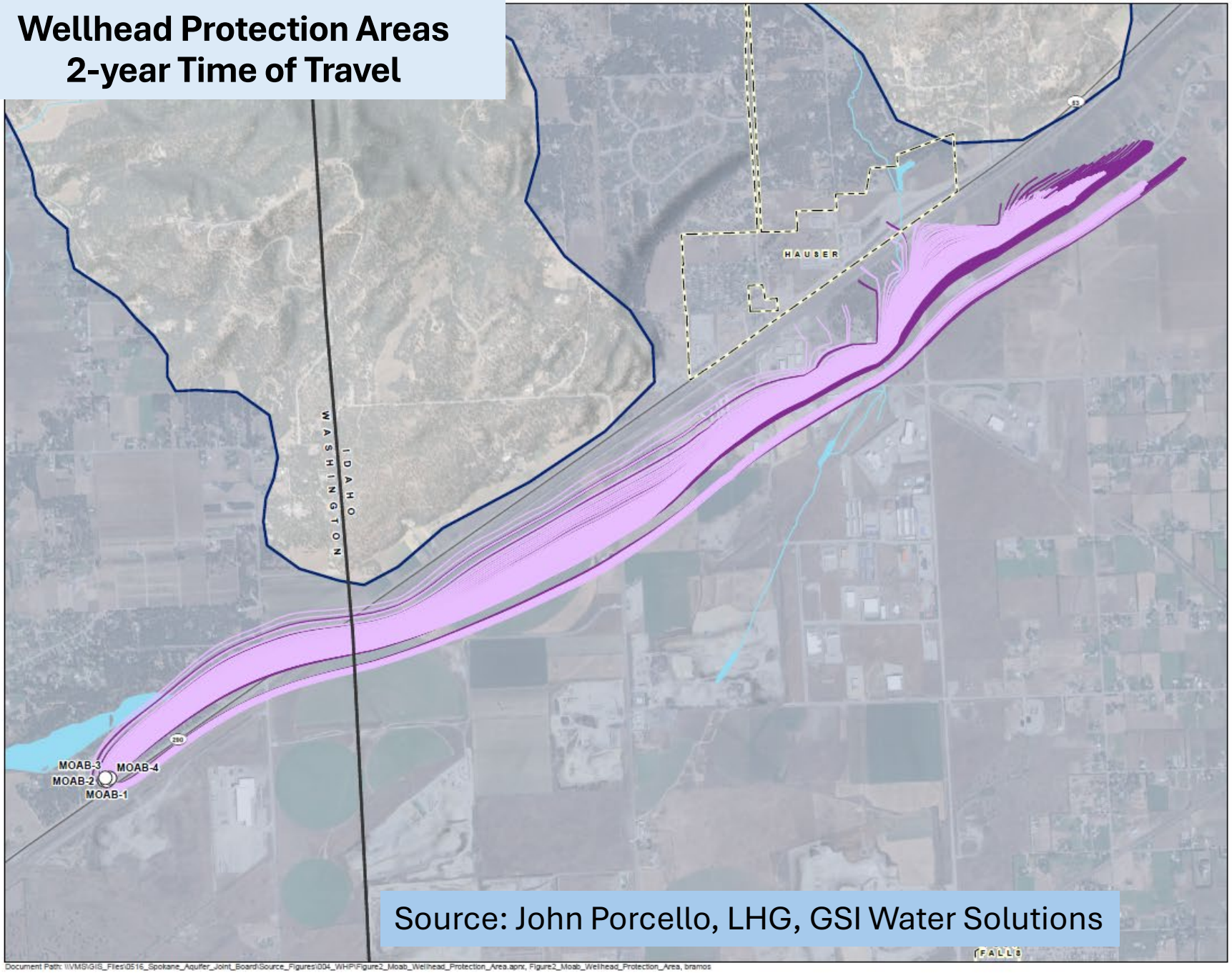


FIGURE 2

Special Wellhead Protection Areas (2-Year Time of Travel)

Moab Irrigation District No. 20

LEGEND

- Moab Well
- Other Well

Particle Tracking

- RCP 8.5 High Degree of Climate Change
- RCP 8.5 Low Degree of Climate Change

All Other Features

- Spokane Valley-Rathdrum Prairie Aquifer
- City Boundary
- State Boundary
- Major Road
- Watercourse
- Waterbody

NOTE

RCP: Representative Concentration Pathway

N

0 800 1,600 2,400

FEET

Date: October 27, 2025
Data Sources: BLM, ESRI, USGS, Imagery (2025)

GSI Water Solutions, Inc.

Source: John Porcello, LHG, GSI Water Solutions

Document Path: \\VMS\GIS_Files\0516_Spokane_Aquifer_Joint_Board\Source_Figures\004_WHP\Figure2_Moab_Wellhead_Protection_Area.aprx, Figure2_Moab_Wellhead_Protection_Area, bramos

Losing and Gaining Reaches of the River
(Aquifer Atlas, 2023)

Thank you!

IWAC find us at www.iwac.us or

Kootenai County Aquifer Protection District
https://www.kcgov.us/336/Aquifer-Protection-Board

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