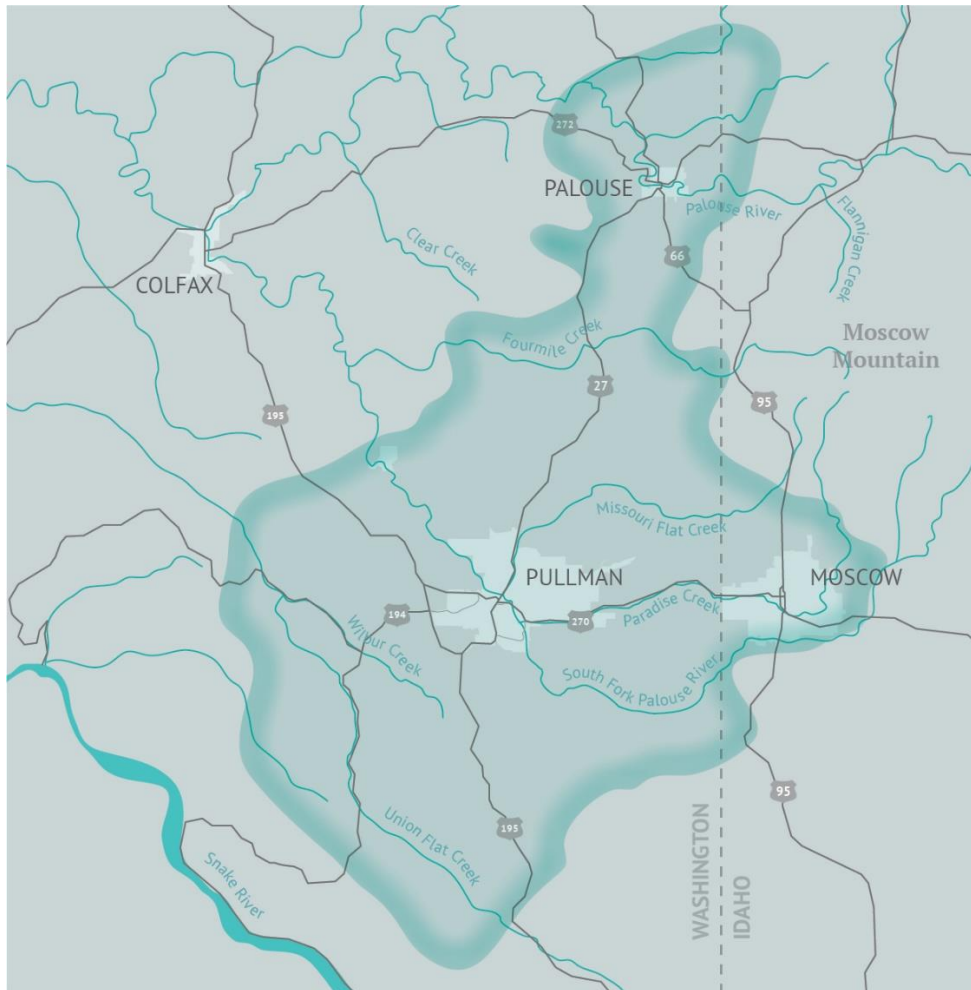


PALOUSE BASIN AQUIFER committee

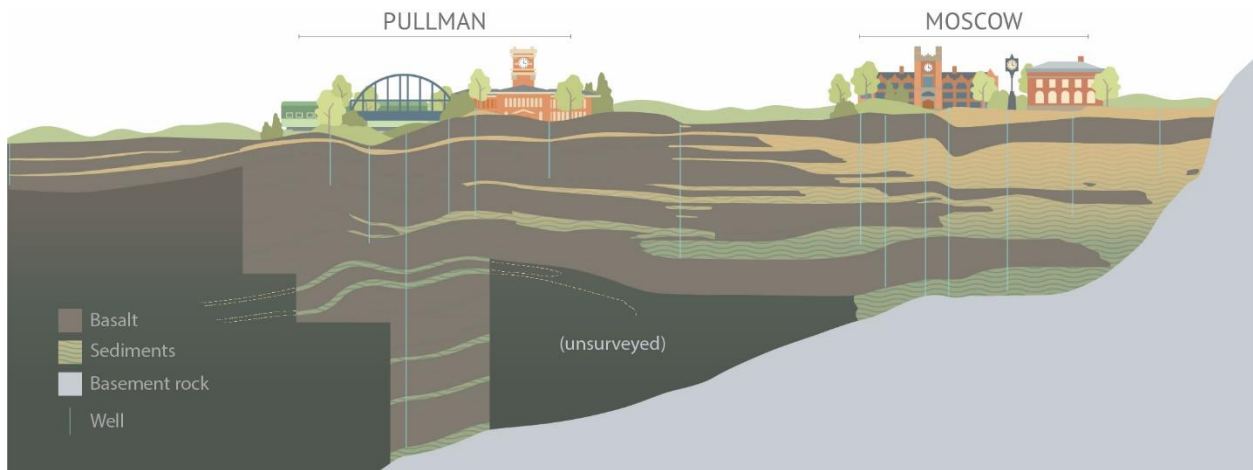
2023 Annual Report

BACKGROUND

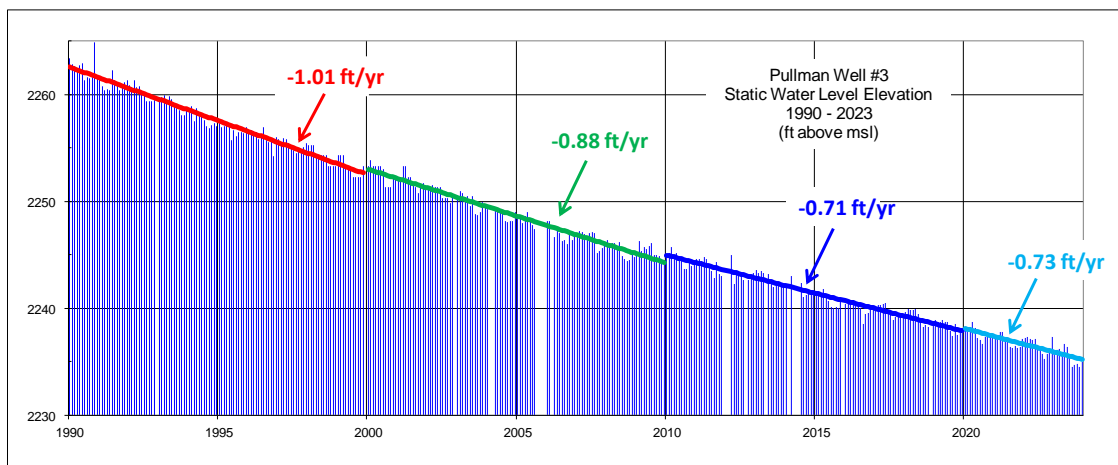
The Palouse Basin Aquifer System provides the sole drinking water supply for over 80,000 residents in Whitman County (Washington) and Latah County (Idaho). The map below shows our best understanding of the Aquifer Basin boundaries:



This cross-section illustrates some of the complexities of the aquifer system:



Groundwater levels have been declining since the late 1800's when settlers began digging wells on a large scale. Since then, the amount of water being pumped from the aquifer system outpaces what re-enters from the natural recharge process.



In the 1990's, the decline rate was 1.3 feet per year. **The current rate of decline in the basin is approximately 0.73 feet per year.** While the rate of decline has decreased over the last 30 years, demonstrating that conservation efforts and technology advancements have been effective, the aquifer water levels continue to drop as demand outstrips supply. State statutes define this as mining an aquifer, an unsustainable practice. This condition can lead either the Washington Department of Ecology (WDOE) or the Idaho Division of Water Resources (IDWR) to declare the Palouse Basin a Critical Groundwater Management Area (CGMA). This could significantly curtail future growth, including housing and businesses, and remove the authority for local decision-making. In an effort to maintain local control and demonstrate a willingness and ability to work on solutions to the supply challenges in the Palouse Basin, the local jurisdictions came together and established the Palouse Basin Aquifer Committee.

ABOUT THE COMMITTEE

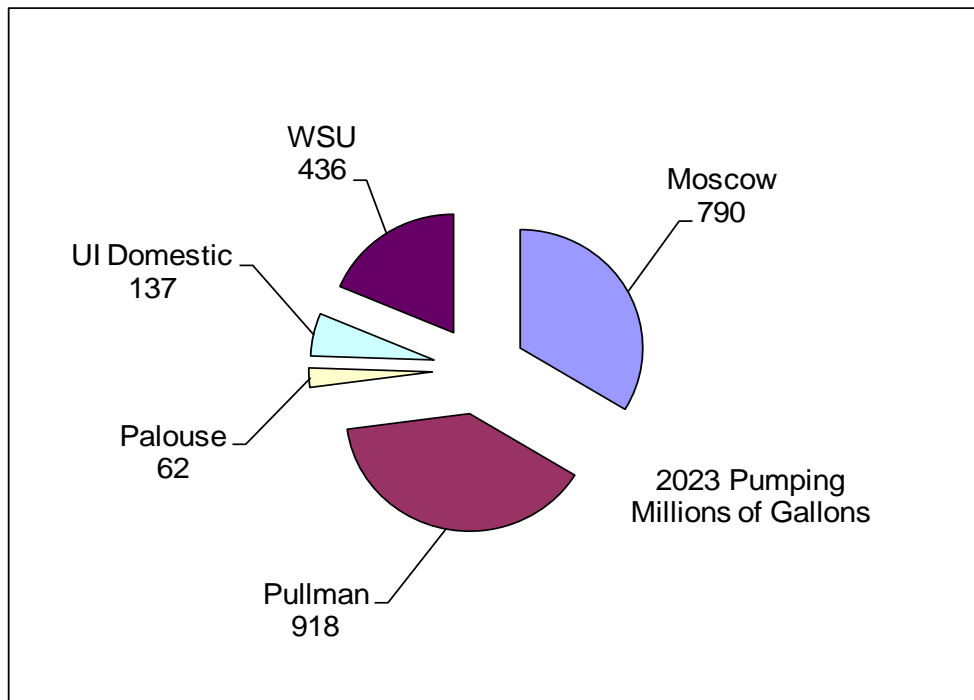
The Palouse Basin Aquifer Committee (PBAC) is a cooperative, multijurisdictional, bi-state partnership made up of representatives from cities, counties, and universities within the basin. This includes the City of Pullman, Whitman County, and Washington State University, in Washington state, and the City of Moscow, Latah County, and the University of Idaho, in the state of Idaho. Each entity has two voting representatives on the Committee. Non-voting members include representatives from Washington Department of Ecology and Idaho Department of Water Resources. The City of Palouse, Washington, is also in the basin's boundaries, though not presently a member of the Committee.

PBAC's MISSION: To ensure a long-term, quality water supply for the Palouse basin region.

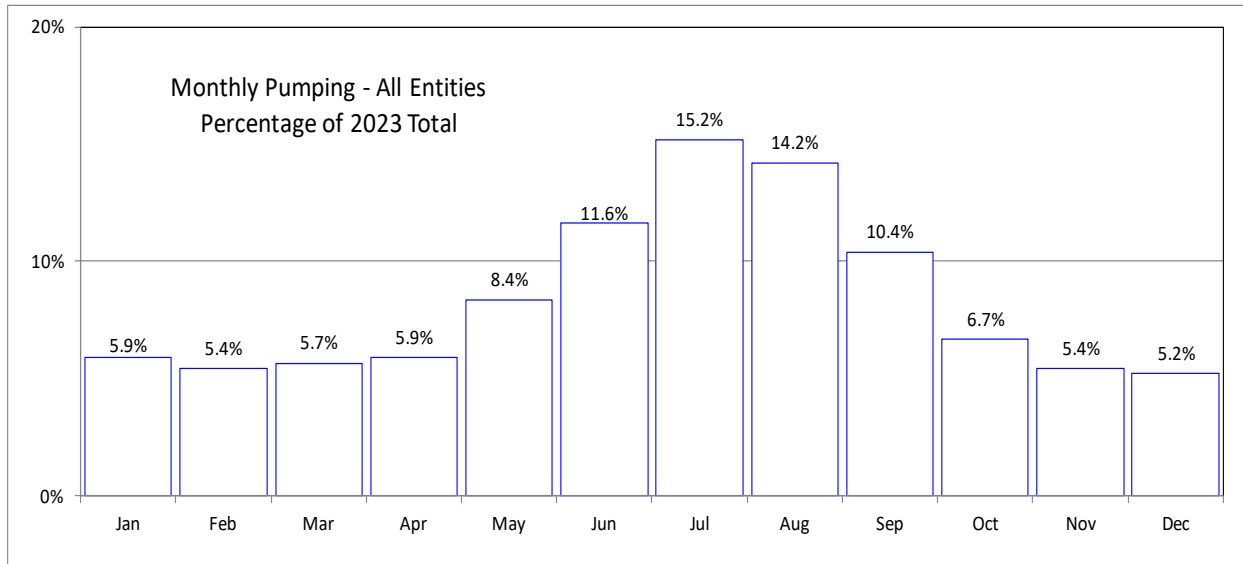
The Groundwater Management Plan (GWMP) includes requirements to gather annual pumping numbers, analyze water level information, research the basin's geology, actively engage and educate the community, foster and maintain relationships with state and local agencies, and implement a supplemental water source with the goal of aquifer stabilization. Encouraging implementation of the GWMP, including monitoring of and reporting on aquifer levels, are core activities for PBAC.

2023 GROUNDWATER USAGE

The total combined groundwater pumped by the cities (Pullman, Moscow, and Palouse) and the universities (WSU and UI) for the year 2023 was 2.34 billion gallons. In aggregate, this was 6% less than was pumped in 2022 (2.28 billion gallons), and 14.6% less than was pumped in 1992 (2.74 billion gallons), the first year the GWMP took effect. This variance is within the normal year-to-year ranges.

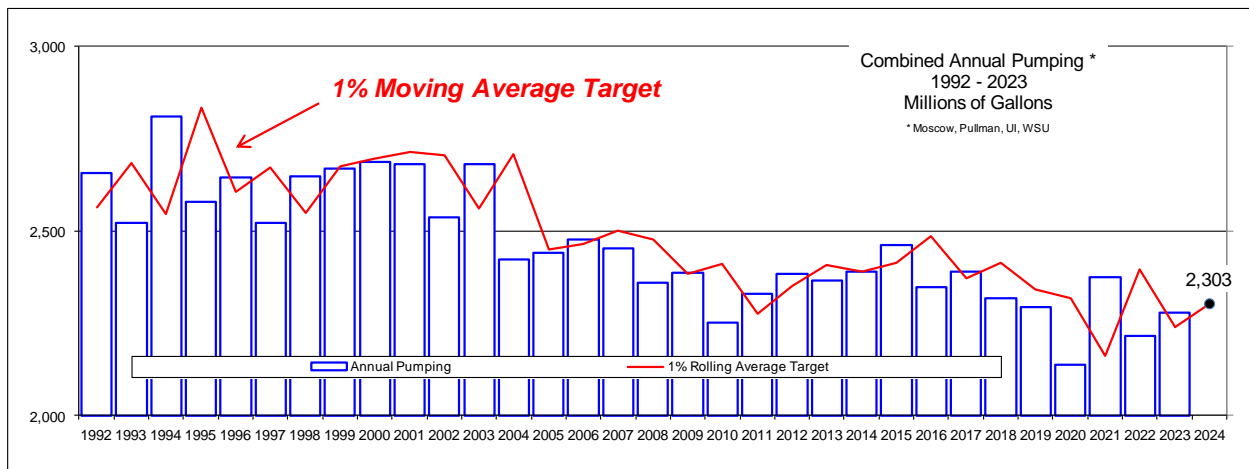


During the months of November through April, the water used indoors (due to no irrigation during colder weather) is known as ‘baseline use’. Pumping increases significantly during the warmer months typically, starting in May and continuing through October, primarily due to outdoor irrigation or what is known as ‘non-baseline use’. In 2023, the region experienced a hotter than usual summer, resulting in increased water usage compared to the previous year.



During the four months of June through September the water pumped accounted for 51.4% of the water used for the entire year.

As part of the GWMP, each major pumping entity agreed to pumping limitation goals. The effort was to limit annual pumping increases to 1% from the 1986-1990 five-year average pumping amount (the red line in the chart above). In addition, entities agreed to a cap of no more than 125% of the 1981-1985 five-year average pumping amount. The entities have met these goals almost every year, except once. With the cities prioritizing the creation of a regional conservation plan, it’s likely each entity should revisit their action plans and create new pumping caps with a goal to conserve more and more each year. Conservation continues to be the most economical first step and will help extend the lifespan of any future water supply project.



2023 ACCOMPLISHMENTS and 2024 GOALS

Prioritizing Water Conservation

Conserving water will always be the most cost-effective solution to resolving our shared water resources, and education/outreach on this topic is a high priority for PBAC. As a part of this effort, PBAC added a Water Conservation Coordinator/AmeriCorps Member in early 2024 to focus on water conservation education and outreach in Latah County.

Annual Datalogger Downloads

Over 30 wells in the region have transducers that take readings of water levels once an hour. Throughout the year data is stored and each summer the data is obtained through field work. This year's downloads were performed by Alta Science & Engineering with a total cost of \$16,000. Data are reviewed and analyzed to determine aquifer levels in the basin. It is vital to maintain consistent measurements each year to track trends in conjunction with pumping reports. The 2023 hydrograph includes a map with well locations and the data obtained from each transducer in each well over the past several decades.

Refinement and Outreach for a Palouse Basin Supplemental Water Supply Report

PBAC continues to evaluate and refine the five supplemental water supply alternatives identified in our 2022 report authored by Alta Science & Engineering. Included in this were meetings with IDWR and WDOE staff, presentations to community groups in the basin, an initial meeting with the Nez Perce Tribal Executive Committee, and engagement of strategic consultant services through Gregory Geologics.

Each of the supplemental water supply alternatives remains as a viable option, either in whole or in part. However, PBAC is currently focusing on obtaining supplemental water for the Basin from the Clearwater River, as that seems most likely to meet future projected needs and has a higher likelihood of a water right being available than other options.

\$182,500 was pledged by the Idaho Water Resource Board in August 2023 to further PBAC's refinement of a supplemental water supply alternative and these funds will be used for preliminary engineering studies of a potential Clearwater River diversion to the Palouse Basin for a supplemental municipal supply.

Outreach & Education

There is an inherent complexity in the analysis of groundwater systems, monitoring of declining water levels, and especially the generation of water supply projects. Public outreach and education are critical components of PBAC's work. A lack of clear, consistent, and timely public outreach and involvement played a key role in failures of previous attempts at implementing water supply projects.

PBAC's infographics will be updated to reflect our current best understanding of best options for a supplemental water supply, and to ensure that accurate and current information is being disseminated.

Partnerships

Leaning into the collaborative nature of PBAC, maintaining relationships and making others aware of the work PBAC is charged with is a continued priority.

PBAC’s Stakeholder Engagement Group has been an important component of our community engagement in the past, this group will be re-formed so that we may share information and conduct dialogues with community members and interested stakeholders.

Additionally, a Research Colloquium will be conducted to engage with and learn from academic stakeholders at the University of Idaho and Washington State University.

Research

The Palouse Basin Aquifer system is geologically complicated and PBAC continues to gain greater understandings of the water systems in our region. Historically, PBAC has focused its efforts on research to understand the dynamics of the basin. Now, with an aquifer stabilization and target need goal for our growing region, PBAC has pivoted to an applied technical research role, emphasizing taking local responsibility to solving our shared aquifer decline.

Current projects under consideration include determining areas of greatest aquifer recharge potential along the base of Moscow Mountain and surveying a newly-discovered granite/basalt interface south of the City of Moscow for aquifer recharge potential.

PBAC ADMINISTRATION AND BUDGET

PBAC has been governed since its beginning by an Interagency Agreement between the member entities. This 20-year agreement expired August 2023, and a 1-year bridge agreement is currently in place. A new 10-year Interstate Agreement will govern PBAC starting in 2024 and the only changes to the previous agreements will be to ensure legal compliance and to reflect current operations and practices. PBAC’s Bylaws will also be updated during this process.

The Committee is financed through contributions from its member entities. The major pumpers (i.e. Pullman, Moscow, WSU, and UI) contribute a larger amount as the major pumping entities in the basin with independently operated water systems, while the counties (i.e. Whitman and Latah) contribute a smaller amount as they do not operate water systems but represent the number of small pumpers scattered through rural Whitman and Latah Counties. PBAC’s fiscal year (FY) is July 1 through June 30.

During Spring 2023 it was decided to increase PBAC’s invoices to member entities beginning in 2024; the new amounts will be reflected in the new Interstate Agreement. Previously all entities contributed to PBAC’s administration and pumping entities also made contributions to PBAC’s research account. The Interstate Agreement doesn’t separate these accounts or invoices, the new amounts are shown below:

PBAC’s Revenue Forecast FY 2024-25	
City of Pullman	\$53,750.00
City of Moscow	\$53,750.00
Whitman County	\$8,438.00
Latah County	\$8,438.00

Washington State University	\$53,750.00
University of Idaho	\$53,750.00
Total	\$231,876.00

PBAC has a healthy budget reserve, the forecast to begin the 2024-25 fiscal year is \$644,646.41. It is forecast that our end of fiscal year balance will be somewhere between \$580,269.44 and \$670,474.44, depending on what research projects are chosen for funding and timing of payments.

Past research projects supported by PBAC have encompassed a wide range of topics from creating a new groundwater model, tracking isotopes to determine the age of water or the amount of recharge occurring, to selecting alternative water supply projects for a regional supplemental water project and data refinement necessary to move a project forward. Research funds are not typically spent in full each year due to the high cost of projects, which can range from \$50,000-\$300,000. It is necessary for funds to carry over from year to year to ensure PBAC can support future projects.

Historically, PBAC has funded over \$1.5 million worth of research on aspects of the basin. To see a list of modern research content, view the [research webpage](#). Historical research has been organized within the PBAC Framework Database, also found on the research webpage.

PBAC has actively worked to identify and pursue additional sources of revenue such as grants from the member entities or funding awarded by the states, depending on the scope of the project proposed. In August 2023, PBAC was pledged \$182,500 in ARPA funds through Idaho Water Resource Board for further investigations of a supplemental water supply. PBAC is actively engaged with both State’s water resource departments to ensure coordination of a future project so resources can be allocated appropriately.