

Irrigation Leader

VOLUME 14 ISSUE 3

MARCH 2023

WASHINGTON STATE EDITION



**Like Money in the Bank:
Nathan Draper on Water
Banking at Selah-Moxee
Irrigation District**

Like Money in the Bank: Nathan Draper on Water Banking at Selah-Moxee Irrigation District



An on-farm reservoir with hops and orchards in the background, Moxee, Washington.

Changes in the Selah-Moxee Irrigation District (SMID) over 20 years—the conversion of hop farms from flood irrigation to drip irrigation, the piping and lining of canals, and the transformation of agricultural land into residential subdivisions—have resulted in a water surplus. Now, SMID is banking that surplus water and offering it for sale or lease. The revenue that brings in will fund further water conservation efforts. In this interview, SMID Manager Nathan Draper tells Irrigation Leader about that virtuous cycle.

Irrigation Leader: Please tell us about your background and how you came to be in your current position.

Nathan Draper: I got my education in ag business management and construction management and started to work for an irrigation district in Idaho back in 1997. I managed that district for about 15 years, and then I was given the opportunity to move to Yakima to manage SMID. I have been in the Yakima Valley for about 10 years.

Irrigation Leader: Please introduce SMID.

Nathan Draper: SMID provides water to about 2,800 customers near the cities of Selah and Moxee, both of



The piping of the lower sections of the Selah-Moxee Canal in Moxee, Washington.

which are located on the outskirts of the city of Yakima. The district irrigates approximately 9,500 acres. The various types of crops grown in the area include hay, hops, orchards, and pasture; there are also residential lawns and gardens.

Irrigation Leader: What is the source of your water?

Nathan Draper: The district's source of water is the Yakima River. We divert about 90 cubic feet per second on average, totaling approximately 40,000 acre-feet each year.

Irrigation Leader: What infrastructure does the district own and operate?

Nathan Draper: The district owns and operates three canals: the Selah-Moxee Canal, the Moxee Ditch, and the Hubbard Canal. Combined, they have a total length of 40 miles. In addition to those three canals, the district has a contract with the Fowler Ditch Association (FDA) to operate the Fowler Ditch, which is about 10 miles in length and is adjacent to the Hubbard Canal. These facilities are primarily earthen canals; approximately 5 percent of the canals are piped. The district also operates two pump stations that help supply water to our canals.

Irrigation Leader: Do you currently have any reservoirs or storage facilities? Do you plan to build any in the future?

Nathan Draper: We receive water from three Bureau of Reclamation reservoirs on the Yakima River—Lakes Cle Elum, Keechelus, and Kachess. SMID does not have any in-district reservoirs, nor does it have any plans to construct one at this point.

Irrigation Leader: Do you have any automated gates installed?

Nathan Draper: Yes; we do have some automated gates installed, primarily to help control the lower section of the canal system. We plan to automate our main canal diversion off the Yakima River with a new SCADA system that will help provide consistent flow rates into the canal.

Irrigation Leader: What is SMID doing to conserve water?

Nathan Draper: We have been slowly converting a lot of our open ditches to enclosed pipelines and installing canal liner in the larger portions of the canal. The roughly 45 miles of open ditch in our lower section will eventually be piped. We currently have about 5 percent of that done, and we continue to do a little each year. We have also started to line the upper section of our canal system. To date, we have completed about 25 percent of the project, totaling just over 4 miles in length. When our water conservation program is completed in its entirety, it is estimated that the district will conserve an additional 10,000 acre-feet of water per year.

Irrigation Leader: Please tell us about your water banking activities.

Nathan Draper: SMID has had surplus water for about 20 years. Some of that surplus water resulted from canal piping and lining projects. However, the majority of the surplus water resulted over time from changes in land use—the conversion of agricultural land into urban residential housing subdivisions—and from the shift among hop farmers from flood irrigation to drip irrigation, which has increased their efficiency from about 65 percent to more than 95 percent and saved huge amounts of water. Together, those savings have allowed us to create a water bank consisting of just over 9,000 acre-feet of water. We plan to lease or sell that water and use the revenue to continue our water conservation program.

Irrigation Leader: Why is it called a *water bank*?

Nathan Draper: I don't know where the term originated, but it accurately describes how the water is essentially held in trust. The State of Washington's Department of Ecology places the surplus water into the state's trust program, and when a willing buyer is available, we can pull whatever

portion of water that is needed out of the bank and make it available for that use.

Irrigation Leader: So you are selling some of the rights and leasing out others?

Nathan Draper: Correct. In SMID's auction in late 2022, it offered 382 acre-feet for sale and 5,950 acre-feet for lease. Typically, water sales generate the largest revenue, with prices ranging from \$6,500 to \$9,000 an acre-foot or more. An annual lease would bring in much less than that, with prices ranging from \$250 to \$350 per acre-foot. However, the advantage to leasing water is that we maintain the ownership, and if there comes a time when we have crop changes, we can pull that water back into the district and adjust to farms' water demands.

Irrigation Leader: The seniority of these rights certainly makes them attractive for leasers. If somebody purchases a right, does it retain the original priority date?

Nathan Draper: Yes, it does. The water rights that supply the water bank date back to 1887, which means they have a high level of seniority in the Yakima River basin.

Irrigation Leader: Have you donated some water to the Department of Ecology?

Nathan Draper: Yes; prior to the establishment of the water bank, the district donated its surplus water to Ecology's Trust Water Right Program, which protected the water right from relinquishment and allowed the district time to plan how best to manage the surplus water. Developing the water bank was a long process that involved years of negotiation and obtaining regulatory permits. The process started back in 2015, and we just opened the bank in 2021.

Irrigation Leader: Was the water right auction in late 2022 your first auction?

Nathan Draper: No, it was the second-round auction. Earlier in 2022, SMID ran a first-round auction that was open only to district property owners. We had a small turnout for that one, which we anticipated. We did that to ensure that the district's water users had sufficient water for their needs before we made this water available to the general public.

The second-round auction's results look very positive. There was a total of 15 bids, with sale prices ranging from \$9,000 to \$14,000 per acre-foot and lease prices ranging from \$275 to \$350 per acre-foot. Bidders purchased 382 acre-feet and leased just over 500 acre-feet from the water bank. Proceeds from this auction have the potential to fund some substantial water conservation projects within the district. The majority of the bidders proposed using the purchased and leased water for purposes including

irrigation and the development of commercial and industrial businesses. If all these bids are approved and the bidders proceed with the development of their respective projects, it could spur economic growth in the state.

Irrigation Leader: One could imagine SMID setting up a virtuous cycle in which you save water, sell or lease that water to raise money, use the money to save further water, and so on.

Nathan Draper: Yes; with the implementation of future water conservation projects and with funds raised from previous water bank transactions, the newly saved water would be placed into the water bank and used to produce additional revenue. That scenario only lasts until the entire conservation program has been completed. However, we expect to see the water bank continuing to operate well into the future, as the district will need to manage and renew the water leases once they expire.

Irrigation Leader: Would you tell us more about your contract with FDA to operate the Fowler Ditch?

Nathan Draper: Because of the devastation that the Rattlesnake Hills landslide in Union Gap, Washington, caused to the Union Gap Irrigation District (UGID) canal system, UGID was no longer able to use the upper portion of its canal, which is also known as the Fowler Ditch. Technically, the Fowler ditch belonged to the FDA but was used and operated by UGID under an agreement dating back to the early 1900s.

To deliver water to the lands located below the landslide, UGID had to establish a different point of diversion. The continued operation and maintenance of the Fowler Ditch became burdensome to UGID, as those Fowler Ditch lands were not technically part of UGID and no longer provided a clear benefit to UGID.

Through a three-party agreement among SMID, UGID, and the FDA, SMID agreed to operate and maintain the Fowler Ditch, and in return, SMID would be allowed to construct a 200-foot, 27-inch PVC intertie pipeline to connect the Fowler Ditch with the Hubbard Canal. The Hubbard intertie project will improve operational efficiencies and reduce SMID's operational costs by eliminating one of its pump stations.

The long-term goal is to merge the FDA and SMID and include the Fowler Ditch in SMID's Enhanced Water Conservation Program.

Irrigation Leader: How are you addressing groundwater issues around your district?

Nathan Draper: The East Moxee area, located approximately 10 miles to the east of the city of Moxee, has seen declines in its groundwater aquifers of up to 13 feet annually. The East Moxee area consists of several thousand acres of farmland

along with small-acreage ranchettes, which rely solely on groundwater for their water needs. SMID has partnered with Reclamation, Ecology, Yakima County, and East Moxee landowners to evaluate options to deliver surface water to this area using SMID's existing infrastructure. Bringing surface water to this area could alleviate the strain on the aquifer and potentially provide a reliable water source for East Moxee. Additional studies need to be completed and funding obtained before this project is viable.

The City of Moxee is looking at establishing an aquifer storage and recovery (ASR) system to provide a reliable potable water source for the city in years to come. SMID has had some early discussions with the city about the possibility of providing a water source for its project, but this project is in its early stages, and no clear path for it has been established.


Irrigation Leader: Would the city help you fund that project given that it would be benefiting from it?

Nathan Draper: The City of Moxee's ASR project is currently funded by the Yakima Basin Integrated Plan (YBIP), and if this project is deemed feasible, additional YBIP funding may be available to allow it to proceed.

Irrigation Leader: How, if at all, is SMID involved with the YBIP?

Nathan Draper: SMID has used YBIP funding to look at other groundwater modeling sites. The district will continue to look at ways we can help with certain YBIP projects that deal with water supply, groundwater, and water marketing. However, I think our main role in the YBIP is to be supportive of the plan and projects that deal with meeting water supply goals, water conservation, and improving fish and wildlife habitat, to name a few.

Irrigation Leader: What is your vision for the future?

Nathan Draper: I believe the future for our district is to establish a strong water bank that produces a reliable revenue source, enabling the district to continue to grow and implement various water conservation measures. This will help keep assessment rates down and ensure adequate water supply to our customers. We also want to continue to be good stewards of the land and the water that we have available to us, allowing us to help our neighbors within the Yakima basin. 



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