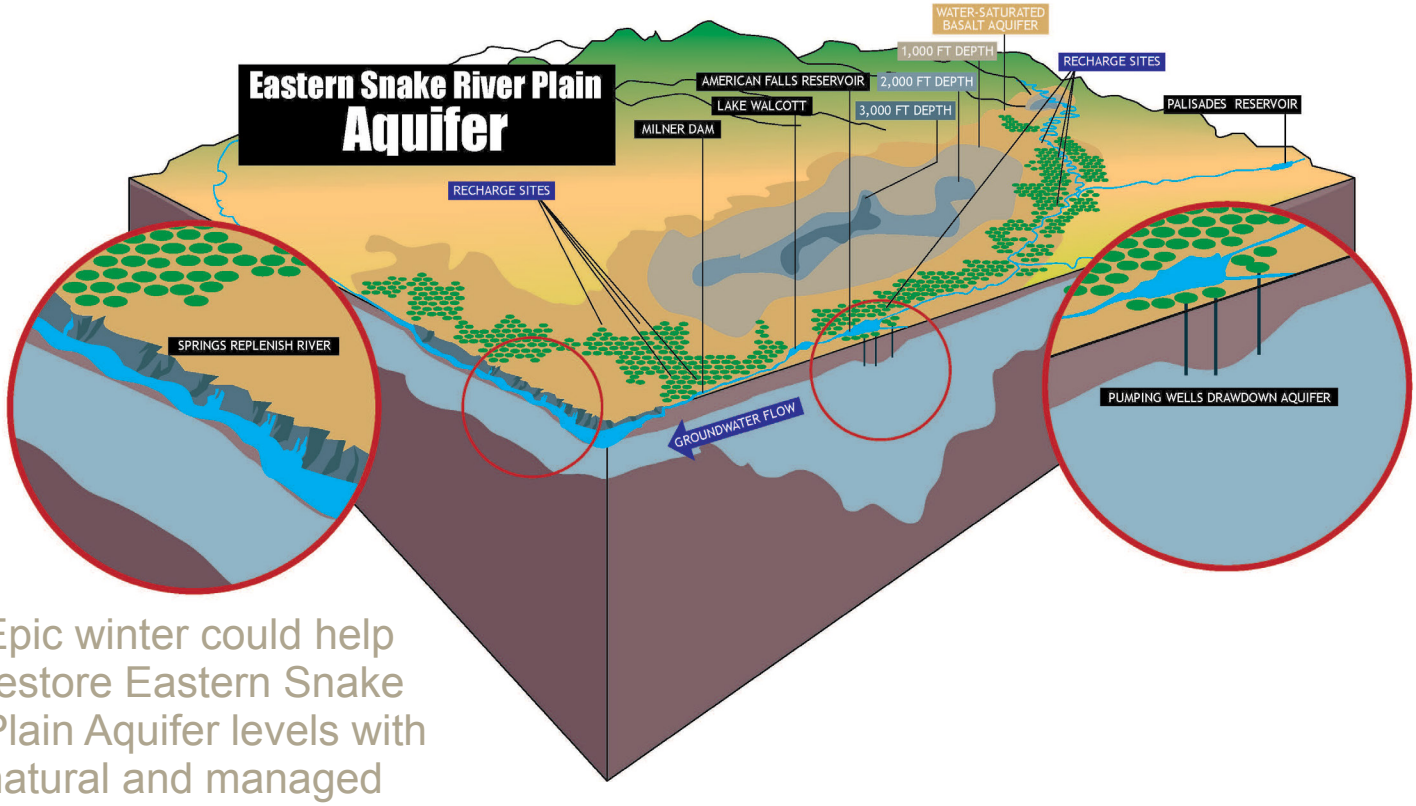
Conservation the Idaho Way

ISSUE FOURTY-FIVE IDAHO SOIL & WATER CONSERVATION COMMISSION MARCH 2017



Epic winter could help restore Eastern Snake Plain Aquifer levels with natural and managed recharge flows

By Steve Stuebner

The winter of 2016-17 has been pretty epic so far, with large amounts of low elevation snow throughout the Snake River Plain and hefty snowpack in the mountains, where it counts. Snowpack levels exceed 160 percent of normal snow water equivalent in the Snake River above Palisades Reservoir, and 120 percent of normal in the Henrys Fork.

The Bureau of Reclamation plans to begin releasing 4,500 cubic feet per second of flow for flood-control in early March to evacuate space in the Palisades Reservoir for incoming snowmelt. That presents a big opportunity for the Idaho Water Resource Board to send recharge flows into the Eastern Snake Plain Aquifer (ESPA) in the Upper Snake region.

If there's ever been a year when the Idaho Water Resource Board could set modern records for recharging water into the ESPA this might be it. But this winter has been challenging. Extreme cold in December and January created a lot of ice in the canals used for ESPA recharge in the Magic Valley area, restricting recharge flows, so the potential has yet to be realized in the mid-Snake region.

Extreme flooding in the Magic Valley from low-elevation snowmelt has disrupted ongoing ESPA recharge flows in the Twin Falls Canal, and it's causing damage to other canals as well. But some of the flood waters and snowmelt are seeping into the ESPA regardless.

"Finding water available for recharge won't be a problem – it's just a matter of getting the water to flow into our recharge basins and participating canals in a timely manner," said Wesley Hipke, recharge project manager for the Idaho Department of Water Resources.

"The tricky part is dealing with Mother Nature. It's quite a dancing act right now."

Recharging surplus flows from the Snake River and its tributaries into the ESPA is one of the cornerstones of a long-range plan to restore the ESPA to sustainable levels. The Idaho Water Resource Board has a goal of recharging 250,000 acre-feet of water into the ESPA each year. This year, Hipke had hoped to reach 100,000 acre-feet, but it's still unclear whether that will occur.

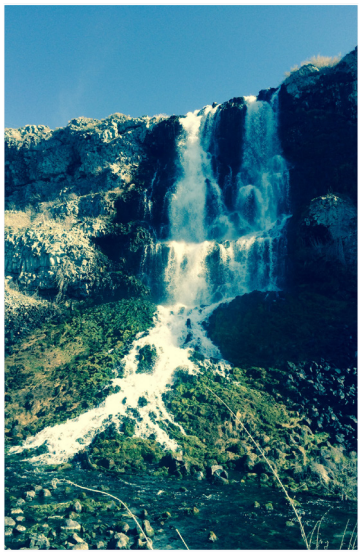
Water levels in the ESPA have been dropping since the 1950s. Idaho Water Resource Board officials estimate the aquifer is being over-drafted by about 200,000 acre-feet per year. Flows at Thousand Springs, the outlet for the ESPA near Hagerman, have been dropping from about 6,800 cfs to about 5,000 cfs.

"We have a real problem out there," Randy Brown, chairman of the Southwest Irrigation District, south of Burley, told the Capital Ag Press recently. "We're mining an aquifer we're not able to replenish."

"The strategy is to stabilize aquifer levels – basically stop the drop," says Brian Patton, chief of the planning bureau for the Idaho Water Resource Board. "That's what we need to do. And secondly, we need to rebuild the aquifer."

Restoring ESPA levels, cont. on Page 2

RESTORING ESPA LEVELS. *cont. from Page 1*



Thousand Springs, an outlet for the ESPA

The board's commitment to recharge 250,000 acre-feet of water into the ESPA on an annual basis, combined with a commitment of 240,000 acre-feet of savings from a historic water settlement between Snake River surface water users and ground water users, are designed to bring the aquifer use into balance.

The Idaho Water Resource Board crafted a comprehensive aquifer management plan for the ESPA in 2009, and it was adopted by the Idaho Legislature. The plan calls for multiple initiatives to bring the aquifer into balance including:

- Managed recharge. The long-term goal is to recharge 250,000 acre-feet per year into the ESPA, but it will take a number of years to develop the infrastructure necessary to hit that target.
- Converting acres using ground water for irrigation to surface water. So far, IDWR has developed projects on 12,842 acres with federal Agricultural Water Enhancement Program (AWEP) funds. AWEP is a program managed by the Natural Resources Conservation Service that provides 75 percent cost-share funds for converting from ground water irrigation to surface water irrigation.
- Using cloud-seeding to increase precipitation from snow storms in the winter. Idaho Power takes the lead on that initiative. Cloud-seeding can boost snowfall by as much as 14 percent. Because of all the snow Eastern Idaho has received in the winter of 2016-17, contributing to flooding and other damage, water managers asked Idaho Power to stop its cloud-seeding program in the Upper Snake in early February.
- Demand reduction under the Conservation Reserve Enhancement Program (CREP), managed by the Conservation Commission. Farmers can voluntarily take marginal farm land out of production and receive compensation for that under CREP. The goal is to take 50,000 acres of marginal farmland out of production in the ESPA area. The program started in 2006. As many as 19,000 acres were enrolled in the program early on, but as of last year, 16,500 acres of marginal farmland were enrolled, involving 154 contracts with producers. The water savings associated with that acreage is about 33,000 acre-feet per year, said Chuck Pentzer, coordinator of the CREP program for the Conservation Commission.
- New water storage – The Idaho Water Resource Board is evaluating the possibility of raising Island Park Reservoir by up to five feet to create approximately 35,000 acre-feet of additional storage. The project is still in the study phase.

The goal of the ESPA aquifer management plan is to "sustain the economic viability and social and environmental health of the Eastern Snake Plain by adaptively managing a balance between water use and supplies."

Indeed, there is a lot at stake. Water brings life to 2.1 million acres of irrigated agricultural croplands in the ESPA region. The aquifer also provides drinking water for towns and cities, such as Idaho Falls, and it supports key industries such as aquaculture, food processing and dairy products. Aquaculture operations in the Hagerman area, for example, receive their water from Thousand Springs, a large freshwater spring complex that's the outlet for the Snake Plain Aquifer. Pure spring water pours from the Snake River canyon rims at a constant temperature of about 58 degrees, perfect for raising rainbow trout and other fish species.

All told, water resources in the Eastern Snake Plain region serve as the backbone for $10 billion worth of economic development or 21 percent of the state's economy. One-third of the Idaho's population resides in the region.

The historic water settlement reached between the Surface Water Coalition and the Idaho Ground Water Appropriators (IGWA) in 2016 solved a major legal snarl in the ESPA region. If farmers and aquaculture operations with senior water rights felt they were not getting sufficient flows because of ground water pumping by parties with junior water rights, they could file legal actions with the Idaho Department of Water Resources or U.S. District Court, making a "call" for their water.

If IDWR or a judge granted a water call, scores of ground water users could have been affected up and down the ESPA region, causing major economic disruption. For example, Rangen, Inc., an aquaculture company with senior water rights, made a water call in late 2014 that the director of IDWR and a state judge ruled to be valid. Rangen has senior water rights for 70 cfs of spring water. Ground water pumping in the ESPA had reduced their flow to about 10 cfs, the company said. The "water call" affected approximately 500 junior water rights in the ESPA region, including 14 cities, 200 livestock operations and more. IGWA prepared a $3.8 million mitigation plan in which they purchased pure spring water from another fish farm, and piped it uphill over the Snake River rim two miles to Rangen's fish farm. IDWR approved the mitigation plan and new waters flowed to Rangen by late February 2015.

But the water settlement should put an end to such water calls. IGWA has taken multiple steps to ensure that surface water users and aquaculture operations receive their full allotment of water by buying out other fish hatcheries and piping water to the parties with senior rights.

All of the ground water districts in the ESPA region have committed to reducing their use by about 12.5 percent each to reach the reduction goal of 240,000 acre-feet per year. Under the settlement, ESPA levels are never supposed to drop below 2015 levels, and eventually, the levels should rise and the discharge at Thousand Springs should go up.

"We're trying to manage the aquifer as a reservoir," Brian Olmstead, general manager of the Twin Falls Canal Co., told the Capital Press.

"It's a big problem we need to solve," Brown said. "It takes cooperation, and

Restoring ESPA levels, cont. on Page 3

RESTORING ESPA LEVELS. *cont. from Page 2*

ground water people need to step up."

Lynn Tominaga, executive director of IGWA, believes that the ground water users are stepping up and rising to the challenge. Together, ground water users have spent nearly $50 million to resolve water calls, install meters on ground water pumps and development mitigation plans to meet water reductions, he said.

About 3,750 flow meters will be installed at a cost of $7,000 per meter, he said. That will allow IDWR watermasters to check water use and ensure that ground water pumpers are not exceeding their water rights. The total cost of that initiative is about $26 million.

"I think it's fair to say we've got a lot of skin in the game," Tominaga said.

We reported last year in *Conservation the Idaho Way* that the A&B Irrigation District built 19 miles of pipeline and a new water-pumping station next to the Milner Pool to convert 1,500 acres of farm land in Minidoka County that had been served with ground water to surface water this growing season. The pipeline project serves a total of 6,000 acres, including 4,500 acres that already are irrigated with surface water. That project is an example of converting ground water irrigated acres to surface water, reducing the demand on the ESPA.

So, a number of initiatives are under way to reduce consumptive use of the ESPA. Gary Spackman, the Director of the Idaho Department of Water Resources, took things a step further late last fall when he proposed a special designation for the ESPA as a "Ground Water Management Area." While this proposal is not final, it would give IDWR additional latitude in taking additional steps to restore the ESPA.

Going back to ESPA recharge efforts, the Idaho Water Resource Board has been working together with canal companies in the Upper Snake region as well as with canal companies in the Mid-Snake region to create the proper infrastructure to maximize on recharge flows. This has involved building new canals, bypass channels around hydropower projects, new headgates and more to reach objectives.

The Idaho Legislature has provided more than $16 million to increase recharge capacity throughout the ESPA region. But even with new infrastructure, Mother Nature can get in the way. That's what happened with a $2 million project at the Milepost 31 recharge site on the Milner-Gooding Canal near Shoshone.

The construction project added an inflatable dam with pneumatically operated spillway gates in the canal, and two side gates that will control water releases into the MP 31 recharge basin. The project boosted the capacity of the MP 31 site to a water flow of at least 400 cubic feet per second or 95,000 acre-feet of water during the recharge winter season. Previously, the site had a capacity of 240 cfs or 57,000 acre-feet.

The construction project was completed in mid-December and would have been operational shortly thereafter, but cold weather created too much ice in the canal to operate. "Even though the project was completed on time and on budget, the weather threw us a curve," Hipke said.

However, with Palisades flood-control releases coming next week, that will open up the possibility of increasing recharge in the Upper Snake region. But the participating canals will need to be free of snow, ice and debris to make it work. Hipke was meeting with canal managers in the past week to check on conditions.

"The Great Feeder should be ready to go, and Fremont-Madison should be ready to go," he said. "But from Idaho Falls south, the canals are a mess right now. If the canals aren't clean, that's a problem."

Clearly the weather needs to warm up to melt canal ice, but not to the point where the canals are overwhelmed with low-elevation snowmelt, as Minidoka County, Twin Falls County and Power County have all dealt with in the last month.

Tominaga is optimistic. "I'm hoping that we'll see 3-4 weeks of recharge flows in the month of April. If that happens, I'm hoping the state could maybe hit 150,000 acre-feet of recharge this year."

Hipke is hopeful as well, but he points out that snowmelt is recharging into the ESPA right now because of low-elevation snowmelt, and tributary streams flowing into the desert sinks. The Big Lost River and Little Lost Rivers, for example, both flow into the lava and disappear. It's rare that they have deep snowpack and send floodwaters into the desert, but this year, they both will. The Big Lost River Basin

Water pouring into a recharge basin near the Milepost 31 recharge project on the Milner-Gooding Canal.

is 191 percent of normal, and Little Lost and Birch Creek are at 157 percent of normal. The Big and Little Wood basins are over 190 percent of normal.

"This year we're going to do really well with natural recharge – we'll definitely see a bump from that, no question," Hipke said. "We'll do our best to add more to that with our recharge infrastructure."

The USDA-Natural Resources Conservation Service is assisting in the ESPA stabilization issue by providing a $5.1 million conservation grant this year. These funds will be held by NRCS and paid to producers as a cost-share for implementing water conservation projects aimed at stabilizing and recovering ground water levels in the Eastern Snake Plain Aquifer (ESPA).

Eligible projects could conserve water via ground-to-surface water conversions, end gun removal on pivot sprinklers, converting irrigated cropland to dryland farming, and fallowing cropland or flood-irrigation enhancements. The funds will be available in 2018-2020. Applications will be solicited in the fall of 2017 and will be ranked based on criteria set by the board and grant partners.

"I'm excited about getting the grant," said Water Board Chairman Roger Chase. "Anything we can do to help with water conservation in the ESPA area is really important."

Steve Stuebner writes about voluntary conservation projects for the Conservation Commission on a regular basis.

RICK PHILIPS, LONGTIME CUSTER SWCD SUPERVISOR, PASSES

From left, Cheryl and Rick Philips, Rosana Rieth, Mark Olson, and Mike Henslee accept a Partnership award at the IASCD Annual Conference a few years ago.

Thanks to Karma Bragg for this tribute to the life and accomplishments of Custer Supervisor Rick Philips. We send our very best to his wife, Cheryl, and the family. -Ed.

The Custer Soil and Water Conservation District was saddened by the loss of long time board member Rick Philps. Rick was elected to the board in 1985 and took his spot on the Custer Soil and Water Conservation District Board in January 1986. Rick hit the ground running and attended his first Idaho Association of Soil Conservation District in 1987 in Coeur d'Alene. The theme that year was the Food Security Act – Agriculture during and after". Rick said that although the topic was not critical at the time to Custer SCD "participation in the state conventions provides first-hand information on what other districts are doing throughout the state".

Rick was the Custer SWCDs most often appointed board member to attend the IASCD Conferences and Division Meetings. He served in every elected position on the board and was currently serving as the Secretary and Contract Officer. Rick rarely missed a board meeting, perhaps one his 31 years on the board, and that was December 2016. Even as his health was failing he called in to the January and February meetings to participate.

Along with serving on the Custer SWCD board Rick served on the Lemhi/ North Custer FSA County Committee, was an active member in Farm Bureau, Garden Creek and Challis Creek Water Master. As a board member Rick encouraged other landowners to participate by setting an example. He completed a pipeline through NRCS ACP program, installed a portion riparian fence first with the ISWCC's RCRDP grant and completed the remainder of the fence with Bonneville Power Administration cost share. As a part of the riparian fence project he also worked with US Fish and Wildlife Service to address a confined feedlot operation.

Rick was a great example of how we can use numerous partners to meet a common goal for the landowner and the resource. Rick was also instrumental in securing a 319 grant for the Mosquito Flat Reservoir that address agricultural irrigation and dam safety.

He was an avid supporter of our local schools and loved watching basketball, football and recently baseball. He attended many of the district sponsored school programs and always had ideas on how to improve upon them. He was supportive of the local FFA and 4-H programs and helped at the county fair more times that we can count and allowed the members to weigh their animals in on his scales free of charge.

Rick was the comic relief for our board. He always had a joke or a story that lightened the mood or made us laugh. It would be safe to say that we never knew what Rick might say next. He always made us smile. Rick served with current board members Ben O'Neal, Jimmie Dowton, Dale Olson and Wayne Baker. Garth Chivers, Howard Cutler, Lida Robinson, Ted O'Neal, and Jim Martiny also served with Rick as board members on the Custer SWCD Board.

FY 2017 Tentative Commission Meeting Schedule*

No meetings are scheduled in March.

April 13, 8:00 am, Idaho Water Center, Boise

May 11, 8:00 am , Idaho Water Center, Boise

June 8, 8:00 am, Idaho Water Center, - Boise

*Please confirm meetings before attending by reviewing agendas posted at www.swc.idaho.gov or by calling 208-332-1790.

IDAHO SOIL & WATER CONSERVATION COMMISSION

650 West State Street, Room 145 • Boise Idaho 83702 • P: 208-332-1790
F: 208-332-1799 • info@swc.idaho.gov • www.swc.idaho.gov

Conservation the Idaho Way: Sowing Seeds of Stewardship