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# THE OTTER

Newsletter of Friends of the Big Sioux River

## Big Sioux River Watershed CREP Seeks to Improve Water Quality on Agricultural Lands

A new landowner incentive program that strives to improve water quality and wildlife habitat in the Big Sioux River (BSR) Watershed is now accepting applications. Known as the Big Sioux River Watershed Conservation Reserve Enhancement Program (CREP), the program provides funding to landowners through a partnership between the USDA and the State of South Dakota. “We have talked about a Big Sioux River Watershed CREP in South Dakota for probably at least a half dozen years,” said Tom Kirschenmann, the Director of Wildlife for Game, Fish & Parks, at an Interim Appropriations Committee meeting on November 10, 2022. A program such as CREP is needed in the watershed “because of water quality issues and the lack of habitat over on the eastern side of the state.”


The Big Sioux River Watershed CREP is modeled after the highly successful James River Watershed CREP, which has enrolled almost 80,000 acres since 2009. The USDA and GFP hope to enroll up to 25,000 acres of crop and pastureland in the BSR Watershed into CREP, with the goals of improving water quality, reducing soil erosion, and enhancing wildlife habitat. Additional goals include increasing pheasant and duck populations, and creating more public hunting and fishing access in the watershed.

To qualify for CREP, the land must be located in the BSR Watershed

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and have been farmed for four out of six years between 2012 and 2017. Participants must enroll their land in 10-year to 15-year Conservation Reserve Program (CRP) contracts, which require cropland and pastureland to be restored to native grasses, trees, or wetlands. Kirschenmann noted that there is one major difference between CREP and CRP. “In South Dakota, if you enroll in CREP, public access is a requirement.” Land enrolled in CREP must be open to public hunting and fishing access, with a minimum public access area of 40 acres.

A program with some similarities to CREP, known as the Riparian Buffer Initiative (RBI), was first rolled out by the Deparment of Agriculture and Natural Resources (DANR) in the fall of 2021. RBI is also a cost-based rental program that incentivizes turning working lands into riparian buffer strips to improve water quality. However, at the House Agriculture and Natural Resources Committee meeting on January 19, 2023, DANR Secretary Hunter Roberts reported that “we did not sign up any landowners as we worked through this.” The general feedback was, “we’re not paying enough to really move the needle.”

With CREP, DANR hopes to mitigate some of these funding issues. Producers enrolled in CREP will receive higher incentive payments than they would on land enrolled solely in RBI or CRP. All CREP participants will receive annual rental payments from the USDA, as well as payments from GFP, for allowing public hunting and fishing access on the land. There is a one-time signing bonus incentive for new land enrolled in CRP. Additionally, “DANR will offer CRP buffer incentives on buffers enrolled on CRP and CREP if they meet the RBI program requirements. If you have a 60-acre parcel and an acre or two of that meets the RBI requirement, we will pay a 120 percent incentive on that on top of the CRP and CREP rental rate,” said Secretary Roberts. “We see it as a win-win for the CREP community and CRP. It puts more dollars on the table for those producers to incentivize that change.”

With the added financial incentives available through CREP, FBSR is hopeful that more landowners will enroll in this new program. An additional 25,000 acres placed in conservation will help to make significant strides in improving water quality in the BSR watershed. If you or someone you know is interested in signing up for the CREP program, contact your local USDA service center Farm Service Agency office.

*Question*

# RIVER QUIZ

## Can you identify this historic Big Sioux River location?

See page 4 for the answer.

*Photo courtesy of Siouxland Heritage Museums*

*Falls Park, August 1977*

# Big Sioux River History:

## Rejected Dam Delivered Other Benefits

*By Pete Carrels*

As industrial agriculture changed the landscape of the Big Sioux River watershed, so too did it change the hydrology of the Big Sioux River. Perennial prairie was replaced by annually planted grains. Topsoil eroded from cultivated farm fields and migrated to the river, settling onto the channel floor and diminishing the river's carrying capacity. Runoff to the river and its tributaries increased because there was less prairie to absorb rainfall and snow melt. By the 1960s, flooding issues along the river had dramatically escalated.

To the rescue came the U.S. Army Corps of Engineers. Their solution reflected their preferred response to such circumstances: Build big dams. The agency also enjoyed channelizing rivers and had proposed that tactic in 1962 for the lower Big Sioux. Anglers and hunters vigorously opposed the plan, and it was abandoned.

The Corps of Engineers was, in that era, one of the leading river-altering forces on earth. The agency had dammed and channelized rivers across the country, including the Missouri River. Maintaining and expanding commercial navigation and providing flood control were key goals as the Corps sought to fulfill its particular dream for a better America. No opportunity was too challenging for the Corps. Consider their 1957 proposal to transform the James River into a barge-floating navigation canal linking the Missouri River near Yankton, SD, north to Jamestown, ND, and then west to the Missouri River. Officials in Huron, SD were ecstatic at the prospect of becoming a commercial port. The absurdity of this fantasy was obscured by the day's lack of environmental sensibilities. Fortunately, common sense prevailed, and the shipping lane was not built.

No doubt, the Corps has had reasonable successes. Sioux Falls benefits from the agency's river-engineering expertise. And in recent years, the Corps has positively responded to evolving public wishes to protect the environment rather than subdue or erase it.



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But 60 years ago, the agency targeted the Big Sioux. The genuine causes of worsened flooding—land use practices in the watershed—weren't addressed by anyone. Instead, the agency issued a plan to gain control of the Big Sioux basin by building six new dams; two would be on the river's mainstem, near Canton and Flandreau. These would be formidable structures of the rolled-earth variety, like the Oahe Dam. The Flandreau dam would measure 8,300 feet long and 79 feet high. Land needed for the dam and its reservoir would total 27,730 acres. The height of the Canton dam would be 75 feet. That dam would require the acquisition of 13,850 acres.

Altogether, forty thousand acres of prime riparian habitat and floodplain farmland would be drowned behind these two dams. Other large dams were proposed on Skunk Creek and the Rock River. Farmers, not surprisingly, weren't pleased with this proposal, and many fought dam construction during a political conflict lasting from 1969 to 1973. Local opponents finally prevailed, quieting dam promotions. But not for long.

In 1974, the Corps added a new and tantalizing justification for the Flandreau dam. Not only would the dam provide flood control, but it would also serve as a water source for Sioux Falls. That city supplied its water needs by siphoning the Big Sioux aquifer, and concerns had arisen regarding the aquifer's long-term reliability. In stepped the Corps with a handy solution. Farmers again rose to protest.

Officials in Sioux Falls realized it was a mistake to ask their rural neighbors to give up land for Sioux Falls' water needs, and they gazed south to the Missouri River as a potential source. In 1974, Senator George McGovern helped secure funding to study the feasibility of a pipeline from the Missouri River to Sioux Falls. That funding was an early expression of interest in what would later become the Lewis and Clark Regional Water System. This pipeline network now provides water to half of Sioux Falls. Eventually, more than 300,000 people living in rural areas and communities in three states will benefit.

# RIVER QUIZ

**It's Seney Island!** If you attended our 2023 Big Sioux Film Festival, you heard all about this historic island from Local Lou, who spent hours researching the history of the area. Thank you, Local Lou! Located just a little way south and upstream of the falls, Seney Island was first used by Native Americans as a spot to rest as they made their way across pristine prairies and coexisted with the land. When European Americans moved to Sioux Falls, Seney Island was one of the only places in the area with a large patch of trees, which made it a popular picnic and recreation spot for locals. However, as the town continued to grow and industry built up around the falls, Seney Island became a dumping ground for garbage and a place for hobo hangouts and gambling. In 1907, Sioux Falls Light and Power filled in the channel of water on the western side of the island, and Seney Island was no more. Today, we live with the results of decades of use and abuse of an island that was once beloved but now forgotten. The land that was once Seney Island now contains portions of Kiwanis Park, the Levitt at the Falls, and the current construction of the new Steel District. Seney Island is a reminder for us all of how the Big Sioux River has given Sioux Falls countless advantages as the city has grown, and it is up to us to protect and restore the river for generations to come.

# Unnatural Data

1

## Impact of Increased Snowfall on River Levels

We've all been wondering the same thing—will the increased snowfall this winter cause flooding in the spring and help to lessen ongoing drought conditions? According to the National Weather Service, several factors go into determining spring flood risk, including snowpack, frost depth, river ice, soil moisture, antecedent river levels, and spring precipitation. In the case of the Big Sioux River Watershed, soils were quite dry, and river levels were low going into the winter due to drought conditions. Although there is currently an above-average snowpack, if we see average spring snowmelt and precipitation, we can expect to see a below-normal flood risk due to the low river levels and dry soil. However, if we are to see a rapid snowmelt or a heavy precipitation event, there is a higher likelihood of flooding in some areas of the watershed.

Over 60% of the entire Missouri River basin is currently classified as being in a drought. Even with mountain snowpack accumulating at average rates and plains snowpack at above-average rates, experts say that drought conditions will continue to persist. In the winter, above-normal precipitation is not a significant amount of water, so we will need multiple episodes of soaking rainfall or melting snow to considerably improve drought areas.

## 2 Potential for Fish Kills This Spring

Fish kills made news headlines this winter with a sizable winterkill at the James River dam in Huron that went viral on TikTok. A winterkill occurs when heavy snow covers a frozen lake or river, blocking the sunlight from reaching the waterbody for a sustained period of time. Without sunlight, plants cannot photosynthesize and produce oxygen, leading to a decline in oxygen levels and a subsequent fish kill. A winterkill is more likely to occur in a lake or stream where water levels were low going into the winter due to a dry summer and fall. A periodic winterkill is not always a bad thing, however. In waterbodies with less than desirable fish species, such as carp, a winterkill can help to thin the population, allowing gamefish species to rebound in the following years.

Will we see more fish kills this spring? There is a high likelihood that we will see more fish kills this year due to low water levels in the fall and heavy snow cover this winter. As snow and ice begin to melt, keep an eye on local waterbodies for fish kills lining the streambanks. If you find a fish kill, we recommend contacting your local conservation officer or stream and lake association.

## 3 Salt Deicer: A Chronic Water Polluter

Days of below-freezing temperatures and a snowy winter are a recipe for the overuse of deicing salts on icy roads, sidewalks, and driveways. But did you know that using more salt will not yield better results and will only further pollute our waterways? Just 12 oz. of salt, about as much as would fill a coffee mug, is enough to treat a 20-foot-long driveway or about 10 squares of sidewalk. When excess salt enters our waterways, chloride levels increase, becoming toxic for fish, amphibians, and aquatic bugs and plants. In addition, water polluted by road salt is denser than freshwater, which causes it to settle at the bottom of lakes. When this chemical stratification occurs, the lake can no longer mix naturally, leading to a bottom layer of the lake devoid of oxygen and all aquatic life.

So, what can you do?

- Remove all snow from the area first, and only apply salt in areas where it is needed for safety.
- If there are excess salt grains on dry surfaces, sweep them up and save the salt to reapply later in the season.
- Educate your family and friends on the importance of limiting their use of deicing salts. It takes just one teaspoon of salt to permanently pollute five gallons of water.

# Dairy Industry Tackling Water Issues at a National Level

From water shortages in the West to a chemical train derailment in the East, water quantity and quality issues are making news headlines. Water issues such as these are often the result of years of use and abuse of our local waterways. However, many industries are rethinking the ways they use water, including the U.S. dairy industry. In the United States, milk production has nearly doubled in the last 60 years despite fewer cows, thanks to improvements in dairy cow health. Additionally, the water management practices of today allow dairy farmers to use 65% less water than they needed 60 years ago. This change in water usage can be attributed to improvements in technology and, most importantly, the recycling of water on dairy farms.

Dairy farmers can reuse water up to four times on the farm. Water makes up about 90% of milk, making it a crucial resource on a dairy farm. After milk leaves a cow, it is sent to a cooling system in the farm's milking parlor, where water quickly chills the milk from 101°F to 38°F. Following its use in cooling milk in the milking parlor, some farmers choose to use this same water as a safe drinking option for their cows. Other farmers use the water to rinse cow manure

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*Lynn Boadwine, Boadwine Farms*

from their barns, enriching it with a natural fertilizer that can be recycled and used on crops grown for feed. About 26% of a dairy's environmental footprint comes from feed production. By recycling water, dairy farmers can cut down on water usage, saving themselves money and reducing their environmental impact.

The majority of dairies, including those in South Dakota, are family owned and operated. Lynn Boadwine, a farmer from Baltic, SD lives and farms around the Big Sioux River and understands how important the farmer's role is in protecting the watershed. "We are committed to using more cover crops and implementing no-till farming practices, both of which are beneficial to the Big Sioux River and farmers because those practices reduce runoff and increase the water holding capacity of the soil. Water is a renewable resource, but we need to be smart about our use."

In addition to individual dairy farms taking action to reduce their environmental footprint, the dairy industry as a whole has created the U.S. Dairy Net Zero Initiative, which aims to achieve greenhouse gas neutrality, optimize water usage while maximizing recycling, and improve water quality by 2050. To achieve these goals, dairy farmers will implement a variety of practices, including no-till farming, cover crops, water use efficiency, precision agriculture, and renewable energy from wind and solar sources. These changes will have both on-farm and off-farm benefits, including healthier cows, increased milk production, healthier soils, and improved water quality. It's a win for everyone involved!

Want to try some local cheese (and beer)? Join us on April 22, 2023, at noon for the release of our 2023 Big Sioux Brew at Remedy Brewing Company in Sioux Falls. A cheese pairing courtesy of Midwest Dairy will be available to accompany your glass of Big Sioux Brew.

"WE ARE COMMITTED TO USING MORE COVER CROPS AND IMPLEMENTING NO-TILL FARMING PRACTICES, BOTH OF WHICH ARE BENEFICIAL TO THE BIG SIOUX RIVER AND FARMERS BECAUSE THOSE PRACTICES REDUCE RUNOFF AND INCREASE THE WATER HOLDING CAPACITY OF THE SOIL. WATER IS A RENEWABLE RESOURCE, BUT WE NEED TO BE SMART ABOUT OUR USE."

# Board Members Updates

## Iona Branscum

At the end of 2022, Iona Branscum departed the board of directors after moving to Yankton with her husband. Thank you, Iona, for sharing your water policy expertise and your passion for the environment with FBSR!

## Madeleine Titze

Madeleine recently joined the board of directors. A New Mexico native, Madeleine has called Sioux Falls home since 2014 and is a consultant at Bridges Consulting. In her free time, Madeleine enjoys hiking, skiing, and camping with her husband, Thad, and their beagle, Pepper.

# Board Member Profile

## Tim Meagher

> "IT TAKES ALL OF US, AND WE CAN BECOME MORE SUSTAINABLE TOGETHER."

As the Chief Operating Officer of Vanguard Hospitality, Tim Meagher is constantly on the go. In addition to overseeing the operational management of Grille 26, Minervas, and Morrie's Steakhouse, Tim is also one of our dedicated board members at FBSR. When asked why he joined the board, Meagher promptly responded, "I see the immediate need to protect our local water sources for the basic health of the environment. I believe this can be accomplished through education and awareness as well as unique solutions to overcome barriers to move in a positive sustainable direction."

Coming up with unique, sustainable solutions is right in Tim's wheelhouse, as he and Vanguard Hospitality emphatically believe in "uniting our community through food." Over the past few years, Vanguard has created strong partnerships with regional farms, ranches, and producers to bring high-quality, local food right from farm to table. Currently, Vanguard has over twenty partnerships with local producers, such as Svec Farm, Cherry Rock Farm, Wild Idea Buffalo, Stensland Family Farms, Fruit of the Coop, and Hadrick Ranch, just to name a few. If you attended our 2023 Big Sioux Film Festival, you had the opportunity to try some scrumptious hors d'oeuvres made with locally grown and harvested food courtesy of Morrie's Steakhouse.

Creating these local partnerships is about more than just the food. "We visit these farms, we know what is happening, and we work together through the hard times to make things work. Patience, understanding, and taking care of each other helps transcend a transactional relationship to interdependence," Tim said. In addition to building partnerships, Meagher also explained that buying local offers an opportunity to rebalance our dependence on corporate farms, which often do not have a community's wellbeing at the forefront of their mission.

After less than a year on the FBSR board, Tim Meagher has already proved to be a valuable asset to our team. He always has a new idea brewing, centered around water quality, sustainable agriculture, or other local partnerships. "Taking charge, taking action, caring and supporting each other, and building up our local businesses is paramount for the future," he said. "It takes all of us, and we can become more sustainable together."

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**Join Friends of the Big Sioux River for our annual Earth Day River Clean-Up on Saturday, April 22, from 10:00 AM to noon. We will have clean-up locations throughout the watershed in Brandon, Brookings, Canton, Sioux Falls, and Watertown. Following the clean-up, join us at Remedy Brewing Company in Sioux Falls for the release of our 2023 Big Sioux Brew, a German Pilsner. Learn more about both events at fbsr.org!**

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