

## Unnatural Data

### Formidable water pollution challenge

According to Circle of Blue, decreasing the flow of fertilizers from farm fields into surface waters is the country's most daunting water pollution challenge. Phosphorus and nitrogen levels in lakes and waterways contribute to countless toxic algal blooms, and pose health risks in drinking water. South Dakota and the Big Sioux River are trending up.

### Hypoxia update

Scientists predict this summer's Gulf of Mexico hypoxic area or "dead zone" – an area of low to no oxygen that can kill fish and other marine life – will measure approximately 6,700 square miles, larger than the long-term average size of 5,387 square miles. The "dead zone" – starting near the mouth of the Mississippi River- is caused mostly by fertilizer runoff from farm fields.

### Weakening the Clean Water Act

U.S. EPA finalized a narrower definition of waterbodies protected under the Clean Water Act. Opponents in the U.S. Congress have introduced a bill that would block this dangerous rule. Instead of shrinking the act's protections, we should be expanding them.

### Oil pipeline crosses Big Sioux River

The Dakota Access oil pipeline crosses beneath the Big Sioux River a short distance downriver from Sioux Falls. This 30-inch pipeline was originally permitted to carry about 570,000 barrels of oil per day from the Bakken oil field to storage facilities in southern Illinois. Since the original permit was issued and oil transport commenced in 2017 the pipeline's owners requested authorities allow more than one million barrels per day through the pipeline. South Dakota's Public Utilities Commission granted this request without a public hearing. Litigation and opposition continue against this pipeline.

### Nitrates threaten Minnesota drinking water

Nitrate contamination of drinking water is worsening in rural Minnesota, according to the Environmental Working Group (EWG). Between 1995 and 2018, elevated levels of nitrates were detected in 115 Minnesota water systems, mostly in farming areas in the state's southern and central regions. At least ten communities have installed costly nitrate-removal systems or drilled new wells to find acceptable water. EWG examined the Rock County Rural Water System, serving 2,256 people in southwest Minnesota, near Sioux Falls, and calculated that the system's average nitrate concentration increased by 890 percent from 1995 to 2018. All of Rock County lies within the Big Sioux River watershed.

## Life along the Big Sioux River

The male Indigo Bunting glistens a brilliant turquoise-blue in direct sunlight.

Interestingly, this bird species has no blue pigmentation in its physiological chemistry. The striking hue results from the diffraction of light through the bird's intricate black feather structure. The female is colored an unremarkable brown for good reason. She typically does all or most of the work hiding and raising the young. This bunting—a member of the finch family- is regularly seen along the Big Sioux River. They prefer brushy areas such as woodland and field edges, and their summer diet focuses on insects, and in winter they consume seeds and berries. Indigo buntings are a small bird, measuring less than five inches long, with a conical bill. Listen for their lovely singing when paddling or hiking. The Cornell Ornithology Laboratory has recordings online.




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## Welcome to our first intern, Sydney Mudgett

Sydney Mudgett, soon to begin her senior year at Augustana University, is serving as the first intern in the history of Friends of the Big Sioux River. Mudgett came to Augie from Broomfield, Colorado. She wanted to attend a Lutheran institution, plus she aspired to run college track. "Augie is a terrific place," she reported. "Great teachers and guidance, lots of extracurricular activities to broaden my experiences, and I love running with my teammates."

Mudgett, a math major, serves as vice-president of Augie Greens, a group for students interested in environmental issues. "We do educational projects, like promoting sustainability, and we hosted a climate rally and did events on Earth Day," she explained. "I'm passionate about the environment. I'd like to be able to use my math skills to help an environmental organization."

Her summer-long work as an intern for FBSR is covering a variety of projects, including researching different riparian buffer strip programs from around the country as FBSR examines ways to improve South Dakota's buffer law. She also organized a river clean-up project. "I'm learning so much," she said. "Before this I didn't know much about farming pollution or the value of riparian buffers along rivers and streams." 



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### Big Sioux River Sojourn

There are new recreation priorities emerging. People continue to rely on outdoor experiences to enhance their quality of life, but their preferences now emphasize paddling, bicycling, hiking, wildlife watching, admiring nature and cross country skiing. Offering ample opportunities and locations to pursue these types of activities are advantages when recruiting talented new residents to a community.

Photo courtesy of Cheryl Pruett



Cheryl Pruett

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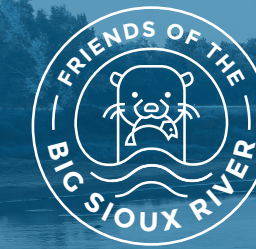
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# THE OTTER

Newsletter of Friends of the Big Sioux River Summer, 2020

## Boosting Buffers



## Improving South Dakota's Riparian Buffer Program

It's been three summers since South Dakota's legislature passed a law offering farmers a 40 percent tax break for planting and maintaining qualified buffer strips along rivers, streams and lakes. Many celebrated passage of the law, including then-governor Dennis Daugaard, who declared, "...I expect many South Dakotans will choose to participate in this program to help improve water quality in our state."

Unfortunately, the governor's optimism was unfounded. The buffer program has failed to attract much interest among landowners. It must be classified as a failure.

Shoreline along 11,000 miles of South Dakota streams and rivers, and adjacent to 575 lakes is eligible for the program. And while it is difficult to measure the number of farmers who could apply for the tax reduction, it is reasonable to guess that the number reaches into the thousands. To qualify for the tax break, landowners must grow and/or maintain a strip of perennial grass, trees or brush at least 50 feet wide. The tax incentive extends to buffer strips at least 50 feet wide, and no wider than 150 feet.

In 2018, the program's first year, 31 landowners from across the state enrolled 318 acres into the program. The following year, 35 landowners received tax reductions on 426 acres. A good share of the second-year participants had also enrolled the first year. Why don't more South Dakota farmers use the state's riparian buffer program?

No one disputes the value of riparian buffers. They can be highly effective intercepting and reducing the amount of farm chemicals and eroded soils reaching surface waters from fields growing corn and soybeans. Some suggest that incentives should be unnecessary, that using buffers to protect water resources from soil and polluted runoff should be part of every farmer's stewardship practices. But if you're a farmer paying taxes on every acre it becomes a challenge to justify taking land out of production, especially when crop prices are high and the state's tax structure favors annual crops, not perennial grasses.

Indeed, agriculture and tax experts report that a central issue is money, and that the tax reduction is an inadequate incentive. Tax dollars saved by landowners participating in the buffer incentive program totaled a whopping \$2900.

"It's a profitability issue," explained Jim Ristau, sustainability director for South Dakota's Corn Growers association. "The areas where buffers can be grown can be productive land, and although offering a tax incentive is an effort in the right direction, one serious issue facing landowners is trying to equate growing and maintaining a buffer versus growing and producing a cash crop." According to Ristau, the tax reduction does not offset lost revenues associated with not growing corn or soybeans. "There's no equivalency," said Ristau.

Russ Hanson, formerly a property tax specialist for the SD Department of Revenue, pointed out that the tax savings are

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Farmed lands lacking buffers release chemical pollutants and eroded soils into surface waters.

not worth the time and effort that landowners must go through to modify their land and annually prepare the application paper work necessary to gain the tax savings. "When I worked on the program and had conversations with farmers," said Hanson, "I heard them say that the process is too time-consuming, plus modifying their land and losing the revenue of cash crops doesn't pencil out."

Jerry Kiihl farms along the Big Sioux River near Castlewood, SD. He is an active supporter of buffers, and has about 75 acres of riparian strips bordering about a mile of the river. Kiihl participates in a stewardship program sponsored by the organization Northern Prairies Land Trust (NPLT) that pays him for growing and maintaining buffers through a long-term easement. He has enrolled 52 acres of his buffers in the state's tax reduction program. Kiihl enjoys the wildlife habitat created by buffers as well as the water protections they provide. "A big problem with the State's program," said Kiihl, "is the lack of awareness of it by farmers."

Jay Gilbertson manages the East River Water Development District, based in Brookings, and is a long-time buffer advocate. His agency has created several of its own programs with various partners to encourage landowners to plant buffers. He thinks the state's tax incentive plan should address the annual requirement for enrolling. "Originally, the state figured there might be strong opposition to their buffer plan so they set it up as an annual plan, just in case there was strong opposition, but that one-year time-frame has proven to be inadequate."

Gilbertson agrees with Kiihl about public awareness. "The State did not pursue a promotion plan for buffers and their program, and the State did not offer to help landowners regarding how they could actually enroll land in the program," he said. South Dakota Corn Growers executive director Lisa Richardson also pointed to the lack of education about buffers. "We are 110 percent behind buffer strips," she said. "This bill did not address the [education] issue. It's not going to get more farmers to participate."

One thing the State's bill did do, Jay Gilbertson explained, is acknowledge that buffers have value. "That was," he said, "an important first step for buffers in our state."

It's worth considering how to move forward from that first step. It's clear the existing program cannot be successful. What are reasonable options? How can the program achieve the establishment of more buffers? Should the State's program forgive all taxes on buffer lands? How would that revenue be replaced for those who use such taxes, like schools? Should the enrollment period for the buffer tax break be extended to five years or 10 years? Should landowners have that option—regarding timeframe—rather than be limited to a single year? What about an educational plan to promote buffers and the tax incentive? A focused, skillful and strategic effort promoting buffers has thus far not been pursued by the State, the Corn Growers, the federal government or anyone for that matter.

Minnesota passed a bill that mandates buffers along certain waterways. The political fight over the proposal was ferocious, but since implementation many farmers have come around to appreciate the importance of buffers. The state is claiming increasing successes as more and more buffers are planted.

Buffers provide a significant public good and the wildlife habitat they create is especially necessary in a sea of corn and soybeans, but buffers must be developed and maintained on private property. That's the hitch. How much is the public willing to spend to help landowners develop buffers? Can government create new programs that generate revenues to subsidize -fully or partially- a more aggressive and successful buffer program? Friends of the Big Sioux River is actively exploring options and ideas to improve the State's buffer program. 🌱

## Editor's Pulpit South Dakota unprotects the otter. Why?

South Dakota's Department of Game, Fish and Parks (GFP) commemorated the statewide sighting in 2019 of 40 otters by deciding such a number was impressive enough to remove this charismatic animal from "threatened" status. That's right, a mere 40 sightings. That figure includes otters accidentally killed by trappers or vehicles. The year before there were 38 sightings in the entire state.

Let's put those numbers -40 and 38 annual sightings- in perspective. What about populations in neighboring states? In Minnesota, otter numbers top 12,000. Nebraska reports 7,000 otters, and Iowa claims 4,000. North Dakota does not report a survey. In 2018, South Dakota's natural heritage program, a division of GFP, described otters as "imperiled because of rarity or because of some factor(s) making it very vulnerable to extinction throughout its range." That viewpoint contradicts the agency's decision to de-list the otter.

Friends of the Big Sioux River (FBSR) named our newsletters after the otter and added the otter to our logo because we admire otters. They are a joyful, communal, beautiful and remarkable animal. Equally important, the presence of otters reflects the condition of the Big Sioux River. Otters need the right habitat and clean water. It's a positive thing if they populate the Big Sioux. Our mission, after all, is to restore health to the river, and that includes our hope that one day there will be lots of otters using the river. Otters are a symbolic and aspirational animal.

River otters were once common in South Dakota. Trapping, hunting, habitat destruction and waterway degradation combined to decimate the otter population. As recently as 1998 there had been one or less than one otter sighting in the entire state during each of the previous 20 years. In 1998 and 1999, the Flandreau Sioux Tribe introduced 35 otters to the Big Sioux River in Moody County. In 2004, state otter sightings climbed to 22, and by 2012 they'd risen to 46. Some of the original clan sauntered and swam west and settled along the James and Vermillion rivers. Sightings

actually tapered from 2012 to 2019, not an encouraging trend. GFP's explanation for de-listing the species and allowing limited trapping hinges on the determination that otter reproduction is happening in three river basins. We don't think this is sufficient scientific validation to declare victory in the effort to save the otter. Strangely, an overall population estimate was not a benchmark. Since the otter was classified as a "threatened" species in 1978, no intentional trapping of this animal was permitted. Any kills by trappers were classified as "incidental" or accidental, required a report to the State, and pelts could not be kept by the trapper. Trappers complained that otters inconvenienced them. The de-listing plan allows for up to 15 otters to be trapped each year by 15 trappers working in any one of 32 east river counties. Assuming that the 40 sightings from last year were different otters, trappers will be able to legally kill 37 percent of the state's known otter population. Is this sustainable? What about incidental catches? There has been no established limit on those. How could there be? The whole teetering system is built on the honesty of trappers and GFP's contention that reproduction in three basins is worthy of declassification. An otter pelt will fetch about \$20-30 this year, three times the value of mink and double that of beaver. So, it should be

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Photo courtesy of NEBRASKALand Magazine/Nebraska Game and Parks Commission

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apparent that the monetary value of trapping and skinning otters hardly seems significant. And if the decision to de-list the otter was not made to profit a certain special interest—trappers- than what is the real reason for this determination?

Collette Adkins, Carnivore Conservation Director and a senior attorney specializing in endangered species at the Center for Biological Diversity, expressed alarm about GFP's decision. "South Dakota's recovering population of river otters remains small and should be protected, not trapped," said Adkins. "Unfortunately, the state's wildlife managers seem determined to appease a minority of trappers at the expense of the rest of us, who would be thrilled to have a chance to see these fascinating animals in the wild."

What's with the State's obsession with trapping? FBSR does not formally oppose trapping, but we can't help but recall the State's expensive and mostly unsuccessful pheasant rescue plan that relied on rewarding trappers for killing pheasant predators. Otters, by the way, are not predators of pheasants or their eggs. They don't degrade croplands, consume cash crops or harm livestock. They do not cut down trees or cause flooding. They do prey on muskrats. They are not a nuisance species to anyone but trappers seeking to kill beaver or muskrat.

Our state's leadership must realize that interest in outdoor recreation activities like wildlife watching, canoeing/kayaking and hiking are rising quickly, and that activities such as hunting and trapping are losing popularity. This trend won't change, no matter how much money the State throws at trappers. Otters on the river will attract and delight paddlers, hikers and wildlife watchers.

GFP's decision to de-list otters is short-sighted, misguided and, frankly, a bit suspicious. Forty otter sightings across the entire state is hardly a reason to celebrate. It is, however, a reason to focus more attention on doing what it takes to restore otters to our landscape. Doing this sort of work—resurrecting a reasonable share of our state's wildlife heritage through habitat protections and restoration- is how an agency like GFP must earn its keep. 🌱



## Personnel Updates

### Farewell, Mary Ellen

We are immensely grateful for the important service retiring board member **Mary Ellen Connelly** has provided to FBSR. Connelly served as the board's secretary since FBSR was organized in 2015. Her background as a Sioux Falls nursery/landscaping business owner and expert regarding soils and perennial plants has been invaluable to board members interested in learning about these topics and how they relate to water quality. She has been our ambassador promoting urban stewardship.

### New board member

Avid kayaker and director of sales for Experience Sioux Falls, a destination marketing organization, our newest board member, **Alexandra LeBlanc**, brings enthusiasm and knowledge about tourism to our organization. The Twin Cities native formerly served as general manager for Best Buy in Sioux Falls. According to LeBlanc, "The health of the Big Sioux River plays a vital role in providing an energized visitor [to Sioux Falls] experience." Welcome, Alexandra.

**Nathan Lund** has resigned from the board of directors. Nathan brought us knowledge about engineering, hydrology and mitigation. Thanks, Nathan.

Congratulations to our managing director, **Travis Entenman**, and his wife, Hanna, on the April 16 birth of their son, Theodore.

## River Quiz

Can you identify this Big Sioux River location?

See page 3 for the answer.

Photo courtesy of City of Sioux Falls



## River Quiz Answer

Sioux Falls has implemented an effective array of tactics and structures to minimize flood damage caused by the Big Sioux River and its major tributary, Skunk Creek. Among those structures is the Confluence Dam, shown in the photo. Located west of the Great Plains Zoo on the main channel of the Big Sioux River and a short distance north of the mouth of Skunk Creek, this dam prevents Skunk Creek flood flows from causing flooding upriver from the confluence. Dam operations commenced in 2013, and construction cost was about four million dollars. The structure is about one hundred feet long, and it contains ten vertical lift gates. Each gate is eight feet wide and 15 feet tall. Although the dam's primary function is flood control, it also serves as a bridge for biking/hiking trail users.