



**East Dakota Water Development District  
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Brookings, SD 57006**

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**MINUTES  
June 18, 2020**

The Board of Directors of the East Dakota Water Development District (EDWDD) held a regular meeting on June 18, 2020, by way of video-conferencing (Zoom). Chairman Anderson called the meeting to order at 9:05 a.m. The following persons attended:

**Directors Present**

Mark Anderson  
Jeff Barth  
Mary Ellen Connelly  
Gary Duffy  
Spencer Hawley  
Martin Jarrett  
Kay Kassube  
Dana Loseke  
John Moes

**Director(s) Absent**

- none -

**Others Present**

Ryan Allen, Minnehaha Community Water Corporation  
Mark Anderson, United States Geological Survey  
Scott Buss, Minnehaha Community Water Corporation  
Tim Cowman, SD DENR Geological Survey Program  
Steve Dick, Hartford  
Jon Ekern, Kingbrook Rural Water System  
Erin Hayes, Kingbrook Rural Water System  
Galen Hoogstraat, United States Geological Survey  
Jodi Johanson, Big Sioux Community Water System  
Kurt Pfiefler, SD Association of Rural Water Systems  
Heath Thompson, Sioux Rural Water System  
Gene Wilts, Brookings-Deuel Rural Water System

**Staff Present**

Barry Berg  
Jay Gilbertson  
Alexa Kruse

**Administrative Items**

Approval of Agenda - Two items were added under IV. District Updates, IV. D. Discussion of a new stream gage on Split Rock Creek near Palisades State Park and IV. E. Summary report on water quality in the Big Sioux River basin.

**Motion** by Barth, seconded by Moes to approve the agenda as amended. Motion carried unanimously.

Minutes - The Board reviewed the Minutes of the May 21<sup>st</sup>, 2020, meeting.

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**Motion** by Hawley, seconded by Kassube to approve the Minutes as presented. Motion carried unanimously.

Financial Reports - The Board reviewed the May 2020 financial statements.

**Motion** by Moes, seconded by Loseke to approve the May 2020 financial statements. Motion carried unanimously. Chairman Anderson directed that the approved financial statements be placed in the District files.

Report of Meetings and Conferences - Director Barth attended the June 8<sup>th</sup> meeting of the Minnehaha Conservation District in Sioux Falls.

Directors Connelly and Loseke attended the June 1<sup>st</sup> meeting of the Friends of the Big Sioux River (FBSR) in Sioux Falls. Both were also involved in ongoing FBSR efforts to establish native planting along the Big Sioux River in Sioux Falls.

Director Loseke reported on the Big Sioux River clean up event in Sioux Falls on June 6<sup>th</sup>.

Director Moes reported on the June 17<sup>th</sup> meeting of the Lake Pelican Water Project District in Watertown.

The Manager briefly commented on the following meetings he attended:

**May 21<sup>st</sup>** - Upper Big Sioux River Watershed Board via Zoom.

**May 29<sup>th</sup>** - Big Sioux River Watershed Implementation Project Specialist position interviews, Minnehaha Conservation District Tree Shed, Sioux Falls.

**June 3<sup>rd</sup>** - NRCS Partners Discussion via Zoom. COVID-19 impacts to office space.

**June 5<sup>th</sup>** - Deuel County Commissioners discussion of Lake Alice flooding, Clear Lake; Wetland filling inspection, Lake Cochrane; Big Sioux River watershed water quality discussion with researchers from SDSU and SDSM&T via Zoom.

**June 8<sup>th</sup>** - Lake Badger watershed tour with NRCS and Kingsbury Conservation District staff; Minnehaha Conservation District Board of Supervisors meeting, Sioux Falls.

**June 11<sup>th</sup>** - Moody Conservation District Board of Supervisors, Flandreau.

Upcoming Meetings -

1. **June 18<sup>th</sup> - 7:00 p.m.** - via telephone conference call. Upper Big Sioux River Watershed Board.
2. **June 24<sup>th</sup> - 9:00 a.m.** - Sioux Falls. Big Sioux River Watershed Implementation Project Steering Committee.
3. **June 25<sup>th</sup>** - TBD. South Dakota Board of Water & Natural Resources.
4. **July 9<sup>th</sup> - 9:00 a.m.** - teleconference. James River Water Development District Board of Directors.
5. **July 9<sup>th</sup> - 9:30 a.m.** - Fort Sisseton State Park. South Dakota Association of Conservation Districts (SDACD) Coteau Area meeting.
6. **July 9<sup>th</sup> - 7:00 p.m.** - Flandreau. Moody Conservation District Board of Supervisors.
7. **July 13<sup>th</sup> - 3:00 p.m.** - Sioux Falls. Minnehaha Conservation District Board of Supervisors.
8. **July 14<sup>th</sup> - 10:00 a.m.** - Armour. South Central Water Development District Board of Directors.

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9. **July 14<sup>th</sup> - 6:00 p.m. (MST)** - Rapid City. West Dakota Water Development District Board of Directors.
10. **July 16<sup>th</sup> - 9:00 a.m.** - via Zoom and/or EDWDD Office, Brookings. July EDWDD Board of Directors meeting.
11. **July 22<sup>nd</sup> - 8:00 a.m.** - Sioux Falls. South Dakota Association of Rural Water Systems Manager’s Group meeting.
12. **July 22<sup>nd</sup> - 10:00 a.m.** - Flandreau. SDACD Vermillion-Big Sioux Area meeting.

Payment Request(s) - The Manager presented the Board with one reimbursement request from the sponsor of a District-supported project. He noted that the request was in order, and consistent with provisions set by the Board at the time of award. He requested authorization to pay the following:

<u>Grant Recipient/Activity</u>	<u>Requested Amount</u>
SDSU/Stormwater Management Strategies (Bergstrom)	\$ 8,250.00
<b>Total</b>	<b>\$ 8,250.00</b>

**Motion** by Jarrett, seconded by Kassube to authorize payments totaling \$8,250.00 as requested. Motion carried unanimously.

### **Big Sioux River/Aquifer Water Quality Study**

Tim Cowman, State Geologist with the South Dakota Department of Environment and Natural Resources Geological Survey Program, briefed the Board on the Department’s planned investigation of the interaction between the Big Sioux River and the adjacent Big Sioux Aquifer.

The Manager noted that the Big Sioux Aquifer is the primary water source for most public water supplies (PWSs) within the river basin. It consists of shallow sand and gravel deposits that surround and are hydraulically connected to the Big Sioux River. Depending on the circumstances, water can move from the aquifer to the river, or from the river to the aquifer. In the latter instance, pollutants in the river could become a problem for the PWSs. This issue has been raised by several PWSs, the District and other interested parties during public comments on surface water discharge permits.

Mr. Cowman explained that the planned investigation had three main objectives. First, to quantify the contribution of the river to select well fields in the upper Big Sioux River watershed. The well fields to be assessed are those of the Big Sioux Community Water System near Egan and the Clark Rural Water System north of Watertown. Second, to determine potential pathways of chemical constituents from the river to well fields. Finally, they plan to determine chemical constituent concentration gradients between the river and the well field.

To achieve these objectives, Survey staff, support by other DENR Programs, will:

1. Install observation wells between river and well fields to obtain water table measurements and water quality samples;
2. Construct ground water models to determine how much water the river contributes to the well fields;

3. Construct geochemical models to determine potential chemical constituent flow paths and concentrations between the river and well fields;
4. Conduct multiple sampling events to determine water quality patterns in the river, aquifer, and well fields; and
5. If necessary, conduct tracer tests to establish and measure flow paths of chemical constituents between river and well fields.

Mr. Cowman stated that they were still working out some of the details, but had hopes of getting some initial field work (observation well installation, surveying, etc..) completed this summer.

The Manager indicated that he and District staff would be available to provide any assistance needed. Further, he noted that the District had previously set aside funds for a comparable investigation, and he would work with Mr. Cowman to see how such assistance might be re-directed and applied to the support of the Survey's investigation.

### **District Updates**

Big Sioux River Watershed Implementation Project - The Manager introduced Alexa Kruse as the new watershed project specialist for the Big Sioux River Watershed Implementation Project (Project). Ms. Kruse will formally begin work on June 29<sup>th</sup>. He is also working on agreements with the Minnehaha Conservation District to provide staff for Segment 4 of the Project and the USDA Natural Resource Conservation Service which will provide office space for Ms. Kruse and Barry Berg at their office in Sioux Falls.

Nitrates in the Big Sioux River Watershed - The Manager reviewed recent trends in the concentrations of nitrate (as nitrogen) detected during the Districts ongoing water quality sampling throughout the Big Sioux River basin. He covered sample analyses collected and/or processed by District staff over the period between 1999 and 2019 for seven (7) sites along the river and for two (2) tributaries.

He noted that over the full period of record, most sites showed a very modest rise in overall nitrate concentrations. In most instances, the actual levels detected were well below the state/federal drinking water limitation of 10 milligrams per liter (mg/L). However, an increasing trend does not bode well for the future.

Over the past five years (2015 thru 2019), sampling has been quite consistent from mid-spring thru mid-fall. Within these annual sampling cycles, the trend has been for relatively higher concentrations in the spring, lower numbers in the mid-summer, and then a rise again in the fall. He noted that a cursory review of stream flow records suggests that this trend is not related to discharge.

The Manager would be reaching out to other stakeholders to explore possible explanations for the recognized trends, and District monitoring and analyses would continue.

Rotating Basins Big Sioux/Minnesota/Red Rivers Assessments - The Manager reported on the first full (nearly) month of sampling for the Rotating Basins Project. After three weeks of sampling, things are going well. High winds have presented challenges for the lake sampling. Wall Lake and Lake Alvin

have been added to the process, and staff are working with SD DENR on sampling of Covell lake in Sioux Falls.

Split Rock Creek Gaging Station - The Manager and Director Loseke reported on a new stream gaging station to be established on Split Rock Creek several miles below Garretson. Combined with the water quality sampling being conducted by the District and the Friends of the Big Sioux River, the gage should provide the foundation for the formal beneficial uses assessment of the segment of the creek from the confluence with West Pipestone Creek and the Minnesota border. This segment, which includes Palisades State Park, is not currently being evaluated during the biannual Integrated Reports.

Summary Report on Water Quality in the Big Sioux River Basin - The Manager stated that from time-to-time he is asked to describe the condition of the Big Sioux River, or some other water body in the District. [A recent such query by Director Hawley prompted this discussion item.] Most often, the response involves directing the questioner to a formal document, such as the 2020 Water Quality Integrated Report by SD DENR. It lists water bodies across the state along with a determination as to whether or not the water supports assigned beneficial uses, such as swimming. However, such reports often use very tightly constrained criteria in evaluating the water, resulting in a technically correct answer, but one that doesn't necessarily provide the kind of answer being sought.

A conversation ensued about the potential development of a series of 'state-of-the-waters' documents that would provide a description of the conditions present in District water resources, presented in language that would be accessible to the general public. There was a desire expressed that such reports should provide some contextual and/or background information against which current conditions could be evaluated. It was noted that, for example, there was a significant difference between a nitrate (as N) reading of 0.04 mg/L and 9.40 mg/L, although both would be treated as 'supporting' in the context of an Integrated Report finding. Long-term trend analysis was also discussed.

The Manager indicated that he would work with District staff and others to develop a proposal for moving forward with such an effort, with plans to present his initial recommendations at the August Board meeting.

### **Adjournment**

There being no further District business, Chairman Anderson declared the meeting adjourned at 11:10 a.m.

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Spencer Hawley, Secretary