

LCNRD Voluntary Integrated Management Plan **2017-2018 Biennial Review Report**

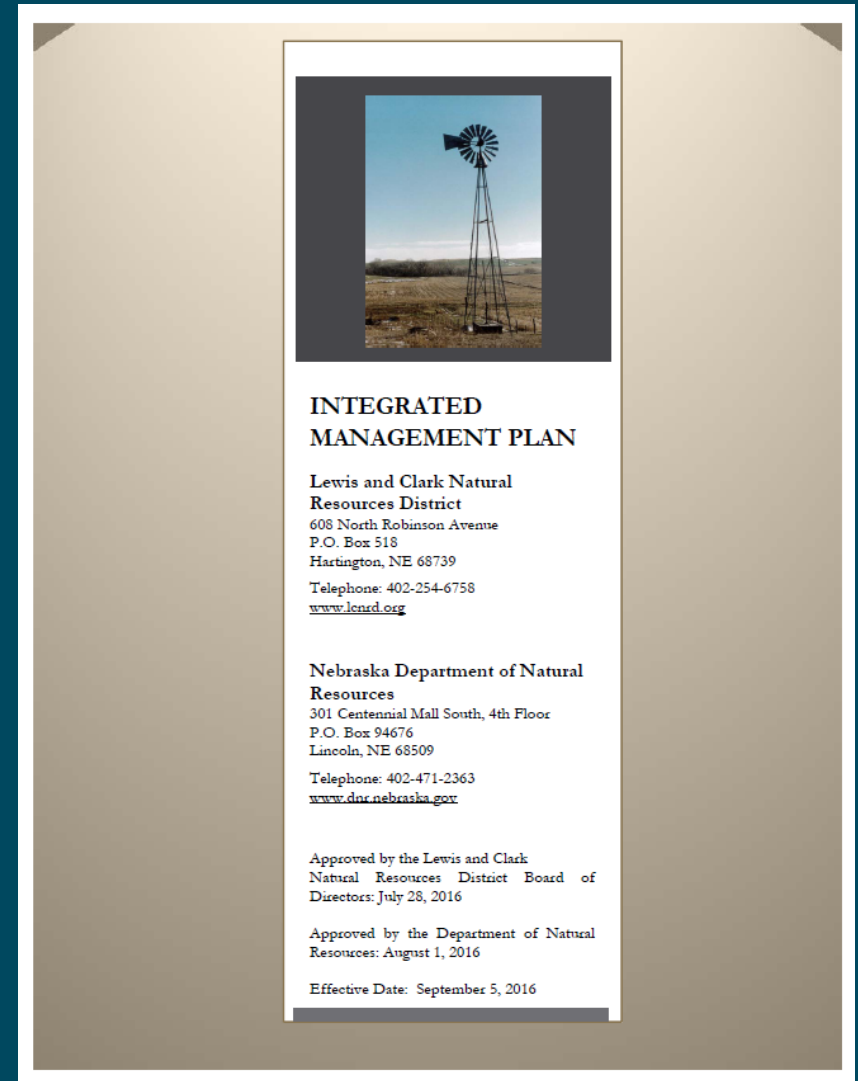
Annette Sudbeck, LCNRD and Amy Zoller, NeDNR

LCNRD Board Meeting
Hartington, Nebraska
October 17, 2019



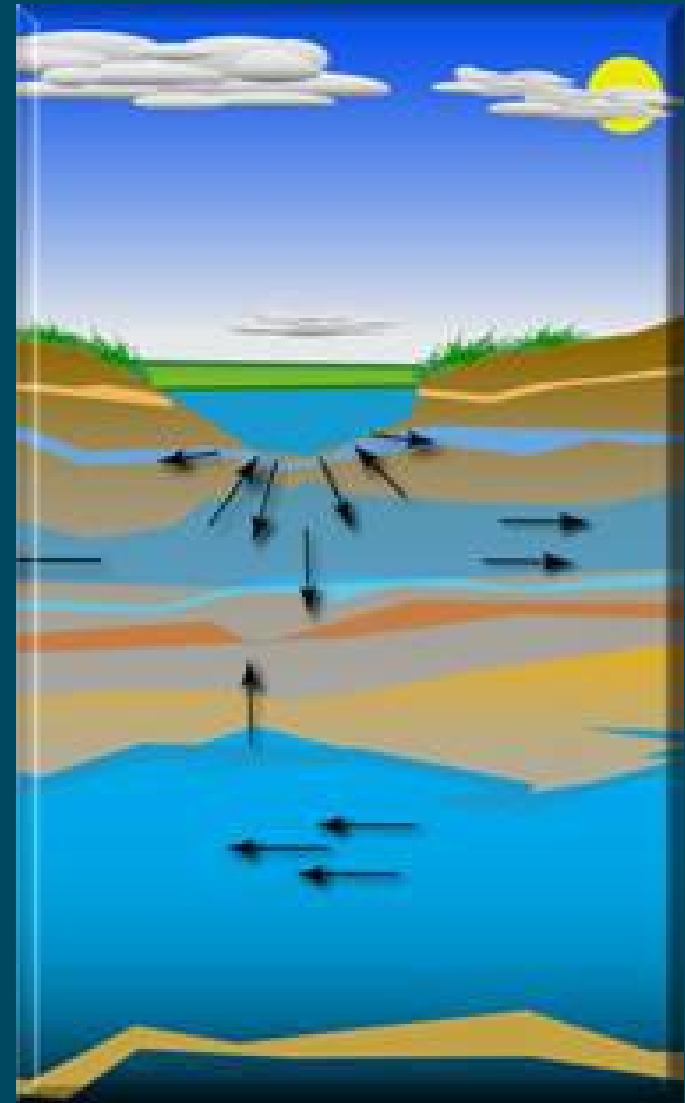
Background

- Jointly developed IMP
 - Lewis and Clark NRD
 - NE Dept. of Natural Resources
- Stakeholder process
 - 11 stakeholders
 - Four meetings (2014-2015)
- Partnership/coordination
 - LCNRD/NeDNR meetings
 - Joint IMP writing
- Effective Sept. 5, 2016



Background

- Joint management of groundwater/surface water
 - Hydrologically connected supplies
- Groundwater
 - Regulated by NRDs
 - Correlative rights system
- Surface water
 - Regulated by NeDNR
 - Prior appropriation system



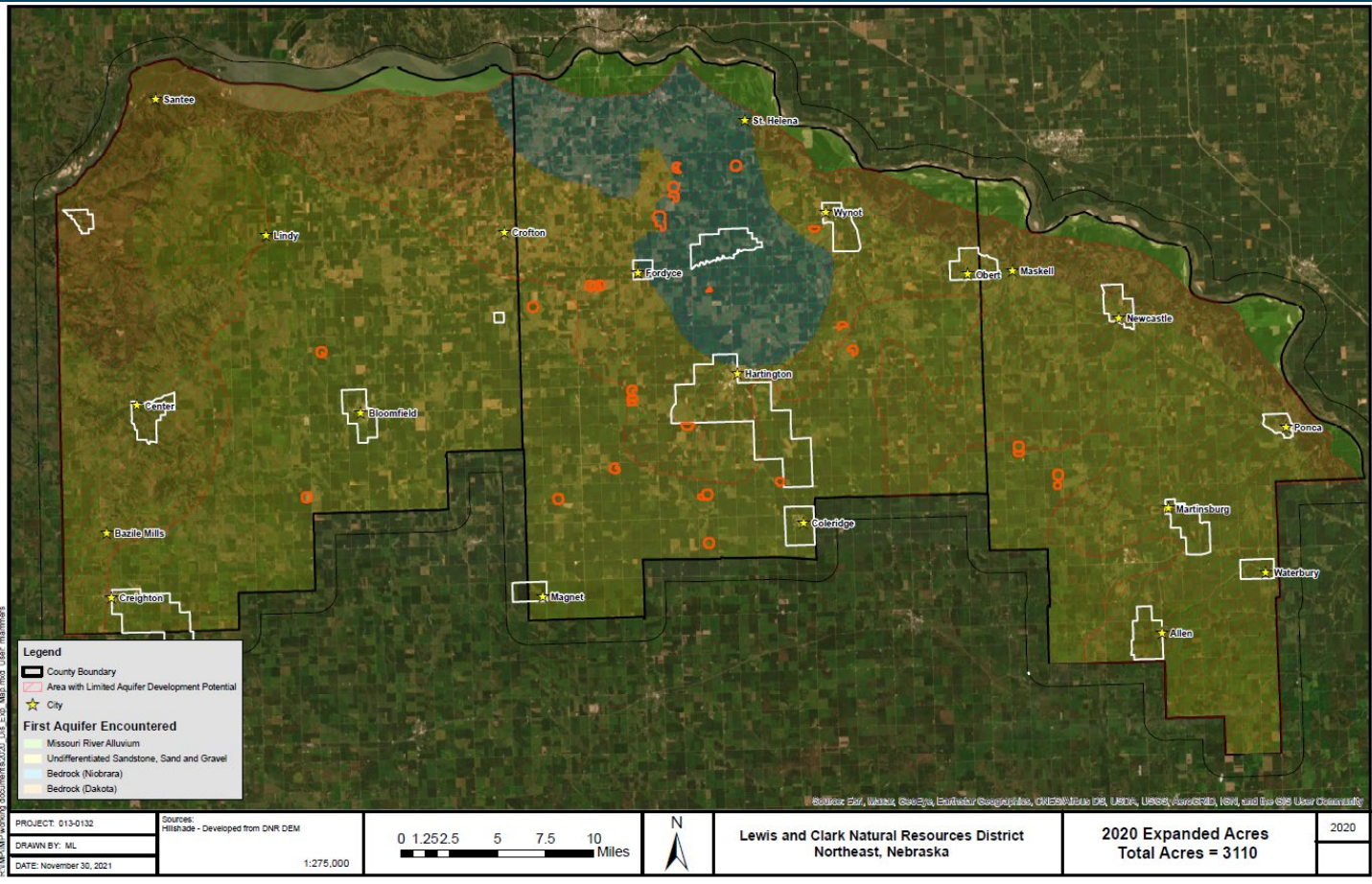
GROUNDWATER MONITORING

Groundwater Monitoring: New Permits in 2019

- 19 new well permits
- 1,522 new GW irrigated acres

Groundwater Monitoring: New Permits in 2020

- 40 new well permits
- 3,012 new GW irrigated acres



Groundwater Monitoring: GW Use Reporting

- Required reporting for new irrigation wells
- 70 reports received in 2018, 44 showed use.

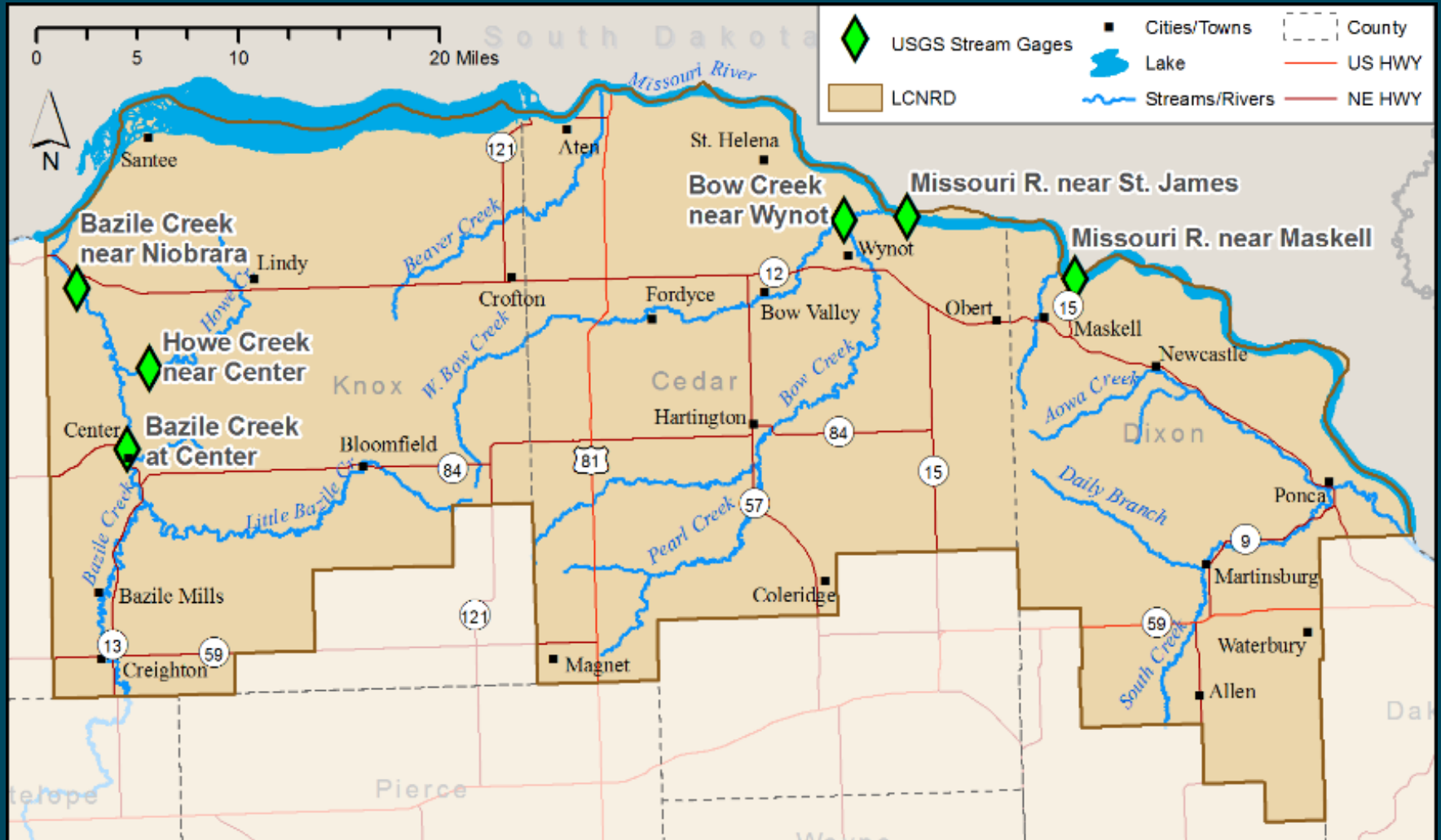


Groundwater Monitoring: Observation Wells

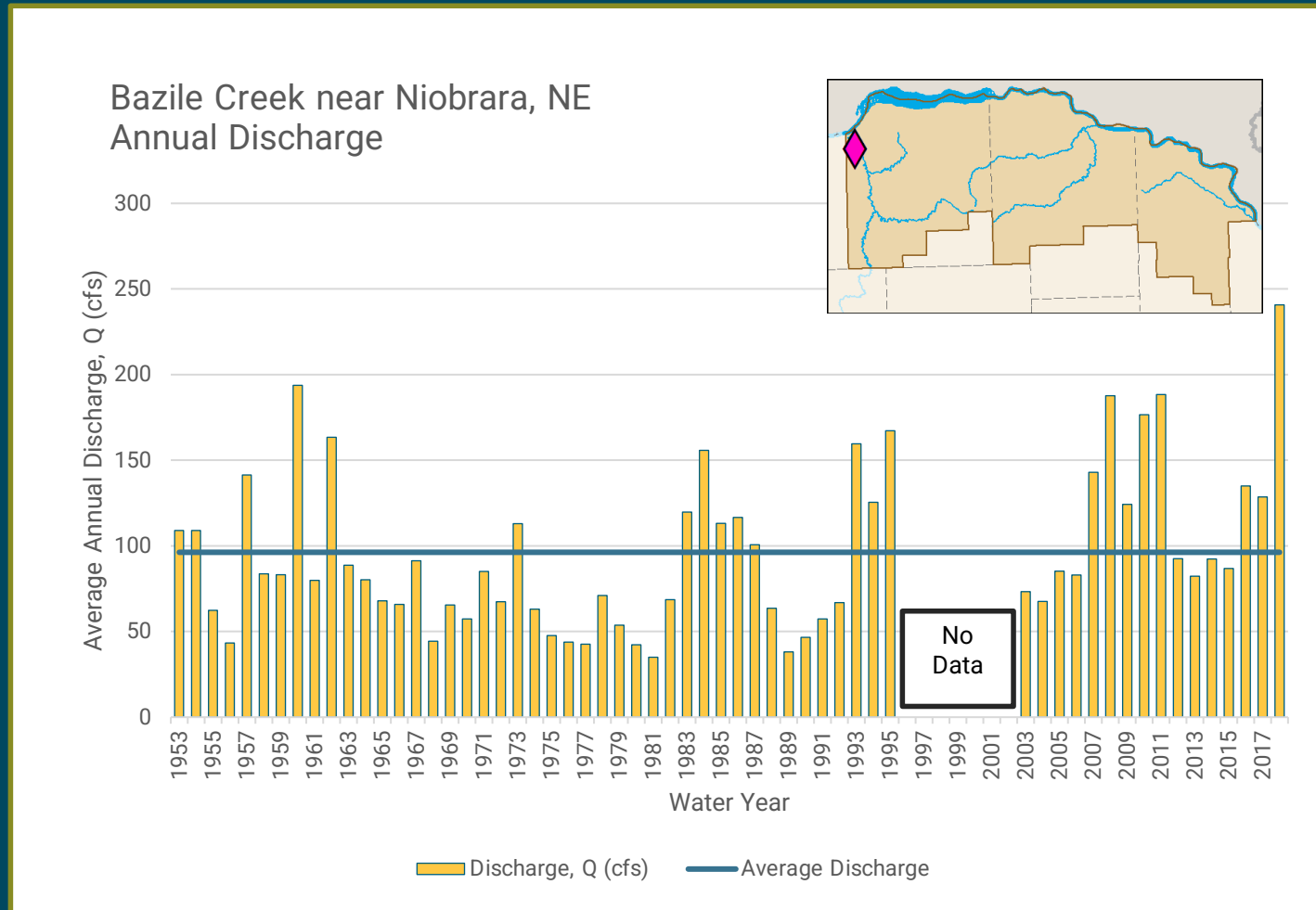
SURFACE WATER MONITORING

- Stream gaging
- Surface water permit actions
- Voluntary water use reporting

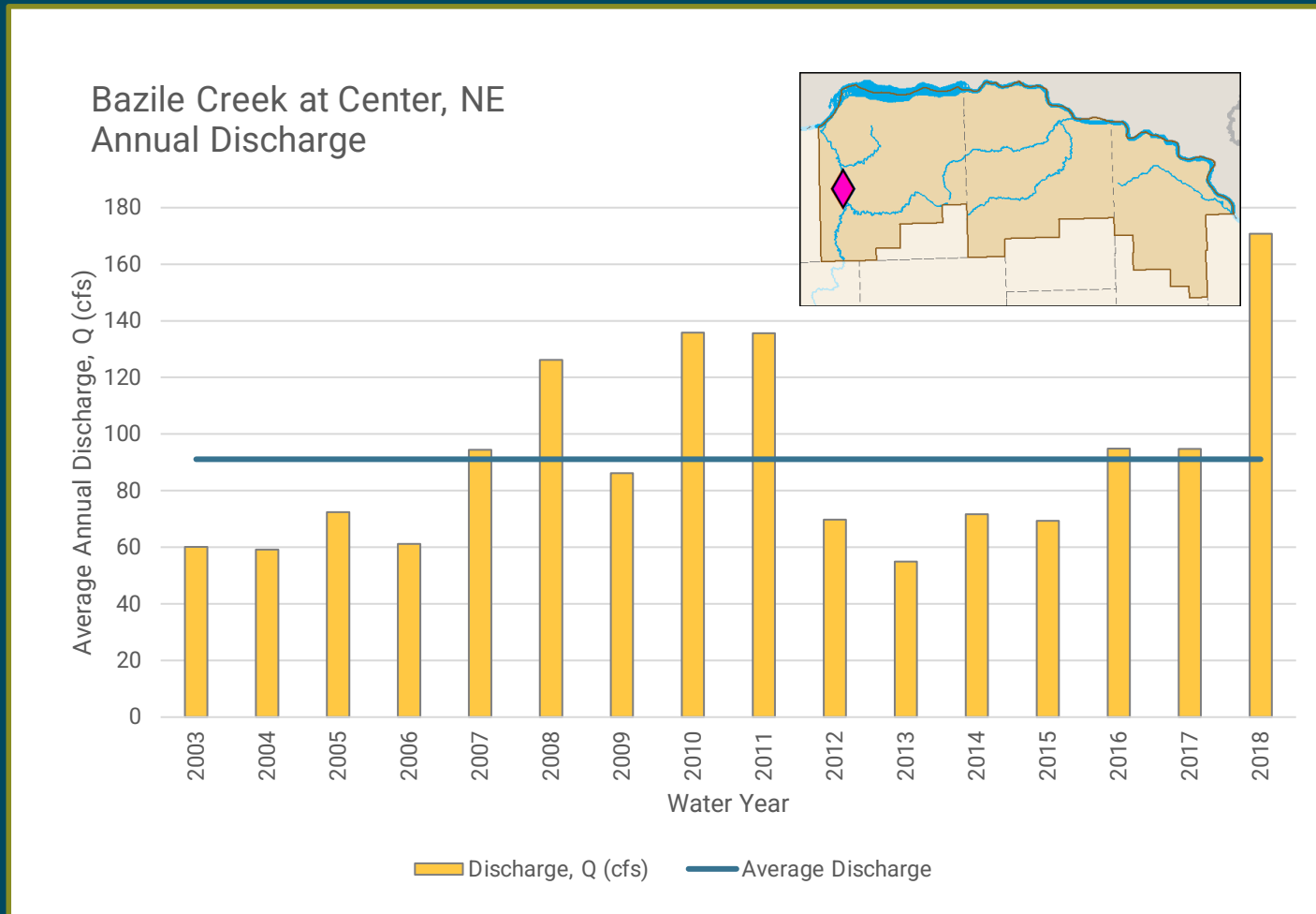
SW Monitoring: Streamgaging



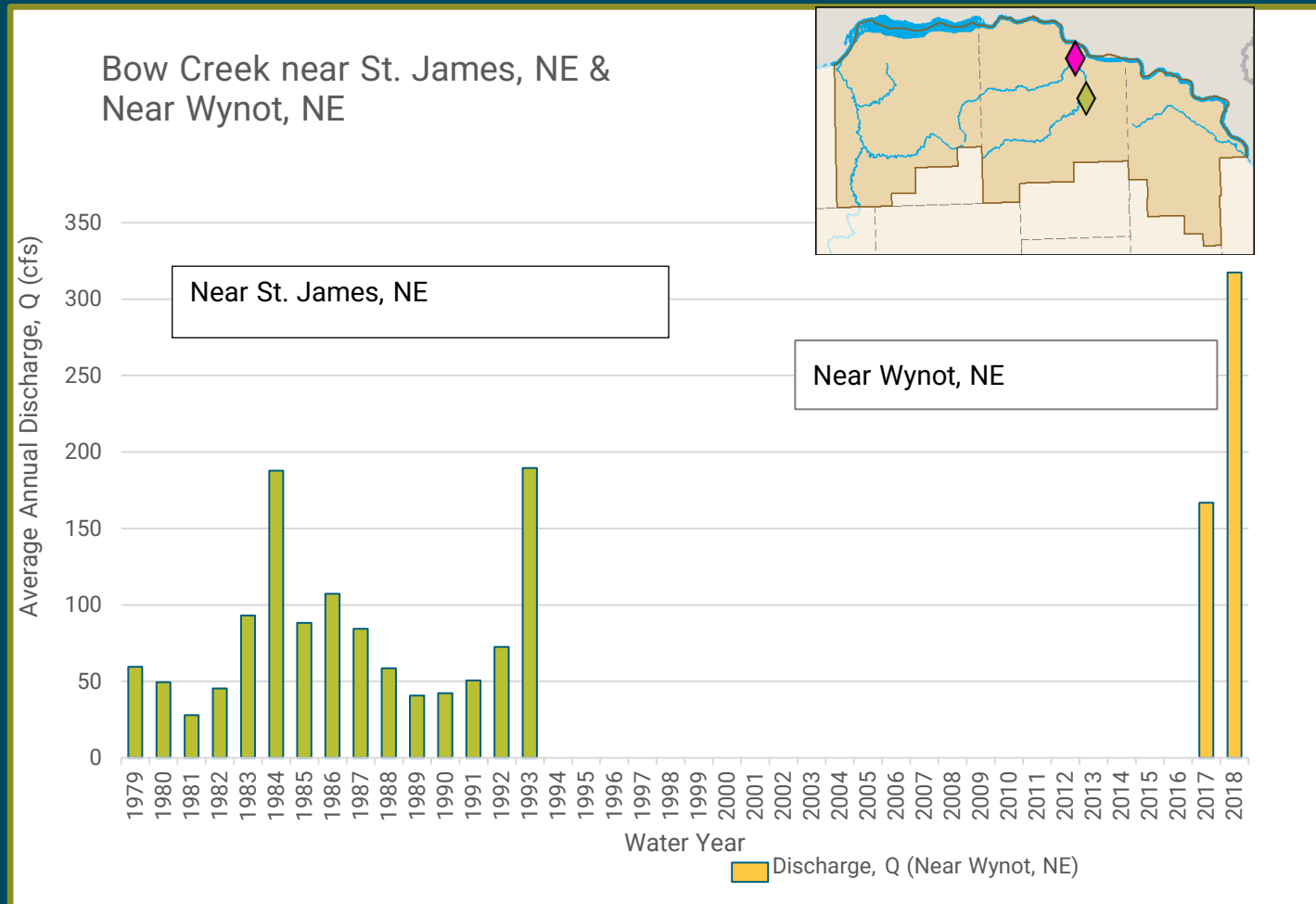
SW Monitoring: Streamgaging



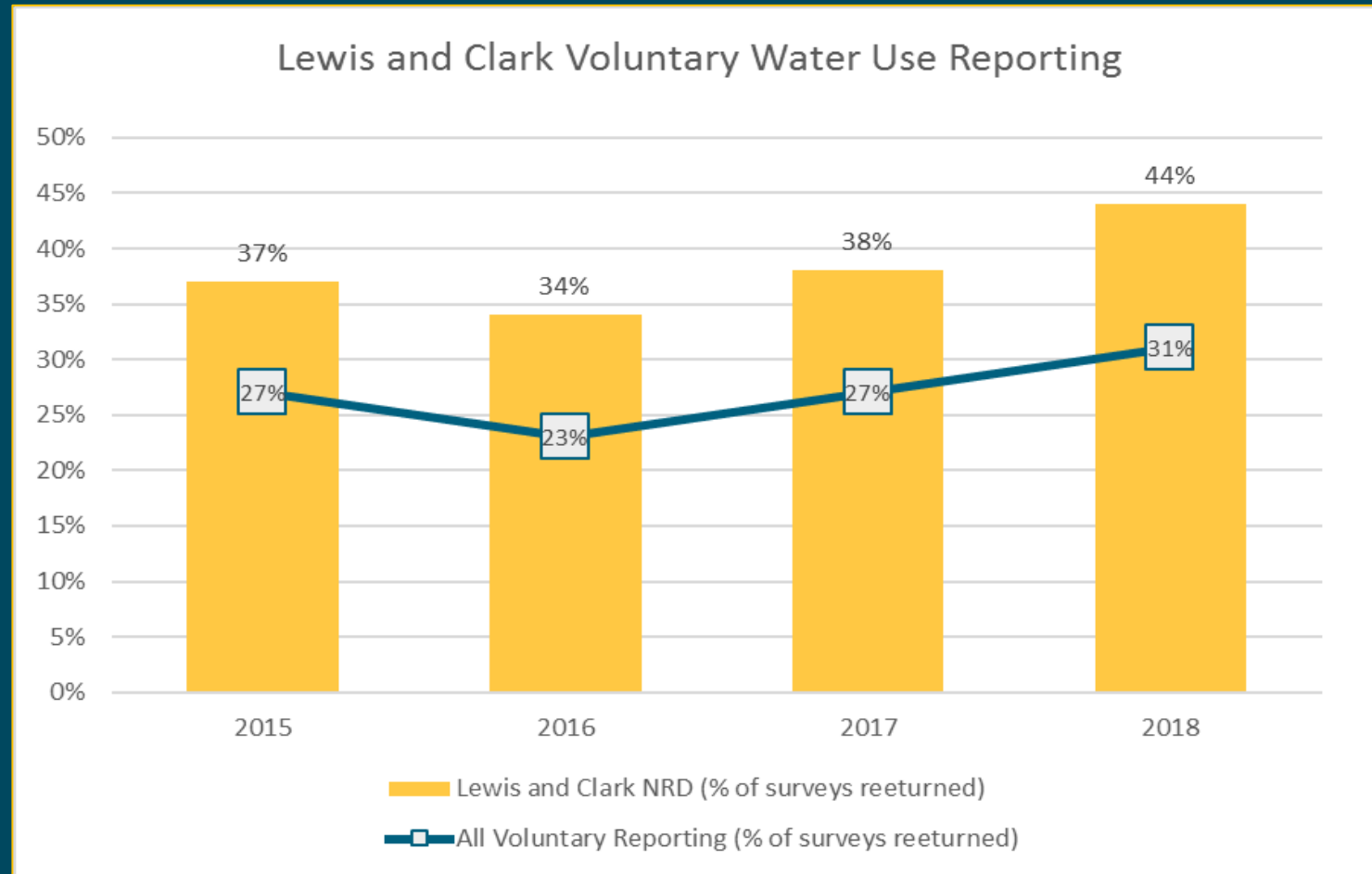
SW Monitoring: Streamgaging



SW Monitoring: Streamgaging



SW Monitoring: Voluntary SW Use Reporting

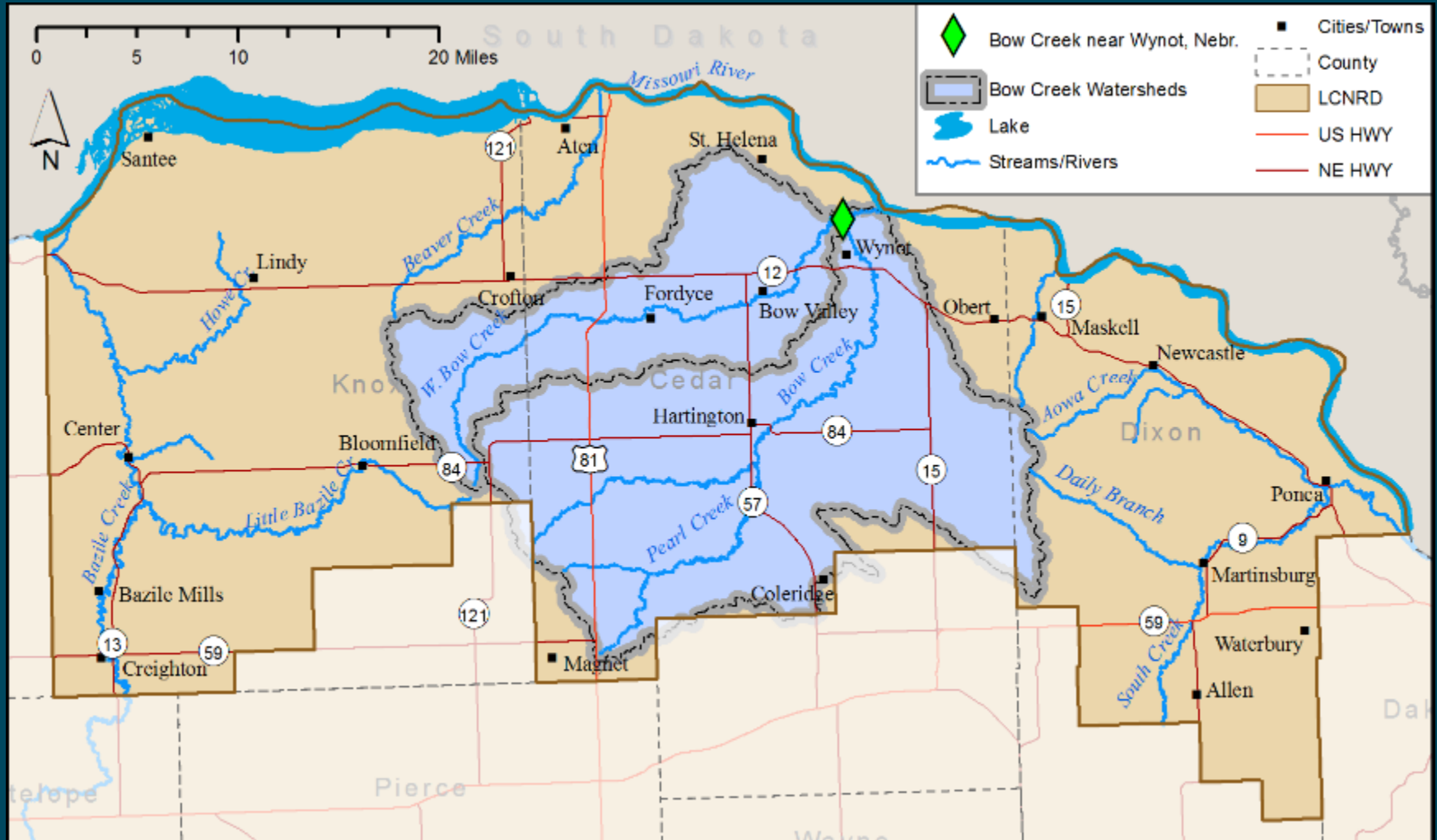


High response rates for LCNRD compared to the average response rate for NRDs in voluntary IMP areas.

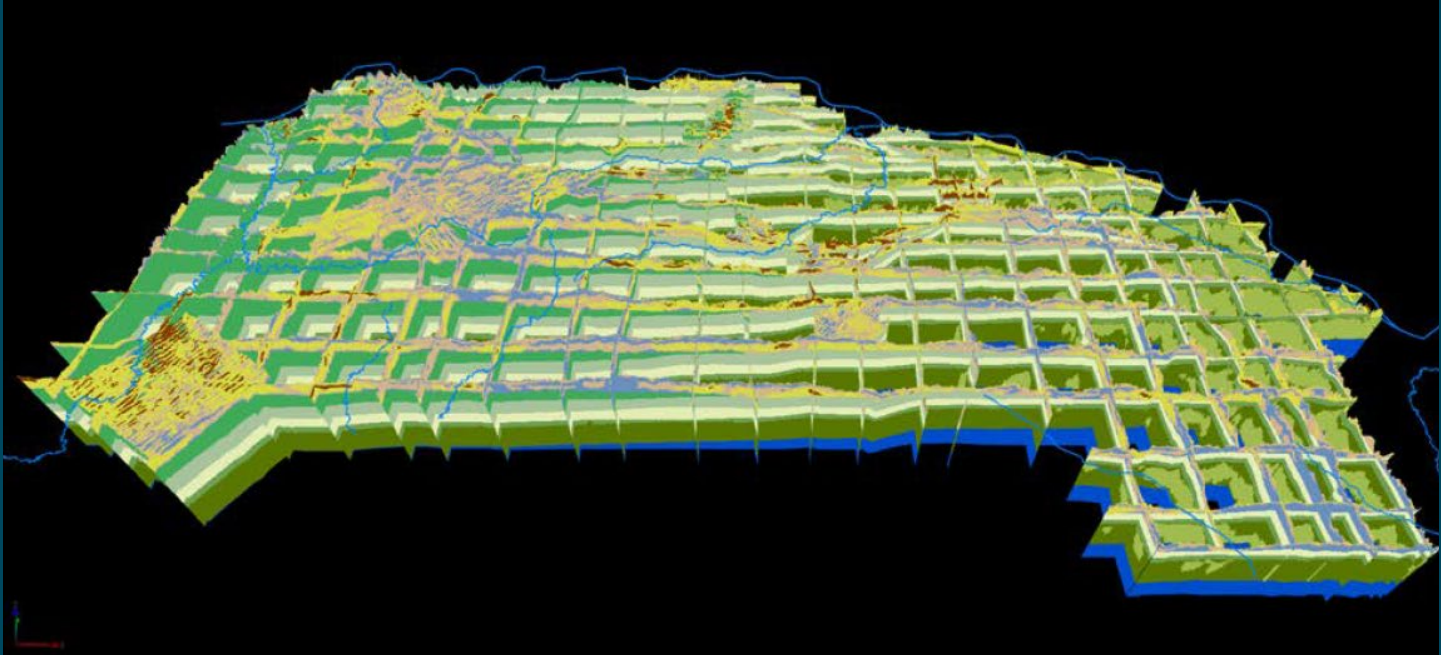
Collaboration Activities

- Eastern Nebraska Water Resources Assessment (ENWRA)
- Missouri River Sedimentation Action Coalition
- UNL Conservation Survey Division
- Missouri River Recovery Implementation Committee (MRRIC)
- LCNRD, U.S. Geological Survey, NeDNR on Bow Creek streamgange

Collaboration: Bow Creek Streamgange

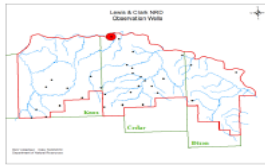


Technical Studies and Projects: LCNRD AEM Surveys



Airborne Electromagnetic Mapping and Hydrogeologic Framework of Selected Regions of the Eastern Nebraska Water Resources Assessment Area – Chapter on the Lewis and Clark Natural Resources District.

Technical Studies and Projects: LCNRD Hydrographs



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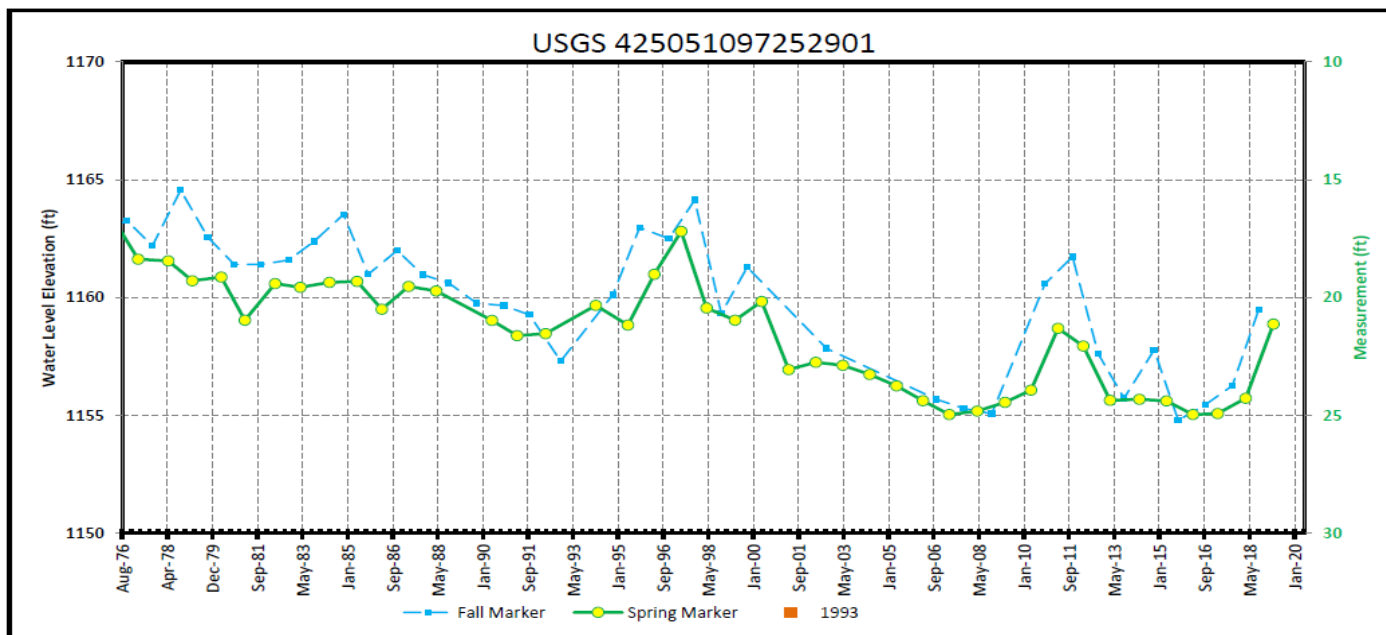
Well Depth

54

33N 1W 10CCB

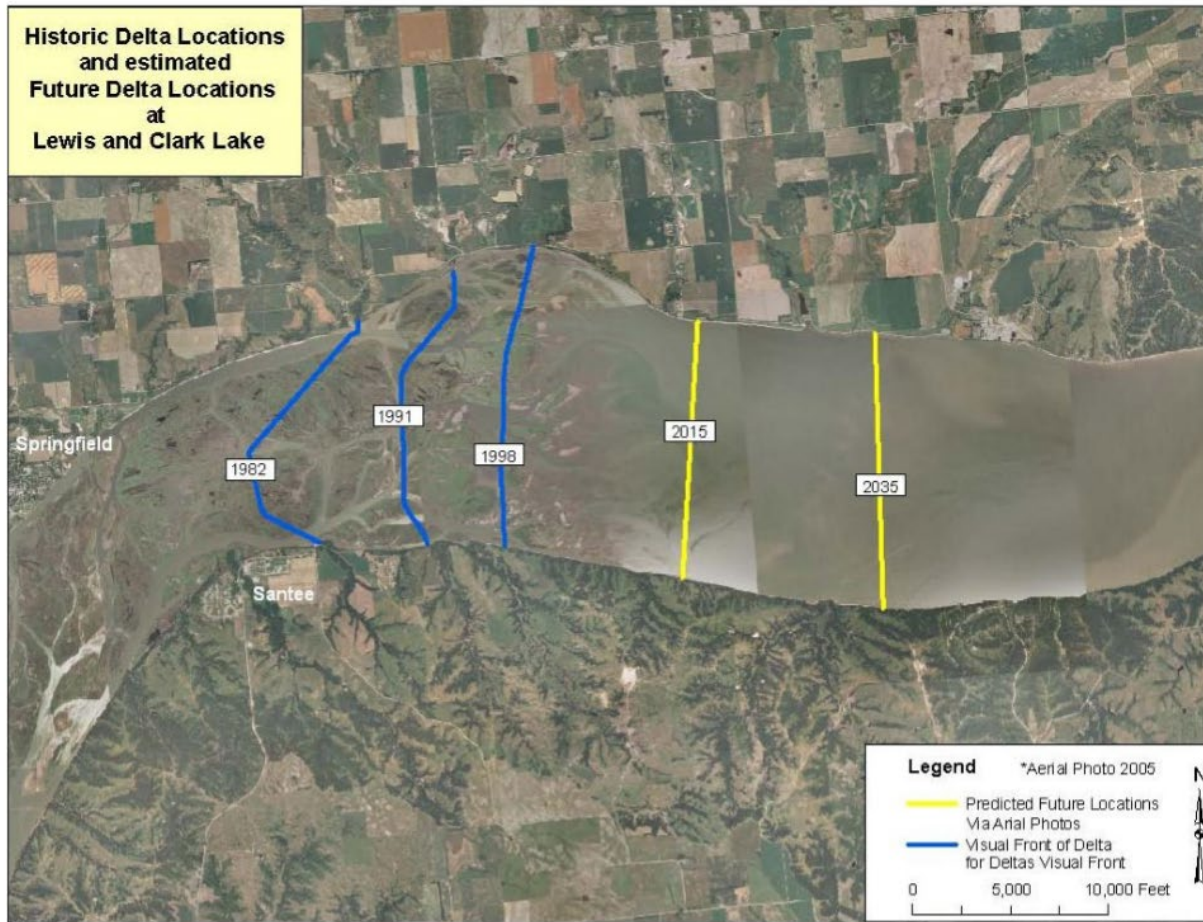
1180 Missouri River Alluvium

16-Oct-19



Technical Studies and Projects: MSAC Sedimentation Study

HISTORICAL GAVINS POINT DELTA



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Technical Studies and Projects: MSAC Sedimentation Study – Section 22

PLANNING ASSISTANCE TO STATES AND TRIBES

Authority: Section 22, Water Resources Development Act of 1974, as amended

Purpose: Provide technical planning and engineering services to states, local governments federally-recognized Indian Tribes and non-federal entities to address a broad range of water resource related issues.

Cost Share: 50% Federal / 50% Non-Federal

Federal Limit: \$2 million for each state or tribe per year.

- Very wide ranging, but does not lead to construction. A Sediment Management Study could be completed under PAS.
- Program is funded and ongoing, with potential for funding in current FY.



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Technical Studies and Projects: NeDNR

- Eastern Nebraska regional groundwater model
- AEM integration with groundwater model
 - Pilot study in Lower Elkhorn NRD
- INSIGHT web tool for water balance
 - <https://nednr.nebraska.gov/INSIGHT/>
- SUSTAIN modeling program
 - NeDNR data and models available for NRD use
 - Evaluate alternative management scenarios

Education and Outreach

- LCNRD Activities
 - Booths at Cedar and Knox County Fairs
 - Booth at Ponca Outdoor Expo
 - Youth educational events



Education and Outreach

- NeDNR Activities
 - Booths at statewide events
 - Some local events with NRDs
 - Interactive web simulators



Next steps and action items

Monitoring of groundwater and surface water

- Surface water permitting activities
- Groundwater level well readings
- Water use reporting, where available
- Streamgaging

Collaboration with Other Entities

- ENWRA, MRRIC
- USGS for Bow Creek stream gage

Technical Projects and Studies

- AEM/modeling pilot project
- Eastern Nebraska groundwater model
- Well hydrograph assistance, if needed

Education/Outreach

- Continue events
- Continue interactive web application development
- Collaborate to develop an educational handout on integrated water management
 - Will fulfill IMP control

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THANK YOU

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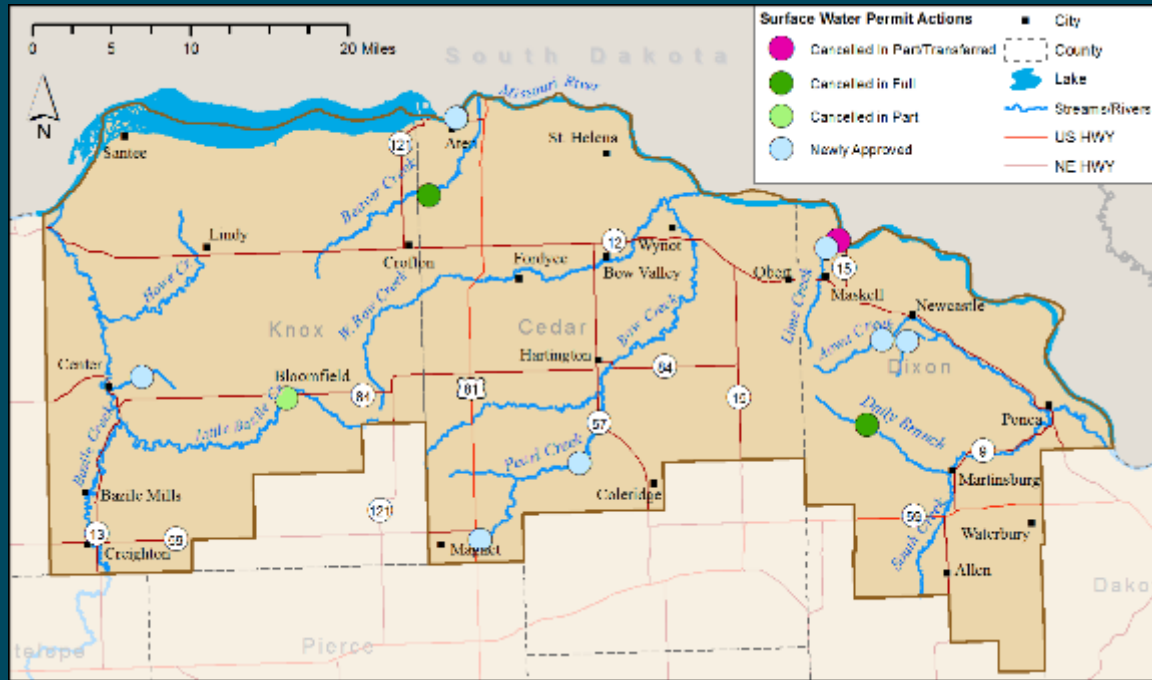
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dnr.nebraska.gov  

SW Monitoring: Permitting Activities

New Surface Water Permits Approved in 2017-2018

Permit Number	Use	Source	New Acres	New storage
A-19513	Irrigation from Natural Stream	Missouri River	18.9	NA
A-19520	Storage	Tributary to Pearl Creek	0.0	41.5 af
A-19523	Irrigation from Storage	Skoog Reservoir	495.5	NA
A-19557	Domestic	Missouri River	(1.4)	NA
A-19342	Irrigation from Natural Stream	Beaver Creek	265.5	NA
A-19579	Irrigation from Natural Stream	Tributary to Bazile Creek	75.3	NA
A-19587	Irrigation from Natural Stream	Pearl Creek	43.9	NA
A-19591	Irrigation from Natural Stream	Tributary to Aowa Creek	134.6	NA
A-19592	Irrigation from Natural Stream	Aowa Creek	186.7	NA
A-19554	Irrigation from Natural Stream	Lime Creek	0.0	NA



Surface Water Permits Transferred in 2017-2018

Permit Number	Use	Transfer Type
D-1073	Irrigation from Natural Stream	Expedited Transfer of the Location of Use

Surface Water Permits Fully Cancelled in 2017 -2018

Permit Number	Use	Source	Acres Cancelled	Grant Cancelled
A-14699	Irrigation from Natural Stream	Daily Branch	53.0	0.76 cfs
A-19342	Irrigation from Natural Stream	Beaver Creek	265.5	3.79 cfs

Surface Water Permits Partially Cancelled in 2017- 2018

Permit Number	Use	Source	Acres Cancelled	Grant Cancelled
D-1073	Irrigation from Natural Stream	Missouri River	0.0	1.63 cfs
A-19419	Irrigation from Natural Stream	Little Bazile Creek	5.0	0.07 cfs