

2021 ANNUAL INTEGRATED MANAGEMENT PLAN REPORT



LOWER PLATTE SOUTH
natural resources district

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LPSNRD Integrated Management Subcommittee Meeting,

August 8, 2022

LPSNRD Board Meeting, August 17, 2022



Voluntary IMP

- LPSNRD and NeDNR jointly adopted a voluntary IMP which became effective May 15, 2014
- Plan consists of Goals, Objectives and Actions
- The IMP shall be reviewed annually by the District's Board of Directors and the Department to ensure that the plan continues to meet the needs of the District and Department and to identify Action steps for the next two years.



Water Inventory

Water Inventory includes the inflow, precipitation, and water storage available to the District along with the water use and outflows from the District.

Goal: Ensure the District has sufficient data to enable the achievement of a water supply that is in balance with current and future water demands in the District.

Water Supply Management

Water Supply Management is the management of water supply, both in and out of the District, through human efforts.

Goal: Ensure a sustainable water supply is available in the amounts and location of the demands through management actions to meet the District's short and long term needs.

Water Use Management

Water Use Management is the management of how water is used and consumed while meeting current and future demands.

Goal: Encourage all water users to minimize water use while optimizing benefits.



IMP Annual Report/Review

- Annual Report covers progress made towards IMP action items for both the LPSNRD and NeDNR in calendar year 2021
- LPSNRD and NeDNR jointly decided that no modifications to the IMP are needed at the time of the 2021 annual review



IMP Annual Report/Review

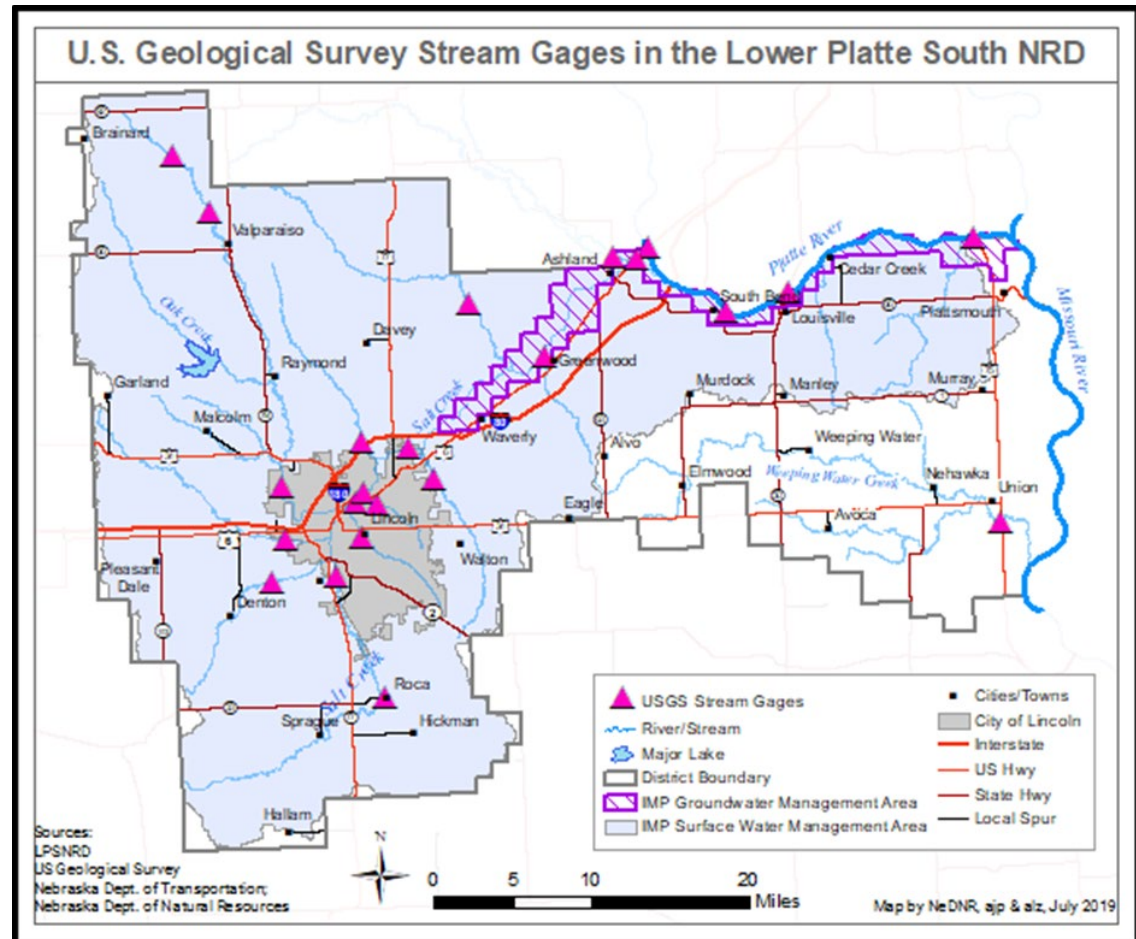
- Monitoring and data collection (groundwater and surface water)
- Studies and planning
- Education/Outreach Collaboration (Lower Platte Basin, ENWRA, etc.)

NeDNR's Surface Water Monitoring

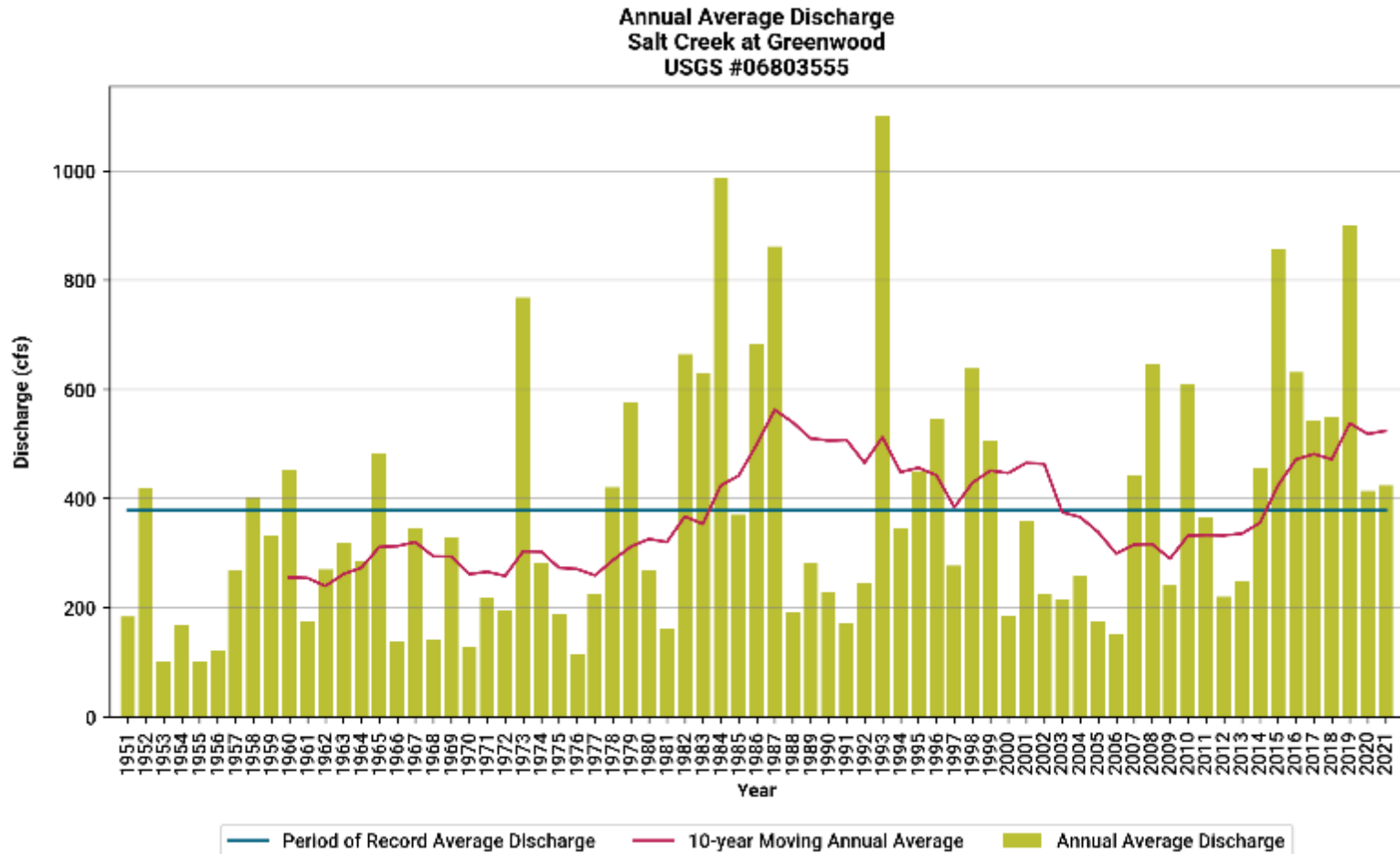
- Streamgaging
- Surface water permitting activities
- Voluntary surface water use reporting
- Pump-site Inspections

Surface water monitoring: Streamgaging

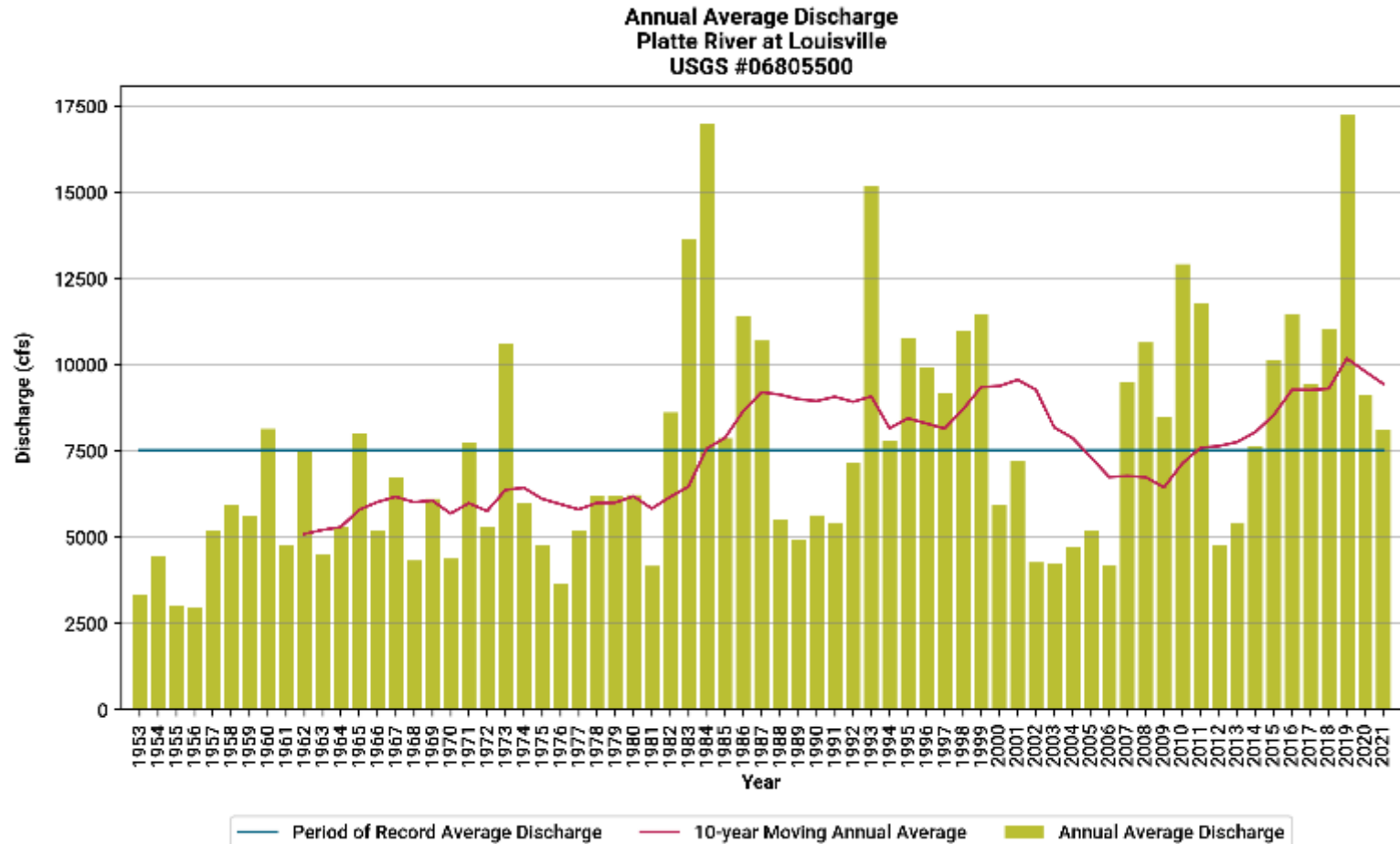
- 21 USGS streamgages
- Installed 1950's to 2016
- NRD assists in funding of 16 gages



Surface water monitoring: Streamgaging

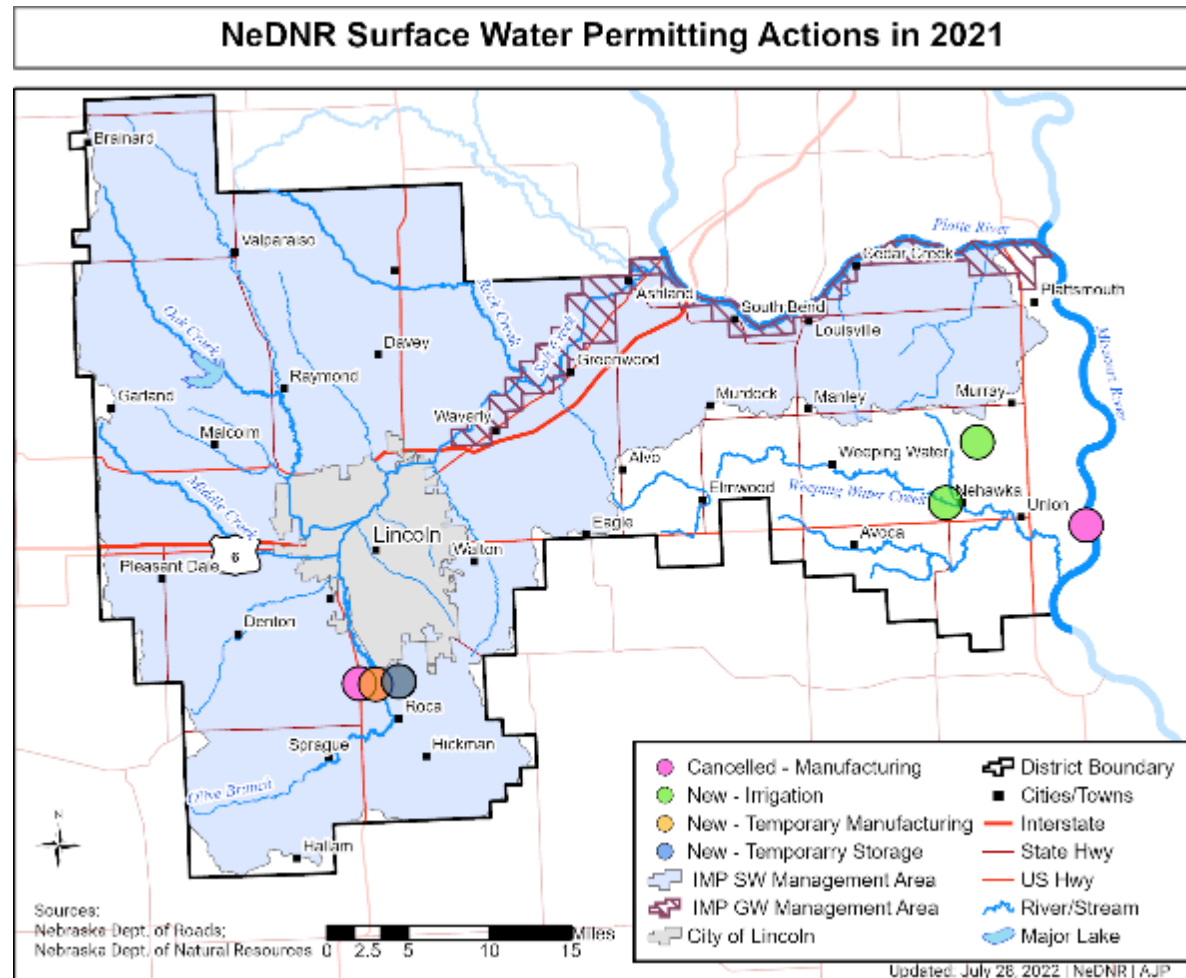


Surface water monitoring: Streamgaging



Surface water monitoring: permitting activity

- 3 new permits in Platte Basin
- 2 permits granted in Missouri Tributaries Basin
- 2 canceled permits
- 0 permits transferred



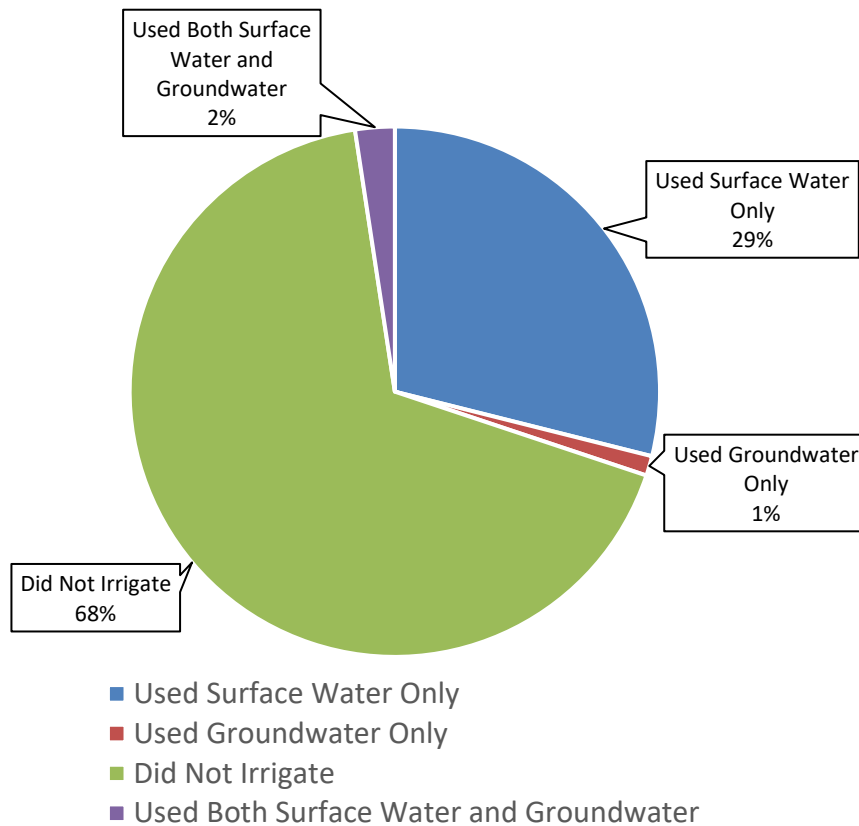
Surface water monitoring: 2021 permitting activities

Acres Changes Associated with Surface Water Permitting Actions		
Geographic Area	Newly Permitted Acres	Cancelled Acres
Lower Platte River Basin	0	0
Missouri River Tributaries Basin	193.6	0
Total (Whole NRD)	193.6	0

2021 LPSNRD Voluntary Surface Water Reporting

Voluntary Surface Water Use Reporting in LPSNRD in 2021

Source of Water Used for Irrigation
Data Set = All Responses



Surface water monitoring: 2021 Pump-site Inspections

- Field Office staff inspected 181 of a possible 208 pump-sites (78%).
- Three of the inspected pump-sites were running at the time of inspection, and 32 had been set up.



NeDNR/NRD studies and research activities

- Regional groundwater model for the Lower Platte Missouri Tributaries region
 - Initial model development complete
 - Incorporation and evaluation of AEM data
 - Studies have begun in LENRD, and P-MRNRD & LPNNRD
 - LPSNRD awarded WSF grant at end of 2021 to do same study
- INSIGHT web tool for water supply, demand and balance
 - Updated to include Republican River & Upper Platte River Basins



- **Groundwater monitoring and data collection**
 - 10 well permits issued in 2021
 - 8 wells were completed in 2021
 - Water level monitoring in 140 wells, spring & fall, with average static water level decrease of 0.71 feet.
 - Meters and water use reporting of 358 wells
 - 4.6 billion gallons pumped from 358 metered wells, with 284 irrigation wells





- **Groundwater monitoring and data collection (cont.)**
 - Certified irrigated acres-approved in 2021
 - HCA + 0 for same 3,268 acres
 - Remainder + 61.32 to 24,636.71 acres
 - Groundwater rules variances
 - One variance granted (Monolith aquifer testing requirement)
 - Water Banking / Transfers (no activity)



- **Groundwater Moratoriums**
 - HCA limitation on increasing irrigated acres
 - DVB Special Management Area
 - Allocations
 - Moratorium on new or increasing irrigated acres
 - Area boundary northeast of Valparaiso changed in 2016
- **Groundwater Allocations**
 - DVB SMA
 - 21 inches/3 years/acre, not to exceed 9 inches/year



LPSNRD and NeDNR both participated in:

- Eastern Nebraska Water Resources Assessment
 - Aquifer mapping via airborne electromagnetic (AEM) imaging
- Lower Platte Corridor Alliance
 - Local protection and management of River's Resources, streamgaging
- Lower Platte River Basin Consortium
 - Water supply resiliency, drought planning
 - Drought Contingency Plan adopted October 2019
- Lower Platte River Basin Coalition
 - Coordination and consistency across the Basin
 - Basin-wide Plan approved October 2017
 - First data exchange in April 2018
 - First increment expired in 2021
 - Second increment to be considered in 2022



Education/Outreach

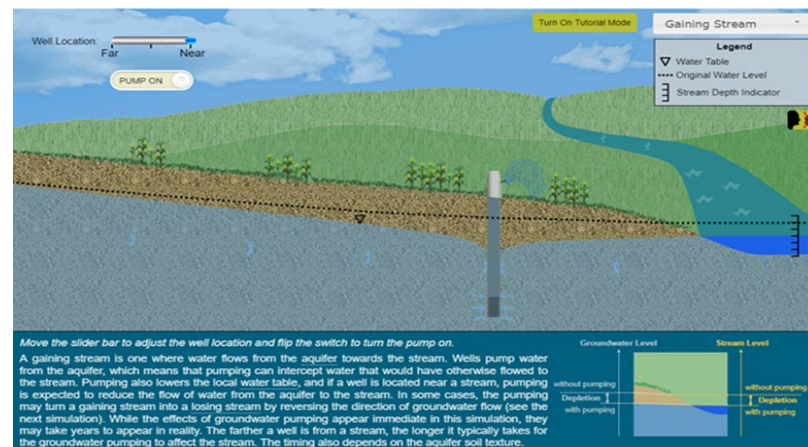
2021 Activities

- Groundwater Mgt Plan
- AEM data posted online
- One Test Your Well Night
- School activities
- Irrigation certification
- BMP promotion
- Media, Social Media, Web
- Publications



NeDNR Education/Outreach

- 2021 Events
 - Husker Harvest Days
 - Nebraska State Fair
- Internet-based
 - Interactive education applications
 - <https://dnr.nebraska.gov/water-planning/education>





Jointly Identified Actions for Next Two Years

NeDNR Actions

- Monitoring of surface water permits & water use
 - Mapping and tracking of acres
 - Pump-site inspections
 - Voluntary water use reporting program
- Continue education and outreach
 - State and local events
 - INSIGHT web portal
 - Interactive educational applications
- Continued development of Lower Platte River/Missouri Tributaries models



Jointly Identified Actions for Next Two Years

LPSNRD Actions

- Monitoring of groundwater levels
- Meter wells & require water use reports
- Continue to track changes in water use, land use, population and climate
- Recommendations for areas with limited aquifer areas
- Discuss coordination of regional water systems and water shortage action plans



Jointly Identified Actions for Next Two Years

Joint LPSNRD/NeDNR Actions

- Continued participation in regional planning groups (LPRCA, ENWRA, LPR Coalition, and Lower Platte Consortium)
 - Drought contingency table-top exercise held in summer 2021
 - Coalition moving forward with updating INSIGHT data for Basin Plan
- Jointly participate in one public outreach event, as available
- Review the need to update the IMP (consistent with Basin Plan)
- Evaluate the need for modifications to the LPSNRD streamgauge network
- LPSNRD/NeDNR quarterly coordination meetings moving forward
 - Update to Integrated Management Subcommittee 2x/year



LOWER PLATTE SOUTH
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QUESTIONS OR COMMENTS?

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