



**LOWER PLATTE SOUTH**  
natural resources district

# Know Your NRD

to conserve, develop and manage water and land resources in a six county area of southeastern Nebraska

**FALL 2017**



This dry dam, just upstream from Waverly on Ash Hollow Creek detains storm runoff and is expected to remove about 90 Waverly properties from the floodplain. The dry dam holds water only after a storm. The NRD and Waverly have split the \$2.9 million cost evenly. Waverly Mayor Mike Werner said, "Water has pooled behind the dam on (at least) three occasions this summer and the runoff stayed within the banks of Ash Hollow Creek through the city, as we'd hoped. See [LPSNRD.org](http://LPSNRD.org) for more photos.



## BUDGET STAYS A POSITIVE COURSE

by NRD Board Treasurer  
Jeremie Kerkman

It takes four months to balance fiscal responsibility with preserving and protecting soil and water in an NRD budget each year. Some judge a budget simply by the numbers and the Fiscal 2018 Budget approved in August scores well. It is smaller overall and while the total tax dollars increased slightly, the levy declined.

The commitment the budget represents is compelling. Managing urban stormwater to reduce the risk of flooding is about 30% of the budget. Huge technical strides are being made in managing our supply of ground water, so, in addition to monitoring for quality and quantity, the NRD is using the newest technology to better prepare us for times of drought. The NRD also helps many landowners make their land more productive each year in ways that result in better quality surface water for all of us to enjoy. The budget's acceptable numbers bring amazing benefits.

## Protecting Lives • Protecting Property • Protecting the Future

### NEW WETLAND ALSO A LAB

A saline wetland is formed when artesian salt water flows to the surface over a long period of time and changes the characteristics of the soil. The once thousands of acres of saline wetlands in northern Lancaster and southern Saunders



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### BUDGET HAS FLOOD MANAGEMENT, MORE



In August, the NRD Board funded several ongoing and new flood management projects by approving a Fiscal Year 2018 Budget. Ground

water operations and studies, cost-sharing with landowners, a trail extension and education are also prominent in the approved budget.

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### COST-SHARING IN HIGH DEMAND

In July, NRD Board members reviewed 140 applications for NRD cost-sharing on terrace and waterway projects this fall to reduce field erosion and, thus, help improve the quality of surface water. In considering the applications, the board annually



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# COST-SHARING IN HIGH DEMAND

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directs staff to divide them into an eastern group and a western group, and each proposed project is prioritized within its group. Landowners who have not recently received NRD cost-sharing are given preferred consideration in the prioritization process. Projects proposed in “targeted areas” designated by the NRD Board, where erosion is of greater concern, also receive special consideration. Available funding, then, determines which applications are approved.

The NRD annually contributes about \$1 million to these projects, working closely with the federal Natural Resources Conservation Service (NRCS), which oversees technical aspects of each. NRD Assistant General Manager David Potter said, “It’s great to see cost-share assistance for conservation projects like terraces and waterways in high demand and each year the NRD wants to do more.” Potter explained NRD funding is limited by the amount of work local contractors can accomplish each year. “The number of projects landowners want us to help fund always exceeds what contractors can get done and this is largely due to the weather and the amount of qualified contractors out there,” he said.



Most want their improvements installed in the short period of time between harvest and when the ground freezes. To help spread out the workload for contractors, the NRD offers a higher rate of cost-sharing to landowners for completing conservation projects during the summer months (May 1st through Sept. 15th). During that time, NRD cost-sharing in non-targeted areas could provide up to 85% of the unit cost of the improvements, to a maximum payment of \$15,000. Higher limits are available in targeted areas. Rural landowners interested in learning more about cost-sharing to install water quality best management practices on their land can contact their local NRCS office.



## ANDERSEN RE-JOINS NRD BOARD

NRD Board veteran Bob Andersen was appointed to fill a board vacancy in Subdistrict Nine, in July. Andersen served for 27 years on the board, from 1987 to 2014. He was a Board Chair and held several other board offices. Subdistrict Nine includes a portion of southeast Lincoln, generally between Pioneers Boulevard and Pine Lake Road, 27th Street to 84th. The vacancy was created when Larry Zimmerman moved out of the subdistrict earlier this year. Director Greg Osborn was elected to assume Zimmerman’s post as the NRD’s alternate representative on the board of the Nebraska Association of Resources Districts.

## NEW WETLAND ALSO A LAB

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counties have dwindled to a precious few, due to urban and agricultural development. Many times damage to a natural resource can never be reversed, but the NRD has shown, in several instances, it can restore a saline wetland and our Marsh Wren project may be our most ambitious restoration attempt yet. The 150-acre property near 40th Street and Arbor Road is bordered on the south by Salt Creek and on the west by Little Salt Creek. New excavation on the west side now allows salt water to flood onto Marsh Wren more easily. In addition, a salt water irrigation system has been installed. So, the stage is set to try and re-make a saline wetland and we can all take advantage of a public parking area and a shaded observation deck to watch the anticipated show.



The NRD staff is briefed on the salt water irrigation system installed this summer at Marsh Wren Saline Wetland. See [LPSNRD.org](http://LPSNRD.org) for more photos.

This restoration attempt is also being closely watched in a much different way. Before the new salt water irrigation system was used at Marsh Wren, the soil was electromagnetically scanned to a depth of about ten feet, to determine various properties of the soil. Additional scans will be done periodically during the hoped-for transformation, to learn more about how salt water affects various soil types, how quickly the soil changes and much more, so future saline wetland restorations may be more efficient and more effective.

A Nebraska Environmental Trust grant of \$505,000 to the City of Lincoln, through the Saline Wetland Conservation Partnership, helped make the project possible. The project's total cost was \$1.2 million, including \$435,000 for engineering and 707,000 for construction.

## DOUBLE CROSSED

Two high schools in the district are utilizing NRD lakes for cross country courses this fall. Raymond Central invited several schools to Wildwood Lake for a meet on September 28 (pictured). East Butler has used a course at Timber Point Lake for many years. Volunteers and the school districts maintain the courses each fall.



## HOMESTEAD ECLIPSED

Usually quiet and serene on a Monday morning, the NRD's Homestead Trail, south of Lincoln, had a festival atmosphere on eclipse day, August 21st. "Thank you" to all those who utilized the trail and helped make the day even more memorable. See [LPSNRD.org](http://LPSNRD.org) for more photos.



# BUDGET HAS FLOOD MANAGEMENT, MORE

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The \$25.6 million budget is nearly a half-million dollars less than the previous budget. The effect of property valuations on the 2.6% increase in the property tax requirement resulted in a lower property tax levy than a year ago. More information, including the complete budget, is available at [LPSNRD.org](http://LPSNRD.org).

Here are some projects and activities included in the budget:

- Continue upgrading the Salt Creek Levee (\$1,160,000)
- Deadman's Run Watershed Project, north of UNL's East Campus, pending federal approval (\$1,700,000)
- Lincoln watershed stormwater projects (\$1,200,000)
- Extend the Salt Creek Levee Trail from near UNL's Hibner Stadium to the Salt Creek Bridge near 24th & Cornhusker Highway (\$350,000)
- Ground water monitoring, studies and wellhead protection (\$937,000)

- Lower Platte River Drought Contingency Study of ways to sustain public water supplies during drought (\$350,000)
- Completion of Waverly Ash Hollow Dry Dam- See page 1 (\$308,000)
- Rehabilitation of watershed dams (\$790,000)
- 56th & Morton Flood Reduction Project (\$500,000)
- Environmental Education (\$180,000)
- Wetland projects, partnerships and conservation easements (\$550,000)



## NRDS FIGHT PHRAGMITES

Phragmites is an invasive plant species, meaning when it is introduced to an area outside its native range, it thrives aggressively. Phragmites got started here as a way to prevent erosion, but has since been designated a noxious weed in Nebraska. Now dense stands grow in marshes, ditches, ponds and waterways and it has taken an unusual liking to the Platte River. A stand of phragmites can grow so thick it seriously restricts the flow of water and ice, can have a negative impact on water quality and it competes with native plants.

Because phragmites poses such a large threat, the Papio-Missouri River, Lower Platte North and Lower Platte South NRDs have partnered to conduct yearly herbicide spraying of phragmites and to spray or remove other invasive plant species. An aerial survey of the three NRDs is conducted each July to determine where spraying is needed. Private landowners whose property is sprayed benefit from NRD cost-sharing up to 50% of the total cost. Low-altitude spraying is done by a specially-equipped helicopter in September; the best time to control phragmites. Each of the three NRDs provides \$30,000 in annual funding for the program. Phragmites stands amounting to 755 acres were sprayed across the three NRDs in September, 2017.



*NRD Maintenance Technician Bryan Adams poses beside a stand of phragmites at the Marsh Wren Saline Wetland. Phragmites can grow up to 20 feet tall and its long rhizomes allow it to become extremely dense. This stand was sprayed with a herbicide by helicopter in early September, but it will not show signs of decline for several weeks.*

## WEIR WORKING

When Nebraska's NRDs came into being in 1972, the Lower Platte South inherited many responsibilities. One of them was maintenance of two weirs on Oak Creek, one just east of 1st Street, in Lincoln, near Oak Lake. The weir was built in the 1940s and was necessary as part of the straightening of Oak Creek. The straightening of a waterway causes a steeper change in elevation, so the water flows more quickly. The weir is designed to

help prevent erosion by slowing the flow. Maintenance of the weir has been easy. Almost none has been necessary since it was built, until now. The current project includes repairing the old concrete, excavation and grading of both banks and stabilization work by Upper Missouri River Corporation, of Wyoming, at a cost of \$70,000. JEO Consulting Group is the engineer.



*This weir on Oak Creek has required almost no maintenance since it was built in the 1940s. The First Street Bridge is also pictured.*

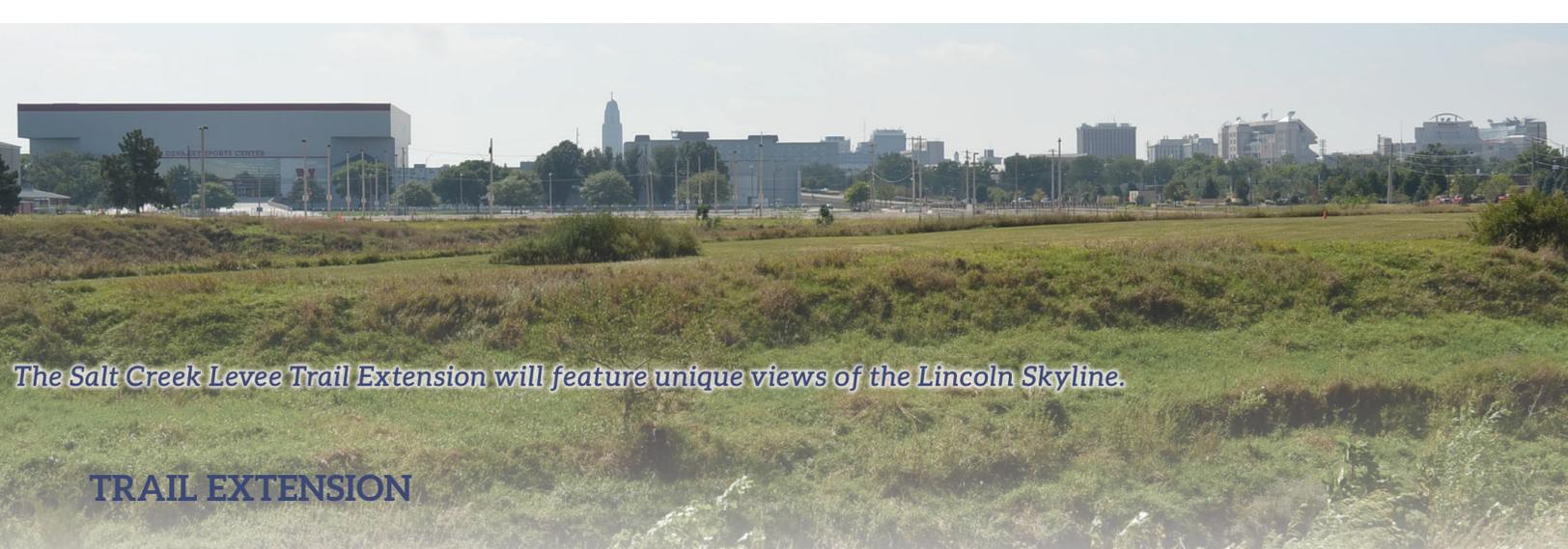
## NRD EVALUATES COVER CROPS

Can the quality of ground water be improved and protected if farmers plant a cover crop? The NRD has begun a pilot project to try and find out. A cover crop is vegetation, such as rye, rape and radish, which will use nitrates already in the soil. The NRD Board designated two areas in Cass County where landowners can apply and receive annual payments of up to \$2,000 per farm for participating. The NRD has \$10,000 budgeted for the pilot program.

The designated research areas are cropland in either the Elmwood - Phase 3 Community Water System Protection Area (CWSPA) or the Weeping Water/Otoe County Rural Water District #3 - Phase 2 CWSPA. All of the eligible landowners were contacted directly by the NRD. NRD Water Resources Specialist Dick Ehrman said, "Those two areas were selected because the ground water there is known to have elevated nitrate levels."

Ehrman said it is possible nitrate levels can be decreased by cover crops, in several ways. "Nitrates in the soil will be taken up by the cover crop, reducing the likelihood of it infiltrating to the ground water. Additionally, a cover crop helps to preserve soil moisture, improves soil health and reduces runoff," he said. Ehrman said the NRD will evaluate this pilot project and determine whether to expanded landowner eligibility in the future.





*The Salt Creek Levee Trail Extension will feature unique views of the Lincoln Skyline.*

## TRAIL EXTENSION

The next extension of the Salt Creek Levee Trail through Lincoln is in the construction phase. Work began in September on a trail segment that will begin near UNL's Hibner Stadium soccer and tennis complex, and continue to the Cornhusker Highway bridge at about 24th Street. Land Construction is doing the grading work and Stephens & Smith the paving, with completion expected this fall. The project is the latest in a decades-long series of projects that have involved developing

the top of the 13-miles of levees into recreational trails and adding them to the City of Lincoln's trail network.

An extension from Haymarket Park to near the Devaney Sports Center was the most recently-completed project, which officially opened in June of 2016. It completed a trail/exercise loop in the UNL City Campus area.

### WEB OR PRINT?

Have a link to an electronic version of this newsletter, which includes convenient web links to interactive maps, more detailed information about the NRD and more, delivered right to your inbox! All you need to do is visit our newsletter subscription page, at [LPSNRD.org](http://LPSNRD.org), under Publications, to sign up. The NRD will not share your email address. Look for the printed newsletter in District newspapers in February, June and October.

### SEEDLING SALES SOON

The NRD sells seedling trees and shrubs in bulk for windbreaks, wildlife habitat and many other beneficial uses. Sales will begin in November and we'll take orders well into March for delivery in April. Watch [LPSNRD.org](http://LPSNRD.org) for details soon.

## NRD PROJECT UPDATE

**Middle Creek Levee Tie-Back:** replace levee structure south of Rosa Parks Way & Folsom Street, in Lincoln. Completion of construction expected next spring by JEO/General Excavating; \$450,000.

**14th & Pioneers Drainage Improvement:** install sewer pipe and grade drainage swale on east side of 14th Street, between Pioneers Blvd. and Beal Slough, in Lincoln. Completion in October by Olsson/General Excavating, \$173,000.

**Oak Creek Weir Repair:** repairs, excavation, grading and stabilization work on Oak Creek at 1st Street, Lincoln. Completion in October by JEO/Upper Missouri River Corp., of Wyoming, \$70,000. See page 5.

**Weeping Water Dam 5h Rehabilitation:** Replace rip-rap to address erosion at dam, two-miles east of Elmwood. Completion in November by FYRA/SISCO, \$36,000.

**Salt Creek Levee Trail:** Extension of trail between UNL's Hibner Stadium and Cornhusker Highway at 24th, along the Salt Creek Levee. Completion expected this fall. JEO/Land Construction/Stephens & Smith, \$205,000. See above.

**Deadmans Run Flood Risk Reduction:** proposal being considered to improve DMR channel below 48th Street, including channel widening, bridge replacements, a detention basin and more to remove many properties from the floodplain. Estimated cost, \$25.5 million; \$10 million Corps of Engineers, remainder split between City of Lincoln & NRD.

**Marsh Wren Restoration:** excavation and installation of salt water irrigation system to restore saline wetland near 40th & Arbor Road, Lincoln, completed. Estimated cost, \$1.2 million; partially covered by NET grant through Saline Wetlands Partnership. See page 3.