

Finding Solutions Today
For a Secure Tomorrow

Spectrum

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Papio-Missouri River Natural Resources District

Reservoirs. Water quality basins. Stormwater measures. Channel widening projects. The Papio NRD works on protecting the metro area from flash flooding within the Papillion Creek Watershed. The effects of our projects will now be studied, along with the hydrology of the area to provide new flood hazard information.

FLOODPLAIN DATA BEING UPDATED

This new information could potentially factor into FEMA's floodplain mapping of the watershed, due for release in 2019.

The NRD's vigilant work helps guard the area from devastating flood damages as the population and development grows within the Papillion Creek Watershed's 402 square miles.

Recently, the Board of Directors approved a contract for a study to update the hydrology of the Papio Creek Watershed with FYRA Engineering. This contract totals \$167,000 and will incorporate new rainfall data and the flood protection benefits in the watershed. These structures include the recently completed Prairie Queen Reservoir, Dam Site 15A now under construction in northwest Omaha and two additional reservoirs being designed for construction in the watershed.

Besides looking at the newly built reservoirs, the NRD-sponsored study will look closely at rainfall frequency and patterns. The National Oceanic and Atmospheric Administration (NOAA) has recently published this rainfall data, showing that the frequency and distribution of rainfall has changed since the last report was published during the 1960s.

The Result: All of these projects and data combined could help the results of FEMA's upcoming floodplain mapping.

"We hope that the new FEMA floodplain maps consider all of the NRD's protection efforts," said **John Winkler, NRD General Manager.**

The new rainfall intensity and distribution data could show a significant reduction in peak flows within the watershed. "This update of combining the rainfall patterns and our projects has the potential to remove thousands of homes and businesses from currently designated floodplains and to keep countless others from being placed in floodplains," said Winkler.

Changes are anticipated all over, but mostly along the West Papio Creek through the Papillion area.

A preliminary study by FYRA Engineering of the West Branch Papillion Creek Watershed showed much-improved protection for the Papillion and Millard areas produced by the new reservoirs, floodplain mapping techniques, and other updated data.



The Papillion Creek as it runs through downtown Papillion, looking west



90
Miles of levees maintained in a Flash-Flood Prone Watershed

The Papillion Creek Watershed system is one of the most flash-flood prone areas in the state, and it's in a high population area. The NRD maintains levees along the Big, Little and West Branches of the Papillion Creek.

Using Technology



**PESTICIDE
CONTAINER
RECYCLING**

13,000+

Northeastern Nebraskans:

*"Well done" for a
substantial recycling
collection*

13,000 pesticide containers weighing about 10K pounds were collected for recycling in Dakota and Thurston Counties by the Papio-Missouri River NRD this summer. Since the effort began in 1995 more than 206,000 containers (over 94.5 tons) have been collected and recycled to help protect water and air quality.

TIRES: in a separate event, the NRD also co-sponsored a scrap tire collection; and recycled 428.21 tons.

Thanks to NRD Staff:
Lance Olerich, (left), water system superintendent and Bill Woehler (right), water supply technician for the NRD during pesticide recycling event.



2016 milestone
▶ **100** NRD
dams

It's official .The NRD maintains:

100 dams throughout District (6 counties); ranging from small sediment control dams to large dams such as Walnut Creek Lake.

All dams are checked yearly by NRD Operations & Maintenance staff. NRD engineering staff also check the high hazard dams (near populated areas) routinely.

90 miles of Levees are maintained throughout the district's six counties.

Drone technology is assisting site planners and construction crews.



Dam Site 15A continues construction

Work is moving along with the area's newest flood control reservoir, Dam Site 15A near 168 and Fort Streets in northwest Omaha.

NRD staff plan on having the dam start permanent impoundment of water in 2017, with an opening in early 2018. Filling the dam all depends on the weather; a few large storms could jump start the lake in no time.

While contributing to the flood control needs of the area, this dam will also be a choice spot for anglers. Several structures, planned grading, tree piles and offshore break waters will enhance the fishery in this lake. NE Game & Parks will stock the lake when it's filling, and a detailed surface map of the lake's bottom will also be available.



Dam Site 15A, looking west from the corner of 168 & Fort Streets.

Pigeon Creek Dredging

Dredging is underway to remove sediment buildup in Pigeon Creek. The project will lessen flooding of adjacent agricultural land. Seven miles of the creek will be dredged by NRD crews from Highway 77 upstream to the bridge at South Bluff Rd. in Dakota County.

This project is part of the Elk/Pigeon Creek Improvement Project Area and will initially be paid for with NRD funding approved at the district's September board meeting. A motion from Subdistrict 1 director **Bill Rhea** to add an additional \$142,322 for Pigeon Creek to the FY 2017 budget was approved. The total budgeted by the NRD for this project is \$199,500.

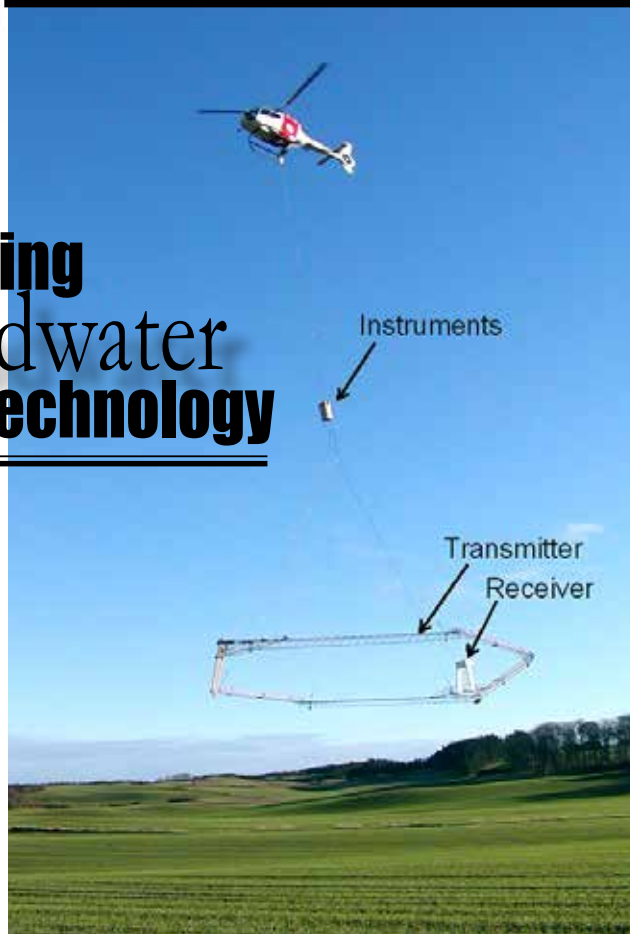


Dredging of the seven miles will continue through this fall and into 2017. Current annual landowner assessments will pay half of construction costs.



In Nature

▶ Surveying Groundwater through technology



A high-tech method has recently helped the NRD with needed groundwater monitoring.

As awkward as it might look, the results will be able to provide NRD staff some detailed outlines of exactly where groundwater is found in Sarpy and other counties.

In order to understand our underground water resources, instruments were mounted below a helicopter and collected geologic measurements about buried aquifer materials such as glacial sand, gravels and sandstone. The instruments were able to read ground densities up to 600 feet below the land surface.

According to **Paul Woodward**, Groundwater Management Engineer, "When you look at our resources this closely, you can almost make a full 3-D model of what's underground and calculate how much water is available."

Once a report is made from all of the monitoring data, the NRD will use this information in all sorts of ways, including tweaking plans for groundwater usage based on specific aquifers in particular areas. For example, aquifers can be found all around the local rivers, but further away from the rivers, the groundwater might not be as plentiful.

The NRD will be able to break out specific aquifers and management areas. The NRD has added 4,800 wells throughout its six counties. Each well needs a permit.

The Papio NRD and five other NRDs in the eastern third of Nebraska have planned these flights with grant assistance from the NE Water Sustainability Fund.

Technology Aids NRD with Levee Culverts



By using a new technology sweeping across the nation, the NRD is keeping disruptions to a minimum as it replaces and fixes culverts along Big Papio Creek levees.

The Need: culverts must be replaced or repaired to maintain US Army Corps of Engineers standards for levees.

The Project: 9 corroded levee culverts will be rehabilitated; 4 will be replaced.

The Method: 40-yr old corrugated pipes will be refitted inside by sliplining. A smooth new pipe is fitted inside the old pipe; although a little smaller, the smoothness offsets the loss of capacity.

The Benefits: Big savings are two-fold. The levee is not opened and compromised to potential flooding while under construction, and the bike paths on top are not disturbed.

The Costs: \$1.6 Million for these 13 pipes. Levee repairs will always be ongoing, new technologies are helpful and efficient, and can be used on dam pipes as well. The cities of Omaha and Bellevue are sharing with the costs.

The Locations: These projects run from Capehart Road in Sarpy County to Center Street along the Big Papio Creek.



Other Technology: to monitor pipes: The NRD is incorporating new monitoring technologies on some of its dams called Dam Watch which issues text alerts and emails on lake and rainfall levels.

Historical Railroad part of upcoming trail

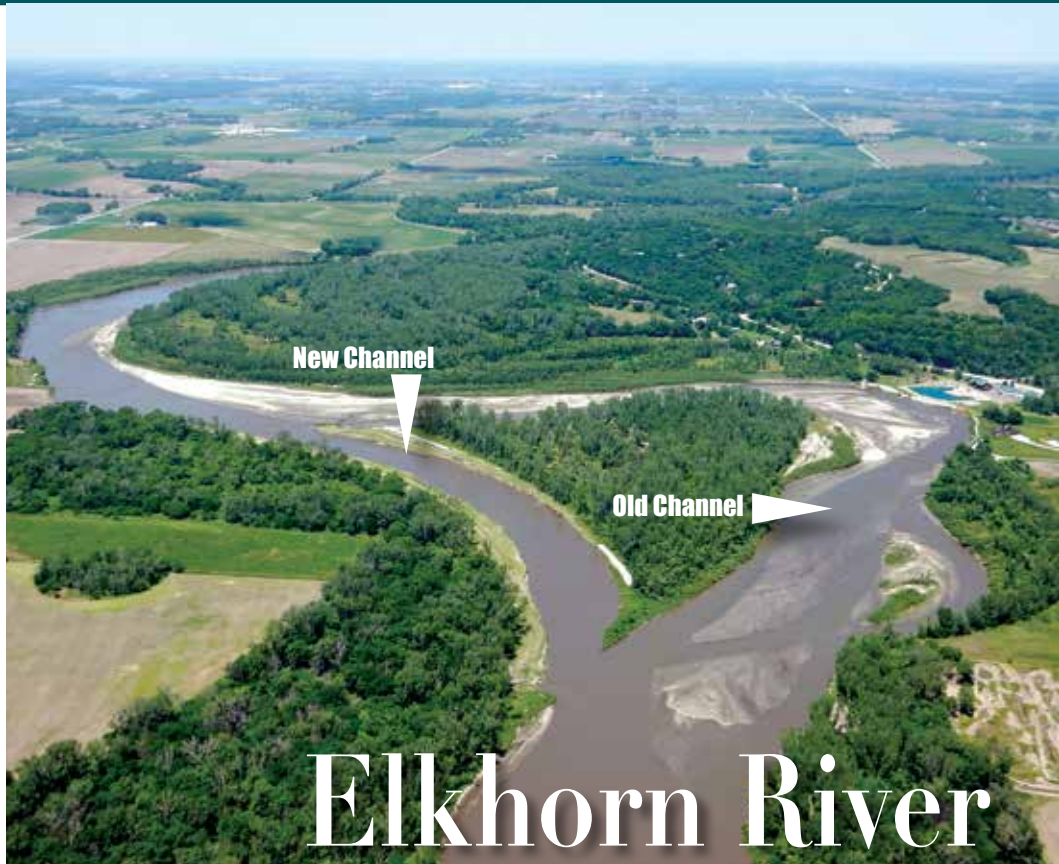
Trails are growing again in the Metro area.

The next section of the West Papio Trail will take advantage of a local rail corridor that was part of the Transcontinental Railroad. Now owned by the NRD, this corridor will feature a trail along the creek channel from 108th and Giles, running under Interstate 80 and along Harry Anderson Blvd. to Q Street.

Historical Importance: the original transcontinental railroad location runs along parts of this corridor, and its historical importance – 150 years of history – will be highlighted along the trail.

Once finished, the West Branch trail will run from the Millard area through Papillion, on to the Missouri River.

Construction is slated for 2018.



Elkhorn River Stabilization Project Aided by High Water

Fast-flowing water from storms can carve a path of its own, often causing destruction.

But this time, spring and summer rains in eastern Nebraska were beneficial to a project along the Elkhorn River.

The NRD and Sarpy County had excavated a pilot channel along the Elkhorn River as a long-term solution to the river's severe bank erosion that threatened 240th Street. This new channel was constructed to minimize the erosion around the river's original sharp bend and it was designed as an alternative to traditional rock-lined banks projects.

The first spring rains overtopped the plug to the channel, and then summer rains completely washed it away. A majority of the Elkhorn River is now flowing through the new channel.

According to **Eric Williams**, NRD Natural Resources Planner, the new channel is not completely stabilized and will develop over time, so any recreational river use in this area is not encouraged. The NRD is continuing to survey the channel bottom and banks.

NRD Board Approves Hazard Mitigation Plan

A Hazard Mitigation Plan (HMP), developed by the NRD and 36 other government entities within the NRD's six-county geographical area, has been approved by the NRD Board of Directors.

Potential disaster risks are identified through HMPs and vulnerabilities associated with disasters such as floods, tornadoes, dam failure, and drought are addressed.

"Wise planning can reduce loss of life and property through lessening the impact of disasters," said **Lori Laster, CFM**, Stormwater Management Engineer. "It's especially effective when implemented throughout the region under a comprehensive, long term effort by communities," she said.

Long-term strategies are developed for protecting people and property from future hazard events. Mitigation plans are key to breaking the cycle of disaster damage, reconstruction, and repeated damage.

The approved plan is an update of a HMP initially developed in 2006 and updated in 2011. The NRD develops the plans in consultation with other entities and following public meetings and other input from citizen groups. Each community involved will consider it for adoption.

The Federal Emergency Management Agency (FEMA) requires that the plan be updated every five years. HMPs are now required in order to be eligible for grant funding from FEMA through the Hazard Mitigation Assistance program. **More info: WWW.Papionrd.org**

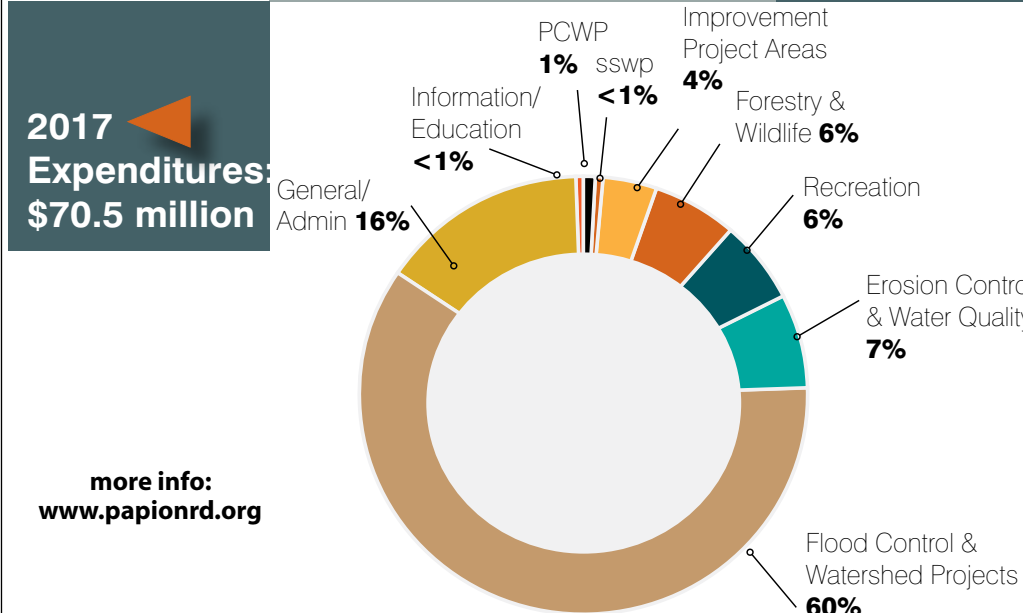
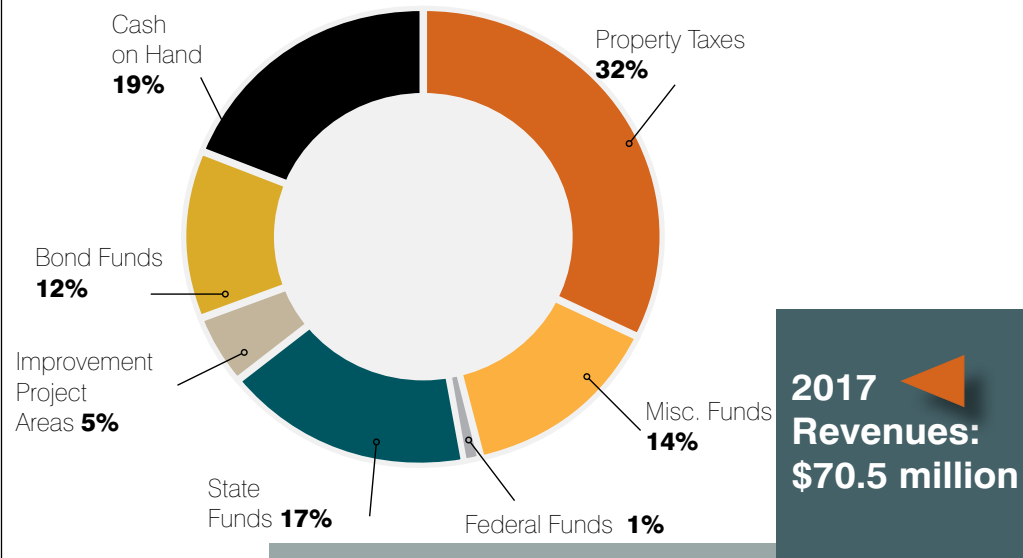
FY 2017 Budget: No Increase in Tax Levy

The Papio NRD's 2017 general operating budget is set, and will require no increase in the NRD property tax levy. This is the 11th year out of the past 12 that the NRD has decreased or held steady its tax levy.

The NRD's main focus includes vital projects for flood control throughout our six-county region, especially the levees that protect Offutt Air Force Base, and additional flood control reservoirs which could potentially make flood insurance unnecessary for thousands of residences and businesses currently in the federal flood plain.

The budget calls for a Fiscal Year 2017 property tax levy of .038034, the same as in FY 2016. This means that the owner of property valued at \$100,000 would pay a total of \$38.34 in property taxes to support NRD projects; less than two percent of the total property tax bill for residents living within the District's six-county area.

The budget calls for an estimated \$23 million in revenue from the NRD's property tax levy. Other funding comes from efficiently using state and federal cost-sharing to save local taxpayers millions of dollars. The levy is based on a 3.8 percent increase in valuations across the district.



more info:
www.papionrd.org

Budget Highlights

of Major Programs and Projects

1 Flood Control:	
MO. River Levee Certification	\$8 million
Channel and Levee Maintenance	\$6.6 million
Streambank Stabilization:	\$1.1 million
Western Sarpy/Clear Creek Levee	\$1.06 million
Floodplain remapping	\$500,000

2 Recreation	
Papio Trails System	\$2.6 million
MOPAC Trail	\$102,000
Recreation Areas (Chalco Hills, Elkhorn Crossing, Platte River Landing, Prairie View, Graska Crossing & Waterloo Access)	\$763,000

3 Watershed Fund	
Zorinsky water quality basin #1:	\$3.5 million
Papio Dam Site 15A :	\$11.3 million
WP-6 Regional Detention Structure:	\$3.5 million

4 Forestry & Wildlife	
Missouri River Projects	\$2.9 million
Glacier Creek Mitigation	\$363,600

5 Erosion Control	
Urban drainageway Program	\$1.16 million
Pigeon Creek Special Watershed	\$695,000

BOARD of DIRECTOR INFO:

OFFICERS: David Klug, a resident of Gretna, has been reelected by the NRD Board of Directors to serve as Chairman. Klug will serve his third term. Tim Fowler of Omaha was reelected Vice Chairman. Also reelected was Rich Tesar of Waterloo, Secretary and John Conley, Omaha, as Treasurer. Officers serve one year terms.

NRD Board Selects Bill Rhea to Complete Scott Japp Term on Board

The NRD Board of Directors has selected Bill Rhea, a lifetime resident of Washington County, to fill the vacancy left by the death of NRD Subdistrict 1 Director Scott Japp. Rhea will complete Japp's term of office that ends in December. Scott Japp died in a farm accident in June. Rhea was sworn into office in August.

Papio-Missouri River NRD Manager Attends National Security Forum

The Papio NRD's General Manager, **John Winkler**, was selected by the Secretary of the Air Force, Honorable Deborah Lee James, to attend the 63rd Annual National Security Forum in May at the U.S. Air Force's Air War College at Maxwell Air Force Base in Alabama.

Mr. Winkler, who was nominated by Bellevue Mayor Rita Sanders, was one of 160 distinguished civilian government leaders from around the country who attended this year's Air War College with other world-wide leaders.

According to John, "There are a lot of brilliant people who are working on world-wide issues, including biological warfare, cyber warfare, and security.

"Water, whether too much or not enough, is another main issue. By 2025, there will be places in the world that are uninhabitable because they are out of water." These places are primarily located in the Middle East, China, India and even in the Western United States.

The National Security Forum was formed in 1954 and has provided hand selected candidates throughout the country and the world a unique opportunity to engage senior military and civilian leaders on national and international security topics.



David Klug, Chairman

John Winkler, General Manager

Emmett Egr, Information/Education Coordinator

NRD HEADQUARTERS:

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BOARD OF DIRECTORS:

David Klug, CHAIRMAN	Fred Conley
Patrick Bonnett	Tim Fowler
John Conley	Patrick Leahy
Bill Rhea	Jim Thompson
Curt Frost	Richard Tesar
Ron Woodlee	

The NRD Board holds its monthly public meeting the second Thursday of the month at Chalco Hills Recreation Area, 7 PM. The NRD is an equal opportunity provider. Spectrum writer/designer: Jennifer Knight, Little House Publications

Melanie Liebsack has started at the District as District Secretary/HR Assistant, having moved here from Iowa. Welcome to the Team!

Penny Burch, District Secretary, has retired. We thank her for a job well done!

New to the NRD's Education Programs: **Finn**, a Barn Owl is joining **Red**, an Eastern Screech Owl as part of our owl team in the Taloned Teachers program. To arrange a showing, please contact **Christine Jacobsen** at 402.315.1713



Check out our web site: www.papionrd.org



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Omaha, NE 68138-3621
NATURAL RESOURCES DISTRICT



PAPIO-MISSOURI RIVER

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