

The Greencian

newsletter

Spring
2017

DIRECTOR'S UPDATE

As we anxiously welcome the spring season, the Kickapoo Environmental Office (KEO) is very busy preparing our programs for the busy season. Over the next eight months, we'll continue to bring updates on our progress and environmental work on the Kickapoo Rez.

Foremost, I want to talk about a streambank project funded by the Clean Water Act, Section 319 grant program. The aim of the 319 program is to prevent or reduce non-point source pollution, which is essentially rain or snow melt running over the land, picking up and carrying pollution to waterways. Back in November of 2015, the KEO wrote a competitive grant proposal that was chosen from submissions across the entire country to address two streambanks on the reservation. One streambank is located slightly south and east of 160th & Falcon Road. The project is about 300 feet long and 20 feet tall. The bank has eroded so much over the years, that it's reached a fence line and further threatens tribal land. The other streambank is located about a quarter-mile east of Site 5 on Falcon Road. Our Environmental Specialist, Jim Reitz, speaks more of this project, along with photo updates and discussion of sediment reduction into the river on Pages 6 and 7.

We've also finished construction, with the help of the Kickapoo Housing Authority, of KEO's new water quality testing laboratory on the north side of our office. KEO's Water Quality Monitoring Specialist, Britini Bauer, put together a testing equipment and furniture list to purchase and worked with KHA to design the floor layout of the new lab space. In the beginning, Ms. Bauer will begin testing water samples for E-coli levels and microcystin (a by-product of harmful algal blooms) throughout reservation waters. Read more about her efforts and see photo updates on page 5.

Finally, as we did last year, the KEO will be distributing free produce procured from the K-State Olathe Horticulture Research & Extension Center out of Olathe, Kansas. Such produce will include heirloom tomato, pumpkin, sweet potato, sweet peppers, and squash. Be sure to check out the Senior's Center and here at the Environmental Office where the produce will be available.

KICKAPOO
ENVIRONMENTAL
OFFICE

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Kickapoo Community Garden Update

The Kickapoo Community garden year has a lot in store this season, and we look forward to making it another productive season. Last year netted an approximate total of 600 lbs of fresh produce distributed throughout the community. In addition to an unknown amount of corn, the garden produced various types of tomatoes, cucumbers, various types of peppers, kale, Simpson lettuce, various types of beans, squash, and radish. Additionally, the K-State Horticulture Research & Extension Center in Olathe, KS donated approximately 35 boxes throughout the summer and fall of heirloom tomatoes, peppers, sweet potatoes, and squash.

This year, we are expanding the size and scope of the garden project. It will include the following components: a 30'x48' hoop house, a 35'x80' garden, a 50'x60' pollinator habitat meadow, and a one-acre section of Kickapoo corn (see photo below). The hoop house will be dedicated solely to tomatoes and peppers this year. We will obtain the plants from Nature's Choice Biodynamic Farm out of St. Joseph, MO. This particular farm regularly sells at the farmer's market in the River Market area in Kansas City, and produces some of the most resilient and diverse styles of tomato and pepper plants in the region. And like last season, the hoop house plants will be automatically irrigated below-ground, to ensure water is efficiently used and targeted only to the plant roots.

New this year will be a garden plot measuring 35'x80'. Like the hoop house, this plot will be automatically irrigated below ground, and will contain the following plants: various beans, watermelon, cucumber, squash, strawberries, blueberries, blackberries, grapes, pumpkin, garlic, onion, potatoes, radish, cabbage, cantaloupe, cauliflower, okra, and peas.

Also new this year will be a pollinator habitat meadow, consisting of wildflowers and native grasses that will attract bees and butterflies to aid in the pollination of garden and hoop house plants. This meadow will also be available for the community to come and collect flowers.

Finally, there will be a one-acre plot dedicated solely to Kickapoo corn. To encourage robust growth and to combat weeds, we will first plant a covercrop consisting of 4 varieties of clover. As a covercrop, clover has numerous benefits: it provides organic matter to the soil, increases nitrogen production in the soil, encourages microbial activity in the soil, helps conserve and retain water, and helps suppress weeds.

As always, the community is welcome to help with the planting and upkeep of the garden. Work will take place at lunchtime, after work hours, and on most weekends throughout the growing season. Contact the Environmental Office (785-486-2601) for more information on volunteer opportunities.



Wetlands Reserve Program

The Wetlands Reserve Program (WRP) is a voluntary program that offers landowners the opportunity to protect restore and enhance wetlands on their property. The Natural Resources Conservation Service (NRCS) manages and provides the funding and technical assistance to help landowners who participate in the program.

How it works

Landowners can submit an application for a permanent easement, a 30-year easement, or a 10-year restoration cost-share agreement.

Permanent Easement: The easement is attached to the property deed, ensuring that the wetland is preserved through future owners and generations. With this option the NRCS pays 100% of the cost for restoration and legal fees. The landowner also receives a payment for the appraised agricultural value of the land being restored to a wetland

30-Year Easement: These easements expire at the end of 30 years. With this option the NRCS pays for 75% of the restoration costs and 75% of the appraised agricultural value of the land

Restoration Cost-Share Agreement: This is a 10-year agreement with the NRCS paying 75% of the restoration costs and there is no payment for the agricultural value of the land

Benefits of the WRP

- **Source of income**
 - The payment for the agriculture value of the land may be more beneficial than planting in an area that is high risk in terms of agricultural income due to the risk of consistent flooding in an area that was previously a wetland
- Landowners maintain ownership
- Landowners retain control of access to the land
- Allows for land, including the easement, to still be sold
- Provides additional benefits for the entire community
 - Improved water quality
 - Enhanced habitat for wildlife
 - Reduced soil erosion
 - Reduced flooding
 - Improved water supply



Fire Danger & Extreme Weather

Wildfires are any unwanted, unplanned fires that burn in forests, grasslands or other wildland area, such as shrub or grass communities. They're a powerful natural force we must fully understand, and respect, in order to best control. Nearly nine out of 10 wildfires are caused by humans and could have been prevented.

You may have noticed the sign below in several areas and not have fully understood the importance of what it is. This article is to help you understand what you are reading. Presently, we are coming into fire season (usually late winter, early spring) when areas on the reservation and surrounding communities start to burn off unwanted grasses or other such material.

The weather plays a very important part on how the fire will burn. Knowing your wind speeds, relative humidity, and temperatures for the days ahead will determine your fire weather factors. These fire weather factors are what determines your fire danger index to gauge between the low and extreme category. As you will have read the index to better understand each, you should also gather further information pertaining to weather before lighting a fire. For further information regarding tribal and non-tribal burn permits, for camp fires, trash, or any large prairie burns, please contact the Kickapoo Fire Dept. at (785) 486-2839 or the Kickapoo Emergency Manager, Melvin Lewis at (785) 486-2601, ext. 104.



The Kickapoo Emergency Management Program is on Facebook! Keep up with us to get real-time information on potential hazardous weather or natural disasters in our area at the following link:

fb.me/KTIKEM

Fire Danger Rating and Color Code	Description
Low (Green)	Fuels do not ignite readily from small firebrands although a more intense heat source, such as lightning, may start fires in duff or punky wood.
Moderate (Blue)	Fires can start from most accidental causes, but with the exception of lightning fires in some areas, the number of starts is generally low.
High (Yellow)	All fine dead fuels ignite readily and fires start easily from most causes. Unattended brush and campfires are likely to escape.
Very High (Orange)	Fires start easily from all causes and, immediately after ignition, spread rapidly and increase quickly in intensity. Spot fires are a constant danger.
Extreme (Red)	Fires start quickly, spread furiously, and burn intensely. All fires are potentially serious. Development into high intensity burning will usually be faster and occur from smaller fires than in the very high fire danger class.

Kickapoo Lab Space

Recently, the Kickapoo Environmental Office renovated a portion of its space to construct, with the help of the Kickapoo Housing Authority, a lab space. Britini Bauer, the Tribe's Water Quality Monitoring Specialist, will now be able to perform in-house analyses of water samples from Kickapoo streams, rivers, ponds, and wells.

One test that will take place in the lab is an analysis for the presence of bacteria. Specifically, we will test for E.coli and total coliforms--bacteria commonly found in the environment, foods, and intestines of people and animals. E.coli found in extremely high numbers can have a negative impact on human health.

Another test we will be conducting this year will be an analysis for a toxin produced by blue-green algae called microcystin. We will monitor Reservation waters for algae blooms, and if one occurs, a test will be done to quantify and detect the presence of toxins. Just because microcystin is present does not mean that it will affect your health; but in high numbers, it can cause you to feel ill. Having the capabilities to perform this test will safeguard the health of the Kickapoo community and provide drinking water source protection.

In the near future, we also look forward to testing for pesticides in reservation water bodies. The main pesticide we will be focusing on is atrazine, because when found in high numbers, it can not only impact aquatic life, but also human health. We are excited about this new development in our office and look forward to continuing to build upon the lab's capabilities in the future.



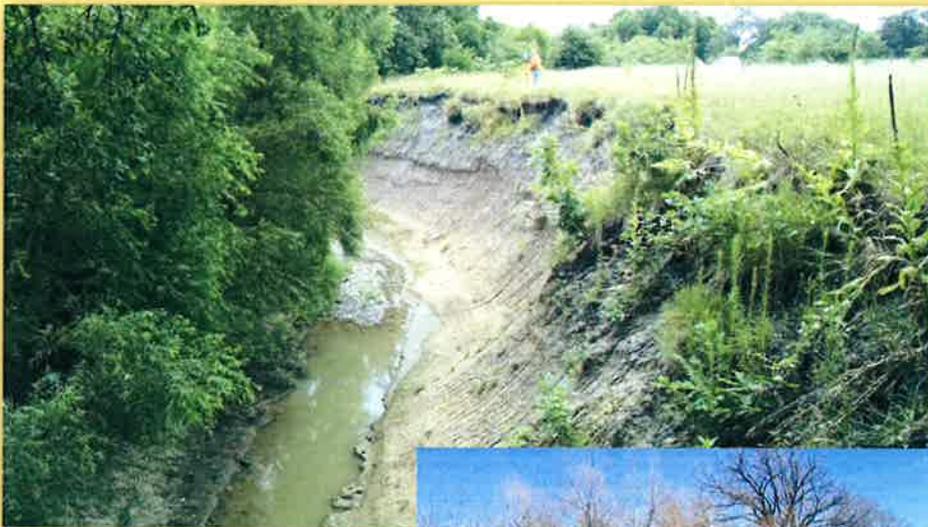
Streambank Stabilization and Restoration Projects Update

Streambank Erosion on the Delaware River and its tributaries is the number one source of soil sediment entering the river water supply throughout the Reservation and the larger Delaware Watershed. Soil sediment can carry contaminants which negatively impact water quality.

One of our goals is to decrease the amount soil sediment entering the tribal community's water supply, the Delaware River. The Kickapoo Tribe has received funding to address this issue for two eroding sites located on Squaw Creek and Lower Craig Creek.

The construction phase of the Squaw Creek project is nearly complete. Within the next several weeks the site will be planted with native grasses and mulched to prevent surface erosion and enhance grass seed germination. Hundreds of live willow stakes and selected species of deep rooted, soil-holding trees and shrubs will be planted in the lower half of the newly sloped banks.

Pictured here are the before and after images of the Squaw Creek project.



Before
Aug 2, 2016

After
Feb 22, 2017



The Squaw Creek project site utilized 180 tons of limestone rock, which was placed at the bottom or “toe” of the eroding banks. This longitudinal line of limestone is expected to stop the advancing oxbow at its base. The once nearly-vertical (90 degree) bank is then sloped to a 3:1 (18 degree) as shown in the photo. The newly restored slope will be seeded with a cover crop of oats and native grasses for long term erosion control.

The second and much larger project site (pictured below) is on Lower Craig Creek below an existing tribal cemetery. It is approximately 1.5 miles down stream of the junction of Plum Creek and Craig Creek. The construction phase of the nearly 45 foot-tall bank has begun with some tree clearing and limestone rock hauling. There will be no bank shaping here because of the location of the private cemetery at the top. The base of the eroding bank will be controlled by the placement of nearly 800 tons of limestone rock and the placement of erosion control geotextile fabric.

Stay tuned for more updates and visit our facebook page at www.fb.me/KickapooEnviro to see more frequent updates.



**Surveying/Staking Out Lower
Craig Creek site
Feb. 6, 2017**



**Loading in limestone Rock to
Lower Craig Creek site
Feb. 22, 2017**

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www.fb.me/KickapooEnviro

Upcoming Environmental Calendar

3-21-22: Garden planting: peas, radish, onion, potatoes.

3/25: Garden Work Day (Sat)

4/1: Start of wetland assessments

4/1: Garden planting: cabbage and carrots

4/8: Garden Work Day (Sat)

4/15: Garden Planting: cauliflower, corn, cucumbers, cantaloupe, watermelon

4/20: Earth Day event at KNS

4/21: KTIK Employee Highway Clean-up

4/22: Garden Work Day (Sat)

4/25: Kickapoo Health Fair

4/25: Gardening Workshop (Senior's Center)

4/29: Garden Planting: pumpkins, blackberries, blueberries, grapes, raspberries, strawberries, okra

5/6: Garden Work Day (Sat)

5/13: Garden Work Day (Sat)

5/17-5/19: Community Clean-up

5/20: Garden Work Day (Sat)

5/27: Garden Work Day (Sat)