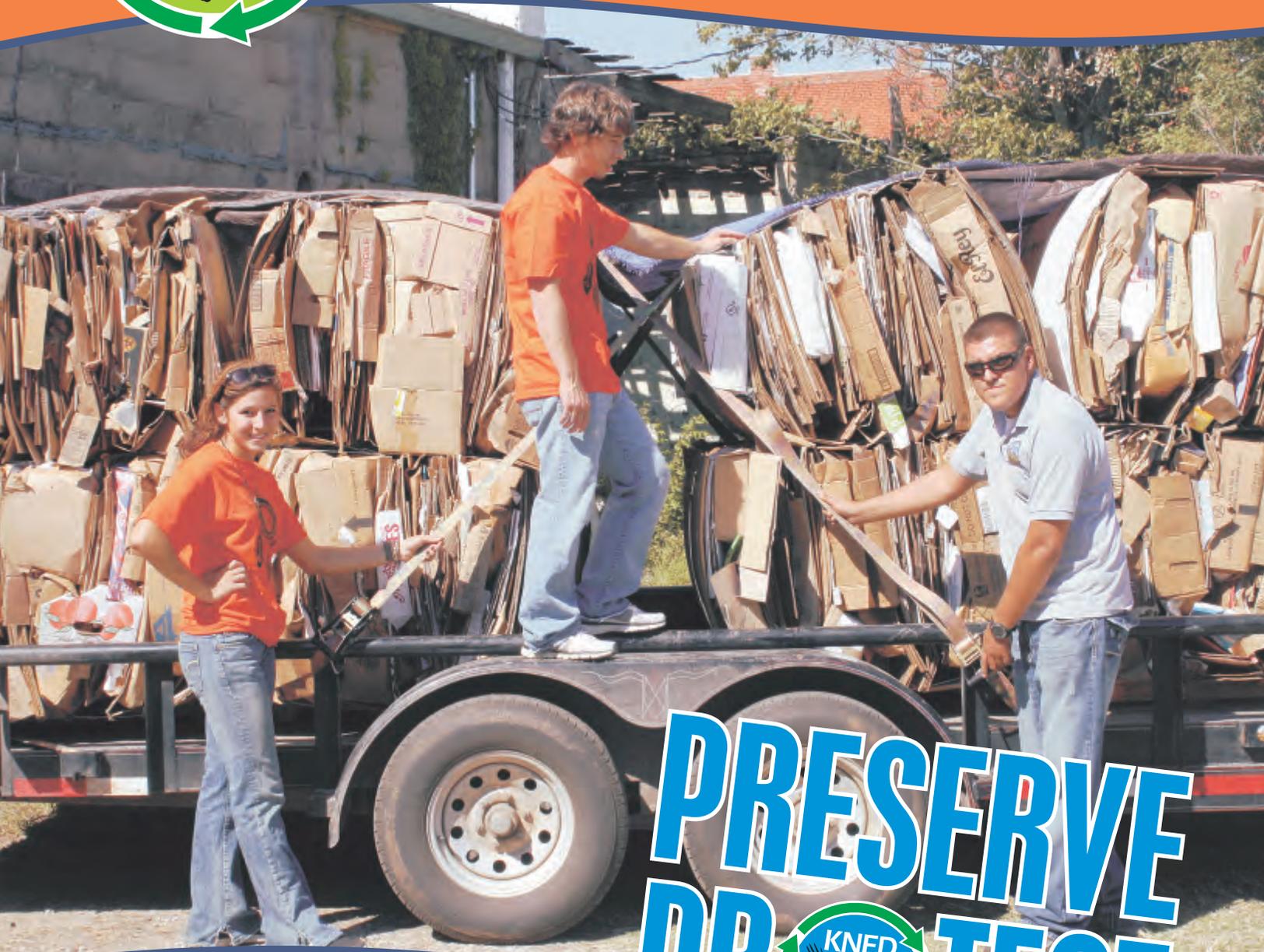




KAW NATION ENVIRONMENTAL DEPARTMENT

environment

WINTER 2013-2014



WHAT WE HAVE DONE, ARE DOING AND WILL DO

- Goals and priorities
- Braman Recycling Center
- Services for tribal citizens
- 5-year development programs

**PRESERVE
PROTECT
& IMPROVE**



From left, Skyler Mathews, Felicia Sawyers, Daniel Ceniti, Kayla Calhoun and Dejene Alemayehu, Ph.D.



KNED'S GOALS AND PRIORITIES

- Represent tribal interest to public and private entities;
- Develop a communication network inside and outside the tribe on environmental principles and practices;
- Establish environmental management as a fundamental institutional part of the tribe;
- Support water rights and the development of enforceable water quality standards;
- Land acquisition and management;
- Facilitate safe drinking water and water quality for members of the public by supporting water treatment plants and distribution;
- Encourage environmental stewardship among nearby schools and tribal youth;
- Arkansas River Watershed Protection Program;
- Provide the professional capacity for environmental assessments;
- Restore ecologically degraded areas through wetland enhancement;
- Provide education materials to schools within the Kaw Nation service area;
- Strengthening our inspecting capacity and conducting outreach service to elders and youth groups;
- In close cooperation with local municipalities and county commissioners, clearing illegal dump sites that affect the health and welfare of our society.

WHO ARE WE?

Kaw Nation Environmental Department (KNED) was established in 1996 by the Kaw Nation to **PRESERVE, PROTECT AND IMPROVE** the quality of our natural resources for the benefit of Kaw Nation and their descendants.

KNED has developed various environmental codes including solid waste management, underground storage, food safety, fishing and hunting, and water and air codes. All of these codes were approved through a tribal resolution.

KNED was also approved by the U.S. Environmental Protection Agency for treatment in the same manner as the state (TAS) for Section 106 and 319 of the Clean Water Act. The application for TAS in Air Quality is in progress.

Our office is located at 801 Washunga Drive in Kaw City, Okla. We are available to address your concerns or answer any questions. Office hours are 8 a.m. to 4 p.m. Monday through Friday. Our number is 580-269-1186.



Representatives of Kaw Nation Environmental Department, American Legion Post 259 and the town of Braman, Okla., with the Keep Oklahoma Beautiful Team Builder Award.



Water Quality Monitoring



LAKE AND SAMPLING SITES

Why we monitor

Per U.S. EPA guidelines, we monitor to:

- Characterize water and identify change or trends in water quality over time;
- To identify pollutants that affect the water quality;
- Gather information to develop a plan to prevent pollution problems.

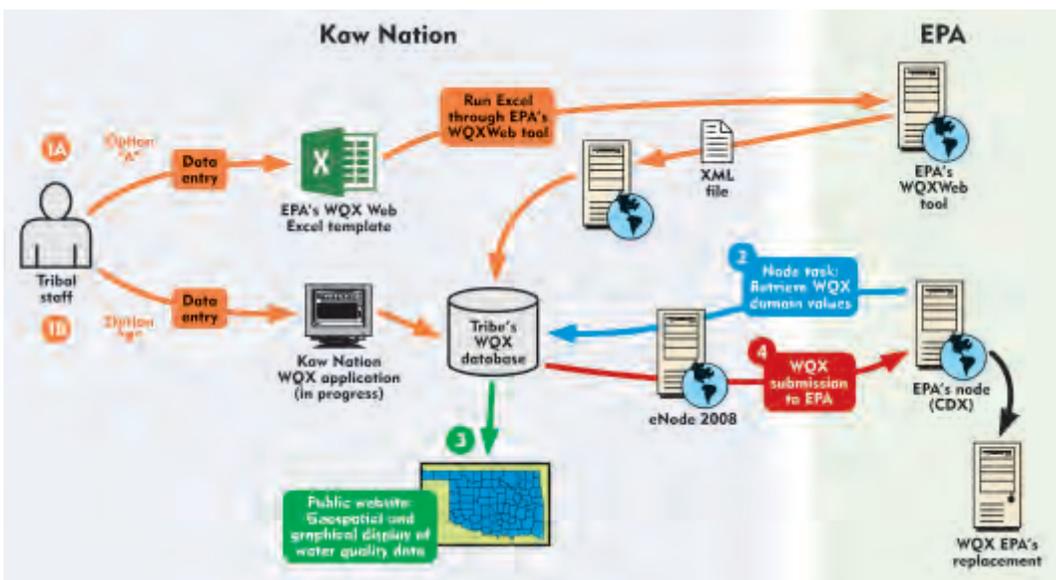
What we monitor

- Macroinvertebrates
- Fish
- Temperature
- Productivity

KNED monitors rivers, streams and lakes to see the chemical conditions of the water, sediment, macro invertebrates, bacteria and fish tissues to determine levels of key components, such as dissolved oxygen, nutrients, metals, oils and pesticides.

WQX: Water quality exchange node data flow

Kaw Nation to the U.S. EPA



Data submissions to the U.S. EPA. The graph at left illustrates the Kaw Nation Environmental Department node server. This server is the central hub for all data collected by the Environmental Department.

The node is used to submit all the data collected in our Water Quality, Open Dump and Air Quality programs to the federal government and ensures eminent funding for the department.





Left, KNED water technician Felicia Sawyers and environmental specialist Daniel Ceniti measure and weigh fish during sampling. Above, Sawyers and Department of Wildlife Conservation Fisheries Division biologist Tom Wolf demonstrate the exchange of fish so that KNED can prepare them for the lab.

FISH SAMPLING AND MACROINVERTEBRATES

The Kaw Nation Environmental Department is currently conducting fish samples and checking the macroinvertebrates to define the eminence of water.

Working with the Oklahoma Department of Wildlife Conservation, KNED conducted a study of the mercury levels in fish. This study is allowed by our Water Quality Monitoring grant from the Environmental Protection Agency.

During this study, we try to collect samples of various fish. This is how we can determine the different size of fish and weight. This is also a good way to see which fish might be overpopulating the waters.

If a human consumes too much mercury, he or she will experience serious health problems. We encourage seeing a physician right away if too much mercury is digested.

What are macroinvertebrates? Macroinvertebrates help determine the quality of water. Macroinvertebrates are found in lakes, streams, ponds, marshes and puddles. They help preserve the health of the water ecosystem by eating bacteria and dead, decaying plants and animals. A high number of macroinvertebrates in the water means they are helping restore the nutrients in the water, and a low amount means the water is withholding microbes.



Above, macroinvertebrates help determine the quality of water. Left, Skylar Mathews watches as Sawyers, Ceniti and KNED intern Cody Wingo use a screen to filter out the macroinvertebrates.



WQM praised by U.S. EPA



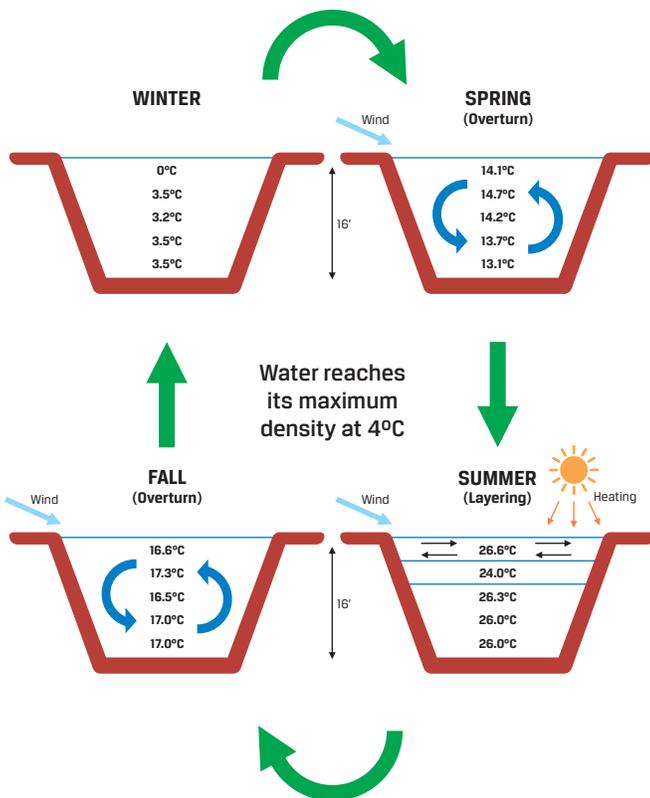
The U.S. Environmental Protection Agency provides the Kaw Nation Environmental Department with funding to run our Water Quality Monitoring Program.

This spring, Samuel Reynolds of the U.S. EPA Water Quality Division, conducted an audit to monitor our department and see how we have progressed with the goals in our Water Quality Monitoring Program. This program allows the Kaw Nation Environmental Department to accurately take monthly samples from Kaw Lake and the Arkansas River, which helps to monitor harmful pollutants in the water.

Reynolds was pleased with our tribe and proud of the results we have accomplished.

Skyler Mathews drives Samuel Reynolds of the U.S. EPA Water Quality Division in an airboat while taking water samples.

TEMPERATURE CYCLES IN KAW LAKE



KNED water technician Felicia Sawyers prepares water samples for testing.



BRAMAN RECYCLING CENTER



Kaw Nation Environmental Department purchased a commercial compactor in 2013 for its recycling center in Braman, Okla.

The compactor is designed to efficiently and safely compact all recyclable materials — small volumes of aluminum and plastic on an ongoing basis, as well as cardboard into bales the size of refrigerator boxes.

Since the addition of the compactor, our recycling center has expanded. We have picked up 44 new customers to recycle consumer goods and added a few routes.

Also, KNED had the privilege of showing the Kaw Nation Summer Child Care children the recycling center. These students were very enjoyable and ready to learn. We were able to provide every student with a recycling handout that included fun coloring pages. The kids engaged in entertaining activities that showed a few ways to recycle. KNED is looking forward to what the future holds for these younger generations.

Let's all pitch in and keep recycling. Contact us at 580-269-1186 with any questions about what to recycle or what can be recycled. We are looking for new and exciting projects to help the environment and tribal members every day.



Top, Skyler Mathews sorts through the recyclable materials collected at the Braman Recycling Center.

Left, Kaw Nation Summer Child Care students test the weighing scale at the Braman Recycling Center.



Left, KNED director Dejene Alemayehu, Braman Town Council member Matt Miller, Braman Mayor Mike Barton, Kaw Nation Chair Guy Munroe, Kaw Nation Tribal Council member Jason Murray, KNED intern Chance Plunk, J.E. Evans and American Legion Post 259 adjutant Rusty Partee.





What can we recycle?

	CAN	CANNOT
PAPER/BOOKS	All office paper, white colored Newspaper Magazines and catalogs Phone books	Napkins Tissue paper Paper towels Wax paper
	Paper towels, toilet paper, shredded paper, empty paper coffee cups, unwaxed food packaging Empty paper milk, juice and soy cartons Books (covers should be removed)	Any paper product that could be contaminated by human waste Wrapping paper
CARDBOARD	Pizza boxes (food and wax paper removed) Corrugated cardboard Brown paper bags Boxboard (e.g., shoe boxes, gift boxes and cereal boxes)	Cardboard lined with plastic (e.g., bubble wrap boxes) Waxed or waterproof cardboard
PLASTICS	All plastics No. 1-7 Food and beverage containers Screw top jars Deli-style containers Plastic cups (lids and straws removed) Milk jugs, soap bottles Clean grocery and retail plastic bags Plastic jugs and bottles	Styrofoam (sometimes labeled No. 5) Plastic tableware Sandwich and freezer bags
METAL	Metal food cans and caps Soda and other aluminum cans	Aerosol spray cans Aluminum foil



Blackwell Middle School students in front of their bus outside the Library and Learning Center.



Above, Beaver Creek wetland. Below, environmental intern Chance Plunk demonstrates pond sampling for Newkirk students.



Above, KNED director Dejene Alemayehu shows Newkirk students sediment in a jar. Right, Shidler students in front of the Kanza Museum.



Students learn about wetland restoration

Students from four north-central Oklahoma schools visited Kaw Nation and the Beaver Creek Wetland between April 30 and May 3. Classes from Blackwell Middle School, Newkirk Middle School, Braman School and Shidler Middle School each spent a day learning about wetland restoration and the Kaw Nation Environmental Department's programs.

"This is the only wetland in north central Oklahoma," said KNED Director Dr. Dejene Alemayehu. "This is an educational opportunity."

While at the wetland, the environmental staff taught the students about wetland vegetation, soil identification, water sampling and fish life, among other things.

Alemayehu engaged the stu-

dents in soil sampling. The students took chunks of soil and checked them against swatches in a book. He also dug up a section of soil about 2 feet in diameter and 2.5 feet deep to show how soil differs in color and consistency at different depths.

The KNED gave a presentation about climate change. Two videos were shown, and Alemayehu discussed with students the causes of climate change, such as greenhouse gas emissions and deforestation, as well as the effects, such as drought and rising temperatures.

He also discussed with them the importance of the wetland and its role in water filtration and storage, sediment trapping, nutrient cycling and flood control.



AIR QUALITY MONITORING



The Kaw Nation Environmental Department performed a prescribed burn of 32 acres the tribe purchased for a new KNED building about a mile east of the Kaw Nation tribal headquarters. The burn was performed in conjunction with the Kaw Nation Police Department and the Kaw City Fire Department. Left, Skyler Mathews inspects the area being burned.

The Clean Air Act requires the Environmental Protection Agency to accept National Ambient Air Quality Standards (NAAQS) that protect public health and provide an adequate margin of safety.

Recent studies indicate particulate matter (PM 2.5) and ozone in ambient air have health effects on the respiratory system and can lead to heart diseases. The two groups most affected are the elderly and children. Major sources of particulate matter are motor

vehicles, power plants and wood burning or smoke.

Because of these health impacts, KNED installed one PM 2.5 air monitor at the Kanza Travel Plaza in Braman, Okla. All the information on the quantity and concentrate of the pollutants will be transmitted electronically to KNED's office in Kaw City. After the data is analyzed and refined, it will be submitted to the U.S. EPA Air Quality Service to be shared among state and federal agencies.

KNED has also collected air quality emission data from power plants, refineries, gas stations, dry cleaners and landfills. The amount of these pollutants' concentration has been calculated and reported to the EPA.

KNED, through its dispersion model AERMOD, has determined how much of those pollutants fall on tribal lands. KNED has also determined the amount of air pollutants released on the old Kaw Nation reservation using the EPA computer model MOVES.

Right, the prescribed burn performed by KNED, the Kaw Nation Police Department and the Kaw City Fire Department.



U.S. EPA AIR QUALITY INDEX

0-50	■	Good
51-100	■	Moderate
101-150	■	Unhealthy <small>for sensitive groups</small>
151-200	■	Unhealthy
201-300	■	Very unhealthy
301-500	■	Hazardous



Above and left, the Kaw air quality monitoring station in Braman, Okla.



Solid waste and dumpsite cleanup



Left, a dump site near Ponca City. Below, KNED Director Dr. Dejene Alemayehu walks through the dump site in Ponca City.



Keeping our land clean is very important. Kaw Nation Environmental Department was able to clean up a dump site in Ponca City in 2013. Because of this cleanup, we were able to make a more safe and healthy environment.

Dumpsites are “small landfills” where people dump unwanted things in isolated areas. Dumpsites can be hazardous to the environment by polluting soils and water, harming wildlife, fish and even humans.

Dumpsites are located by driving around the service area, or located by tribal citizens. Once a dumpsite is found, KNED contracts the cleanup to

The Ponca City dumpsite had no hazardous waste materials, but household and normal backyard waste. If not cleaned up properly, it would have spread toxins into the soil or even reach creek waters.

Kaw Nation also cleans up state Highway 11 twice each year through contractor George Pease.

A little help from everyone will go along ways to keep trash under control.

SAFETY TRAINING SESSIONS FOR CUSTODIANS



In August and September 2013, Kaw Nation Environmental Department, in cooperation with Pioneer Technology Center in Ponca City, Okla., held safety training sessions at the Kaw Nation Library and Learning Center. These sessions offered our staff and those from other organizations a chance to refresh our practices, ensuring that we use the safest approach on the job. On Aug. 30, a data sheet session laid out changes in the Material Safety Data Sheet. On Sept. 6, instructors from Pioneer Tech taught safe lifting techniques.



ENVIRONMENTAL ASSESSMENT

Kaw Smoke Shop



This year, Kaw Nation completed a gaming trust for land in Braman, Okla. Other lands placed in trust this year include the area in Ponca City around Smoke Shop II, Tobacco Row and the Quonset building, the area in Newkirk around all facilities except the Kaw Housing Authority and SouthWind Casino, and the property in Kaw City where the Maude McCauley building sits.

The KNED oversees environmental assessments performed by its contractor, ENERCON, for trust applications and other lands used by the tribe. This fall, an assessment was completed for the future site of the tribe's deli and dollar store.

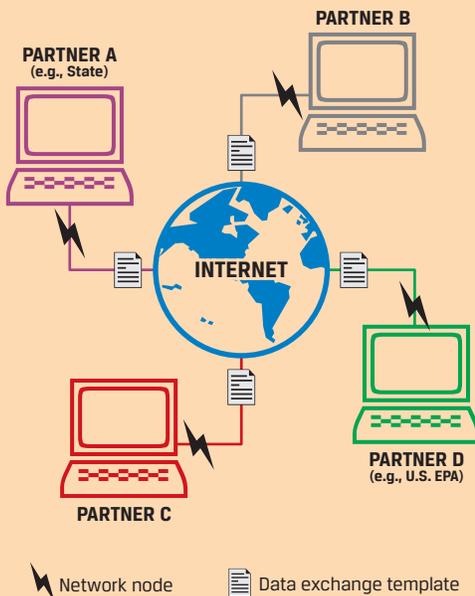
Kaw Nation Social Services Building



Kanza Health Clinic



EEN: Environmental Exchange Network



All solid waste, air and water quality data collected using U.S. Environmental Protection Agency funds are submitted electronically. The KNED IT technician will upload environmental data into the Kaw Nation node and transfer this information electronically to the U.S. EPA.

KNED also collects air quality data from its air monitoring station at the Kanza Travel Plaza every hour. With software called

WinCollect, the data is then submitted to the U.S. EPA Air Quality System (AQS) through the Kaw Nation Node (transmitter). The monitor is maintained and audited every week by trained specialist.

KNED has also received a grant from the U.S. EPA to collect and submit information on the cleanup of solid wastes. The solid waste data will be transferred to the U.S. EPA.



SERVICES OFFERED TO KAW TRIBAL CITIZENS

Radon testing

Radon is a gaseous highly radioactive element discovered by English physicist Ernest Rutherford in 1899. (German physicist Friedrich Ernst Dorn received credit in 1900.)

More specifically, Rutherford discovered radon's alpha radiation, and Dorn discovered that radium was releasing a gas.

Radon, which is the heaviest known gas, is a colorless chemically-unreactive inert gas. Because it is a single-atom gas (unlike oxygen, which is comprised of two atoms), it easily penetrates many common materials like paper, leather, low-density plastic like plastic bags, most paints, and building materials like gypsum board (sheet rock), concrete block, mortar, sheathing paper (tar paper), wood paneling and most insulations. Radon is also fairly soluble in water and organic solvents.

Although reaction with other compounds is comparatively rare, it is not completely inert and forms stable mole-



cules with highly electronegative materials. Radon is considered a noble gas that occurs in several isotopic forms.

Radon is not produced as a commercial product. Radon is a naturally occurring radioactive gas and comes from the breakdown, or radioactive decay, of uranium. It is usually found in igneous rock and soil, but in some cases, well water may also be a source of radon.†

According to the U.S. EPA, nearly one

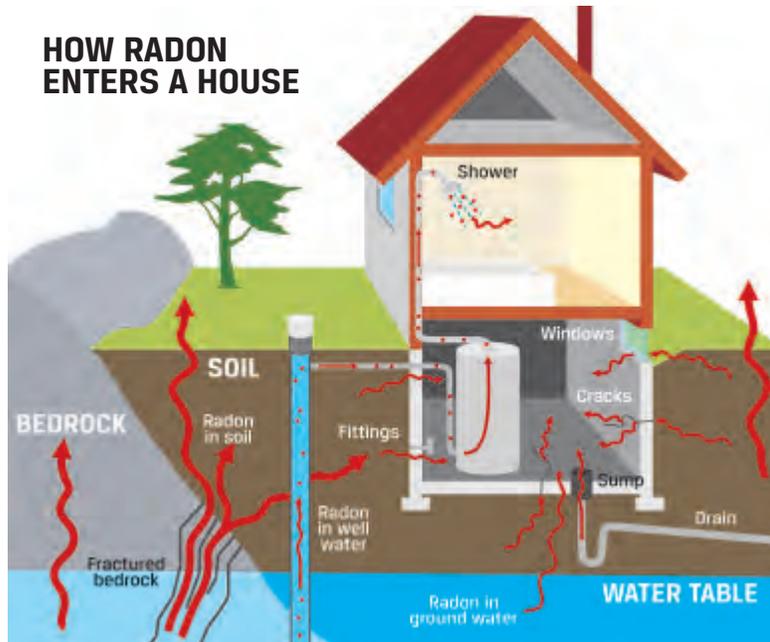
in three homes checked in seven states and on three Indian lands had screening levels over 4 pCi/L, the EPA's recommended action level for radon exposure.

The EPA recommends that you contact your state radon office for a list of testers. The KNED is one of these testers. Radon can be detected with a simple test and fixed through well-ventilated techniques. Also, contact one or both of the known private radon professionals.

† www.radon.com/radon/radon_facts.html

For more links and information, go to www.radon.com/pubs/citguide.html#howdoes

HOW RADON ENTERS A HOUSE



SERVICES OFFERED TO KAW TRIBAL CITIZENS

Mold testing

Molds are a part of the natural environment. Kaw Nation residents may have some of these molds in their homes and the Kaw Nation Environmental Department is here to help.

When mold grows indoors, it usually begins by surfaces that are wet or have moist areas. The key to mold control is moisture control. If mold is a problem in your home, you should clean up the mold promptly and fix the area. Drying water-damaged areas and items within hours is important. Otherwise, mold will reappear.

If mold is not eliminated properly, it can cause health issues, such as allergic reactions, asthma and other respiratory problems.

Also, if water is leaking in your home or office and not cleaned properly, it could cause major damages. We advise tribal members to always be aware of your surroundings.

Getting rid of mold is not an easy task, especially if there is a large amount of fungus. When trying to get rid of mold spores indoors, find the problem and make sure proper equipment is being used.

In most cases, if the affected area is less than 10 square feet a person can do it themselves. We advise each person to wear the appropriate gloves and face mask. This way, residents can avoid breathing or touching the mold spores.



QUESTIONS OR CONCERNS ABOUT MOLD?

If there are any health concerns, consult a health professional before starting any mold cleanup.

If there has been a lot of water damage, or if mold growth covers more than 10 square feet, consult the U.S. Environmental Protection Agency Guide. This guide is available free of charge by contacting the EPA Indoor Air Quality Information Clearinghouse at 800-843-4314, or www.epa.gov/mold.

If you suspect that the heating/ventilation/air conditioning system may be contaminated with mold – that is, it is part of an identified moisture problem, or there is mold near the intake to the system – do not run the HVAC system.

If the water or mold damage was caused by sewage or other contaminated water, call a professional who has experience in cleaning and fixing building damage caused by water.

Lead testing

The Kaw Nation Environmental Department is a certified lead testing inspector.

What is lead?

Lead is a powerful neurotoxin that interferes with the development and functioning of almost all body organs, particularly the kidneys, red blood cells and central nervous system.

High levels of lead exposure can result in a coma, convulsions and death. Even at low levels, lead has caused reduced IQ, reading, learning disabilities, attention deficit disorder and behavioral problems. Conduits of exposure to lead include contaminated air, water, soil, food and consumer products.

Occupational exposure is a common cause of lead poisoning in adults. According to estimates made by the National Institute of Occupational Safety and Health, more than 3 million workers in the United States are potentially exposed to lead in the workplace.

One of the largest threats to children

is lead paint that exists in many homes or buildings, especially older ones. Thus, children in older houses with chipping paint or lead dust from moveable window frames with lead paint are at greater risk.

Prevention of lead exposure can range from individual efforts — such as removing lead-containing items like piping or blinds from the home — to nationwide policies — laws that ban lead in products, reduce allowable levels in water or soil or provide for cleanup and mitigation of contaminated soil.

How to check for lead

The best way to find out if your home is affected by lead is to have a certified risk assessment performed by an inspector or a Kaw Nation Environmental Department specialist.

Another way to test for lead is using

a lead kit from a nearby store. These at-home kits are relatively inexpensive and can provide fast results. Applicators are filled with a special type of chemical that determines if lead is present. The tool will change a certain color upon finding lead.

Even though stores offer these do-it-yourself home repairs, the KNED recommends professional testing for lead in paint.

For a list of laboratories that have passed proficiency testing for analysis of lead in paint, soil and dust samples, call 1-800-424-LEAD or fax 202-659-1192. When calling or faxing these numbers, specify the request NLLAP/ELPAT List of Laboratories. The Department of Housing and Urban Development's Lead Hazard Reduction Office also sponsors The Lead Listing, which contains a list of certified lead inspectors.

For more information, visit the HUD website at www.hud.gov/lea/leahome



SERVICES OFFERED TO KAW TRIBAL CITIZENS

Tap and well water inspections

Homeowners can often determine the quality of the drinking water in their houses without much trouble. Unusual water color or taste may be apparent.

However, the problems with water sometimes go unnoticed.

The Kaw Nation Environmental Department can find the issues by testing tap water and well water. If tribal members contact the KNED, our specialists can visit and test the water.

After taking water samples, the KNED tests water quality primers: pH, turbidity — the clarity or cloudiness of the water, dissolved oxygen, conductivity, bacteria, total dissolved solids, salinity — the level of salt, and chlorophyll.

Having well water or tap water inspected is a valuable step towards ensuring that you and your loved ones are drinking clean water. The EPA recommends yearly water tests.

Not knowing the quality of tap water or well water allows the possibility of



contaminants being undetected. Water contaminants can cause a range of health problems, from gastrointestinal illness to cancer.

Besides having water tested, people

can take steps to protect their water quality, like using a filter or inspecting exposed parts of the well. For more information, see the EPA's *Consumer Guide to the Nation's Drinking Water*.

For more information, read the EPA's Consumer Guide to the Nation's Drinking Water

http://water.epa.gov/drink/guide/upload/book_waterontap_full.pdf

WHAT KNED TESTS FOR

- True color
- Apparent color
- Alkalinity
- Total hardness
- Low-range sulfates
- High-range sulfates
- Ammonia
- Total low-range nitrogen
- Total high-range nitrogen
- Low-range phosphorus
- High-range phosphorus
- Low-range nitrite
- High-range nitrite
- Nitrite
- COD
- Chromium
- Cadmium
- Nickel
- Lead
- Aluminum
- Copper
- Iron



FIVE-YEAR DEVELOPMENT PROGRAMS

WATER

- Water sampling and analysis of Little Beaver, Bear, Big Beaver and Chilocco creeks.
- Three creeks, two rivers, and four lakes sites along the Arkansas River and Kaw Lake.
- Nutrients (Nitrogen and Phosphorus).
- Heavy metals (iron, manganese, copper, lead, mercury, etc.).
- Bacteria will be examined.



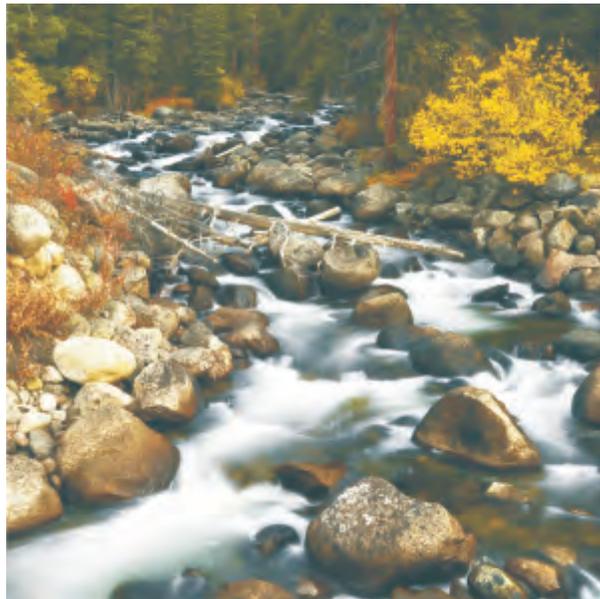
FISH

At least five different species of fish will be examined for mercury.



MACROINVERTEBRATES

Macroinvertebrate samples will be collected and identified to correlate the water quality.



SEDIMENT

Sediment samples will be collected for all the creek and river sites. The samples will be examined for nitrogen and phosphorus as well as Total Suspended Solids (TSS).

FIVE-YEAR DEVELOPMENT PROGRAMS

AIR QUALITY

- The Air monitoring for Pm2.5 will continue.
- AQS data will be submitted to U.S. EPA AQS database.
- Emission inventory for non-point source will be collected and reported to U.S. EPA through TEISS.
- AEROMOD modeling will be conducted once a year.
- Participate in providing permit through TAS.



RENEWABLE ENERGY RECOURCES

Install solar-powered wind turbines for Braman, Washunga, Newkirk and Kaw City.



WIND

Continue collecting wind data for Kaw City.



SOLID WASTE/HAZARDOUS WASTE

- Clean up some dump sites along the Arkansas River and Kaw Lake.
- Install a "Don't Litter" sign.
- Conduct a hazardous waste collection in Kaw City and Newkirk.
- Encourage recycling in all schools and small industrial plants.





HONORARY TRIBAL CITIZENSHIP

Kaw Nation Environmental Department Director Dr. Dejene Alemayehu was named an honorary tribal citizen of the Kaw Nation during the Kaw Powwow on Oct. 6, 2013.

He was one of four people to receive the distinction. Allegawaho Park Manager Barb Stanbrough, former Braman Mayor Jerry Johnson and Kanza Museum Director Crystal Douglas were also named honorary tribal citizens.

The Kaw Nation Culture, Museum and Library Committee praised Alemayehu for his service protecting natural resources of tribal lands.

In his 13 years with the KNED, he has compiled a long list of accomplishments. He helped open the Beaver Creek Wetland, the first wetland in northcentral Oklahoma, and made it an educational destination for students from schools in the area. Collaborating with contractor ENERCON, he has overseen environmental assessments of tribal properties in Kaw City, Newkirk, Ponca City and Braman.

Alemayehu has also directed the monitoring of air and water quality in the area, as well as the investigation of renewable energy possibilities for the tribe.



EAGLE AVIARY

Kaw Nation Environmental Department had the opportunity to engage with the Iowa Tribe and tour its eagle aviary in Perkins, Okla., right. The bald eagles in this sanctuary created at the Iowa Tribe Aviary were said to have been paralyzed and nursed back to health. Most of these birds would not return to the wild. Above, KNED director Dejene Alemayehu, Iowa Tribe Aviary Wildlife manager Victor Roubidoux, Kaw Nation grant compliance specialist Vickie Lehman, KNED administrative assistant Jordan Lunsford, and Rachael Harley, Kickapoo Nation.



ENERGY AUDIT

The energy audit is designed to identify the energy waste in tribal citizen houses and government offices, identify potential areas of improvement and recommend solutions to make homes and offices more energy efficient.

Higher fuel prices and ever-increasing electric rates are driving home and office bills up. The cost of energy is increasing every year. Virtually all residential and government buildings — especially older ones — waste large amounts of energy, translating to higher bills. Thanks to Kaw Nation Environmental Department, most tribal and government buildings were audited for efficiency and the necessary steps were taken.

Energy efficient heating: repair or replace furnace, forced air heating systems, thermostat, water heater and clean ducts, etc.

Energy-efficient windows: install, repair and replace.

Home energy audit: reduced energy usage leads to a lower bill.

In general, weather-stripping around doors, caulking around windows, changing HVAC filters and upgrading insulation are all smart home energy efficiency projects that keep heat from escaping through the wall. With so much focus on home energy, greening positive results have been observed as lowering bills and creating cozy homes.

Follow the do-it-yourself home energy audits:

- Locate air leaks.
- Seal air leaks.
- Check ventilation.
- Check insulation.
- Inspect heating and cooling equipment
- Choose efficient lighting such as CFL or LED
- Choose energy-efficient appliances and electronics



Ten steps to stop global warming

Our mission is to help the community and the tribe by getting everyone to participate in 10 steps to stop global warming.



Reduce, reuse and recycle. This means recycling half of household wastes, the community can save 2,400 pounds of carbon dioxide annually.



Drive less and drive smart. Having a car running efficiently is the key as well as having a car that has great gas mileage.



Get out and plant a tree. A tree can absorb approximately one ton of carbon dioxide during its lifetime.



Use less heat and air conditioning. Setting thermostats just 2 degrees lower in the winter and setting them higher in the summer could save about 2,000 pounds of carbon dioxide each year.



Buy energy-efficient products. If every household garbage can could be reduced by 10 percent, there could be 1,200 pounds of carbon dioxide saved annually. Avoid buying products with tons of packaging.



Get a report card from utility companies. Most utility companies can offer good rebate programs to help pay for the cost of energy efficient upgrades.



Change a light bulb to a compact fluorescent light (CFL). This would eliminate 90 billion pounds of greenhouse gasses.



Use less hot water. This change alone can save at least 500 pounds of carbon dioxide annually in most households.



Encourage others to conserve. By sharing this information with others, they can also start recycling at our new recycling plant in Braman, Okla., and start using energy efficient appliances to help curb global warming.

Use the off switch more. This would help businesses and households reduce water bills and help conserve a vital resource.





DEJENE ALEMAYEHU, Ph.D.

KNED Director

dejene@kawnation.com

Dr. Dejene Alemayehu has been with the Kaw Nation since 2000. He has a bachelor's degree in plant science from Alemaya University in Diredawa, Ethiopia, in 1982; a master's degree in agronomy from Oklahoma State University in 1995; and a Ph.D. in environmental science from OSU in 2000.

During his time with Kaw Nation, he has expanded the role of the Environmental Department to cover programs to help protect the environment and to help tribal citizens.



SKYLER MATHEWS

Recycling Center Manager

smathews@kawnation.com

Skyler Mathews, who is a Kaw tribal member, went through two KNED interships before becoming a water technician in 2005. He served with the 45th Oklahoma Army National Guard in Afghanistan in 2011 and 2012, receiving a Purple Heart and an Army Commendation for his service. Early this year, he formulated the plan for the recycling center. In June, he opened the facility.

Skyler is also the vice president of the Kaw Nation Cultural, Museum and Library Committee.



KAYLA CALHOUN

Environmental Assistant

kcalhoun@kawnation.com

Kayla Calhoun was born and raised in Ponca City. She has a husband named Daniel to whom she's been married for almost three years. Kayla has a beautiful 2-year-old son named Carter. Last year, Kayla attended Pioneer Technology Center for a certification in medical assistance.

"I was thrilled to be hired as the environmental administrative assistant for Kaw Nation," said Kayla.



FELICIA SAWYERS

Water Technician

Felicia Sawyers has a bachelor's degree in natural resource ecology and management from Oklahoma State University and loves to identify all the birds in her spare time.



DANIEL CENITI

Environmental Specialist

Daniel Ceniti is a graduate from Oklahoma State University with a bachelor's degree in environmental science of natural resources.





801 Washunga Drive
Kaw City, OK 74641
580-269-1186
www.kawnation.com

PRSRT STD
U.S. POSTAGE PAID
PERMIT NO. 49
STIGLER, OK 74462

from the *chair* Kaw Nation

Dear friends,

For 17 years, the Kaw Nation Environmental Department has lived by its pledge to concentrate on the core issues facing our environment. Each KNED project aims to **PRESERVE, PROTECT AND IMPROVE** the quality of our natural resources for Kaw Nation and its descendants.

Dr. Dejene and his staff do excellent service. We are proud to have them helping secure our natural resources. Their services promote the health of tribal members. The information they collect is valuable to tribal decision-making.

We need a healthy planet to survive. Let us all help protect our environment.

— GUY MUNROE
Chair, Kaw Nation

