



“The Official Newsletter of the Inter-Tribal Environmental Council”

**ITEC
MEMBER TRIBES**

- Absentee-Shawnee Tribe
- Alabama-Coushatta Tribe
- Alabama-Quassarte Tribe
- Apache Tribe
- Caddo Nation
- Cherokee Nation
- Cheyenne/Arapaho Tribes
- Citizen Potawatomi Nation
- Comanche Nation
- Coushatta Tribe of Louisiana
- Delaware Nation
- Delaware Tribe
- Eastern Shawnee Tribe
- Fort Sill Apache
- Iowa Tribe
- Jicarilla Apache Nation
- Kaw Nation
- Kialegee Tribal Town
- Kickapoo Tribe
- Kiowa Tribe
- Miami Tribe
- Modoc Tribe
- Muscogee (Creek) Nation
- Osage Nation
- Otoe-Missouria Tribe
- Ottawa Tribe
- Pawnee Nation
- Peoria Tribe
- Ponca Tribe
- Pueblo of Laguna
- Pueblo of Pojoaque
- Pueblo of Santa Clara
- Pueblo of Taos
- Pueblo of Tesuque
- Quapaw Tribe
- Sac & Fox Nation
- Seminole Nation
- Seneca-Cayuga Nation
- Shawnee Tribe
- Thlopthlocco Tribal Town
- Tonkawa Tribe
- Wichita & Affiliated Tribes
- Wyandotte Nation
- Ysleta del Sur Pueblo
- Zuni Tribe

Modoc Tribe Recycling

Submitted by Wes Davis

Established in 1996 as a pilot project, the Modoc Tribe’s Recycling Program has now become a fixture within the Tribal community. What started out as an opportunity to provide an alternative to landfilling for Tribal Members, has now become a successful recycling program for the Modoc Tribe.

In the beginning, the uncertainty of providing such a service presented more questions than answers. However, a small grant opportunity opened the door for one of the smallest Tribes in the Nation to pursue its goal of providing this service. Now some twenty two years later, the majority of the questions have been answered and the pilot project is now a full time operation.

Today, the recycling program continues to grow despite some minor, and one major setback. In July of 2011, the recycling center suffered a great loss when the building was destroyed by fire. However, motivated by a leadership committed to providing this service, the facility was rebuilt and is now seeing its greatest impact within the Tribal Community.

The Modoc Tribe has seen an increase over the years in their collections. From receiving 35 tons of recyclables in its first year, to currently receiving 445 tons of recyclables per year. The Modoc Tribe has witnessed not only an increase in participation, but also an increase in awareness.

Education is important when it comes to a successful recycling program. The Modoc Tribe provides that education to the Tribal community by participating in events throughout the year.



Wes Davis, the Tribes Environmental Programs Director says, “The success also comes from a leadership committed to providing a service that has immediate and long-term impacts.” He also adds, “It’s a County wide effort and says that neighboring Tribes are also a huge factor in the success of this program.”

“We want to express our gratitude to the neighboring Tribes in Ottawa County, and the work that they are doing as well. It’s a combined effort of multiple Tribes focused on a cleaner sustainable future.” The Eastern Shawnee, Miami, Ottawa, Peoria, Quapaw, Seneca Cayuga, Shawnee and Wyandotte Tribes are all contributing to the cause by educating and providing recycling opportunities for their Tribal Members as well. The Modoc Tribe’s Facility is located in Miami Oklahoma and operates Monday through Friday 8:00 AM to 4:30 PM.

The following items are collected daily; cardboard, newspaper, office waste, junk mail, magazines, phone books, plastics #1 & #2, aluminum cans and tin cans. In addition to the items that are collected daily, the Modoc Tribe hosts two collection events each year targeting used tires and e-waste.

The Modoc Tribe continues to search for better ways to improve, as it sets new goals for the future in Solid Waste Management. The Tribe remains focused on its mission which is promoting and providing recycling opportunities within the Tribal community, and educating the public on the importance of recycling and its impact on the environment.





Concho School Demolition Pilot Project

Submitted by Damon Dunbar

In an effort to clean up the Concho campus, the Cheyenne Arapaho EPA Program along with the Community Development Program realized there was a need for heavy equipment operators among existing Tribal employees. A planning meeting was held with and among various Tribal programs, including Economic Development, Tribal Transportation, Employment Training Assistance (ETA), EPA Program, and Community Development to discuss each program's possible contributions to the effort. Successfully, a partnership was formed through a pilot project that will begin with the Concho School Demolition. The goal is to assist current tribal employees in obtaining a heavy equipment operator certification, and assist unemployed tribal members in receiving the necessary skills training as well as the equipment operator certification for future gainful employment. The various Tribal programs that have contributed to the equipment operator certification course are:

- * Tribal Transportation (Roads Construction)
 - o Secured Instructor with the assistance of OSU-TTAP
 - o Secured Equipment
- * Economic Development Program
 - o Personnel for training (2)
 - o Secured Equipment
 - o Training Sites (In-class and field)
- * ETA Program
 - o Personnel for training (2)
 - o Supportive Services (personal protective equipment (PPE) including hard hats, boots, etc.)
- * EPA Program
 - o Technical assistance and oversight for hazardous materials abatement and disposal
- * Community Development
 - o Project planning and management



The Tribes' Department of Housing became involved and sent one (1) staff to attend the 4-day course. The Heavy Equipment Operators Course for Bulldozer was held September 18-21, 2017 at the Economic Development Program Conference Room with actual hands-on training being held at a nearby site on the Concho campus. Participants gained entry level skills for the operation of a dozer with curriculum in safety, pre- and post- inspection of equipment, preventative maintenance slot dozing and excavating techniques, ditch cleanout, building and dressing stockpiles, backfilling and grading excavations, leveling and grading a site, and loading/unloading equipment from a trailer. Upon completion of the 32-hour course, participants received a Heavy Equipment Operator's Certification.



Cheyenne & Arapaho Open Dump Clean Up Plan

Submitted by Damon Dunbar

The Cheyenne Arapaho EPA Program has accessed several sites that are considered illegal open dumps and plan to clean up Tribal lands in need through a partnership with the Economic Development Program through the use of personnel that obtained the Heavy Equipment Operators Certification using the Tribal Transportation Program's equipment. The EPA and Community Development Programs would like to thank OSU Tribal Technical Assistance Program (TTAP) for their contribution in covering each participant's registration costs for the course and the University of Texas-Arlington (UTA)'s Division for Enterprise Development Public Works Institute for Mr. Cow's expertise in instruction. Staff would like to also thank the Economic Development, Employment Training Administration, Tribal Transportation, and Department of Housing for their contributions.



From L-R: Patrick Bent, Brad Blackcrow, Anthony Pawnee, Patrick Sharp, Gayther Pratt, Instructor Mr. Clow of University of Texas-Arlington (UTA)

Amazing Recycling Facts

- Each of us generates on average 4.4 pounds of waste per day per person.
- Recycling and composting recovered 24 percent of our municipal solid waste in 1994. That's around 49 million tons!
- Recycling all of your home's waste newsprint, cardboard, glass, and metal can reduce carbon dioxide emissions by 850 pounds a year.
- Recycling an aluminum can saves enough energy to run a television set for three hours.
- It is estimated that 150 million computers will be discarded in the United States alone, enough to fill a hole one acre in area and 3.5 miles deep.
- Every Sunday, the United States wastes nearly 90% of the recyclable newspapers. This wastes about 500,000 trees.
- Every year, Americans throw out 24 million tons of grass clippings, leaves, and other yard waste.
- Each year, Americans throw away 1.6 million pens, 2 million razors and blades, and 200 million tires.
- One tree can filter up to 60 pounds of pollutants from the air each year.
- Only one percent of the world's water supply is usable. 97 percent is contained in the oceans or seas and 2 percent is found frozen in the polar caps.
- It is possible to drink water that was present during the time of the dinosaurs.
- 40% of our municipal garbage is made up of kitchen and garden waste.



<https://www.recycleok.org/resources-tips/amazing-recycling-facts/>

EMERALD ASH BORER

Do you have an ash tree? Learn more about the pest traveling our nation and what you can do to treat your trees by visiting www.upwithtrees.org





Mason Bees

Mason bees are called Mason bees because in a sense, they do masonry work. The bees do not build wax comb as in the honey bee colony. Instead, the females look for small (8mm) tube-shaped holes around the size of a pencil. They create sections within the tube, first collecting pollen and placing it in the tube, then they lay an egg, then they section this off with mud. Then they fill the next section with pollen, lay an egg and more mud. The pollen, egg, mud pattern is repeated until the tube is filled (about 5-6 eggs).

Mason bees are a solitary bee. Unlike the social honey bee that relies on a complicated relationship within the colony with each bee having specific jobs etc. The mason bee works alone. Each female is her own queen and worker. She mates with a male, lays her eggs and dies about 10 weeks later. There are 130 species of mason bees throughout North America.

Mason bees are some of the first bees to emerge in the spring. They can tolerate temperatures down to 55 degrees. For much of North America, this means that Mason bees will be active beginning in late February to early April.

A female will lay around 15- 20 eggs in her lifetime. The female's whole life span is 6 weeks. The male, meanwhile, only sticks around for 2 weeks. You can tell the male because they have a white nose. By August of each year, the next generation of mason bees are fully grown, but hibernate through the winter.

Mason bees do not make honey. They eat pollen and nectar throughout their lives as they forage. There is no need to create stores of food as the adult bees die before the weather gets cold and the species overwinter as pupae. The pupae will emerge when the weather warms in the spring.



Mason bees are excellent pollinators. For pollination to occur, orchards need less Mason bees per acre than they would honey bees. Mason bees have a 95% pollination rate, where honeybees have a 5% pollination rate.



Mason bees make their nests about 300 feet from the best selection of flowers, where Honeybees forage much further, up to two miles. This shorter range of forage gives the beekeeper more control as to where pollination occurs. You can set up a Mason beehive near the trees/plants you wish to be pollinated and should have great success.

Mason bees are a solitary species and are non-aggressive. They are a friend to gardeners and farmers, and may be used alongside honey bees for pollinating crops.

<https://www.keepingbackyardbees.com/5-amazing-facts-about-mason-bees/>



ITEC on the Web

Check out the ITEC webpage for information on upcoming events, training and newsletters.

Please visit us at:

www.itecmembers.org



There's a new Senior Director in town.

The Cherokee Nation Environmental Programs (CNEP) is delighted to announce that Wayne Isaacs has been promoted to the position of Senior Director of Environmental Programs. Wayne has been with the Cherokee Nation for the past nineteen years working most recently with the National Environmental Policy Act (NEPA) Compliance Program. He began his career with CNEP, working in the Superfund Program. It was during this time that CNEP developed its Brownfield Tribal Response Program in which Wayne was instrumental in developing. He was also responsible for developing the first tribal Illicit Methamphetamine Contamination Assessment Program. He has worked on projects involving the Bureau of Indian Affairs, HUD's Southern Plains Office of Native American Programs, DOE's Tribal Energy Program, Indian Health Services, USDA's Rural Development Program, U.S. Fish & Wildlife Service, Federal Highway Administration, and the Environmental Protection Agency.

In his new role Wayne is looking forward to working with the ITEC member tribes as they advance toward improving and sustaining the quality of the environment for this generation and those to come.

Wayne can be reached at: Office 918 453-5359, Cell 918 822-2794, or wayne-isaacs@cherokee.org

Geothermal Energy



Geothermal energy is derived from the natural heat of the earth. It exists in both high enthalpy (volcanoes, geysers) and low enthalpy forms (heat stored in rocks in the Earth's crust). Nearly all heating and cooling applications utilize low enthalpy heat, called ground source heat. Geothermal energy has two primary applications: heating/cooling and electricity generation.

Ground source heat pumps for heating and cooling use 30-60% less energy than traditional heating and cooling systems and could potentially reduce U.S. residential energy use by 3 Quadrillion Btu (~3 % of total U.S. energy use). The U.S. has tapped less than 0.6% of geothermal electricity resources; the majority can become available with Enhanced Geothermal System technology.

There are presently 3,567 MW of geothermal power plants in operation in the United States—the most of any country—and 1,270 MW of projects are in development. Electricity generated from geothermal power plants is projected to increase from 16.7 billion kWh in 2015 to 69.6 billion kWh in 2040. California, Nevada, Utah, Alaska, and Hawaii are the states with the most installed geothermal energy capacity. The U.S., the Philippines, Indonesia, Mexico, New Zealand, Italy, Iceland, and Turkey have 84% of the world's total geothermal electricity generating capacity.



<http://css.umich.edu/factsheets/geothermal-energy-factsheet>



TRAINING

Upcoming ITEC Trainings:

8 Hour HAZWOPER Refresher Training in Oklahoma - May - This training will focus on Medical Monitoring, Chemical Safety, Spill Control, Emergency Procedures, Office Safety, Personal Protective Equipment and Decontamination

8 Hour HAZWOPER Refresher Training in New Mexico - June - This training will focus on Medical Monitoring, Chemical Safety, Spill Control, Emergency Procedures, Office Safety, Personal Protective Equipment and Decontamination

Environmental Sampling Methods - date to be determined - This training will focus on Methods of Sample Collection, Methods of Sample Analysis, Field Sampling, Data Quality Requirements and Analyses of Sample Data.

Phase I Assessments - date to be determined - This training focuses on the Principles of an Environmental Site Assessment, Records Review, and Preparing for Site Reconnaissance.

More information about these trainings will be sent out at a later date.



For more information about ITEC trainings contact:

Karen Dye

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UPCOMING EVENTS

DATE	EVENT	CONTACT INFORMATION
April 11-13, 2018	21st Annual Tribal Environmental Summit, Dallas, TX	http://itec.cherokee.org/Home/Tribal-Environmental-Summit
May 14-17, 2018	2018 National Tribal Forum on Air Quality, Duluth, MN	http://www.nau.edu/ntfaq
July 23-24, 2018	AWRC Annual Water Research Conference, Fayetteville, AR	https://arkansas-water-center.uark.edu/annual-conferences.php
August 13-16, 2018	2018 Tribal Lands & Environment Forum, Spokane, WA	https://www7.nau.edu/itep/main/Conferences/confr_tlef

Save the date!

**21ST ANNUAL
TRIBAL
ENVIRONMENTAL
SUMMIT**

April 11-13, 2018

*Westin Dallas Park Central Hotel
Dallas, TX*



ITEC NEWS

“The Official Newsletter of the Inter-Tribal Environmental Council”

The Cherokee Nation Environmental Program (CNEP) publishes ITEC News each quarter. The mission statement is to protect the health of Native Americans, their natural resources, and their environment as it relates to air, land and water. To accomplish this mission, ITEC provides technical support, environmental services, and assistance in developing Tribal environmental programs to the member Tribes.

The viewpoints contained in this newsletter are not necessarily those of the USEPA or the CNEP/ITEC. Free and open discussion of all environmentally related issues is strongly encouraged. We also encourage submission of letters, comments, and articles from readers so as to promote a greater awareness among our people about environmental issues and to foster the free exchange of information, technology, and culturally relevant values of Tribal people.

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The *ITEC NEWS* gladly accepts and encourages your Tribal environmental information for upcoming issues and events. If you wish to contribute any articles in the next issue or for questions about this newsletter, please call 1-800-259-5376 to contact Karen Dye (Karen-dye@cherokee.org).

