



PBPN Water Program's 2016 NEWSLETTER:

Clean Water Act-Section 106, Clean Water Act– Section 319 & Wetlands

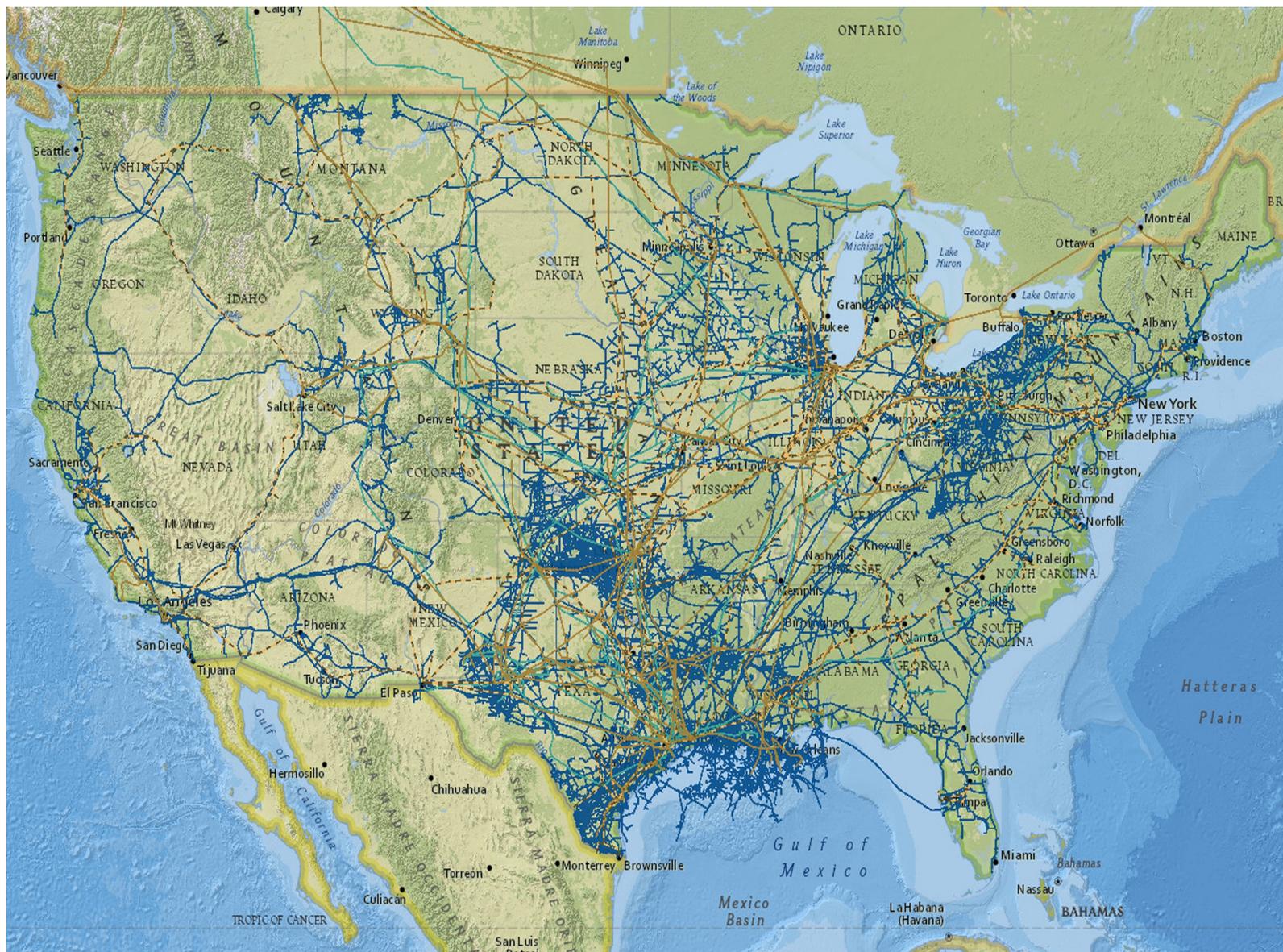
Water Quality Lab: V. Potts



The PBPN's Water Quality Lab is now set up and running samples for ambient surface water. The primary parameters analyzed are Total Coliforms and *Escherichia coli*. Now you may question, why test for bacteria? Many fecal-oral pathogens that are harmful to public health in the world are waterborne. 88% of diarrhea cases are due to unsafe water or inadequate hygiene & result in 1.5 million deaths, mostly children.

An indicator organism provides evidence of the presence or absence of pathogenic organisms that can survive under similar physical, chemical, and nutrient conditions. It is important to note – an indicator is not necessarily a pathogen. Although some strains of *E. coli* are pathogenic, the reason *E. coli* and Enterococci are used is because they have been shown to be indicative of recent fecal contamination. –2013 Baltimore County, MD For instance, humans utilize a particular strain of *E. coli* and the presence of this bacteria within our intestines is necessary for normal development & health. *E. coli* synthesizes vitamins (K & B-complex) which are absorbed by the body. However, this particular strain, *E. coli* O157:H7, is found in the gut of deer and cattle and does not cause illness to them. But this strain, *E. coli* O157:H7, is harmful if ingested by humans and resulting in diarrhea, cramping, vomiting and sometimes even death.

The PBPN Water Quality Lab will also be building staff development in the area of identifying harmful algal blooms. Harmful algal blooms produce biological poisons (biotoxins) that can cause illness or death in humans, pets, livestock & fish. Cyanobacteria produce cyanotoxins during the process of cellular lysis.



- Crude Oil Pipeline (z)
- Petroleum Product Pipeline (z)
- HGL Pipeline (z)
- Natural Gas Inter/Intrastate Pipeline (z)



Energy Infrastructure in US— v. Potts

Energy that is produced by oil, natural gas, hydrocarbon gas has revolutionized humanity and forever changed the landscape of our planet. The Second Industrial Revolution provided people with kerosene for lamps and heaters during the 1850's. One upside to this newfound process is that it helped to save the whale population from ultimate demise due to people's dependency upon whale oil. Upon refining the oil, an unwanted byproduct was produced: Gasoline. Once automobiles were mass produced after 1914, this transformed the land and gave people the means to travel, explore, & opened up new economic avenues. Oil and natural gas have become interwoven in almost all aspects of current living conditions of most Americans.

People get most of their energy from nonrenewable energy sources, which include fossil fuels (oil, natural gas, and coal). **Nonrenewable energy sources accounted for 90% of all energy used in the nation.**— source Energy Information Administration

Energy Infrastructure in US cont.

We utilize this energy every day: driving to work, researching on computers, cell phones, cooling and warming homes, etc. Being a consumer/polluter of our landscape, it becomes necessary to understand, contemplate, consider ramifications of our actions related to our relationship to oil and natural gas. By identifying potential problems from the start, this can help to mitigate future tribulations that may develop. This is why it is important to participate in public hearings or submit comments to appropriate Federal and State Agencies. By taking a proactive approach at the beginning of the process, helps to ensure quality plans are developed. And infrastructure is regulated and monitored in accordance to all Federal and State laws.

For instance, Governing the safety standards, procedures, and actual development and expansion of any pipeline system is the job of the **U.S. Department of Transportation's Office of Pipeline Safety (OPS)**. A pipeline may not begin operations until a line, or line segment, has been certified safe by the OPS. The OPS retains jurisdiction for safety over the lifetime of the pipeline. Visit www.eia.gov for energy data, maps, and information.

We can ask ourselves this: our ancestors lived without electricity, automobiles, cell phones, computers (which all rely upon a source of energy) but can we? Probably not, so we need to be vigilant in being the best stewards of our land, air & water for current and our future children.

PBPN- PEP Dept. receives BIA grant!- v. Potts

The PEP Water Program-CWA-106 applied for a BIA Water Management grant last year and recently were notified that we will be receiving a \$40K grant.

Funding will be used to contract USGS to compile, analyze, interpret current and historical Big Soldier stream flow data. USGS will also provide a match of \$20K

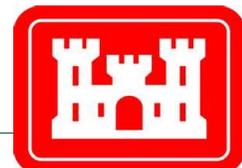
for this study. The final published report will be out by the end of 2017. This report will be used for effective management of tribal water resources.

US Army Corps of Engineers supports PBPN watershed- \$100K-v. Potts

In 2105, the PBPN-PEP Dept. was selected by the Corps to collaborate and participate in a Section 203 Preliminary Watershed Study valued at \$100K. Virgo was contracted to compile and report all existing environmental data. This report has been completed and we

will be moving into Phase I of the Feasibility Study. This effort has brought together multiple watershed stakeholders to the table. And one outcome of this study will be a long term integrated watershed planning document. This will be a valuable step toward ac-

tively and strategically planning for droughts, floods and water supply. We will keep you posted of our activities and progress.





You may wonder why the PEP Water Program is writing about energy; the rationale is that our energy sector relies heavily on water to develop and maintain operations. For instance, the Bakken Shale formation within the Fort Berthold Reservation provided substantial revenues to the Mandan, Hidatsa, & Arikara Nation. But this came at a very high cost to their reservation. They saw an increase in population, man camps, traffic, pollution, murder, violence to their children/women, and tribal government corruption. “I have no problem with the government making profit for the people, but when they make a profit for themselves and not the people, that’s another story, you know?” Ms. Hudson, MHA tribal elder and historian, said.

The MHA Nation utilized a process known as horizontal hydraulic fracturing. Horizontal hydraulic fracturing is a process of breaking shale formation to access the oil/gas and this process can use 1-8 million gallons of fresh water per well. Once a well is developed, there are byproducts such as fracking socks (which contain radioactive minerals) and produced/brine water. This produced /brine water also contains proprietary chemicals that are injected into the shale formation during development. Proprietary chemicals are not disclosed to the public per Federal law, and therefore are not monitored. Because how can one monitor for something in the water that one can’t determine what method to use to analyze for that particular chemical? EPA has listed some chemicals, used in the fracking process, to be carcinogenic to humans. The produced water is sometimes placed into a surface pit to evaporate or reinjected into the ground via a Class II injection well.

February 11, 2015, Holton Recorder, Volume 148, Issue 12, Public Notice for Stroke of Luck Energy’s application for a permit to authorize the disposal of saltwater into the Hunton formation. The PBPN-PEP Dept. did notify the public that the Kansas Corporate Commission was taking public comment and advised people to voice their concerns. There were 4 letters protesting this Class II injection well, one of those letters came from the PBPN-PEP Department. It should be noted that this Class II injection well is approximately 1 mile northwest of the PBPN boundary. And this site has a history of oil spillage into Big Soldier. The serious nature of ground water contamination does not go unnoticed. The Wind River Reservation’s ground water was tested by USGS and confirmed that it contained contaminants associated with fracking during 2013. It is important to stay informed and voice concerns.

PBPN– PEP Dept. CWA-319 Program news:

Ma’Ko’Quah, Environmental/GIS Technician, has been with the PEP Dept. for about 8 months and has already written a climate awareness grant through BIA. She just recently received good news that her proposal was approved and will be doing many wonderful education/outreach projects for the 2017 year. She also is working closely with multiple tribes and universities engaging climate adaptation and awareness networking. Ma’Ko’Quah has been actively developing her professional skills in areas of GIS mapping, Environmental Policy/Law, and understanding of the complexities of the Clean Water Act-Section 319, Tribal Non-Point Source Pollution Program. The PEP Dept. looks forward to her continued success and contributions to the Nation!! **GREAT JOB MA’KO’QUAH!!!!**



ENERGY SECTOR ON OR NEAR THE MISSOURI RIVER:



NAME	CITY	STATE	POWER PLANTS
Cooper Nuclear	Brownville	NE	NUCLEAR
Fort Calhoun	Blair	NE	NUCLEAR
Gavins Point	Yankton	NE	HYDROELECTRIC
Fort Randal	Pickstown	SD	HYDROELECTRIC
Big Bend Dam	Chamberlain	SD	HYDROELECTRIC
Oahe	Pierre	SD	HYDROELECTRIC
George Neal North	Seargent Bluff	IA	COAL
North Omaha	Omaha	NE	COAL
RM Heskett	Mandan	ND	COAL
Walter Scott Jr. Energy	Council Bluffs	IA	COAL
Nebraska City	Nebraska City	NE	COAL
Iatan	Weston	MO	COAL
Quindaro	Kansas City	KS	COAL
Chamois	Chamois	MO	COAL
Labadie	Labadi	MO	COAL
Lake Road	St. Joseph	MO	NATURAL GAS
Sarpy County	Bellevue, NE	NE	NATURAL GAS
Yankton	Yankton	SD	NATURAL GAS
Kaw	Kansas City	KS	NATURAL GAS
Blue Valley	Independence	MO	NATURAL GAS
Jones Street	Omaha	NE	PETROLEUM
Northeast (MO)	Kansas City	MO	PETROLEUM
Jackson Square	Independence	MO	PETROLEUM
Ft. Pierre	Ft. Pierre	SD	PETROLEUM
NAME	CITY	STATE	REFINERY
Tesoro West Coast	Mandan	SD	PETROLEUM
Calumet Montana Refining	Great Falls	MT	PETROLEUM

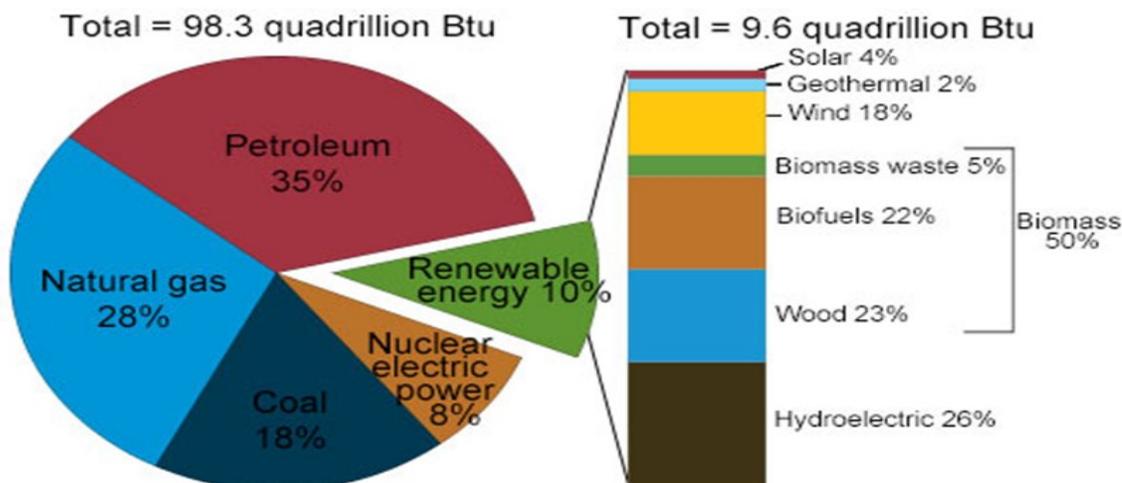
DID YOU KNOW?

A Petroleum Product Pipeline lies underneath **Perry Reservoir** and crosses the **Kaw river** between Topeka & Lawrence?

Visit www.eia.gov and go to mapping to view Kansas energy infrastructure.



U.S. energy consumption by energy source, 2014



Note: Sum of components may not equal 100% as a result of independent rounding.

Source: U.S. Energy Information Administration, *Monthly Energy Review*, Table 1.3 and 10.1 (March 2015), preliminary data





Prairie Band Potawatomi Nation— PEP Dept.
15434 K Road
Mayetta, Ks 66509

Phone: 5785-966-2946
Fax: 785-966-2947

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DAKOTA ACCESS PIPELINE

Posted 5/3/2016- USAEC Release no. 20160503-001-(visit USACE for entire posting)

On Dec. 9, the Omaha District released a draft environmental assessment and a notice requesting public comments for the two Missouri River crossing locations in North Dakota. The EA is being completed in support of the Section 408 permission that was requested. The period to receive public comments closed Jan. 8.

The District must review and consider comments received during the public comment period. “Considering comments means checking whether the concern has been addressed or changes are needed to the EA,” said Larry Janis, Chief of Recreation and Natural Resources for the Omaha District. “This process can take time to complete.”

Tribal consultation is conducted government-to-government in accordance with federal trust responsibilities. Representatives from Omaha District, including District Commander, Col. John Henderson, have met with several Tribal leaders in South Dakota and North Dakota, including representatives from the Standing Rock Sioux Tribe on April 29. “The U.S. Army Corps of Engineers is not an opponent or a proponent of the project,” said Henderson. “Our job is to consider impacts to the public and the environment as well as follow all applicable laws, regulations, and policies associated with this permission and permit review process.

ADDITIONAL INFORMATION PROVIDED BY USACE:

Public Comments for the 2 Missouri River crossings in North Dakota were solicited in December 2015 under Section 14 of the Rivers and Harbors Act of 1899, codified 33 U.S.C. Section 408 (Section 408) for consent to cross flowage easements acquired and administered by USACE at Lake Sakakawea, North Dakota and to modify the Oahe Dam/Lake Oahe project by granting easements for the DAPL project to cross federal property administered by USACE for the flood control and navigation project. The public comment period ran from December 9, 2015 to January 8, 2016.

The project crosses federal flowage easements at the Missouri River upstream of Lake Sakakawea in Williams Co. and federally-owned lands at Lake Oahe in Morton and Emmons Counties. The pipeline is 24 in. in dia. and at least 36 feet below the bottom of the Missouri River where it crosses approximately 2.83 miles of USACE flowage easements at the Missouri River and is 30 in. in dia. and approximately 140-210 feet below the ground surface of federal lands and approximately 92 feet below the bottom of Lake Oahe where it crosses approximately 0.21 miles of federal lands. The pipeline system is designed to carry up to 570,000 barrels per day of U.S. light sweet crude oil (450,000 barrels per day initially).

Further details are available to the public here <http://www.nwo.usace.army.mil/Media/FactSheets/FactSheetArticleView/tabid/2034/Article/749823/frequently-asked-questions-dapl.aspx>

The Draft and Final EA are available publicly here. <http://www.nwo.usace.army.mil/Missions/Civil-Works/Planning/Project-Reports/Article/633496/dakota-access-pipeline-environmental-assessment/>