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Environmental Department

EPA Indian General Assistance Program (GAP)

Assistance is provided under this program only for activities which the agency determines are appropriate to carry out the purposes of the Indian Environmental General Assistance Program Act. The annual Indian General Assistance Program (GAP), funded by the Environmental Protection Agency, awarded the Peoria Tribe for the 2016-2017 Fiscal Year. The primary purpose of these assistance agreements is to support the developmental elements of a core environmental program.

2016-2017 Work Plan Deliverables Completed

Project Period: October 1, 2016 - September 30, 2017

- ❖ Compiled and submitted annual report to EPA.
- ❖ Prepared and applied for 10 different grants.
- ❖ Of the 10 grants applied for, we were awarded 9.
- ❖ Performed an inventory of Environmental equipment.
- ❖ Maintained current and complete Quality Assurance / Quality Management Program documentation.
- ❖ Managed cost accounts for all grants.
- ❖ Attended numerous training sessions in the Environmental field.
- ❖ Participated in Regional Tribal Operations Committee meetings (RTOC) and the EPA Region 6 Tribal Summit.
- ❖ Attended National and Regional meetings.
- ❖ Attended Tar Creek Conference and planning meetings.
- ❖ Establish Core Information Management Practices in compliance with 40 CFR Part 31.
- ❖ Attended Natural Resource Conservation Service (NRCS) meetings/ Ottawa County Conservation District Meetings.
- ❖ Held and/or attended Native American Tribes United to Restore the Environment (NATURE) meetings in which local Tribal Environmental Departments meet.
- ❖ Attended special meetings regarding the Tar Creek Superfund Site.



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Oklahoma EPSCoR Grant

The primary objective of this grant was to fund the fabrication of a Stream Trailer for the Peoria Tribe's Environmental Department. This grant was obtained through a collaboration with the Oklahoma State University's EPSCoR (Experimental Program to Stimulate Competitive Research) Program. The grant funded the fabrication of the trailer solely. Once awarded the grant, the OSU EPSCoR group gave the OSU Biosystems and Agricultural Engineering Lab on their campus to make the trailer for us. The Stream Trailer is a little smaller than a truck bed, and is fitted with water pumps and a simulation area to show the effects of flooding and erosion. This is a very exciting education and outreach tool for us. This trailer will enable us to conduct simulations for tribal members as well as area children and adults to teach them about stream bank erosion and the importance of streamside vegetation.

The grant funds for this award were solely for the trailer fabrication. The value of this trailer for us is that it will allow us to reach more tribal and community members for education and outreach purposes as well as using the trailer as leverage for funding in outreach and education in other grants.

EPA Clean Water Act Section 106 Water Monitoring Program

The primary objective of this program is to establish a water program for the Peoria Tribe Environmental Department. This grant enables the Environmental Department to perform water quality analysis of streams in Ottawa County and report the analysis to the EPA. The Clean Water Act Section 106 grant, funded by the Environmental Protection Agency, awarded the Peoria Tribe for the 2016-2017 Fiscal Year.

2016-2017 Work Plan Deliverables Completed-

Project Period: October 1, 2016- September 30, 2017

- ❖ Submitted a new CWA 106 grant for fiscal year 2017-2018
- ❖ Submitted quarterly reports to EPA that reflect the activities undertaken by the Tribe.
- ❖ Completed training opportunities to develop tribal capacity.
- ❖ Continued monitoring surface waters on the Spring River, Tar Creek, and Neosho River.
- ❖ Conducted Bio-Assessments on Neosho and Spring Rivers.



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- ❖ Compare and reconcile water quality data obtained with the data Quality objectives identified in the QAPP.
- ❖ Continue the development of a Tribal clean water program.
- ❖ Completed 100 pore water samples on Spring River gravel bars in order to monitor heavy metal content.
- ❖ Collaborate with 6 other area Tribes on the Tar Creek Heavy Metals Initiative. This project will be a several years study. Each tribe will be taking extra samples in their jurisdictions with added parameters each quarter. This will give the Tribes, EPA, and Superfund workgroups the data necessary to further clean up decisions on our local superfund issues.
- ❖ Conducted education and outreach activities. We took our stream trailer to several events to teach area children about water quality, erosion and why it is important to protect our natural resources.

EPA Clean Water Act 319 Base Program

Non-Point Source Pollution Program

Many NPS pollution categories impair Tribal water quality. However, in the Tribe's NPS Assessment, three have been identified as priority categories; agricultural, resource extraction, and land disposal. The specific sources of NPS pollution are described fully in the NPS Assessment document.

2017 Work Plan Deliverables Completed

Project Period: October 1, 2016 - September 30, 2017

- ❖ Plant trees and vegetation on tribal lands including at the fish hatchery and on the east side of the cemetery.
- ❖ Constructed a wetland/flood control area located at the Peoria Ridge Golf Course. Placed riprap where needed and plant grasses and trees. Increased the wetland/flood control construction area, which will allow for better control of higher volume floods. Also, with this wetland we are able to prevent erosion and sedimentation.
- ❖ Educated of the public on their role in helping to decrease agricultural NPS pollution.
- ❖ Continued the monitoring of water sources for changes in water quality as part of the 106 Water Grant.



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2018 Anticipated Activities

- ❖ The Peoria Tribe will modify and construct a wetland/flood control area located at the Peoria Ridge Golf Course. We will place riprap where needed and plant grasses (Trees if necessary). The Tribe plans to increase the wetland/flood control construction area, which will allow for better control of higher volume floods. This funding will not only allow us to increase our wetland/flood control area, but it will also allow us the ability to place the appropriate amounts of erosion control to prevent erosion and sedimentation.

EPA Clean Air Act 105 Program

The Peoria Tribes Environmental Department has been awarded a 105 Air Grant from the U.S. EPA. With this program, we will establish and administer an air pollution program. Tribal staff will attend training and participate in local, Regional, and National organizations to build the capacity necessary to determine and address Tribal air quality issues impacting the community. Additionally, we will also review air permits and conduct community outreach.

I, Lacie Hickey, am your new Environmental Specialist. I am eager to learn everything I can about Air Quality. I have already completed several webinars, enrolled in ITEP online courses, and started the courses for my American Grant Writers Certification. I will be attending many trainings in the next several months to obtain the knowledge and skills needed to carry out a productive and successful Air Grant. My knowledge obtained by these trainings and hands on work will allow me to review and act on Air issues that may affect our people and our environment.

Invasive Species Report

The Invasive Species project is focused strictly on the Asian (Bighead carp). The funding was provided by the Bureau of Indian Affairs. This grant is ongoing and was awarded in FY15. Our main goals of this project are to Hire a contractor to help us and oversee the work we are doing, purchase telemetry equipment, provide quality outreach information to the public, and to perform a large-scale eradication effort.



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- ❖ One of the first things we started to work on for this project was hiring a contractor. We advertised and got an application from Dr. Dennis Scarnecchia and was the only applicant. He was hired and has been greatly helping us with this project.
- ❖ A meeting was set with our new contractor and lists, ideas and thoughts were thrown around to develop some great ideas. We put together a plan and started knocking down grant deliverables.
- ❖ Purchasing telemetry equipment to perform our study on the Asian (Bighead) carp was the next focus. We wanted to be sure we had everything we needed in-hand to start our survey as soon as a fish was reported to us. Passive and Active tracking systems were purchased along with Ultrasonic tags, receivers, hydrophones and a computer to process all the data. Due to lack of help with local anglers and the numbers of fish captured being low, we have not had a fish reported to us yet.
- ❖ The next grant deliverable we worked to complete was developing and making signs and I.D. cards for outreach to the anglers. Hopefully with the signs posted and the cards handed out we can inform and educate anglers on the project we are performing and the help we are asking for from them. Once fish have been captured they would be brought back to our facility where we would perform surgery and tag the fish. Once tagged, the fish would be released back into the waters to start tracking which is where we would be able to execute our third deliverable in the grant. In hopes that the tagged fish would lead us to a larger school of fish, a large-scale eradication effort would be performed on those fish.

2018 Anticipated Activities

- ❖ The Peoria Tribe was successful in obtaining a new Invasive Species grant; this grant is on reducing feral hog populations on Tribal Lands/Jurisdiction and Ottawa County, and as the grant progresses the surrounding counties.

Completed activities this year

- ❖ Talked to landowners about putting traps for feral hogs on private land. This will allow us to target specific areas where hogs are known to reside. Which will also increase the effectiveness of this grant
- ❖ Purchased drone to survey areas and to check traps remotely. This will increase the efficiency of the person checking the traps at the same time, reducing the amount of foot traffic in the trap area. Since hogs are highly sensitive to human smells, being very keen about avoiding humans, this will increase the capture rate of hogs.



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- ❖ Purchased boar buster traps. These are traps that can be set off remotely through an app on a smart phone. These types of traps are highly effective in capturing hogs, because it allows for hogs to become accustomed to the trap being there; therefore, capturing multiple hogs at one time. The app alerts the user of movement in the trap. Allowing the user to choose to either set the trap or wait until multiple hogs are in the trap before deploying.

Anticipated activities this year

- ❖ Continue to contact local landowners about hogs and possible placement of traps on their land.
- ❖ Purchase more traps as necessary, to increase the foot print of the grant.
- ❖ Contact locals who wish to have wild hogs processed for food.
- ❖ Outreach to local community on education about wild hogs.

Fish Hatchery Maintenance

This grant was awarded under the Bureau of Indian Affairs. This funding is focused on maintenance and upgrading equipment for the fish hatchery. The most recent focus was to upgrade our fish hatchery by purchasing an excavator and a dump truck, a fish hauling trailer, lawn mower and weed eaters.

Completed activities this year

- ❖ We have purchased an excavator and dump truck.
- ❖ We are in the process of purchasing the haul trailer.
- ❖ We have purchased a lawn mower and weed eaters.

Endangered Species

The Endangered Species funding is primarily focused on Neosho Mucket mussel and the Rabbitsfoot mussel. However, with this funding and our equipment, we are more than capable of propagating and raising various other freshwater mussel species. This will help with the restoration of lost species around our area due to loss of habitat. This grant was awarded under the Bureau of Indian Affairs. The goals of this grant are to purchase necessary equipment that aid in the propagation of freshwater mussels, and to acquire training from Dr. Chris Barnhart from Missouri State University. Dr. Barnhart is a world-renowned expert in freshwater



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mussels. The grant will also allow a graduate student who works under Dr. Barnhart to help with the project. The project timeline for this grant is one year.

Completed activities this year

- ❖ Purchased two, 7-shelf Aquatic Habitat units (AHAB), which has allowed us to increase our potential production of freshwater mussels. We were working off a table top unit with just 30 tanks, and two 7-shelf AHAB units, with a total of 140 tanks. These two new AHAB units increase our catch of newly transformed juvenile mussels and provide for a cleaner/efficient catch. These two new systems will allow us to almost double our production of freshwater mussels. We also purchased a laser engraver. This engraver has been used to permanently mark the mussels with a distinguishing mark so that they may be identified at a later date. A Beckman-Coulter Multisizer has been purchased; which will allow us to test our water that the mussels are in to insure there is an adequate amount of food for the mussels to consume. This is very important because the mussels can only consume a certain size of food particle that is free flowing in the water. This piece of equipment can be used for other applications around the hatchery and can be used to test other facilities water; which would bring in an income for the hatchery. A Percival incubator cooler has also been purchased to help with mussel production. This cooler will allow us to false winter some of the mussel species that are to be propagated at the hatchery. By false wintering these species we are making them hold their glochidia, baby mussel embryos, for over an extended period of time. This will allow us to use the glochidia when we are ready, not when the female mussel normally releases the glochidia.
- ❖ The mussel dock that was constructed to increase our grow out, underwent an upgrade this year. The dock was upgraded from a cement tile floor to a wooden plank floor to decrease the amount of weight that the dock floats had to carry. The floats under the dock were also upgraded in which the entire dock was fitted with solid flotation. This new flotation gave the dock a substantial amount of more carrying capacity, in weight, on the dock. This is vital since we have increased our production of mussels and will need more space in the dock for grow out of these juvenile mussels. This dock uses the reservoir that it sits on the to feed our mussels. We pump water from the pond up through holding tanks, in which the mussels are kept then the water returns to the pond. What this does, is allows us to feed our mussels natural food out of this pond instead of artificial food. Several scientific studies have shown that once the juveniles reach 0.75mm that they grow



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exponentially faster under a more natural food regime than being on a prepared diet.

- ❖ We are continuously receiving education from Missouri State Staff on the growing/propagation of mussels. On average, a graduate student will visit us at least 3 times a month to keep us running on the right path and aid us in the propagation of mussels. Their primary goal is to help us build tribal capacity to become self-sufficient and sustainable in producing, growing and reintroduction of mussels back in to the ecosystem.
- ❖ This year we have also propagated Plain Pocketbook mussel, Fatmucket, the federally endangered Neosho mucket, and the federally threatened Rabbitsfoot mussel as our species of interest. We have propagated the Plain Pocketbook and Fatmucket mussels for testing by agencies, such as The United States Fish and Wildlife Services (USFWS). The United States Fish and Wildlife Service (USFWS) have bought several hundred of our juvenile mussels for toxicity testing in rivers that they are monitoring for certain chemicals. We propagated the Neosho mucket and did experiments with the juveniles to determine how successfully they will grow in our dock system. We also propagated the Rabbitsfoot mussel for the USFWS and the Kansas Department of Natural Resources in conjunction with Missouri State University for a reintroduction project in the state of Kansas. The survival rate of these species under the conditions that we have them is in the 15-20%, compared to less than 1% in the wild.

Anticipated activities for the upcoming year

- ❖ An anticipated goal this year, is to purchase and install backup generator for the mussel program. One of the main problems that we have at the hatchery is the power flashes, and the potential loss of a power source for an extended period of time. With this new generator system that will be installed, it will allow us to be fully functional no matter if there is a potential loss in power. A pole barn structure will be constructed as well; which will protect our equipment from the elements of weather. Having this new structure will reduce the cost of repairs/replacement of items due to them being exposed to the elements.
- ❖ Pending approval by the awarding agencies, grants have been written to build a new 40'X60' building with solar power and a backup generator system exclusively dedicated to the production of freshwater mussels. This building will house all equipment needed for mussel production. This building will also be equipped with rural water along with once through water from the nearby



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reservoir pond on which the mussel dock sits on. This building will have the capability to produce freshwater mussels in a stable/ sterile environment which should help in the cleanliness and disease reduction.

- ❖ An ongoing goal is to continue to purchase equipment that will help us in the production of freshwater mussels.
- ❖ As always, we will continue our efforts of obtaining high quality training from not only Missouri State University, but from any other entity that we deem able to help us build tribal capacity in regard to fulfilling the requirements of this grant.

BIA Tribal Youth Grant

Assistance is provided under this program only for the hiring of Native American Interns to work at the Aquatic Facility. The annual Tribal Youth Grant, funded by the Bureau of Indian Affairs was awarded to the Peoria Tribe for the 2016-2017 Fiscal Year. The Peoria Tribe's goals for this project are to provide meaningful hands-on work for Native American youth focusing on science, conservation, ecology, and resource management. The program will be designed to foster an interest and develop skills in natural resources and their management, in hopes that these interns will pursue educational opportunities in the fields of science, conservation, ecology, or resource management.

2016-2017 Work Plan Deliverables: In Process

Project Period: October 1, 2016 - September 30, 2017

The Peoria Tribe of Indians of Oklahoma Tribal Youth program has been a huge success! We have hired multiple interns since the start of the program. They have been introduced to many skill building activities since they were hired; such as brooding fish and mussels to hatching and taking care of the juveniles. The Tribal Youth Interns have also gained a wide range of other necessary skills since interning with the Peoria Tribe. From skills needed to work in the environmental field, all the way to life lessons every youth should know before going out into the world. Each youth that we have hired have come to us with different skills, knowledges', and professional skill levels. We are teaching them basic work skills as well; showing up to work on time, responsibility, how to put in a full day of work to earn a paycheck, etc. In today's society, these are skills that an unfortunately large amount of the youth are missing. They need these skills to be successful in any career, as well as life in general. We are also teaching the youth,



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whom have spent a majority of their life in the city, how the environment works, how we must take care of it if it is to sustain us in the future. We have had, two of our of interns change their career goals to the environmental field since working with us.

To the Peoria Tribe, this is a monumental grant. It has afforded us the ability to reach out to tribal youth and teach them life skills as well as educate them on the environment around us. We are cultivating a love for Mother Nature and the knowledge to protect her, as well as the push to further their education.

Environmental Department ~ Brag Section

The Peoria Tribe's Environmental Department works hard to represent the Tribe and protect the Tribe's lands as well as our environment. We work hard and put our hearts into our work. As Director of the Department, I would like to shine a light on one of our employees who has exemplified in the years of his service; hard work, dedication not only to the Tribe but the environment, and truly putting his heart into fighting for what is right. Larry Tippit has worked for the Tribe for several years, advocating on the Tribe's behalf and the behalf of the environment. I feel very fortunate for him to be a part of this team. Larry is very dedicated to protecting our lands and restoring them to their natural state before they were contaminated. Please see the following letter concerning two awards he was presented in the fall of 2017.

~ Sincerely, Erin Barnes



Dear Erin,

LEAD Agency, Inc. honored the Peoria Tribe's Environmental Department member Larry Tippit at the 19th National Environmental Tar Creek Conference with our Mike Synar Environmental Excellence Award.

Mike Synar believed that the Tar Creek problem affected both the health of the residents and the environment. He believed in the need to find solutions for each and gave hope for a better future.



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Mike Synar served for 16 years as the U. S. Representative for District 2 in Oklahoma. He understood the importance of a clean and healthy environment. He was the primary advocate in Congress for a cleaner Tar Creek. Because of his tireless efforts, we have recognized the heroes who have worked on Tar Creek by awarding the Mike Synar Environmental Excellence Award.

We are grateful for all Larry Tippit has done to speak up and act in every way possible for our environment and all who dwell in it. Larry received the award "for his tenacious spirit protecting our environment and uncanny ability to put authority to task." Each word was chosen to specifically capture the reason he was chosen to receive it.

Consequential meetings with federal or state regulators, lawyers or polluters know their every word will be scrutinized if Mr. Tippit is in the room. For everyone who loves this earth and wants each part of it protected, we need him as our voice.

Our yearly event is unique for the area and one that our organization has felt the communities affected had the right to have. This is the one time a year that the federal, state and tribal entities working on the Tar Creek Superfund site and the superfund sites in Kansas and Missouri update the public on the progress that is occurring.

Our conference showcases environmental and health issues of great interest to the public. It also allows our organization an opportunity to reflect on the past and those who have made significant sacrifices to improving our future.

We were delighted when EPA chose to also recognize Larry at the conference with a special award for his persistent efforts on wildlife trappings this past summer, the first award they have presented to anyone at this site.

LEAD Agency will continue to work tirelessly to seek long-term protection for our children, our land and water. Larry's commitment to these goals will make it easier.

Respectfully,

Rebecca Jim
Executive Director
& *Your Tar Creekkeeper*