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The Wilma P. Mankiller and Charlie Soap Water Act

Biennial Report

November 30, 2022

Table of Contents

Mankiller Soap 2022 Biennial Report

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1) Introduction –

Almost sixteen months have passed since the approval of the Wilma P. Mankiller and Charlie Soap Water Act (MSWA). Signed into law on April 14, 2021, the MSWA directed the Department of Transportation and Infrastructure to identify deficiencies negatively impacting the health, safety, and overall quality of life of Cherokee citizens, and then report these back to the Council and Principal Chief on a biennial basis. Since the acts passage, much has been done in accordance with the directives of the act. The first few months were focused on the completion of a comprehensive engineering report for the Cherry Tree Rural Water District, development of policies and procedures in order to fulfill the intentions of the act, and formulation of a strategy to comply with the on-going requirements of the act. In October 2022, the first budget of the Mankiller-Soap Water Act was implemented. Funded by the American Rescue Plan Act, this budget provided the initial resources to begin the vital tasks identified in the act.

Communications and outreach were an important part of this initial effort. Providing details of the MSWA to both the Cherokee citizenry and to public water utilities across the Cherokee reservation was critical to getting the project started on the right foot. Key partnerships were also formed with the Oklahoma Rural Water Association, the Grand Gateway Economic Development Agency, the Eastern Oklahoma Development District, and Communities Unlimited.

Chief Mankiller and community members at the groundbreaking for the Bell Waterline Project, circa 1981.

Many things have changed since the initial passage of the MSWA. The passage of the American Rescue Plan Act, the Bipartisan Infrastructure Law and the continuing effects of COVID-19 have all had major impacts on our plans and required us to quickly pivot, at times to rethink our strategy and reprioritize our limited capacities to implement the act. Yet, through it all we remain committed to the MSWA, its goals, ideals, and the high standard of its name sake.

2) Overview of the Mankiller-Soap Water Act and deliverables –

At its heart the Mankiller Soap Water Act is a massive data gathering effort in order to: *"conduct studies on barriers to Cherokee citizens within Cherokee Nation accessing adequate water systems, to develop expert recommendations and to remedy such conditions and authorize additional expenditures to act on these recommendations"*. LA 15-21 MSWA § 3

This biennial report encompasses the three primary objectives of the Mankiller Soap Water Act:

1) To conduct a census of Cherokee citizens who lack access to water systems utilizing all available forms of information and public outreach, and develop a plan of action to provide access to water to each Cherokee citizen identified in the census.
2) Identify the number of Cherokee citizens per county within the Cherokee Nation reservation, whose access is limited to well water supply and develop long-term strategies to bring rural water supply to as many such citizens as is practical
3) Identify the most infrastructure deficient public water systems within the Cherokee Nation reservation.

Each of these objectives presents unique challenges in relation to the data required, methods utilized, and resources needed to provide a truly comprehensive and accurate report. There are approximately 130 public water systems and 30 waste water systems across the nearly 4,000 square miles of the Cherokee Nation reservation. Approximately 150,000 Cherokee citizens are also continually moving in and out of the reservation, as well as moving within the reservation boundaries. In order to begin collecting data for this initial report, a difficult decision had to be made, regarding collection of as much data as possible in the limited time available to submit the report under the requirements of the act, or to deliberately collect data in a thoughtful, concise and thorough manner knowing that there would be time restraints to do this for all the public water and waste water systems. Ultimately, the latter option was chosen. It was decided that collecting thorough data would be in the best interest of the Cherokee Nation and the long-term

Chief Hoskin (Center) signing the Mankiller-Soap Water Act into law, with Deputy Chief Bryan Warner (L) and Charlie Soap (R) seated beside him. April 14, 2021.

strategies spelled out in the MSWA objectives. These system evaluations are being done in concert with the Oklahoma Rural Water Association and give views of the technical, managerial and financial capacity of each public water system as well as a thorough evaluation of the systems infrastructure. As we fine tune this approach we may find there is additional beneficial data that could be collected during this process that will help develop recommendations to Cherokee Nation Administration and Tribal Council.

Each of the three primary data gathering objectives for the MSWA are detailed in the following sections of this report.

3) Task One - Census of homes in CN Reservation with no water

The first objective of the MSWA is to: "*conduct a census of Cherokee citizens who lack access to water systems utilizing all available forms of information and public outreach, and develop a plan of action to provide access to water to each Cherokee citizen identified in the census."(MSWA LA 15-21 § 3 A)*

a) **Methodology** – This task posed significant logistical challenges to the gathering of data. A current listing of all Cherokee citizens was not available to allow for direct mailings or electronic communications informing the public of the need for the information and reason it was required. The Department of Transportation and Infrastructure worked with the Communications Department to develop an on-line survey, through the Gadugi Portal to capture information regarding the state of water and wastewater services to individual Cherokee citizen's homes. The responses to this survey were surprisingly good with over 3,100 received to date.

b) **Results of Census** - To comply with the directives of the Mankiller-Soap Water Act; *"respecting the privacy of interest of individual Cherokee citizens"* the Gadugi portal survey only captured the name and contact information of each citizen that expressly consented to be contacted and voluntarily entered their phone number and/or email address. Out of the over 3,100 survey responses, a total of 70 respondents living inside the Cherokee reservation self-reported that their homes had no water and/or wastewater facilities. Only 6 of these 70 respondents consented to be contacted and provided a phone number and/or an email address to facilitate communication. Transportation and Infrastructure staff continue to look for additional ways to share information with the other 64 respondents reporting no water and/or no sewer.

c) **Lessons Learned and Future Plans** – This was the first attempt at gathering data via the Gadugi portal. There was an assumption among Transportation and Infrastructure staff

that because the survey was completed via login to their Gadugi portal account, their basic contact information would have been automatically captured and provided to the Transportation and Infrastructure program as part of the survey results. In future reporting years the approach to gather this data via the portal will need to re-examined. It may be beneficial give citizens the option to exclude their contact information rather than asking if they wish to opt-in. Regardless, the act's requirement to respect the privacy of Cherokee citizens must be followed. Transportation and Infrastructure staff will also work with Cherokee Nation Communications to formulate a more comprehensive strategy to help gather data needed to comply with this task.

4) Task Two - Homes in CN reservation without access to Public Water Supplies

The second task under the requirements of the Mankiller-Soap Water Act is to*:"Identify the number of Cherokee citizens, per county within the Cherokee Nation reservation, whose access to water is limited to a well water supply and develop long-term strategies to bring rural water supply to as many such citizens as is practical." (MSWA LA 15-21 § 3 A)*

a) **Methodology** - In order to provide an accurate and comprehensive report for this task, two datasets are needed. First, a comprehensive GIS dataset for Cherokee homes is needed to establish the geographic locations of each home. Second, a comprehensive GIS dataset for public water systems across the Cherokee Nation reservation is needed to establish which homes lie outside the service areas of those water systems.
b) **Datasets** – The Oklahoma Water Resources Board (OWRB 2012) developed a state-wide GIS data set for public water systems (PWS). This is the only publicly available PWS data and it has many errors, omissions and inconsistencies. As part of the data gathering efforts of the MSWA the Department of Transportation and Infrastructure is prioritizing the collection of current, accurate PWS GIS data. To date twenty-nine PWS's have submitted their GIS data to Cherokee Nation as part of this effort. Cherokee Nation has also partnered with Grand Gateway EDA, Eastern Oklahoma Development District and Communities Unlimited to assist with this data gathering effort. The first task orders have been issued for these agencies to begin collecting field data for six public water systems scattered across the Cherokee Nation. This data collection effort is being coordinated by the Cherokee Nation GeoData Center to ensure that the data is consistent, accurate and secure.

   Home locations were obtained from the Indian Health Services wSTARS dataset. This dataset was developed several years ago from data exported from the IHS RPMS data system prior to the transition to the newer Cerner system. This data has been supplemented by data extracted from Cherokee Nation Tag Office registrations. Although there are many shortcomings in this data set, it is the only tribal home data available to the

Transportation and Infrastructure program that contains individual latitude and longitude data needed for this analysis.

c) **Analysis** – ArcGIS Pro software was utilized to examine the above GIS datasets and determine which homes lie outside of the public water system service areas. The results are as follows:

Table 4.1 Homes outside PWS Boundaries by county

County	Number of Homes	% of Total
ADAIR	791	10.25%
CHEROKEE	2013	26.08%
CRAIG	157	2.03%
DELAWARE	2380	30.84%
MAYES	703	9.11%
MCINTOSH	6	0.08%
MUSKOGEE	495	6.41%
NOWATA	36	0.47%
OTTAWA	375	4.86%
ROGERS	103	1.33%
SEQUOYAH	148	1.92%
TULSA	237	3.07%
WAGONER	39	0.51%
WASHINGTON	235	3.04%
Total	7718	100.00%

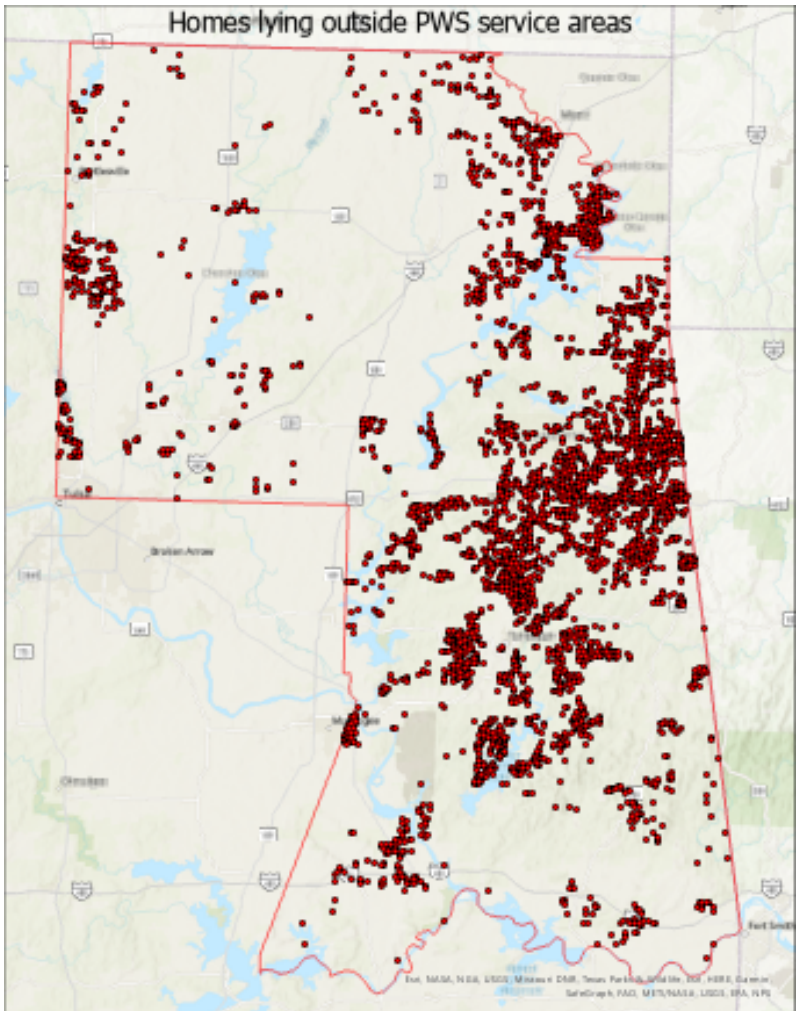


Figure 4.1 Homes lying outside the service areas of OWRB PWS Boundaries

d) **Future project identification and development -** The second requirement of task 2 is to: *"develop long-term strategies to bring rural water supply to as many such citizens as is practical"*. In order to accomplish this task, the Department of Transportation and Infrastructure will continue to gather GIS data for all public water systems across the Cherokee reservation to develop a truly comprehensive and accurate data set. Utilizing this data, the department will work with external engineering partners to perform feasibility studies in the large areas of the Cherokee reservation that currently lack access to public water supplies in order to determine which areas can economically and realistically be served. Funding from the Mankiller-Soap Water Act will be utilized to perform these studies. Should new public water systems need to be established, funding from the MSWA may be required to help accomplish the legal and organizational work necessary. Projects that are found to be feasible will have engineering reports prepared and included in the Indian Health Service Sanitation Deficiency System (SDS) list for funding consideration. Funding from the MSWA may be needed to provide these engineering reports as well as

provide matching funds, or to cover project expenses that IHS considers ineligible. Currently the Department of Transportation and Infrastructure has twenty-nine projects on the SDS list and that list is attached to this report as Appendix A.

5) Task Three – Identification of the Most Infrastructure Deficient Water Systems

The third task of the Mankiller-Soap Water Act may be the most daunting, but also has the most potential to be paradigm shifting as well as extremely beneficial. Approximately 130 public water systems and 30 public sewer systems within the Cherokee Nation reservation vary in size, scope, age, and capacity. There is also a wide disparity in the technical, managerial and financial (TMF) capacity of each organization. Utilizing the MSWA to evaluate each public water/sewer system, assessing not only the physical infrastructure but their TMF capacity will help develop a comprehensive and holistic picture of the public water infrastructure within the Cherokee Nation reservation. While there is currently an abundance of funding available for physical infrastructure through the American Rescue Plan Act and the Infrastructure Investment and Jobs Act, the new infrastructure that is constructed will be handed over to the same utility organizations that may not have the capacity to correctly manage, operate, and maintain it. Resources available in the MSWA can be used to address these issues, increase the utilities TMF capacity, and ensure that new infrastructure is managed, operated, and maintained correctly which will in turn protect, Tribal, State, and Federal infrastructure investments.

There is currently no known program at the Federal, State, Tribal or Local level that is attempting to look at water infrastructure in this holistic manner. There is a possibility that the MSWA could be a model for the rest of the nation to address public water infrastructure.

a) **Methodology –** In order to start collecting this data, it was realized that internal Cherokee Nation Transportation and Infrastructure staff would not have the capacity. A partnership was developed with the Oklahoma Rural Water Association to perform the site visits, evaluate the TMF capacity and physical infrastructure of each water system and report the results back to the Cherokee Nation. Initial meetings focused on developing the evaluation process, determining the information to be collected and selecting which public water systems would be involved in the initial data gathering. A comprehensive capacity development survey was utilized to measure the TMF capacity of each utility. The Indian Health Service standard deficiency listing was utilized for consistency, and to ensure that the identified physical infrastructure needs would be eligible for inclusion in the IHS SDS annual submittal. An initial group of twenty utilities was identified for the process. This group had responded to a request by Cherokee Nation for their GIS data. The evaluations

began in November 2021. The results from this initial group of 20 utilities is included in this report as well as the most common findings and infrastructure priorities identified. Evaluations continue and we hope to have all public water systems evaluated by the 2024 biennial report with the capacity to revisit each system no less than once every two years.

b) **System Evaluations –** The following systems were included in the initial round of evaluations:

Water Systems:
Adair RWD 2
Adair RWD 4
Bernice
Big Cabin
Cherokee RWD 1
Cherokee RWD 12
Cherokee RWD 13
Cherokee RWD 16
Cherokee RWD 2
Cherokee RWD 3
Gore
Langley
Locust Grove
Mayes RWD 7
Rogers RWD 2
Rogers RWD 5
Sequoyah RWD 4
Sequoyah RWD 5
Stick Ross Mtn
Welch PWA

Wastewater Systems:
Locust Grove
Gore
Big Cabin
Langley

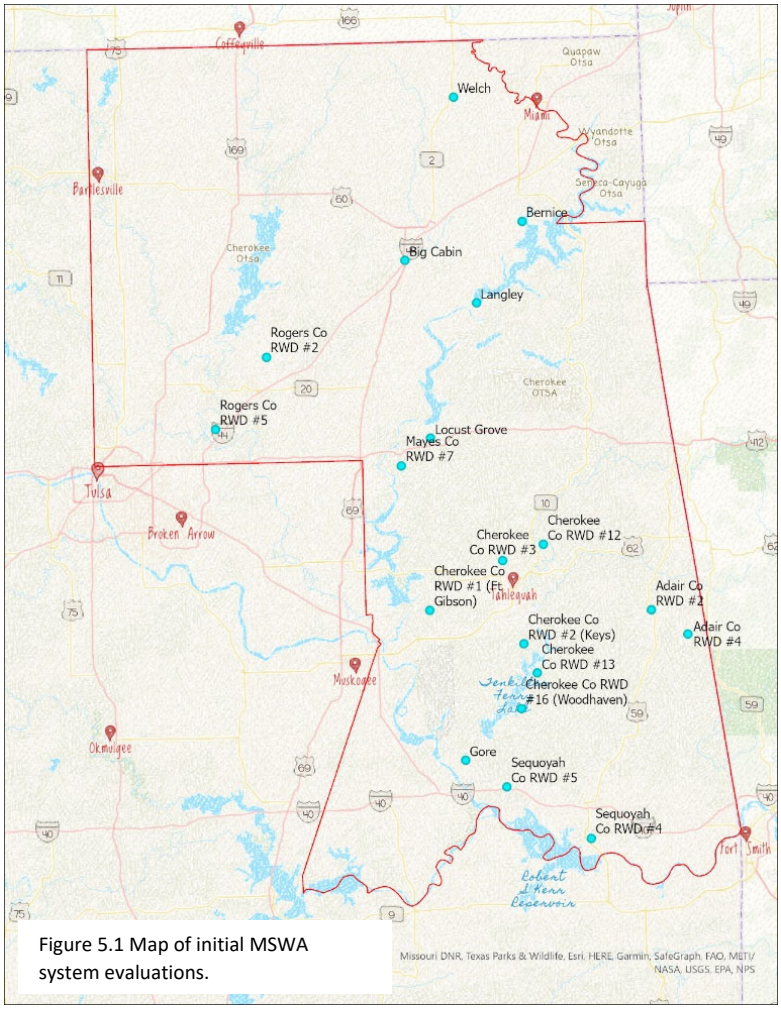


Figure 5.1 Map of initial MSWA system evaluations.

c) **Evaluation results –** Tables of the evaluation results are included in this report as Appendix B. These tables are separated into water and wastewater utilities for convenience and ease of reference. The summary scores are included in the table along with the top three priorities identified by the utility and system evaluator along with proposed solutions. The survey forms are kept on file with the Department of Transportation and Infrastructure and are available upon request.

In looking at the capacity development scores on a scale of 0-100 the average score was 68.8 and ranged from 39.4-83.5. Transposing this to an A-F grade scale, the mean value is a D with only 2 systems scoring a B and no system scoring an A. Three systems received the equivalent of an F rating. As we move into evaluating the larger systems, we anticipate the average score will increase, but it is clear that there is a lot of opportunity to assist public water systems with their TMF capacity.

The water infrastructure scores ranged from 75-315 with higher values indicating more needs with higher public health priorities. The mean value for water infrastructure was 179.5. Wastewater infrastructure scores ranged from 95-220 with the average value of 181.0. The range of wastewater scores did not show the same variability as the water infrastructure but the mean value was very similar.

Looking at those systems with an infrastructure need score above the mean value, it becomes apparent that those systems also have lower than average TMF capacity, with mean TMF scores dropping to 62.4. This correlation between TMF capacity and infrastructure operation and maintenance cannot be understated. By increasing a water systems capacity to correctly operate and maintain their system the need for significant infrastructure projects will decrease in both number, frequency and scope.

d) Additional Data Needed – Just as with task two the primary data that is needed to assist in this effort, is an accurate, current and complete GIS data set for all water systems across the Cherokee Nation reservation. As we continue to move forward with the MSWA this data will be critical in assisting water systems in not only evaluating and monitoring the state of their infrastructure but also increasing the TMF capacity to perform such vital tasks as asset management and replacement, inventory monitoring, leak detection and water loss prevention, emergency response, and continuity of operations.

e) Future evaluations – Fourteen systems were selected for the second round of evaluations. These systems have been approved for construction projects funded by Cherokee Nation ARPA funding, have been approved for IHS funding, or both. These evaluations will help us identify potential TMF issues, remaining infrastructure needs, and other issues to help

insure that the infrastructure investments are properly operated and maintained, thereby increasing their useful service life and maximizing the return on investment. These systems are as follows:

1. Chelsea EDA
2. Nowata MA
3. Lenapah PWA
4. Salina PWA
5. Delaware RWD # 11
6. Jay UA
7. South Delaware Co Regional Water Authority
8. Marble City PWA
9. Stilwell ADA
10. Adair Co RWD # 3
11. Cherokee Co RWD # 11
12. Westville UA
13. Muskogee Co RWD # 7
14. Wagoner Co RWD # 9

Once these evaluations are complete, a similar sized group of systems will be placed in the queue and this process will be repeated until all the public water systems in the Cherokee Nation reservation have been evaluated.

6) Summary -

a) **<u>Initial Efforts-</u>** After the passage of the Mankiller-Soap Water Act the Department of Transportation & Infrastructure concentrated on the primary task of completing the comprehensive analysis of the Cherry Tree Rural Water District. Since that time the following has been done:

1. Development of policies and processes for the MSWA.
2. Engaging with external partners to assist with the system evaluation efforts.
3. Establishing an initial list of water systems for the evaluation process.
4. Publishing the water survey on the Gadugi portal.
5. Evaluating the initial systems and fine tuning the data gathering process.
6. Cataloging the public water systems within the Cherokee Nation reservation for GIS data availability.
7. Engaging with internal and external partners on the GIS data collection effort.
8. Developing an initial priority list for GIS data and starting the data collection process.
9. Presenting the MSWA to local, state, tribal and federal officials at conferences, trade shows and symposiums.
10. Securing a $400,000 grant from the Bureau of Reclamation to incorporate drought risk assessment and planning into the MSWA.
11. Developing the initial report for submittal to council and administration.

b) **<u>Additional Resources Needed –</u>** To fully execute the goals and purposes of the Mankiller-Soap Water Act it will be necessary to expand our internal capacity to handle some of the workload. Our long term goal is to add additional staff members who will be primarily responsible for the data collection, reporting, and drafting recommendations required by

the act. Initially the Department of Transportation and Infrastructure recommends utilizing an engineer along with two engineering technicians, or other similar positions with infrastructure expertise. These positions would be paid primarily out of the Mankiller-Soap Water Act budget. These positions will be contingent upon the acquisition of alternative or supplemental office space as our current space is at full capacity.

Department of Transportation and Infrastructure staff will continue to look for grant opportunities to supplement the Mankiller-Soap Water Act funding to expand our scope and accelerate the collection of a complete data set.

c) <u>Strategic Vision –</u> In order to provide the *"substantive long-term progress"* called for in the Mankiller-Soap Water Act it is necessary to think strategically on how to proceed. In order to meet these long-term goals and objectives, the tasks can be thought of in three overarching terms; Sustainability, Reliability and Affordability

i. <u>Sustainability –</u> Sustainability can be thought of as a public water systems capacity to deliver high quality water to all of their customers over an extended time horizon. This capacity is integrated not just in the physical infrastructure, but in every facet of the process from source water protection and availability, through the treatment, distribution and consumptive processes, all the way to the final end point of water, in a living organism, a finished product or returned to the atmosphere, aquifer or stream.

Research by the National Resources Defense Council (Figure 6.2) indicates that by 2050, eleven of the fourteen counties in the Cherokee reservation may have water supply sustainability issues.

As mentioned earlier in the report, a public water systems technical, managerial and financial (TMF) capacity is critical to achieving sustainability. Smaller water systems, especially those in communities of color and with low socioeconomic metrics tend to have lower TMF capacities (Shanaghan et al. 2003) and higher incidents of Maximum Contaminant Level (MCL) violations (Balazs et al. 2012) than their higher income counterparts. This disparity in TMF capacity leads to inequities in infrastructure investment and funding (Committee on Small Water Systems 1997) and affects the water systems ability to leverage internal resources through sustainable rate structures.

The Mankiller-Soap Water Act gives us the funding to effect a positive change in this area by providing resources to assist water systems to increase their TMF capacity. This could be accomplished by:

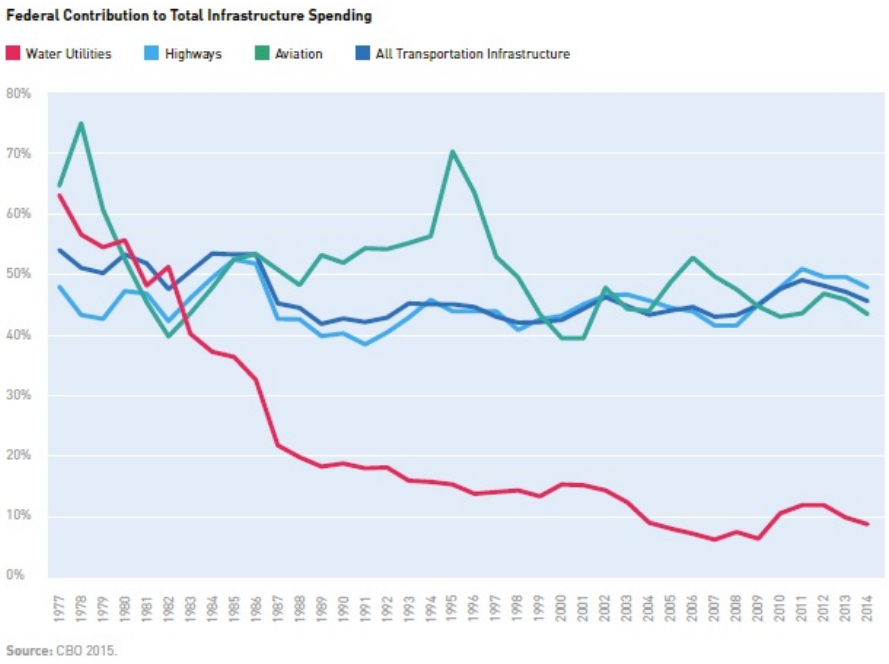
1. Providing training and a recommendation to adopt best management practices

2. Facilitating and encouraging regionalization to bring economies of scale to smaller systems
3. Providing contracted consulting firms to help manage and operate water systems while educating the system staff on the processes and procedures necessary to be sustainable.

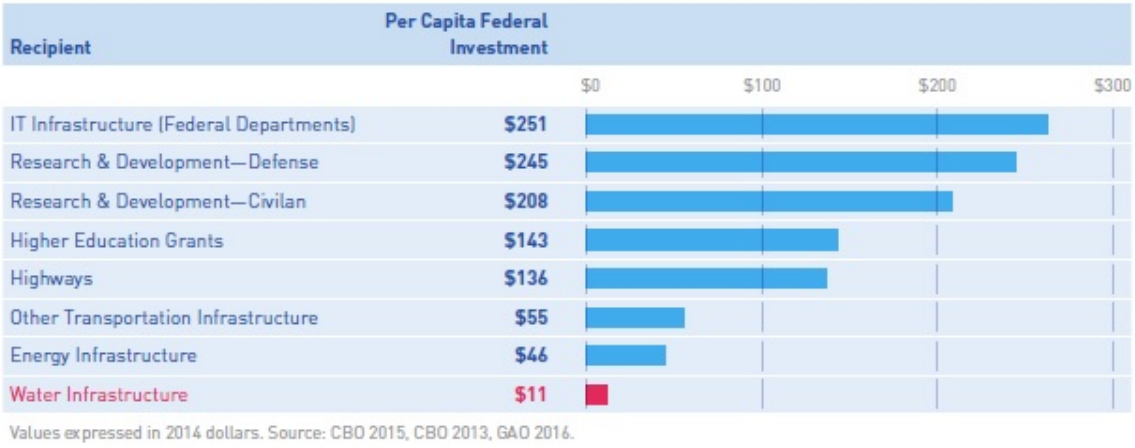
Since the Mankiller-Soap Water Act is an continual effort it will be possible to track TMF capacity at the system level and in the aggregate over time to measure the level of improvement and return on investment.

ii. **Reliability –** A water systems ability to provide water at sufficient pressure and volume for all of their customers, while complying with all aspects of the Safe Drinking Water and Clean Water Acts can be thought of as reliability.

In spite of the recent Infrastructure Investments & Jobs Act (IIJA), American Rescue Plan Act (ARPA) and Inflation Reduction Act (IRA) federal investment in water infrastructure has been on a downward trajectory for the past 40+ years. Examining the federal investment both as a percentage of total infrastructure investment and comparing to other infrastructure categories it is easy to see the disparity. The US Water Alliance and the American Society of Civil Engineers estimate that an additional $82 Billion per year is needed to make up this funding shortfall (US Water Alliance). For reference the IIJA appropriated $55 Billion for water infrastructure, a huge increase from the baseline funding but was only 10% of the total infrastructure appropriation behind broadband, passenger and freight rail, power and grid, and roads & bridges.



Annual Federal Investment Per Capita



Values expressed in 2014 dollars. Source: CBO 2015, CBO 2013, GAO 2016.

The lack of federal investment over the last four decades is now becoming readily apparent. As water systems age, they require more intense and frequent maintenance. Eventually, they reach the end of their useful service life and require replacement. Utilizing funding through the Mankiller-Soap Water Act, it is hoped that substantial positive change can be fostered to increase the reliability of the public water systems across the Cherokee Nation reservation. Improvements to reliability will also increase the sustainability of each system by reducing water loss, providing adequate pressure and volume, and assisting with long term capital improvement plans.

Reliability will be measured and tracked throughout the biennial evaluation process by cataloging the frequency and duration of water outages, number of boil orders issued, and any moratoriums established by regulatory agencies on new connections due to inadequate pressure or volume. Infrastructure investments will be prioritized according to those water systems are least reliable and most at-risk for large scale failures.

iii. **Affordability** – The third element of the strategy is affordability. EPA recommends an affordability measure of no more than 2.5 % of median household income be expended toward monthly water costs. (US EPA 2003) In water systems with low household incomes this represents an amount that might make the system unsustainable. If rates are raised to make the system sustainable then the customer base is faced with unaffordable water rates. Using the Mankiller-Soap Act, affordability metrics can be measured against median household incomes and relative water affordability can be compared. By assisting public water systems in reducing debt ratios, maximizing water revenues by reducing actual and apparent water loss, encouraging and facilitating conservation, promoting regionalization and improving TMF capacity, it is hoped that

water systems maintain affordable rates while also providing sufficient revenue to make the system sustainable.

Additionally resources through both the Cherokee Nation and Oklahoma Department of Human Services LIHWAP (Low Income Household Water Assistance Program) need to be brought to bear to maximize these revenues to the water systems while minimizing the financial burden by the most vulnerable among us. Systems should be made aware of the program, ensure participation and are communicate the availability and benefit of the program to their membership. This can be done as part of the water system evaluation process.

d) <u>Climate Change and Resiliency –</u> The current, ever-changing climate and its potential to impact water demand, availability, and infrastructure warrant inclusion in this report and consideration for future planning efforts. The geological record is filled with evidence of a changing climate so why is the current situation of critical importance? The fact is that the emission of greenhouse gases over the past 100 years has led to atmospheric concentrations of carbon dioxide well above the average amounts found in ice cores dating back over 800,000 years. During the last 10,000 years global CO2 amounts in our atmosphere have ranged from 260 – 280 parts per million (ppm) until about the end of the 19th century when the concentration began to increase significantly. Current CO2 concentrations are above 330 ppm and show no signs of slowing. The addition of CO2 traps solar radiation near the surface results in atmospheric warming. Since the beginning of the 20th century, temperatures in the contiguous United States have risen by approximately 1.8° F. While this may not sound like a large increase, even the slightest amount might have the effect of increasing the variability, frequency and intensity of both drought and pluvial (extremely wet) events.

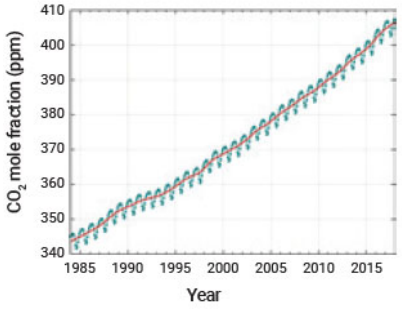


Figure 6.1 Increasing levels of CO2 in the atmosphere. Source: WMO 2019

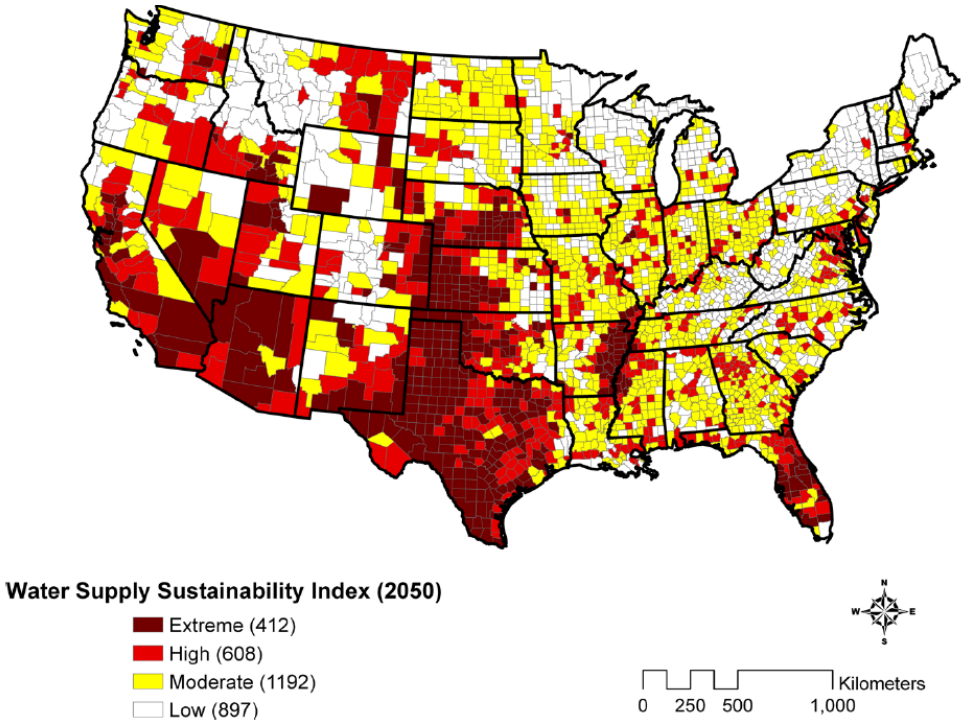


Figure 6.2 Water Supply Sustainability Index in 2050, with available precipitation computed using projected climate change. Source Natural Resources Defense Council 2010

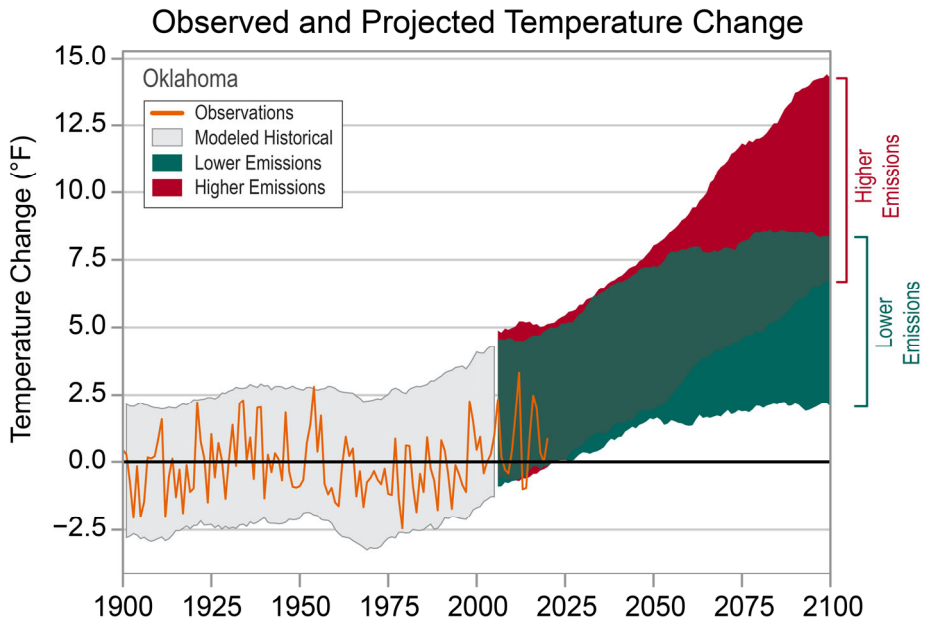


Figure 6.3 Observed and Projected Temperature Change (Oklahoma). Source NOAA National Centers for Environmental Information 2022

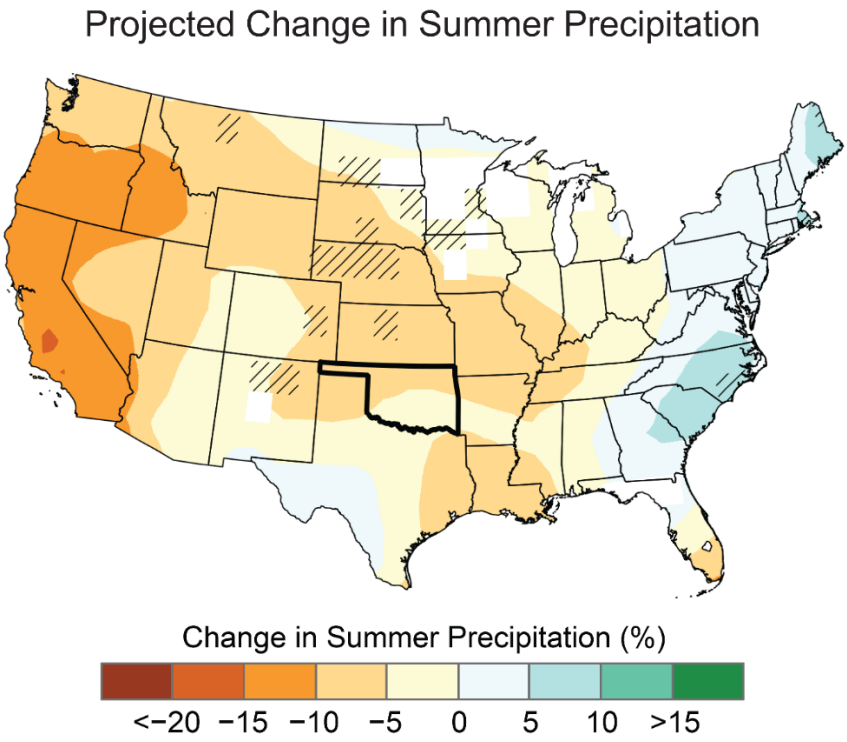


Figure 6.4 Projected changes in total summer (June–August) precipitation (%) for the middle of the 21st century compared to the late 20th century under a higher emissions pathway. Whited-out areas indicate that the climate models are uncertain about the direction of change. Hatching represents areas where the majority of climate models indicate a statistically significant change. Precipitation in the summer is projected to decrease slightly in Oklahoma, but the changes are smaller than natural variations. Sources: CISESS and NEMAC. Data: CMIP5. (Frankson, et al. 2022)

Utilizing resources from the Mankiller-Soap Water Act, the Department of Transportation and Infrastructure was selected to receive a $400,000 grant from the Bureau of Reclamation to incorporate drought planning and risk assessment into the evaluation process. These funds will be used to develop a comprehensive baseline assessment of drought risk and identify areas where additional study and planning may be needed to help water systems increase resiliency to the effects of climate change.

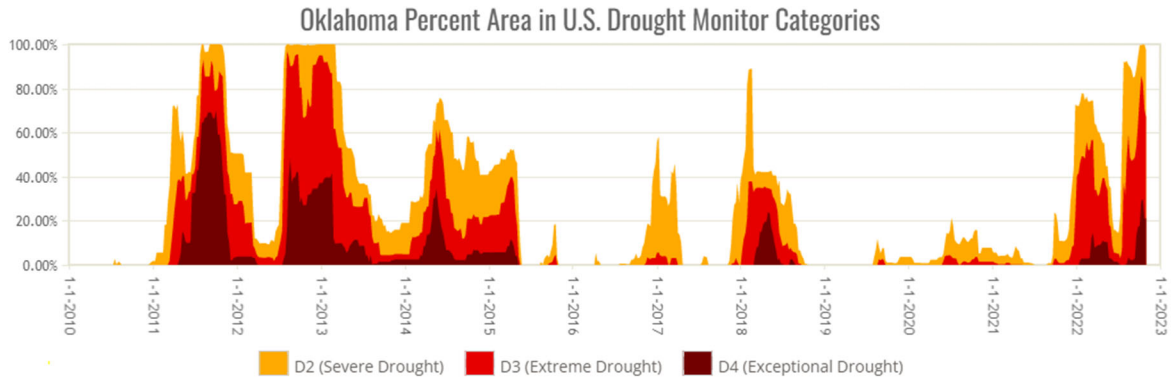
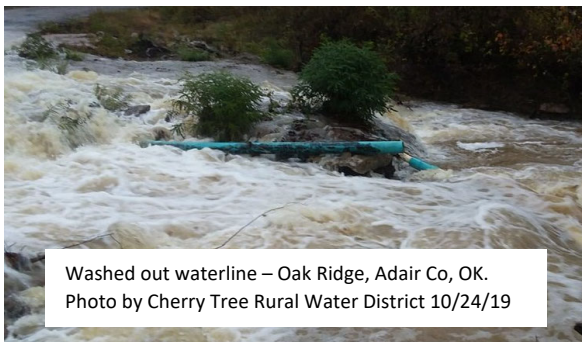


Figure 6.5 US Drought Monitor for Oklahoma (Years 2010-Current) Source National Drought Mitigation Center – University of Nebraska – Lincoln.



Washed out waterline – Oak Ridge, Adair Co, OK.
Photo by Cherry Tree Rural Water District 10/24/19

While drought planning is a major concern, it is also necessary to consider the effects of pluvial periods on water systems. These prolonged and often severe events can affect the operation of water and wastewater systems by changing the quality of source water supplies, inundating critical infrastructure, washing out water distribution pipelines and disrupting power supplies. In the past few years the Department of Transportation and Infrastructure has assisted with emergency repairs due to flooding for Cherry Tree RWD, Adair RWD # 2, Adair RWD # 4, Cherokee Co RWD # 1, Cherokee Co RWD # 7, Cherokee Co RWD # 13, Rogers Co RWD # 3 and the East Central OK Water Association. Mankiller Soap Water Act evaluations, along with accurate GIS data, can assist us with developing a comprehensive, risk based inventory of critical infrastructure that may be effected by these peak flow events and allow us to develop a proactive plan to address these issues before they occur rather than waiting until disaster strikes.

Additionally, evidence for the impact of climate change can be found in the frequency and magnitude of flooding events along the Illinois River near Tahlequah, OK, where four of the six largest recorded flooding events have occurred since 2011, including the flood of record which occurred in 2015. (National Weather Service 2022) The increased frequency and magnitude of these events underscores the need to include climate change resiliency in the Mankiller-Soap priorities and evaluation process.

Table 6.1 Health Impacts of climate variability and change exposures: causal pathways

Water resources and drinking water supply		
Exposures affected by climate change	Potential impacts on water resources	Potential health and other impacts
Increased average temperatures	• Accelerated growth, survival, persistence, transmission and virulence of waterborne pathogens, compounded by reduced stability of chlorine residuals. • Increased formation of disinfection by-products. • Increased evapotranspiration and decreased water availability.	• Increased risks of foodborne and waterborne diseases from pathogens. • Possible increased risk of cancer with long- term exposure to disinfection by-products. • Impacts similar to those from droughts.
Increased drought	• Lower water availability for washing, cooking and hygiene, increasing exposure to waterborne contamination. • Increased concentration of pollutants when conditions are drier. This is of concern for groundwater sources that are already of low quality, for example in certain locations in India and Bangladesh, North and Latin America, and Africa, where concentrations of arsenic, iron, manganese and fluoride are often problematic. • Reduced groundwater tables and surface water flows may cause wells to dry up, increasing the distances to be travelled to collect (potentially unsafe) water, and increasing water source pollution. • Low rainfall may increase vector breeding sites by slowing river flows. • Decreased food security due to lower food production in the tropics; lower access to food due to reduced supply and higher prices. Increased dam construction to adapt to more frequent droughts can intensify transmission and shift patterns of malaria infection (Kibret et al., 2015).	• Increased burden of foodborne and waterborne disease. • Fluoride: dental and skeletal fluorosis. • Arsenic: skin changes (pigmentation changes, hyperkeratosis), cancer (skin, bladder, lung), etc. • Iron and manganese: discolored water, unpleasant taste. • Increased risk of health impacts associated with malnutrition resulting from the interaction of diminished food production and intake in poor regions, and higher rates of infectious disease. Combined effects of undernutrition and infectious diseases; chronic effects of stunting and wasting in children.
Exposures affected by climate change	Potential impacts on water resources	Potential health and other impacts
Higher freshwater temperatures (with decreased concentration of oxygen and increased concentration of nutrients, such as phosphorus, and other factors)	• Shifting geographical and seasonal distributions of pathogens, e.g. *Vibrio cholerae* and *Schistosoma spp*. • Increased formation of harmful algae blooms (cyanobacterial and other bacteria) in freshwater. • More favorable conditions for microbial growth and proliferation associated with water-related pathogens. • Warmer, less oxygenated water can release increasing benthic nutrients (e.g. phosphorus), in turn promoting elevated phytoplankton activity, and release metals (e.g. iron and manganese) from lake sediments into the waterbody.	• Increased risks of foodborne, waterborne and water-based diseases such as cholera and schistosomiasis. • Liver damage, tumor promoter, neurotoxicity, dermatological and respiratory toxicity (longer-term effects depending on toxin exposed to). • Unpleasant taste and smell. • Impact on the productivity of water ecosystems with effects on food provision and security.

Sea level rise	• Coastal areas experiencing sea level rise may become uninhabitable and influence population displacement. • Sea level rise that increases the salinity of coastal aquifers, where groundwater recharge is also expected to decrease.	• Increased risk of waterborne diseases, health impacts of high salt consumption on non-communicable diseases.
Sanitation and wastewater management		
Climate change impact	Example impact on sanitation	Examples of associated health effects
More intense precipitation (leading to extreme rainfall events, floods, landslides, etc.)	• Floodingofon-sitesystemscausingspillage,overflow and environmental contamination (e.g. in water supplies, floodwaters, surface water, soil).	• Increased risks of water- and vector borne diseases and antimicrobial resistance spread. • Increased risks of health impacts associated with undernutrition.
Long-term declines in rainfall and runoff (leading to e.g. long-term drought, etc.)	• Declining water supply impeding function of water-reliant sanitationsystems(e.g.flushtoilets,sewerage).	• Increased risks of water- and vector borne diseases (e.g. due to a lack of water for cleaning, resulting in poor sanitary conditions and poor hygiene). • Increased risks associated with undernutrition resulting from interaction with diminished food production and intake in poor regions, and increases in diseases associated with undernutrition. • Increased risk of water- and vector-borne diseases linked to untreated wastewater use for food production.
Higher temperatures (leading to e.g. warmer surface water and soil temperatures, heatwaves)	• Malfunction, breakdown or inaccessibility of sanitation systems deterring safe sanitation behaviors (e.g. strong odors during heatwaves deterring use of latrines).	• Health impacts resulting from unsafe use or non-use of sanitation systems (e.g. physical or mental conditions arising from suppressed urge to urinate/defecate).

Source : UN World Water Development Report 2020 Water and Climate Change

e) **<u>Emerging Contaminants and Regulatory Changes –</u>** Several major changes are on the horizon for water systems in the areas of emerging contaminants and regulatory changes. Many water systems will be ill equipped to deal with these changes and will lean on Cherokee Nation for assistance in negotiating the bureaucracy. Two proposed emerging contaminants have been suggested for placement as primary drinking water standards which may affect water systems in the Cherokee reservation. Manganese is first on this list. Manganese is a natural metallic mineral which often occurs in combination with iron in drinking water, primarily from groundwater sources. For decades, manganese has been regulated as a secondary contaminant only for taste and aesthetic concerns. The US EPA has placed manganese on the Unregulated Contaminant Monitoring Rule (UCMR) 4 proposed contaminant list. Should this contaminant be elevated to a primary drinking water contaminant, many groundwater supplied public water systems, as well as many

private drinking water wells will need additional treatment and filtration to be considered potable.

The next contaminant is Per and Polyfluroalkyl Substances, commonly referred to as PFAS. PFAS are a family of chemicals used in many industrial applications including firefighting foam, chrome plating, electronics manufacturing, and textiles. These substances do not break down in the environment, tend to be very water soluble and have been shown to have adverse health effects including:

- Reproductive effects such as decreased fertility or increased high blood pressure in pregnant women.
- Developmental effects or delays in children, including low birth weight, accelerated puberty, bone variations, or behavioral changes.
- Increased risk of some cancers, including prostate, kidney, and testicular cancers.
- Reduced ability of the body's immune system to fight infections, including reduced vaccine response.
- Interference with the body's natural hormones.
- Increased cholesterol levels and/or risk of obesity.

Source US EPA 2022

The concern is that these chemicals have very low thresholds for safe exposure, currently thought to be in parts per trillion, and have been used so widely and for so long they may be ubiquitous in the environment. Because the cost to monitor for these chemicals is very expensive, most water bodies have not been tested to determine the full scale of the problem. Due to the nature of PFAS it is possible that most water sources will be found to be contaminated, and additional treatment methodologies will be needed to bring water systems back into compliance with the Safe Drinking Water Act.

The upcoming revisions to the lead and copper rule are a direct response to the disaster that occurred in Flint Michigan. As a response to this event, the US EPA is requiring that all water systems evaluate service lines from the water main to the meter, and from the meter to the house. This is an extreme departure from a water systems normal responsibility which generally ends at the meter. This lead service line inventory (LSLI) is required to be completed for all water connections and is due to the EPA or the state regulatory body by October 16, 2024. It is safe to say that most small public water systems (less than 3,300 population) will not have the internal capacity to complete this inventory to the level of detail required by the EPA.

The Department of Transportation and Infrastructure is currently exploring the possibility of utilizing an external partner with experience in performing these LSLI's, to initiate a pilot project to provide this service for approximately 10 small water systems that have completed the initial Mankiller-Soap evaluation process. If all goes well with this pilot project, we will propose to take it to IHS and EPA for possible funding consideration to maximize assistance for every small water system with a pro-rata share of the LSLI cost proportionate to the percentage Native American population.

f) **Recommendations for future work –** In conclusion the Department of Transportation and Infrastructure would like to offer these recommendations for the Mankiller-Soap Water Act:

- Begin moving away from ARPA funding and toward General Fund appropriation. This will allow T&I to begin hiring staff to build the internal capacity necessary to fully implement the MSWA.
- Improve outreach to Cherokee citizens to expand data gathered through Gadugi survey.
- Work with CN Communications to develop other outreach and data gathering methods.
- Continue to develop external and internal partnerships necessary to gather the required data to make accurate and timely conclusions and recommendations.
- Continue system evaluations with the goal of completing all water and wastewater systems by the next report deadline, November 30, 2024.
- Prioritize activities to build water system TMF capacity, provide sustainability, reliability, and affordability.
- Develop data to complete GIS data set for all water systems within the Cherokee Nation reservation.
- Hold signing ceremony with Oklahoma Rural Water Association to promote Cherokee Nation's commitment to the Oklahoma Sustainability Alliance, the first Tribal Nation to do so. Chief Hoskin signed this agreement on December 7, 2021.
- Consider reactivation of the Cherokee Nation Water Planning workgroup that was begun in 2014. This workgroup was led by Attorney General Sara Hill in her former role as the Secretary of Natural Resources.

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8) Appendices -

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STARS

SDS ONE-LINE LISTING — DRAFT

PROJECT	PROJECT NAME	PROJECT TIER	TRIBE	RES.	DIST.	FIELD OFFICE	PRI.	DL	TOTAL SCORE	HOMES	PROJECT COST (ELIGIBLE)	CUMULATIVE COST (ELIGIBLE)
OK53700-0C01	CHEROKEE / Nowata MA - New Water Storage Tower	Tier 1: Ready To Fund	022	997	04	011	27	3	52	478	861,000	861,000
OK01053-0C01	CHEROKEE / Stilwell ADA - New WTP & Raw Water Intake	Tier 1: Ready To Fund	022	997	04	011	37	2	49	958	8,736,000	9,597,000
OK49658-0S01	CHEROKEE / Salina PWA - Wastewater System Improvements	Tier 1: Ready To Fund	022	996	04	011	38	2	48	147	662,829	10,259,829
OK21308-0A01	CHEROKEE / Delaware RWD 11 - Oaks Distribution System Improvements	Tier 1: Ready To Fund	022	997	04	011	41	3	47	134	1,713,000	11,972,829
OK53699-0S01	CHEROKEE / Lenapah PWA - WWTP Improvements	Tier 2: Engineering Assessed	022	997	04	011	47	3	44	41	206,000	12,178,829
OK11999-4A01	CHEROKEE / Wagoner RWD #9 - Water Treatment Plant Rehab	Tier 1: Ready To Fund	022	997	04	011	57	2	43	657	2,135,000	14,313,829
OK53699-0B01	CHEROKEE / Lenapah PWA - Water System Upgrades and Repairs	Tier 2: Engineering Assessed	022	997	04	011	66	2	40	41	193,748	14,507,577
OK11999-2E01*	CHEROKEE / Stick Ross Mtn Water Company - Cherokee Mission WL Ext	Tier 2: Engineering Assessed	022	997	04	011	76	3	36	8	321,000	14,828,577
OK51999-1A01*	CHEROKEE / Muskogee RWD #7 - 5 Mile Rd WL Ext	Tier 1: Ready To Fund	022	996	02	011	80	2	35	7	321,000	15,149,577
OK01999-0D01	CHEROKEE / Adair RWD #3 - North Water Supply Connection	Tier 1: Ready To Fund	022	997	04	011	83	2	35	713	738,000	15,887,577
OK11999-3B01	CHEROKEE / Cherokee Co RWD #11 - WTP Expansion	Tier 1: Ready To Fund	022	997	04	011	85	2	35	793	2,110,000	17,997,577
OK01055-0A01*	CHEROKEE / Westville UA - WST Rehab	Tier 1: Ready To Fund	022	997	04	011	91	1	34	393	249,000	18,246,577
OK01053-0T01	CHEROKEE / Stilwell ADA - WWTP Expansion (New FEB)	Tier 1: Ready To Fund	022	997	04	011	92	2	33	675	1,334,000	19,580,577
OK49658-0A01	CHEROKEE / Salina PWA - Water System Improvements	Tier 1: Ready To Fund	022	996	04	011	102	2	32	126	828,000	20,408,577
OK66881-0S01	CHEROKEE / Oologah PWA - WWTP Improvements	Tier 2: Engineering Assessed	022	996	04	011	111	3	30	76	393,000	20,801,577
OK53999-0A01	CHEROKEE / Nowata #5 - Water System Improvements	Tier 2: Engineering Assessed	022	997	04	011	114	3	30	15	266,000	21,067,577
OK21304-0B01	CHEROKEE / Jay UA - WTP Expansion	Tier 1: Ready To Fund	022	997	04	011	119	2	29	636	4,432,000	25,499,577
OK11191-0A01*	CHEROKEE / Cherokee 13 - 559 Rd Water Line	Tier 3: Preliminarily Assessed	022	997	02	011	122	3	28	3	233,000	25,732,577
OK58762-0A01	CHEROKEE / Afton PWA - WTP Lagoon & Drying Bed Rehab	Tier 2: Engineering Assessed	022	997	04	011	136	2	24	41	31,098	25,763,675
OK66999-0A01	CHEROKEE / Rogers RWD #4 - WTP Generator	Tier 2: Engineering Assessed	022	996	02	011	137	2	24	371	25,984	25,789,659
OK11999-0G01	CHEROKEE / Cherokee Co. RWD #3 - N 520 Rd & Steely Hollow Rd	Tier 2: Engineering Assessed	022	997	04	011	139	2	23	19	318,000	26,107,659
OK49654-0B01	CHEROKEE / Locust Grove PWA - Snake Creek-Iron Post WL Ext	Tier 2: Engineering Assessed	022	997	04	011	142	3	22	98	1,803,000	27,910,659
OK21304-0A01	CHEROKEE / Jay UA - WWTP Generator	Tier 2: Engineering Assessed	022	997	04	011	149	2	20	446	163,212	28,073,871
OK68899-0A01*	CHEROKEE / Town of Muldrow - Redlands Rd WLX	Tier 2: Engineering Assessed	022	996	04	011	152	2	20	1	84,915	28,158,786
OK11999-1E01	CHEROKEE / Cherokee Co RWD #2- Water Distro / WST Rehab	Tier 2: Engineering Assessed	022	997	04	011	159	2	19	272	865,620	29,024,406
OK21305-0B01	CHEROKEE / Kansas PWA - Water Distro System Rehab	Tier 2: Engineering Assessed	022	997	04	011	160	2	19	72	399,936	29,424,342
OK51685-1S01	CHEROKEE / Webbers Falls PWA - WW Lagoon Rehab	Tier 3: Preliminarily Assessed	022	996	04	011	170	3	17	52	140,082	29,564,424
OK11194-0A01*	CHEROKEE / Burnt Cabin - SCWA_BC Water Connection	Tier 2: Engineering Assessed	022	997	04	011	172	2	16	48	1,002,366	30,566,790
OK21300-0A01	CHEROKEE / Bernice PWA - New Primary Water Source	Tier 2: Engineering Assessed	022	997	02	011	173	2	16	41	401,508	30,968,298

** (after project number) indicates infeasible projects*

***BOLD rows** indicate projects without homes*

Report Criteria

Dataset:	Snapshot – 2023 - IHS Area: OKLAHOMA (#20007 11/01/2022 01:27 Taylor, Johnny)
Area(s):	OK
Funded?	No
Feasible?	All
Reportable?	Yes
Eligible:	Eligible
Project Tier(s):	Tier 1: Ready To Fund, Tier 2: Engineering Assessed, Tier 3: Preliminarily Assessed
Sorted By:	Area Priority

Appendix B

MSWA

Water System Evaluations - Cherokee Nation

MSWA Score Rank	System Name	MSWA Score	CapDev Score	Priority Issue 1	Proposed Solution	Priority Issue 2	Proposed Solution	Priority Issue 3	Proposed Solution	Expansion of Distribution to serve new customers?
12	Cherokee RWD 3	120	83.5	Pump station at Vinita Street	Rehab w/ Telemerty and controls	130,000 gal Water storage Tower	Rehab and add pump station w/generator	Upgrade at WTP	Add 3rd Filter and increase raw water pump capacity	Y
13	Cherokee RWD 12	90	82.6	Water Well Upgrade	Rehab w/ Telemerty and controls	Tank Inspection	Funding for inspection	Billing system	update computermand office equipment	Y
7	Gore	75	78.9	Total suspended solids violation	Plant renovation (new filter media, updated chemical pumps)	Substandard pipe in 2 location (ductile iron, steel)	Line replacement (subject to field evaluation).	Aged and inaccurate customer meters.	Customer meter replacement.	N
19	Welch PWA	180	77.1	Faulty Valves	95% valve replacement needed	master meter	Replace Master service Meter	Fire Hydrants	Replace 5 Red Tagged FH	N
15	Mayes RWD 7	155	76.1	Hydraulic Study	Seek Engineer for Hydraulic Model	Comunications/controls	Scada w/Telem and controls	Water Supply	New Storage Tower	Y
6	Sequoyah RWD 4	95	76.1	Wiring and controls at pump station obsolete.	Wiring and controls at pump station need upgrading / replacement.	Towers are damaged and are in need of inspection.	Inspect towers and repair noted damage (bullet hole, etc.)	Aged and obsolete electronic controls.	Purchase and installation of SCADA controls and updated cybersecurity systems.	Y
17	Rogers RWD 5	140	75.2	Severe Raw water line errosion	Adress asap!/ Tulsa line at Verdegris River	Failing and aged Water main	Replace With new water main	Broken Valves	Replacement of valve is recommended	Y
9	Big Cabin	175	74.3	Storage contributing to high THM/HAA5 levels in system.	Upgrade of storage with mixers, valving, and SCADA to better manage tank turnover and water age.	Lack of capacity in distribution lines.	Upgrade lines from 4" to 6" and booster pump/station for capacity and fire protection.	Billing software is outdated and problematic.	Purchase new billing software.	N
10	Cherokee RWD 1	250	73.4	High levels of water loss, leading to outages.	Line replacement, installation of valves and zone meters	Lack of hydraulic model for system.	Purchase and complete hydraulic study.	Inadequate storage capacity	Construction of additional water storage (towers, tanks, etc.)	Y
11	Cherokee RWD 16	315	73.4	Homes in Canoe Mountain area need service from Cherokee RWD 16	Cherokee RWD 16 to extend lines and build tower to service community.	Low pressure at Woodhaven.	Tower needs repair supply adequate pressure.	Filters at all treatment plants are barely adequate to meet demand	Filters need rehabilitation and/or replacement.	Y
16	Rogers RWD 2	140	71.6	40% water loss	Install line meters	Degraded water main/leak issues	Replace 1 and1/4 mile of Ductile iron main/lots of leaks	Unserved area/Native Homes	New Line installed to serve Homes	Y
20	Langley	160	67.9	Under sized water lines	Upsize Water lines with Fire Hydrants	Water tower maint	Rehab Water storage Tank	Nov-TTHM&HAA5	Upgrade carbon room/treatment	
18	Stick Ross Mtn	230	67	50% water loss	Replace Line meters w/scada capabilities	Hydraulic study needed	Seek engineer for study	Failing water lines	Replace awter service lines	Y
5	Cherokee RWD 13	170	66.1	High levels of water loss, leading to outages.	Replacement of substandard pipe (grey pipe), line meters, pressure control valves (pressure zones), leak detection and repair.	Plant only has one filter train, no backup.	Expansion of plant to include at least one additional filter train.	Lack of adequate finished water storage during peak demand.	Construction of additional water storage (towers, tanks, etc.)	N
4	Adair RWD 2	170	62.4	High levels of water loss, leading to outages.	Completion of hydraulic modeling, line meters, and line replacement (see list of recommended line replacement on MSWA form).	No standby source of power for system.	Purchase of backup power generators and wiring setup at pump stations.	Lack of fencing / security at water tower.	Installing fencing and/or other security measures at tower.	Y
14	Sequoyah RWD 5	190	62.4	Hydraulic Modeling	Seek Engineer for Hydraulic Model	Water Loss 40-60%	Leak detection and Line meters	Under served areas	Need New Booster and line upgrade/ Mission rd	Y
1	Cherokee RWD 2	245	59.6	High levels of water loss, leading to outages.	Replacement of substandard pipe (grey pipe), line meters, pressure control valves (pressure zones), leak detection and repair.	Plant obsolete, leading to operational problems	Plant renovation and upgrades (4 turbidimeters, isolation valves at clearwells, standby power)	Billing software is outdated and problematic.	Purchase and installation of new billing software (est. $14,000).	Y
1	Adair RWD 4	230	56	High levels of water loss, leading to outages.	Hydraulic modeling, Leak detection/repair, line meters, upgraded lines and pumps. Leak detection equipment.	Failed paint inside/outside above-ground storage tanks.	Water tower storage tank inspection and repair/repainting.	Pump station have no stand-by power supply.	Purchase of backup power generators and wiring setup at pump stations.	Y
8	Bernice	225	53.2	Low pressure and high levels of water loss leading to outage	Interconnection with Ketchum and a booster pump / controls.	Lack of adequate distribution storage.	Construct additional storage.	Water lines are too small and are in poor condition	Water line replacement and upsize.	Y
2	Locust Grove	235	39.4	Operations and maintenance of plant and distribution system.	Professional management and operations oversight.	Lack of adequate distribution storage.	Construct additional storage.	High levels of water loss.	Hydraulic modeling, leak detection/repair.	Y
			68.81	Average Cap Dev Score						
			179.5	Average MSWA Infrastructure Score						

MSWA

Wastewater System Evaluations - Cherokee Nation

MSWA Score Rank	System Name	MSWA Score	CapDev Score	Priority Issue 1	Proposed Solution	Priority Issue 2	Proposed Solution	Priority Issue 3	Proposed Solution	Expansion of Sevice Needed?
	Locust Grove	185	N/A	CWA Violations due to operation/condition of plant	Repair blower motors at SBR, repair chlorination/dechlorination system, establish plan of imprvement for operations or consider contract operator.	Inflow / Infiltration in collection system.	SSES (smoke testing and camera work) to identify problems, repair collection lines where needed.	Damage at lift station caused by erosion and settling.	Repair/replace lift station.	Y
	Gore	95	N/A	Inflow / Infiltration in collection system.	SSES (smoke testing and camera work) to identify problems, repair collection lines where needed. See known problem areas on MSWA form.	Lagoon dikes have erosion damage and are deteriorated.	Dikes need field evaluation and repaired if needed.	Lagoon sludge depth unknown.	Sludge depth testing needed, and sludge removal conducted (if warranted).	N
	Big Cabin	210	N/A	Inflow / Infiltration in collection system.	SSES (smoke testing and camera work) to identify problems, repair collection lines where needed. Replace 10 manholes.	Lift station is undersized and needs rehabilitation.	Repair/replace lift station, add SCADA controls.	Lagoon dikes need repair, lagoon needs sludge removal.	Repair dikes, remove sludge.	Y
	Langley	195	N/A	Update Liftstation/ more Cap.	Repair and update controls w/scada	Failing collection system	Replace lines and address high I&I issues	sludge management	Install new Drying Beds	Y
	Welch	220	N/A	Collection system failing	Identify and Repair I&I issues	Need New Liftstation	Engineer and Replacement needed	sludge management	Sludge removal needed	Y
		181.0								

Committee: Rules Committee
Date: 03/09/2021 Committee Date: 03/25/2021

Author: Chuck Hoskin, Jr.
Sponsor: Shawn Crittenden, Canaan Duncan, EO Smith, Mike Shambaugh, Mike Dobbins, Janees Taylor, Joe Deere, Keith Austin, Victoria Vazquez, Rex Jordan, Dora Patzkowski, Daryl Legg, Harley Buzzard 2

An Act

Legislative Act 15-21

WILMA P. MANKILLER AND CHARLIE SOAP WATER ACT

BE IT ENACTED BY THE CHEROKEE NATION:

Section 1. Title and Codification

This legislative act shall be titled and codified as the **"Wilma P Mankiller and Charlie Soap Water Act" or alternatively the "Mankiller / Soap Water Act."**

Section 2. Findings

The Council of the Cherokee Nation finds that despite a substantial annual expenditure of federal funds and general funds on improving water system, barriers to reliable water supply and wastewater disposal for some Cherokee citizens remain. The Council further finds that many community water systems across the reservation receive, in any given year, a substantial amount of resources from Cherokee Nation, yet many such systems remain infrastructure deficient. These deficiencies negatively impact the health, safety and overall quality of life of Cherokee citizens. The Council and the Principal Chief, on an ongoing basis, require data and expert recommendations to address these issues. The Council further finds that former Principal Chief Wilma P. Mankiller and former Executive Director of Community Services Director Charlie Soap left a legacy of service to the Cherokee people, which includes their effort to create and improve water systems in Cherokee communities. Such efforts included their work in communities now serviced by the Cherry Tree Rural Water District, which includes the historic Bell water line, planning for which they began under the Administration of Principal Chief Ross Swimmer in 1981. Legislation is warranted to provide for substantive long-term progress by Cherokee Nation on these issues. Finally, the Council acknowledges that the Principal Chief renamed the Department of Community Services to the Department of Transportation and Infrastructure by executive action of March 5, 2021, to better align the department with its core functions.

Section 3. Purpose

The purpose of this Act is to conduct studies on barriers to Cherokee citizens within Cherokee Nation accessing adequate water systems, to develop expert recommendations, and to remedy such conditions and authorize additional expenditures to act on those recommendations. It shall be the policy of the Cherokee Nation to ensure access to quality water systems for all Cherokee citizens residing in the Cherokee Nation.

Section 4. Substantive Provisions

§ 1. Definitions.

A. Water System: Systems of delivering potable water and providing sanitary wastewater disposal on an individual household basis or a community basis (municipal or rural systems) throughout the Cherokee Nation reservation.

B. Executive Director: Executive Director of the Department of Transportation and Infrastructure, formerly known as the Department of Community Services.

§ 3. Studies and Reports by Department of Transportation and Infrastructure

A. Commencing with Fiscal Year 2022 the Department shall conduct a biennial study and issue a written report relating to barriers to adequate water systems within Cherokee Nation, and more specifically:

a. Conduct, to the greatest extent possible and respecting the privacy interest of individual Cherokee citizens, a census of Cherokee citizens who lack access to water systems, utilizing all available forms of information and public outreach.

b. Develop a plan of action to provide access for each such Cherokee citizen identified in Section 4 §3.A(a) to water systems.

c. Identify the number of Cherokee citizens, per county within the Cherokee Nation reservation, whose access to water is limited to a well water supply and develop long-term strategies to bring rural water supply to as many such citizens as is practical.

d. Identify the most infrastructure-deficient public water systems within Cherokee Nation based on criteria to be determined by the Executive Director.

e. Said biennial study and report shall encompass the subjects set forth in Section 4 §3.A (a)-(d) and shall be delivered to the Principal Chief and Speaker of the Council within 60 days following the end of the final fiscal year covered by the study and report, absent written extension granted by the Principal Chief not to exceed 30 days.

f. Said study and report shall first cover fiscal year 2021 and thereafter cover succeeding fiscal years on a biennial basis.

B. Commencing in Fiscal Year 2021, the Department shall conduct a comprehensive infrastructure analysis of the Cherry Tree Rural Water District, including recommendations and cost estimates for necessary improvements, with said report

delivered to the Principal Chief and the Speaker of the Council upon its completion.

§ 4. Amounts Authorized; Parameters of Expenditures

A. Beginning in Fiscal Year 2022, and every fiscal year thereafter, the Council authorizes funds to effectuate all purposes and policies of this Act in an amount no less than $2 million above general fund appropriations to improve water systems budgeted for Fiscal Year 2021 as of October 1, 2020.

B. Expenditures of said funds for water systems for individual households shall be prioritized based on polices, rules and/or regulations as recommended by the Executive Director and approved by the Principal Chief, provided:

   a. said policies, rules and/or regulations, and any changes thereto, shall be reported to the Council and made accessible for public inspection;

   b. expenditures for funds for individual household water system projects prioritize low-income applicants;

   c. no applicant for water system installation or repairs will be denied on the basis of land ownership, land title or probate issues unless the Director has made a substantial effort to resolve those issues in coordination with other Cherokee Nation departments; and

   d. the Department coordinates with the Housing Authority of the Cherokee Nation or any other Cherokee Nation department, as warranted, to perform work on individual household water systems.

C. Expenditures of said funds for community water systems shall be prioritized based on policies, rules and/or regulations based as recommended by the Executive Director and approved by the Principal Chief, provided:

   a. Said policies, rules and/or regulations, and any changes thereto, shall be reported to the Council and made accessible for public inspection.

   b. Expenditures for funds for community water system projects prioritize infrastructure deficient water systems.

D. The funding source for expenditures under this Act may include dividends received from those for-profit corporations in which Cherokee Nation is the sole or majority shareholder, and that are incorporated under Cherokee Nation law. Other sources of funding, such as grants, miscellaneous sources and contributions, revenues of enterprises, taxes, and special and general fund sources, may be used to supplement this funding in order to maximize the beneficial impact through a cohesive strategy to achieve the Purpose as identified herein.

E. All funding authorized herein is subject to the Council appropriations process.

F. Hereafter any water system projects for which at least ten percent of funds are derived from funds authorized under this Act, or derived from any other general fund sources shall, be designated as "Made Possible by the Mankiller / Soap Water Act."

Section 5. Provisions as cumulative

The provisions of this act shall be cumulative to existing law.

Section 6. Severability

The provisions of this act are severable and if any part of provision hereof shall be held void the decision of the court so holding shall not affect or impair any of the remaining parts or provisions of this act.

Section 7. Effective Date: Emergency Declared

It being immediately necessary for the welfare of the Cherokee Nation, the Council hereby declares that an emergency exists, by reason whereof this Act shall take effect immediately upon its approval and signatures.

Enacted by the Council of the Cherokee Nation on the 12th day of April, 2021.

Joe Byrd, Speaker
Council of the Cherokee Nation

ATTEST:

Janees Taylor, Secretary
Council of the Cherokee Nation

Approved and signed by the Principal Chief this 14th day of April, 20___.

Chuck Hoskin, Jr., Principal Chief
Cherokee Nation

ATTEST:

Tina Glory Jordan, Secretary of State
Cherokee Nation

YEAS AND NAYS AS RECORDED:

Rex Jordan	Yea	Harley Buzzard	Yea
Joe Byrd	Yea	Victoria Vazquez	Yea
Wes Nofire	Yea	Dora Smith-Patzkowski	Yea
Mike Dobbins	Yea	Joe Deere	Yea
E. O. "Jr." Smith	Yea	Keith Austin	Yea
Daryl Legg	Yea	Janees Taylor	Yea
Canaan Duncan	Yea	Julia Coates	Yea
Shawn Crittenden	Yea	Mary Baker Shaw	Yea
Mike Shambaugh	Yea		

ADMINISTRATIVE CLEARANCE

Dept/Program:

Signature/Initial Date

Executive Director:

Signature/Initial Date

Treasurer (Required: Grants/Contracts/Budgets):

Signature/Initial Date

Government Relations:

Signature/Initial Date

Administration Approval:

3/9/2021

Signature/Initial Date

LEGISLATIVE CLEARANCE:

Legal & Legislative Coordinator:

3/9/21

Signature/Initial Date

Standing Committee & Date:

Rules 3/25/21

Chairperson:

Byrd

Cherokee Nation
Act/Resolution Proposal Form

[X] Act [ ] Resolution

TITLE:

WILMA P. MANKILLER WATER ACT

DEPARTMENT CONTACT: Chuck Hoskin Jr.

RESOLUTION PRESENTER: Taralee Montgomery

COUNCIL SPONSOR: Shawn Crittenden, Canaan Duncan, EO Smith, Mike Shambaugh, Mike Dobbins, Janees Taylor, Joe Deere, Keith Austin, Victoria Vazquez, Rex Jordan, Dora Patzkowski, Daryl Legg

NARRATIVE:

The purpose of this Act is to conduct studies on barriers to Cherokee citizens within Cherokee Nation accessing adequate water systems, to develop expert recommendations, and to remedy such conditions and authorize additional expenditures to act on those recommendations. It shall be the policy of the Cherokee Nation to ensure access to quality water systems for all Cherokee citizens residing in the Cherokee Nation.

MAR 9 '21 PM5:00