



Climate Change & Basin Integrity



Senior Water Resource Manager
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Choctaw Nation of Oklahoma

- ~11,000 square miles
- Average of 50 inches of rainfall
- 2 major HUC 6 watersheds
- 5 Level 3 Ecoregions





Our Focus

- Watershed Studies
 - Red & Canadian River
 - Watershed Planning
- Emergency Impact Planning
 - Community Infrastructure Resiliency
- Cultural Impacts
 - Incorporation of Historical and Generational Knowledge
- Climate Change Impact
 - Reliability and Sustainability





Sustainability, What Is It and Why Does It Matter?

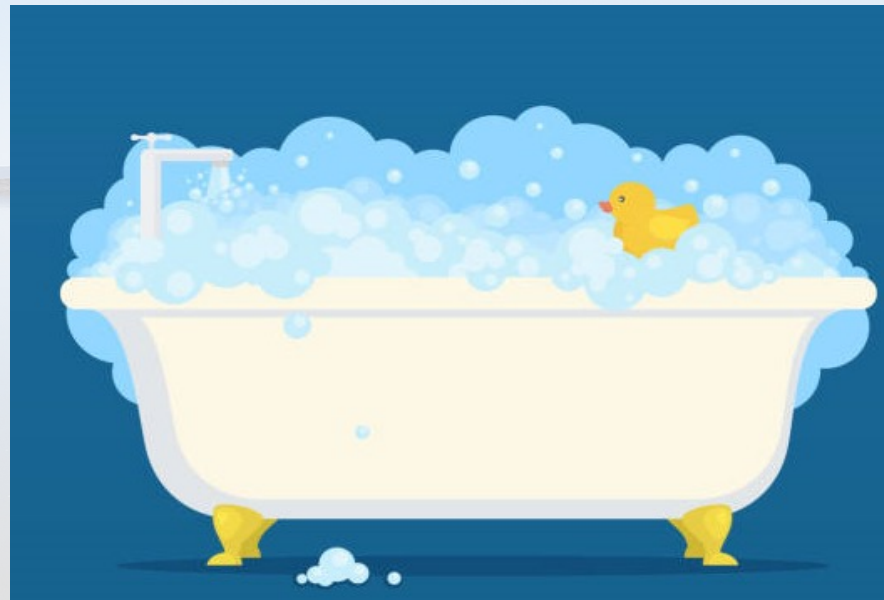
- *“Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”*
-UN Commission on Environment and Development
- *“The integration of environmental health, social equity and economic vitality in order to create thriving, healthy, diverse and resilient communities for this generation and generations to come. The practice of sustainability recognizes how these issues are interconnected and requires a systems approach and an acknowledgement of complexity.”*
-UCLA Sustainability Committee
- *“The balance of preservation and utilization of natural resources for the long-term benefit of the economy, environment, and the Choctaw culture that allows for equitable multi-generational access to those resources, and their benefits.”*
-Choctaw Nation of Oklahoma



Whole System Recognition

- Replacement Rate

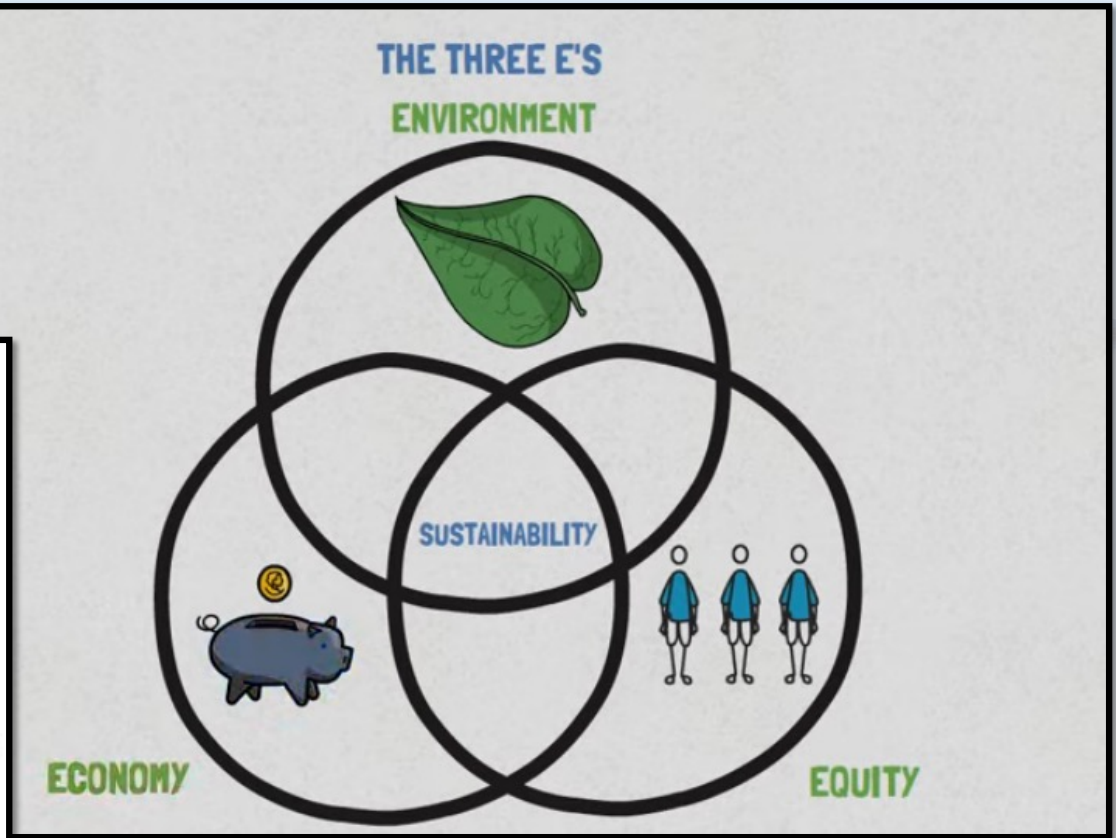
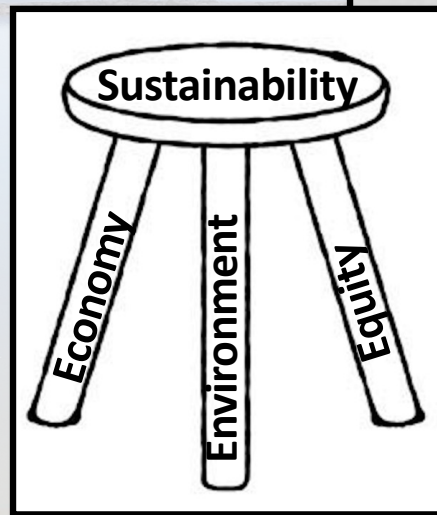
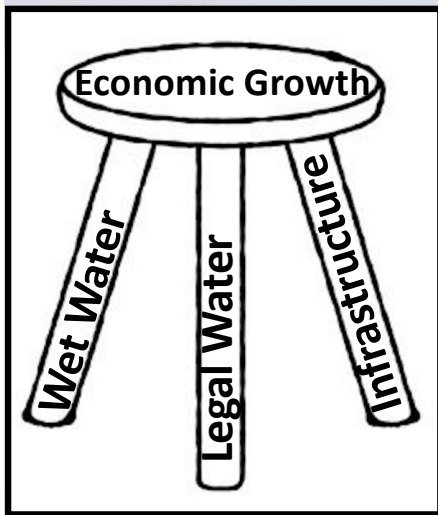
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Sustainability, An Oklahoma & Cultural Value





Why Do We Care?

- Without sustainable practices, we place an expiration on our way of life and economies
- Cultural, Lifestyle, and Generational Protection and Preservation
- Seventh Generation Principle

Sustainability → Reliability → Long-Term Success





Our Hurdles

- Legislation
- Science for the Sake of Science is not Science at All
- Translation of Science into Policy
- Stakeholder Buy-in, and Generational Entrenchment

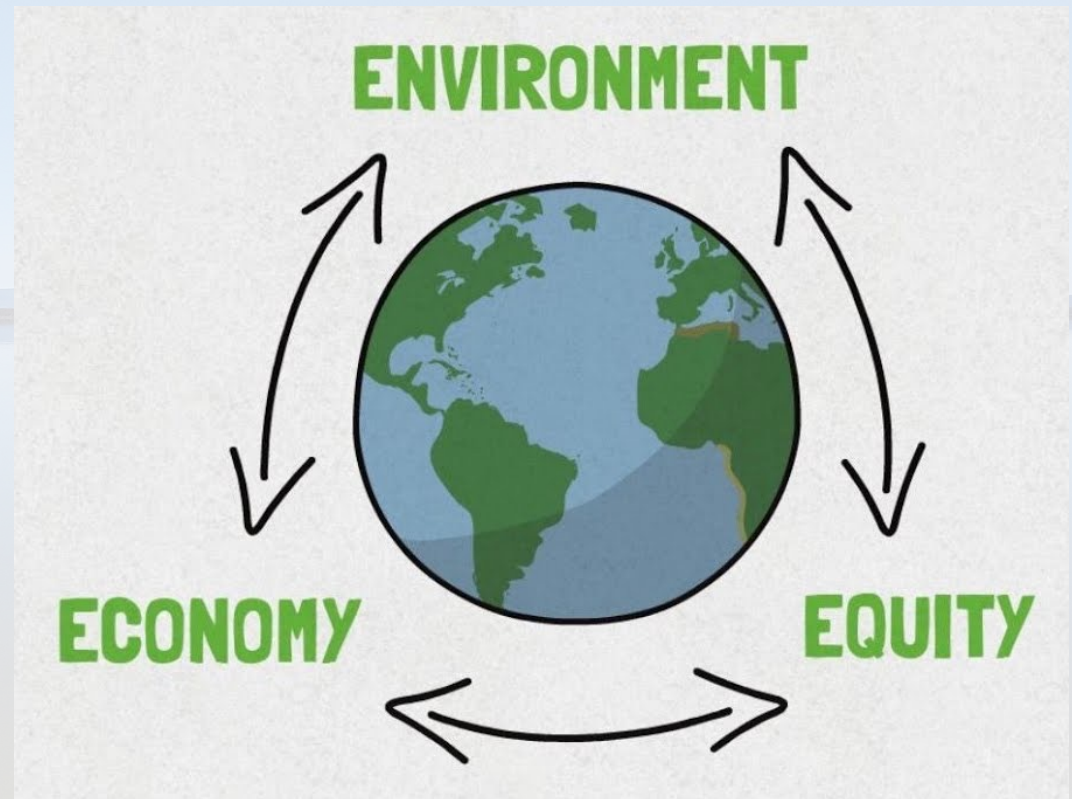
Climate Change Global Warming

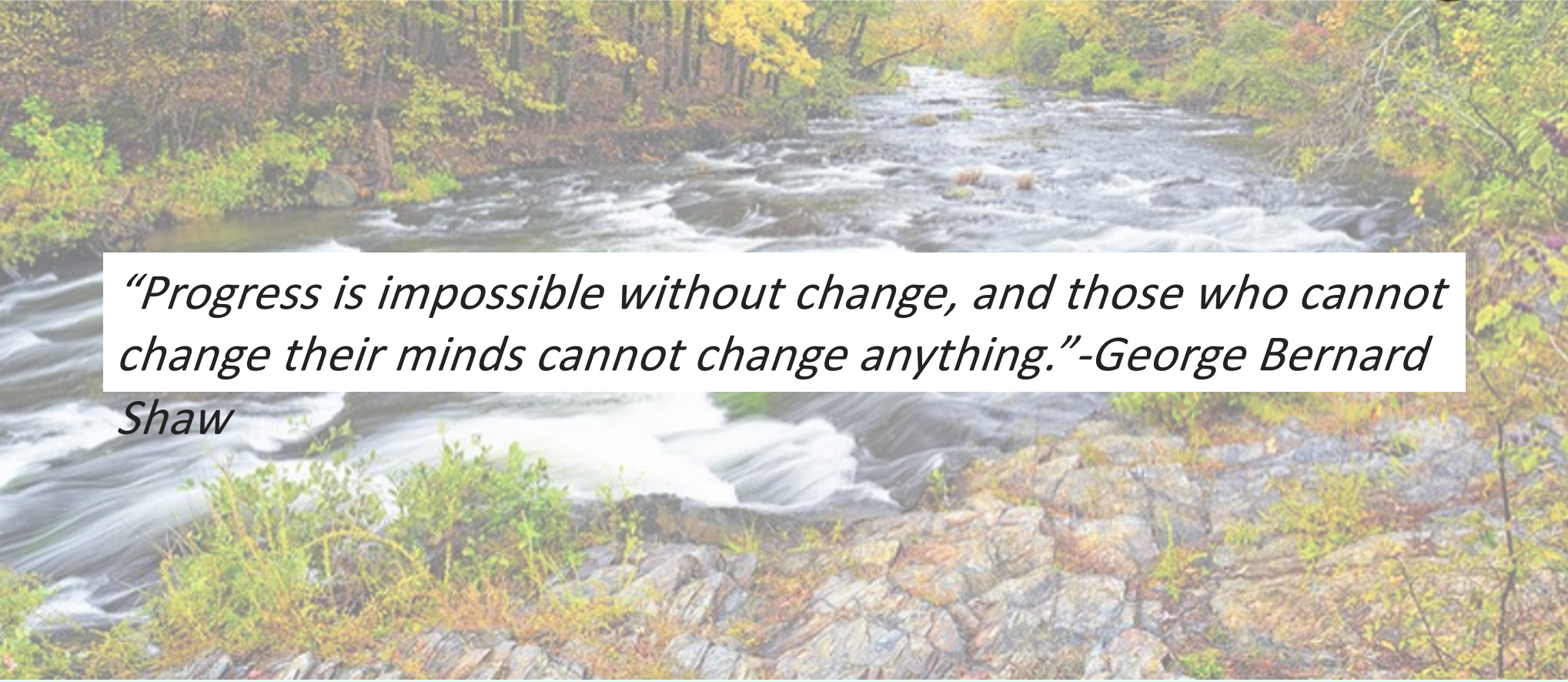




What Does Success Look Like?

- Active collaboration across the board
- Creation of useable and specific science
- Science-based legislation and policy
- Sustainable practice implementation
- A Sustainable Environment, Economy, and Social Equity



A scenic view of a river flowing through a forest with autumn foliage. The river is surrounded by trees with yellow and orange leaves. The water is white and foamy as it flows over rocks.

"Progress is impossible without change, and those who cannot change their minds cannot change anything."-George Bernard Shaw

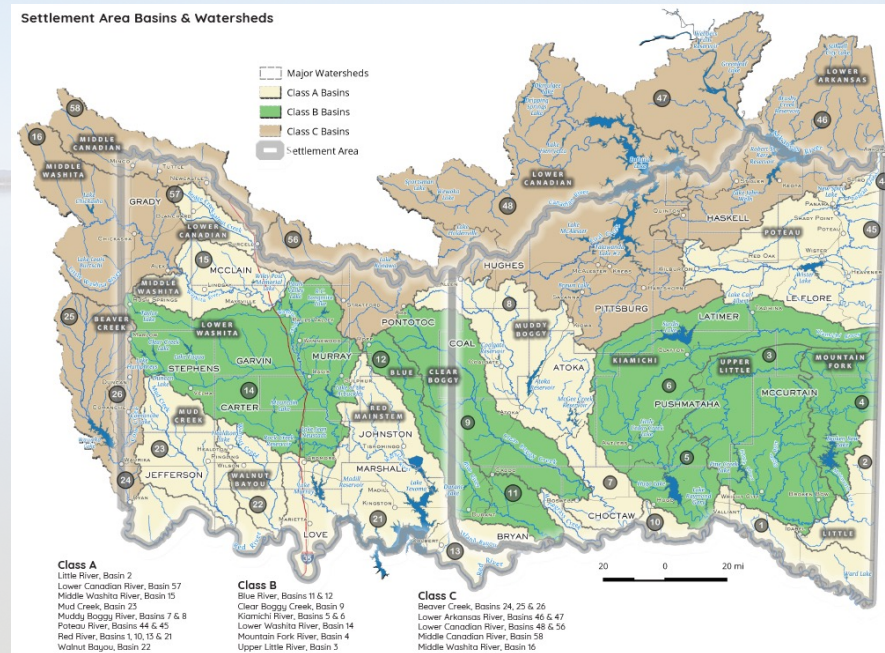


Water Settlement Agreement

- Common Interest in Sustainability
- Protection of Basin Hydrology
- Promotes Technical Studies for Informed Decision-Making

9.1.2 Common Interest – The State and Nations have a common interest in the

long-term sustainability of Settlement Area Waters and supporting water planning with sound science, best available information, and stakeholder input. The State and Nations recognize the value inherent in communicating and coordinating on technical studies and other planning efforts related to Settlement Area Waters. Nothing in Section 9 creates any enforcement right under Section 3.

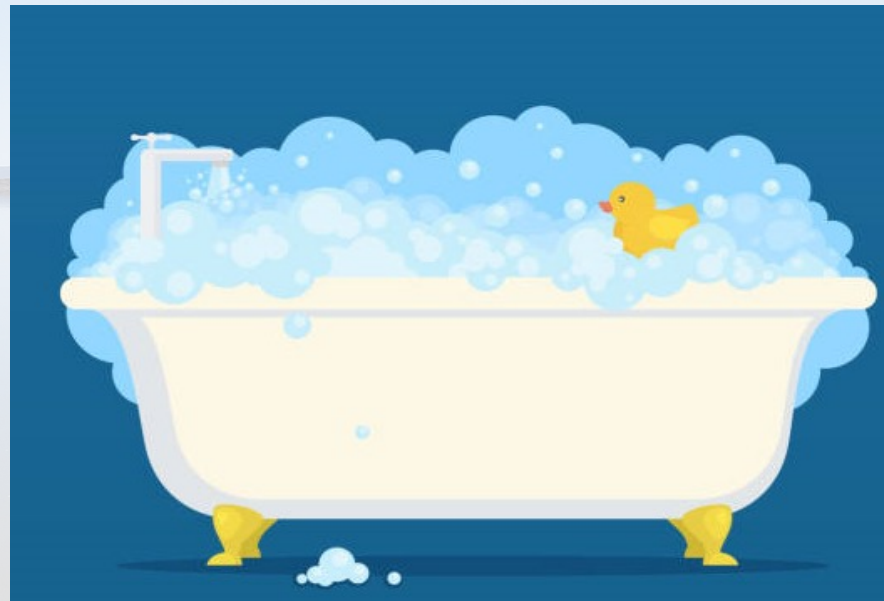




Reliability, how reliable is reliable?

- Adjf;

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Water Resource Management



Water Resource Management

- Sustainability, what is it and why does it matter
- Reliability, the difference in the known and unknown
- Vulnerability, how do over come it
- Scientific information
- Legislative change
- Climate change the future of our world and the tribal nations
- What next?