



# KIAMICHI RIVER SUSTAINABLE RIVERS PROGRAM

Stakeholder Feedback Report

2023

## ABSTRACT

Summary of 2020-2022 stakeholder meetings

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Stakeholder facilitation

# Kiamichi River - Sustainable River Program (SRP)

## Stakeholder Feedback Report

By the Oklahoma Center for Nonprofits

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The Oklahoma Center for Nonprofits was engaged to facilitate stakeholder feedback sessions for the Sustainable River Program (SRP) for the Kiamichi River in southeastern Oklahoma. There were six, two-hour sessions conducted from November 4, 2020 to December 16, 2020.

The Covid-19 pandemic required that all meetings be conducted virtually through the Zoom conferencing platform. In each of the six sessions, identified stakeholders, as well as water-related government agencies, were invited to participate. The Nature Conservancy worked with the tribal community to identify stakeholders for participation. The Choctaw Nation did not attend the calls due to water agreements between the State of Oklahoma and the Choctaw Nation not being finalized. Participation was limited to local businesses, government agencies and civic leaders. Invitations were accepted, but some invitees did not attend the sessions. Enough participation was achieved to gain insight and feedback for the SRP.

Each session contained information about SRP and how it will be addressed in the Kiamichi River basin. Slides were included, and provided, by the Nature Conservancy and a representative from the Army Corps of Engineers (USACE) to all participants for further review and study.

### **Several common themes were identified as areas to focus on during the SRP project:**

#### **Communication**

In each of the sessions, it became obvious that communication, between stakeholders and government agencies, was lacking. Each stakeholder tended to focus on their geographically-designated area with minimal concern with what happens upstream or downstream. Frustrations were expressed with slow-moving processes to acquire water resources when needed.

#### **Collaboration**

The need for frequent, and agreeable, collaboration was consistently mentioned by the stakeholders. Finding ways to work together, towards common goals and objectives, will be critical. Implementation, however, has been challenging. In the past, plans have been made but have not been executed. Memorandums of Understanding could help with defined parameters for stakeholder involvement and continued cooperation.

#### **Water Flow**

Stakeholders were generally concerned about their community's water flow. Do we have enough water for all uses throughout the year during any type of weather conditions? Unallocated water flow plans should be developed to protect future needs.

Water release is based upon water consumption without considering the needs for the ecosystem.

Concerns were expressed for future hydroelectric plants. While no plans seem to be active, there is concern that a new hydroelectric power system would further constrain natural flows.

Repeated concerns were expressed about increasing water demands from Oklahoma City (OKC). The stakeholders already feel the strain of not having enough water for their communities.

### **Economic Growth & Expansion**

Several stakeholders expressed concern with the growth of the area and the influx of new property owners. We know that southeastern Oklahoma has become a great attraction for tourism, in the Broken Bow area, with citizens of Texas purchasing land for vacations or for retirement. This will also increase economic activity which will increase demands on water resources.

### **Education**

The public does not fully understand the complexity and delicacy of the water ecosystem. Directing future strategies and recommendations, to environmental flows (e-flows), will be a challenge for the citizens of the Kiamichi River basin with little to no knowledge of water flows and conservation. Individuals tend to think of their own personal access to water and not as a complete system that can be severely impacted by flow decisions. Educating the public needs to be a part of the long-term strategy of the SRP.

Education, about species protection, was not generally discussed by the community stakeholders. The scientific participants have a much higher priority to protect the endangered species and eco-systems of the Kiamichi basin.

### **Data**

While there have been many well-established research projects, with a great deal of relevant data, the lack of communication with stakeholders who impact the Kiamichi River basin has created gaps in data for relevant decision-making. Currently, not all water withdrawals and purification numbers are shared on a regular basis by all community stakeholders. This creates an incomplete picture of the true variables affecting the Kiamichi River basin. As the area grows economically and by population, it will be important to have as many data points as possible for future planning and implementation. Future projections, for water use, should be added for every area of the Kiamichi River basin.

During the feedback sessions, questions were asked of the participants. Each question, along with the responses, is shown below. Responses are listed in a bulleted format for simplification. The Oklahoma Center for Nonprofits is grateful for the knowledge received during our facilitation services.

### **What would you want if there were no obstacles?**

- A more sustainable water system that meets ecological and community needs
- In-stream flow that works for the Kiamichi basin and protections for those flows. State and Federal guidelines for unallocated flows. Long lasting protections for flows. Sediment transport effects over time
- We need a living document. Adjustable flow (e-flows) prioritized but flexible. Range of flows to meet needs of river systems over varying conditions
- Allocated water storage. Build reserves for future climate change needs

### **Who else do we need to enlist to achieve our objectives?**

- Share key contacts with stakeholders
- Poultry, timber and citizen education
- State-wide water plan 2025
- Synergy with all Oklahoma groups
- Funding for long-term, statewide water infrastructure, quality and uses
- Tribes need to be in the conversation. Waiting on the updated water unity agreements

### **Constraints:**

- USACE uses, designations and restrictions
- OKC has purchased all storage in Sardis
- 3 cubic feet-per-second (cfs), in Antlers, before water release can be requested
- Additional storage reserves needed
- Contract limitations
- Interdependencies with other agencies and municipalities
- Funding requirements for reallocations
- Pending agreement with tribal governments
- Water is the life of the Sardis community (farming, ranchers)
- Allotment is limited
- Hassle to get 100 acre-feet when needed.
- May be a year process for requests
- OKC – no water pulled
- Sardis sells to Clayton, Push #5, #1, Latimer #2 – 260 meters we read (wholesale entities)
- Low water supply in Summer
- Financial strain, equipment maintenance and up-to-date technology
- Large industry
- THM
- Barriers: Water set aside for many uses. Drinking water, agriculture, none for biologic community. Need examples, do we have the will to implement? Solutions, starting point, pull together key stakeholders (Memorandum of Understanding)

**Problems:**

- Future water use is increasing from central Oklahoma
- Hydropower status unknown? Opportunity?
- Environmental impacts not considered by some agency permits

**Opportunities:**

- Climate change planning/impact/needs
- Flood plain restoration
- Communication – include stakeholders
- Enhance flows where they are being taken out
- Negotiations
- Endangered species potential, leverage
- Talk to communities about the realities of water conservation and impacts on their lives (education)
- Help with legislation and advocacy
- Consistent flow
- Room for small industry growth
- Room for growth in Antlers, capacity with water purification and distribution
- Communication to and from Sardis River Authority
- More open communication

**Data availability:**

- Ground water/surface water connectivity
- Hydrology, USACE is extending Period-of-Record
- Critical species, species of concern, critical life history
- Personal observations related to hydrology
- Permitted water withdrawals
- Future demand, 20+ years
- What is missing? Identify and resource
- Future growth data missing
- Installing three meters per week in one city area of Kiamichi basin
- Need estimates for future water use

**Sample of individual stakeholder feedback:****University of Tulsa professor & landowner in the Kiamichi River basin**

- Understanding the hydrology. Missing some data?
- Working with the Thriving Earth, Citizens Science programs
- How much water is in the basin? Permits lean towards the optimistic side
- Interactions of the hydrology and underground water questions
- Develop flow regimes that work for water quality and species

- Effects of the flow
- Feedback to Corps of Engineers on how to manage flow for e-flow positive outcomes
- Who should do the hydrology work?
- Opportunity to join forces
- Sporadic water chemistry data. Need a more comprehensive view
- Bio-monitoring system that is indicative and measured by mussel sensitivities
- Poland has diverted small flow to measure mussel sensitivities
- Stella model – closed loop system for transport in pipe? (Sub-standard for Oklahoma Water Resources Board?)
- Drought, water gap in data for water releases for underground water loss or gain

**The same Tulsa professor from the perspective as a landowner:**

- The Kiamichi River is “under attack”
- Lack of economic development makes it an easy target
- Doesn’t understand the diversion issue
- Doesn’t want high flow in summer. Hydroelectric will impact
- Well water impacts are sometimes their only source of water
- Too expensive to treat water

**Additional questions to consider:**

1. How can we collaborate with each other for the Sustainable Rivers Program (SRP)?
2. What roadblocks stand in our way?
3. How do we remove the barriers to working together?

**Responses to the above three questions:**

- Pull together a diverse group. Broad range of stakeholders has been brought together. Who else can help with this SRP?
- We need diverse expertise. Small task force creation. Capitalize on special areas of expertise and areas of focus
- Every stakeholder has needs. No one wants to be the “bad guy” so find common ground
- Feeling of exclusion on decisions from watershed
- Work on communicating key points
- No particular projects that stand out on Kiamichi
- Cucumber Creek data collection needed
- Water changes, elevation information and change discussions, how to get meetings. Meet with Army Corps of Engineers/Sardis Lake
- Water information to customers
- Restoration projects needed
- Sardis is a very shallow lake. USACE dredge lake? 22’ intake possible use

- Meetings with Weyerhaeuser/Sardis Lake
- Pollution: Chemicals, roundup runoff, Sardis Lake
- Conversations with independent companies and their impact on Kiamichi
- Willing to listen to each other
- Hear from people with different interests
- Not completely understanding SRP process
- Competing interests of government agencies/statutory requirements
- Lack of communication to general public about water rights
- Lack of communication with U.S. Fish and Wildlife Service
- SRP in general/what does process look like?
- These meetings are critical to the process
- How do we maintain this communication?
- Setting and maintaining realistic timelines
- Keep everybody informed of progress
- Need for cross-representation between groups
- Dialogue now before surprise decisions are made
- Sensitivity to terminology/trigger words
- Come up with long term sustainable solutions regardless of cost (dream?)
- Legislative issues need to be funded and targeted towards SRP
- Silent killer/agencies

# Environmental Flows Workshop

## Kiamichi River Watershed

### June 28, 2022

The Oklahoma Center for Nonprofits was engaged to facilitate a workshop for the Sustainable River Program (SRP) for the Kiamichi River in southeastern Oklahoma. The workshop was held on June 28, 2022 at Infant Crisis Services in Oklahoma City. The initial agenda was set for 9 am - 3 pm with the working group continuing discussions from 3:00 pm - 4:30 pm.

Janetta Cravens led the group through a Wave Analysis (Crest, Trough, Emergence and Undertow). A Wave Analysis is a quick way to reveal everyone's interpretation of current reality with objective clues and to form a common story about current reality. Participants were divided into four, small groups to work on the Wave Analysis. Below are the discussion points, for each area, as well as key priorities agreed upon by the group.

#### **Crest: Peaking now; producing results but maybe little energy left. Growth limited.**

- Sardis conservation fully contracted/allocated to water supply
  - Conservation pool has been fully contracted out for Sardis Lake. The water supply owner pays a portion of interest back to the federal treasury. Justification for taxpayers. Congressionally allocated. 100% allocated water supply.
- Aquatic biota limited by fragmentation
- Future stresses would diminish aquatic biota
- Currently wet cycle, what will dry cycle look like ecologically?
  - Wet years, in a row, are where the data is currently. Some of the issues brought up were related to a dry cycle. There is data available of a dry cycle
- Collected/actionable knowledge at a high
  - The scientific data is there it just needs to be implemented. There is enough science available, to make some decisions, but additional data is wanted
- Public Interest
  - Currently peeking because people are really interested.

#### **Trough: It's not working well, confusing signals, unclear where to go; may produce anxiety.**

- New development/crowding and the water effects
  - Congressional uses for the water and limitations from when the original dams were built. Now there are more people than there were, 57 years ago, but Congress would need to change the parameters.
- Pipeline Moyers to McGee connection for OKC
  - AMEPA processing has started. The first pipeline is in place but the second is in process: Atoka and McGee. The environmental work, for the second pipeline, hasn't started yet. Still working on the water permit.
- Workshop: Working together to develop a common understanding

- Pending decisions on water management
  - Variety of things: water usage agreement hasn't been finalized, U.S. Fish and Wildlife Service, how we use the water and management of the system. Is there legislative action that needs to be taken?
- Increasing demand for water from this system
- Pending federal listing Pyramid Pigtoe mussel and Peppered Shiner fish and Mussels endangered species
- Climate variability and drought
- Low-flow targets may be overestimated
  - The analysis periods-of-time were under extreme conditions and the system can't currently meet them. Not generally overestimated. From the Indicators of Hydrologic Alteration (IHA) analysis.
- Delayed signing at the Water Unity Agreement
  - Went to the federal level, to be signed, but is held up in court and not finalized. Need to keep an eye on this.
- Tribal Sovereignty: McGirt v. Oklahoma could change everything

**Emergence: Actions beginning to build; realities gaining energy fast.**

- Uncertainty regarding hydrology and connection between channel and shallow aquifer
- Uncertainty in hydrological modeling
  - Which hydrological model is being used?
- Uncertainty regarding water rights and allocations
- Appears to be a losing stream. May be difficult to maintain environmental flows through water releases from Sardis Lake
- Census for sensitive species (locations, elevations, data levels, etc.)
  - Species kills downstream - don't hear about them until they are already dead. Need a more accurate census as to where they are, beforehand, to make sure releases are worked around.
  - A question asking how frequent a mussel location census is taken, and it was noted that it is dependent upon funding.
  - Location of the mussels could change after a significant flood, but it isn't known collectively. There is data that can be shared on flood levels and where the mussels are located. It was noted that the group can work to improve this together.
- Unauthorized (voluntary reporting) water users. Accounting/Meters
  - It was discussed that there are some areas where the water goes down during duck season or for a new sod farm. It was noted that perhaps people are taking more than they are reporting. Hard to know because there may not be a monitoring station in that location.
  - Sometimes not enough water is released to cover the mussels. There are minimum releases. There isn't a low-flow continual release from Sardis. People put pumps in the river, that are unpermitted, during a drought. The group would like to see some kind of accounting. Likely people don't know they aren't supposed to do this. There are permits

along the river. There are a number of diversions along the river. Water board is responsible for reporting and it's currently on the honor system.

- Water temperature management
- OKC Water conservation pool release sharing
  - Thinking about environmental flows. If OKC owns conservation pool then do we have to enter into a contract with OKC? How can we implement an environmental flow if OKC owns the pool? Example: Consider looking at Big Cypress, in east Texas, and how they handle environmental flows.
  - 2011-2012: Last extreme drought. Contacted USACE and negotiated emergency releases that were small for a period of weeks, because they were seeing a lot of mussels dying. It was noted that this was not an ideal arrangement and required a lot of monitoring and extreme circumstances. Would prefer having something more robust and planned, ahead of time, instead of in a crisis situation.
- Communication with ALL stakeholders
  - Lots of players (OKC, Residents, Tribes, Business Owners, Tourists)
    - People that live in the watershed have not been involved in any of the decision making. All closed-door conversations. There has been an influx of people coming into southeastern Oklahoma. Economic value towards water, from tourism, is sustaining the state and is currently 50% of the tourism for Oklahoma but the water is going away. Authorized purposes.
  - Understand triggers for regulations
    - There is a process, in changing flows, but it is a process through congressional approval. It would take changes, in the laws for fish and wildlife, in storing water. It's an open question. There are triggers in what OKC pulls. Certain conservation efforts have to be made before OKC pulls water from the lake. Need to know steps that need to be taken first.
  - Authorized purposes
    - There was discussion regarding the authorized purpose for the water. Regional, state and national economic development for water consumption vs non-consumption. This area of the state has historically been the poorest and hasn't really had an avenue of building an economy. Ecotourism is a great way to get the area out of this place. Focused on the flow of the river versus the lake.

**Undertow: Deep patterns that cause trouble, even in-the-midst of success; caution to not get sucked down with it.**

- Who owns what water, where does it go and how do we get access to it? Who owns the ground water and surface water?
  - Connectivity isn't really considered under the law. Groundwater is privately held if you are the surface owner. Who owns when they are interconnected? Neither SRP, nor USACE, are asking for the law to be changed. We understand that there is science and data regarding the ecological aspect. Can back into it working within SRP without the legal framework. How can we affect change if things are determined at the federal level? What flow targets are we talking about to see what is feasible.
- Limitations of knowledge and monitoring

- Competing or conflicting priorities
- Travel time (flow response)
- Climate change with nature
- Variability for managed systems. How much variability is acceptable?
  - When a lake is put into a river system. When is the system managed and how much variability should we expect? How much do we need to compensate for a managed system?
- Social justice in water uses and allocation. Involving all stakeholders in water flow
- Trust between key stakeholders. The importance of building trust between all stakeholders

### **High Level Issues/Priorities Identified**

Following the Wave Analysis, there were two key areas identified as priorities for the group to work towards:

1. Keep a sustainable flow (related to protecting the species that live there).
  - Protecting Species- pulled under the sustainable flow and not separate. Include people in nature as part of the species.
  - Agreement/Commitment- Implementation from stakeholders like an MOU. Need action here.
2. Communication- Improvement with stakeholders. How will we agree to communicate? Master list of those who have attended today.

### **Hydrologic Engineering Center Regime Prescription Tool Presentation**

Presenters of the HEC-RPT discussed the tool using an example of 50 CFS for a wet vs. dry year to see what it looks like at Antlers. Where it's being released and making it all the way down. RPT is a visualization tool of what has been observed. The presenters reviewed the tool and explained the program and what the data means on graphs so everyone could understand.

### **Additional goals identified during the afternoon discussion in relation to the RPT:**

- Utilize RiverWare to identify flow prescriptions that meet the needs.
- Focus on ecological purposes. Low flows, when the temperature gets too hot, as the water is shallow for mussels to live long before the riverbed dries up. High flows also need to be managed.
- Set the flows that everyone can agree upon.
- Start to identify the critical points- Dry season prescription.
- Ecotourism goals.
- Minimize fish and mussel mortality.
- Quality of the water when the quantity of water is reduced. What does the flow need to be?

### **Potential partners:**

Assistance from the National Weather Service in predicting both droughts as well as floods. Need a hydrologist.

Afternoon discussions continued following the OKCNP morning workshop. They were led by representatives from the U.S. Army Corps of Engineers and members of the HEC-RPT team. Due to the technical nature of the discussions, a representative with HEC-RPT took notes for the remainder of the day.