Illinois River Watershed Study & Implementation

OWRB Meeting
May 19, 2020
Agenda Item 4
OK Scenic Rivers

- Mountain Fork
- Barren Fork Creek
- Flint Creek
- Little Lee Creek
- Lee Creek
- Illinois River
Illinois River Watershed

- Illinois River
- Flint Creek
- Barren Fork Creek
History: Total Phosphorus Criteria

- **2002**: Scenic River TP Criterion Adopted
  - 0.037 mg/L, 30-day geo-mean

- **2003**: 1st Statement of Joint Principles
  - OK & AR agreed to coordinated, but individual state actions to reduce phosphorus

- **2012**: Re-evaluation TP Criterion
  - Technical re-evaluation of phosphorus criterion
  - Technical Advisory Group (TAG) confirmed the Scenic River TP criterion

- **2013**: 2nd Statement of Joint Principals
  - Some disagreement regarding TAG findings
  - Formed Joint Study Committee
  - Special Study on phosphorus & algae growth conducted

- **2018**: MOA
  - OK & AR working together on various actions to improve water quality
2013 Second Statement of Joint Principals

Formed 6-person Joint Study Committee

Responsible for overseeing study on phosphorus & algae

June 2014 - April 2016, Ryan King with Baylor University conducted study

December 2016, Committee Final Report & Recommendations accepted by both state Governors

OWRB staff & partners working to address committee recommendations
Joint Committee Recommendations

- 2 Recommendations
  1. Water quality criteria
  2. Ambient water quality monitoring

A six-month average total phosphorus level not to exceed 0.035 mg/L based on water samples taken during the CRITICAL CONDITION.
Interagency Cooperation

OK Agencies & Tribal Partners

- Extensive technical & general information meetings
  - 3 completed
  - Additional expected

- General communication & info exchange, as needed

Arkansas Division Environmental Quality

- Technical meetings, bimonthly since March 2019 & ongoing

- General communication & info exchange, as needed

- Cooperation on stakeholder outreach being planned
Water Quality Standard

- Antidegradation Policy
  - Scenic River
  - Outstanding Resource Water

- Beneficial Use
  - Aesthetics

- Water Quality Criteria
  - Total Phosphorus
Aesthetic Beneficial Use

Illinois River at Watts
Water Quality Criteria

- **Magnitude**
  - Remain at 0.037 mg/L TP

- **Duration**
  - Evaluated & confirmed 6-month average with OWRB long term data sets
  - 6-month average will be protective and reasonable
Water Quality Criteria

- **Frequency**
  - Committee Recommended, “not to exceed”
    - Waterbodies have resiliency and can withstand infrequent exceedances
    - Not effective for implementation programs
  - OWRB staff recommend limited exceedance approach with 2 components for short term & moderate term protection
    - No more than 1 exceedance per 1-year period
    - No more than 3 exceedances per 5-year period
    - Analysis shows this is protective and reasonable
Critical Condition

- New requirement not previously in OK Water Quality Standards
- Committee definition

“the conditions where surface runoff is not the dominant influence of total flow and stream ecosystem processes.”
Critical Condition

“the conditions where surface runoff is not the dominant influence of total flow and stream ecosystem processes.”

1. What does this mean?

2. We need an operational definition that can be implemented across 2 states and various monitoring programs
Critical Condition

Break critical condition language into 2 parts & created 2 analysis to consider each part

1) the conditions where surface runoff is not the dominant influence of total flow

&

2) the conditions where surface runoff is not the dominant influence of stream ecosystem processes
Critical Condition Analyses

1. Total Flow

Hydrograph separation analysis to evaluate flow conditions & when is surface runoff dominant and when is it not

- Effectively & efficiently identify surface runoff versus baseflow conditions
- Utilized USGS gages throughout watershed
- Consistent approach applicable watershed wide
Critical Condition Analyses

2. Stream Ecosystem Process

Hydrology scour analysis to determine when flow dominates ecosystem process of interest, which is benthic algal growth

- Results very dynamic and highly variable
- Not consistent across watershed
- Analysis very labor intensive
- Not effective for operational definition
Outcome of Critical Condition Analyses

- Hydrograph separation analysis will provide foundation for interpretation of critical condition language
Rule Changes

- 6 scenic rivers, changes only apply to Illinois River Watershed

  - Chapter 45
    - Revised water quality criteria
  
  - Chapter 46
    - Critical condition operational definition
    - Use Assessment Protocol, changes accommodate monitoring programs
## Stakeholder Participation

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<th>Activity</th>
<th>Timeframe (2020)</th>
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<td>OWRB Meeting: Information Item</td>
<td>May 19&lt;sup&gt;th&lt;/sup&gt;</td>
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<tr>
<td>EPA R6 Staff briefing</td>
<td>May-June</td>
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<tr>
<td>Large public webinar meetings (~ 3-5)</td>
<td>June- September</td>
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<td>Small webinar meetings with target groups</td>
<td>June – October</td>
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<td>MOA Steering Committee Meeting</td>
<td>June 17&lt;sup&gt;th&lt;/sup&gt;</td>
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<td>EPA R6 Staff briefing</td>
<td>October</td>
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<tr>
<td>OWRB Meeting: Information Item</td>
<td>November 17&lt;sup&gt;th&lt;/sup&gt;</td>
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- December 2020 Draft Rules published in OK Register and formal public participation process starts
# Rulemaking Schedule

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<tr>
<td>Governor &amp; OSEE review of draft rules</td>
<td>November 2020</td>
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<tr>
<td>Draft Rules Published in OK Register</td>
<td>December 2020</td>
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<tr>
<td>OWRB Public Hearing &amp; Public Comment Period</td>
<td>January 2021</td>
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<tr>
<td>OWRB Meeting &amp; Rule Consideration</td>
<td>February 2021</td>
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<tr>
<td>Legislative &amp; Gubernatorial Review</td>
<td>Spring 2021</td>
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<td>Rules Become State Law</td>
<td>September 2021</td>
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<td>EPA Approval</td>
<td>February - March 2022</td>
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Next Steps

- **Technical Work**
  - Finalize analyses
  - Prepare written documents
    - Tech Memos
    - Staff Report
  - Draft regulatory language for Chapter 45 & 46

- **Stakeholder Outreach**
  - Schedule webinars & meetings
  - Prepare materials such as, fact sheets and FAQs
Questions

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Illinois River at Tahlequah