Water Quality Monitoring in the Upper Illinois River Watershed and Upper White River Basin

Project 15-400 (continuation of Project 11-500)
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Priority Watersheds
<table>
<thead>
<tr>
<th>Stream Name</th>
<th>Site ID</th>
<th>Period of Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>Illinois River</td>
<td>IR59</td>
<td>1997-current</td>
</tr>
<tr>
<td>Kings River</td>
<td>Kings</td>
<td>2001-2010, 2011-current</td>
</tr>
<tr>
<td>West Fork White River</td>
<td>WFWR</td>
<td>2002-current</td>
</tr>
<tr>
<td>Osage Creek</td>
<td>Osage</td>
<td>2007-current</td>
</tr>
<tr>
<td>White River</td>
<td>Wyman</td>
<td>2009-current</td>
</tr>
<tr>
<td>War Eagle Creek</td>
<td>WEC</td>
<td>2009-current</td>
</tr>
<tr>
<td>Illinois River</td>
<td>Watts</td>
<td>2009-current</td>
</tr>
<tr>
<td>Illinois River</td>
<td>Savoy</td>
<td>2009-current</td>
</tr>
<tr>
<td>Baron Fork</td>
<td>Baron</td>
<td>2009-current</td>
</tr>
<tr>
<td>Sager Creek</td>
<td>Sager</td>
<td>2011-current</td>
</tr>
<tr>
<td>Spring Creek</td>
<td>Spring</td>
<td>2012-current</td>
</tr>
<tr>
<td>Mud Creek</td>
<td>Mud</td>
<td>2015-current</td>
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<tr>
<td>Osage Creek</td>
<td>OC112</td>
<td>2015-current</td>
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<tr>
<td>Richland Creek</td>
<td>Richland</td>
<td>2015-current</td>
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<tr>
<td>Town Branch</td>
<td>TB</td>
<td>2015-current</td>
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</tbody>
</table>
Transboundary River

Illinois River
Effects of Wastewater Effluent

- Rogers, Springdale, Northwest Arkansas Conservation Authority - major improvements to WWTPs
Effects of BMPs

- Siloam Springs and ANRC 319 efforts
- Stream channel restorations
- Riparian and wetland restorations
Transboundary River

- 50% pasture
- 50% forest
- Little urban
- Illinois River tributary

Baron Fork
Municipal Stormwater Management

- Largely urban
- Continuous turbidity from USGS
- City of Fayetteville sediment reduction plan
- Develop models for sediment transport and loading
Municipal Stormwater Management

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TMDLs

West Fork of the White River

- Impaired for turbidity because of sediments
- Beaver Watershed Alliance focus on improving water quality in this river
- Major tributary to White River
Beaver Lake Inflows

- Beaver Lake drinking water supply!
- Drives NWA economy – industries, recreation
- City of Huntsville WWTP discharges into WEC
Beaver Lake Inflows

- Beaver Lake drinking water supply!
- Drives NWA economy – industries, recreation
- 60% forest, 35% pasture, and 4% urban at “Richland”
Beaver Lake Inflows

- Beaver Lake drinking water supply!
- Drives NWA economy – industries, recreation
- City of Fayetteville WWTP discharges just downstream of “Wyman”
- 70% forest, 23% pasture, 7% urban

White River
White River Tributary

- Enters White River downstream of Beaver Lake
- Major tributary to Table Rock Lake
- 70% forest, 26% pasture, 4% urban
Why is monitoring so important?

- Build long-term databases
- Protect source water quality
- Inform municipalities, state agencies

Constituent loads and water quality trends
Questions?