

Brief History of the Baron Fork Creek Instream Flow Provisions

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State of Oklahoma

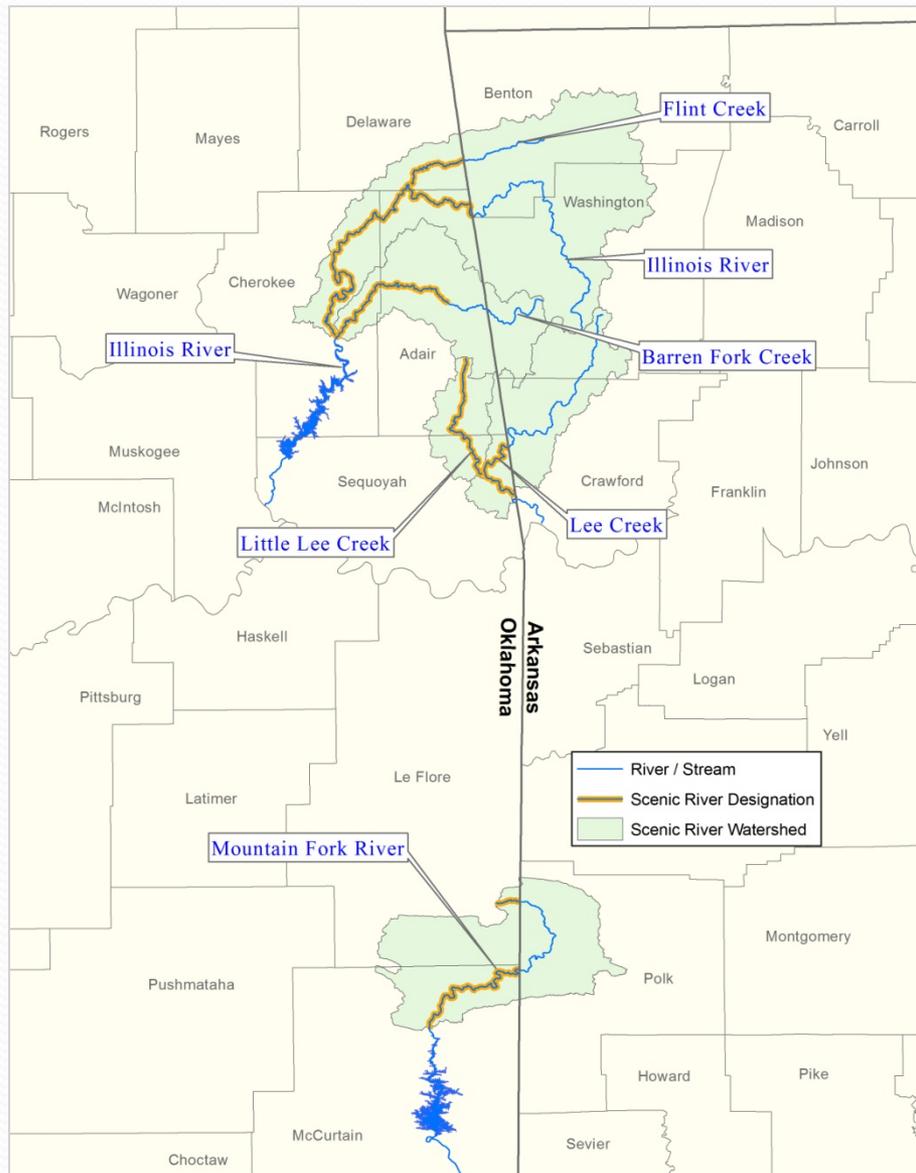
OWRB

WATER RESOURCES BOARD
the water agency

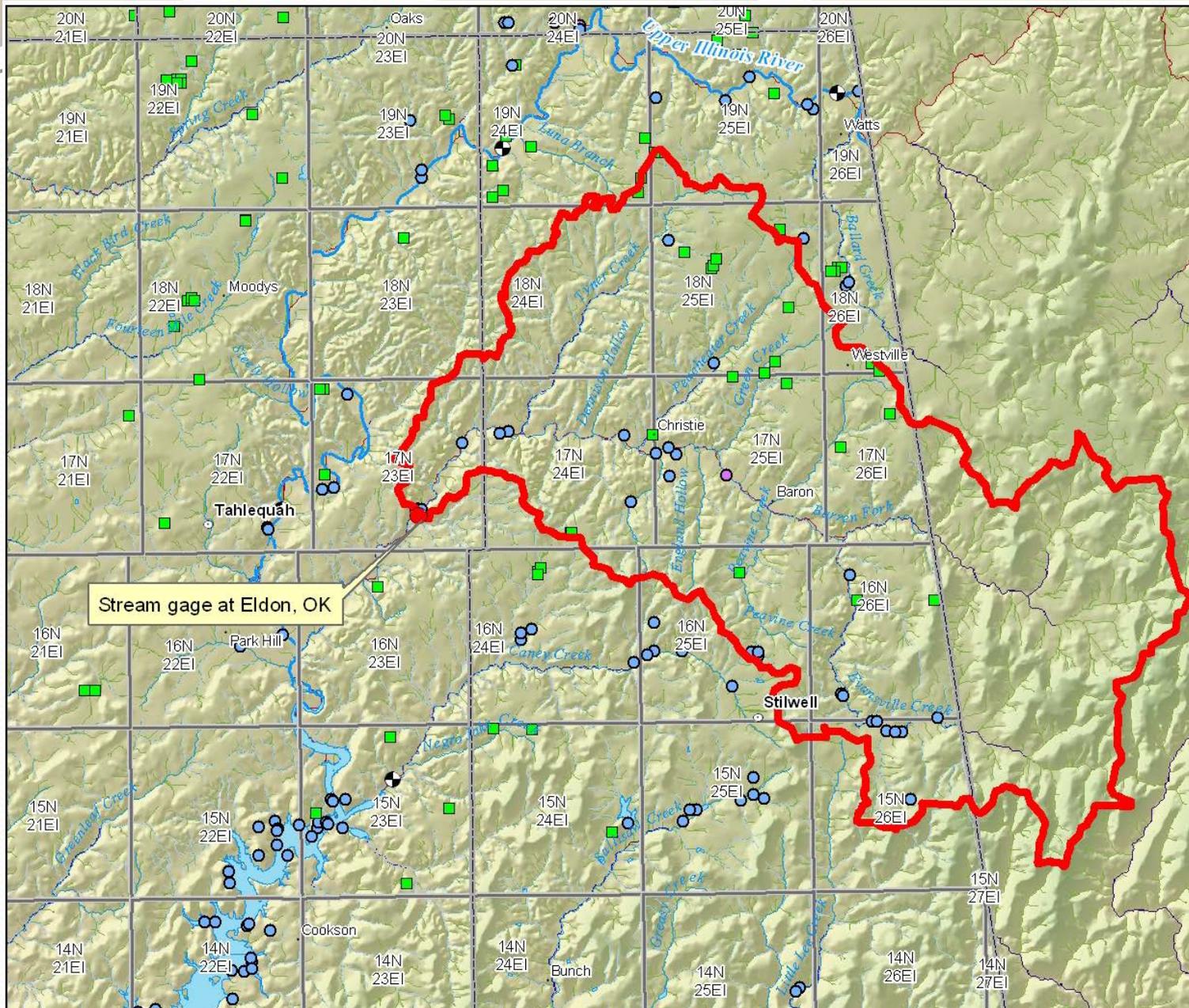
Scenic Rivers Act

- Baron Fork was designated a Scenic River in 1970.
- Statutory language states that:
 - *“The Oklahoma Legislature finds that some of the free-flowing streams and rivers of Oklahoma possess such unique natural scenic beauty, water conservation, fish, wildlife and outdoor recreational values of present and future benefit to the people of the state that it is the policy of the Legislature to preserve these areas for the benefit of the people of Oklahoma. For this purpose there are hereby designated certain "scenic river areas" to be preserved as a part of Oklahoma's diminishing resource of free-flowing rivers and streams.”*

Oklahoma's Scenic Rivers



- In June 1981, the Board adopted a policy of prohibiting direct diversions from the Baron Fork when:
 - The flow at the Eldon gage is less than 50 cfs, or
 - Tenkiller Reservoir is below elevation 632.0 feet msl
- The policy addressed concerns regarding the dependable yield of Tenkiller as well as protecting Baron Fork flows



Adair County Rural Water District #5 Permit

- In September 1988, Adair County RWD #5 filed for a permit (App. 88-33) to use 75 acre-feet of water per year from the Baron Fork at a maximum diversion rate not to exceed 150 gpm.
- Applicant's Engineer requested that an unrestricted permit be issued.

- At its April 20, 1989 meeting, the Board adopted a new resolution placing a 13.5 cfs diversion restriction on future permits issued from the Baron Fork.
 - Specific basis for previous 50 cfs restriction unknown
 - 13.5 cfs flow restriction based on an instantaneous flow that would be equaled or exceeded 80% of the time
- Protestants objected to the 13.5 cfs condition:
 - asserted that the April 20, 1989 resolution constituted an ineffective rule because rulemaking had not been followed in its adoption
- At the Board's July 13, 1989 meeting, the permit was issued without any flow condition or restriction.

- OWRB, ODWC, OSRC continued to work together to implement stream flow protection.
- OWRB rules amended in 1994:
 - Set out additional factors to be determined for scenic rivers and outstanding resource waters
 - Provided a flow restriction of 50 cfs for sustaining existing fish species in the Barren Fork Creek unless information to the contrary is shown

- On May 31, 1994, Adair 5 filed for a permit (App. 94-34) to divert an additional amount of water from the Baron Fork.
- The application was protested by the Office of the Attorney General on behalf of the ODWC and Oklahoma Wildlife Federation (OWF).
 - A study entitled “Preliminary Instream flow Assessment for the Barren Fork Creek, Oklahoma,” was conducted on behalf of the ODWC by Dr. William G. Layher.

Layher Study

- Used method referred to as the Proportional Analysis Method
- Recommended a minimum flow of 75 cfs, which corresponds to the average median flow without diversions during the low-flow months (July through October)
- An analysis of the methods used showed that site specific information and field-verified data was lacking.
- Pending additional study, Adair 5's permit was issued in June 1998 with a condition that diversions cease when flows drop below 75 cfs at the Eldon gage.

Layher Study

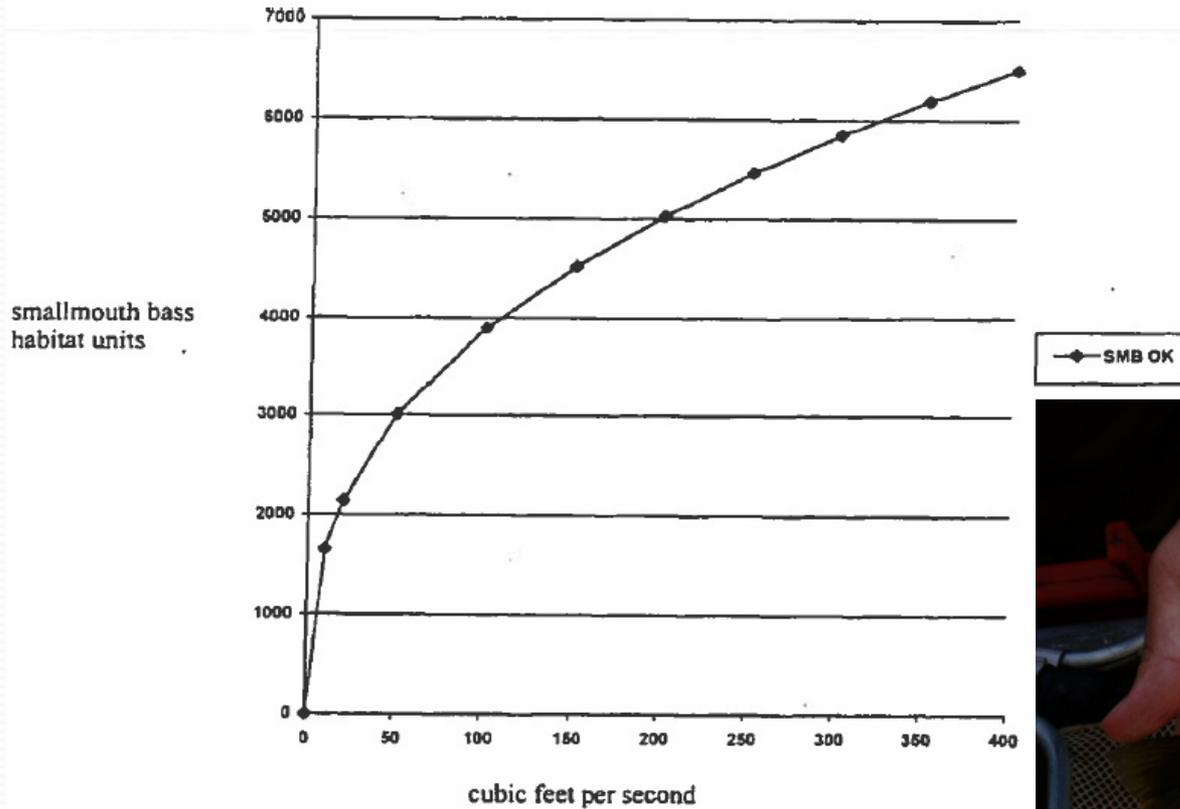


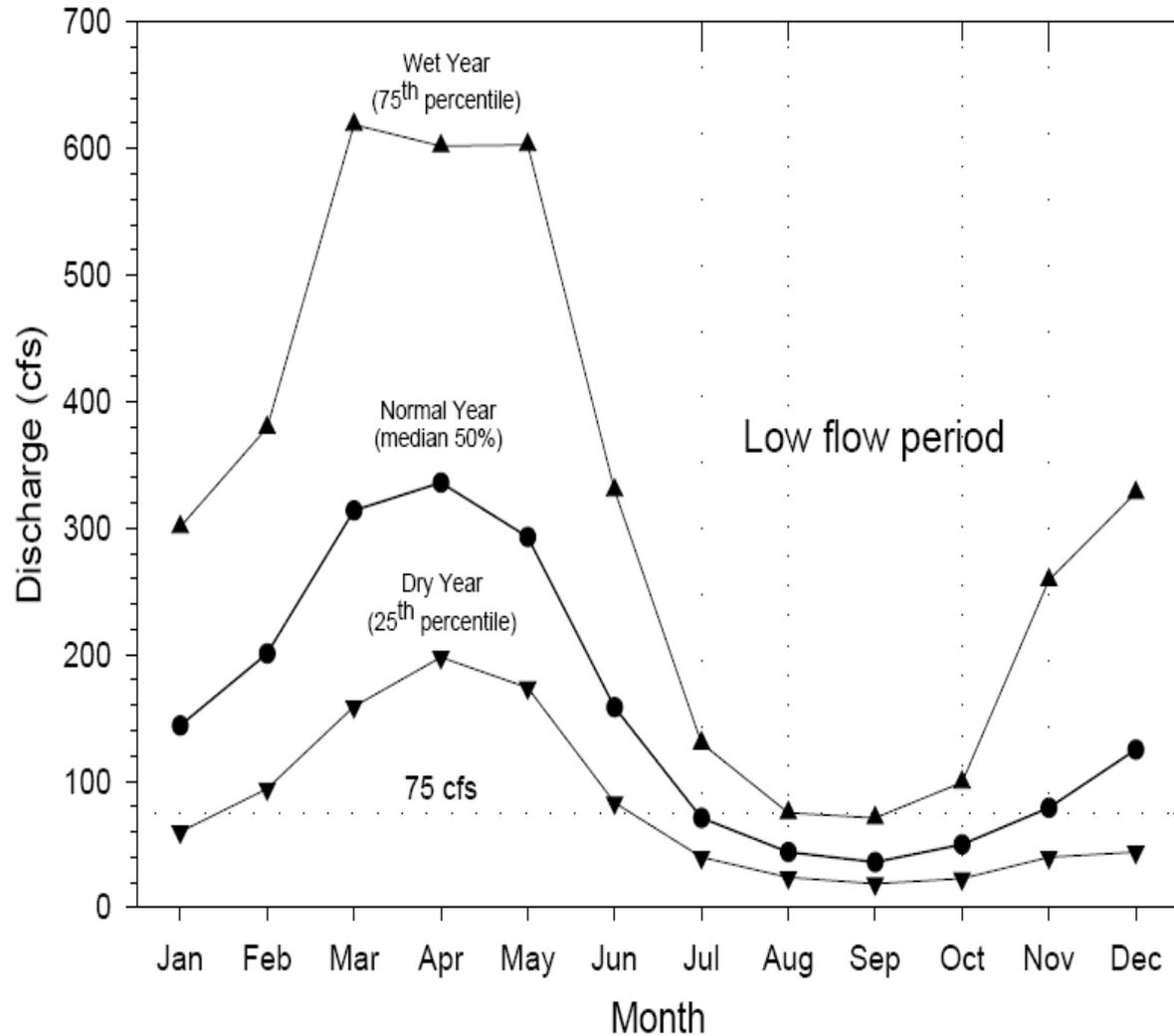
Figure 1

**Smallmouth bass habitat units at various flows
for the
Eldon, Oklahoma stream gauge**

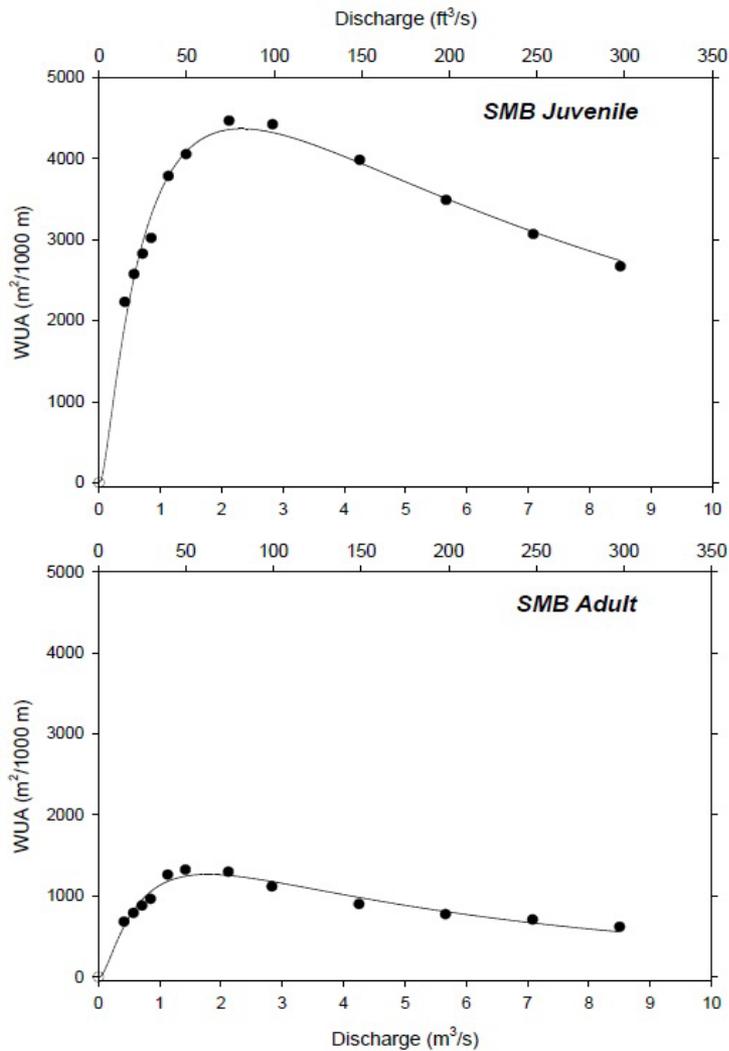


Fisher Study

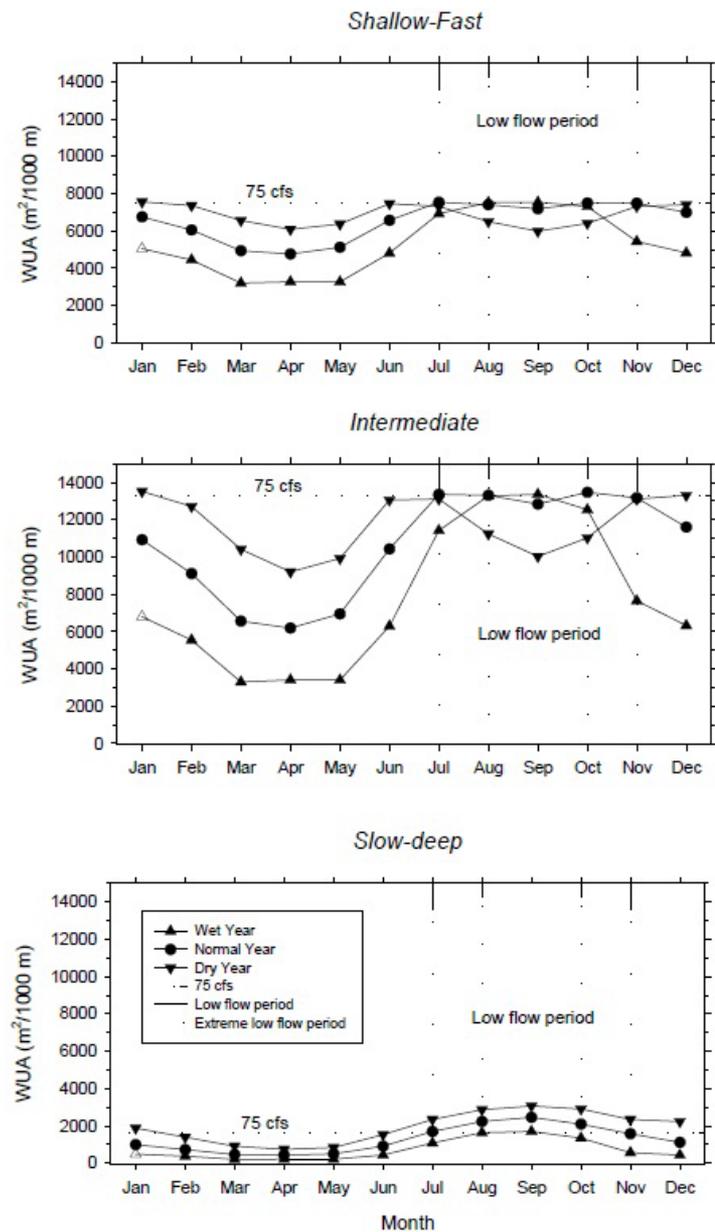
- “Instream Flow Assessment of Baron Fork Creek, Oklahoma”
 - Dr. William L. Fisher and W. Jason Remshardt, OSU, in August of 2000
- Instream Flow Incremental Methodology (IFIM).
 - Analysis of alternative streamflows focused on annual low-flow period
 - Baseline conditions were defined as monthly median streamflows during this period
- Provided organizational framework for evaluating alternative water management options in the Baron Fork.



Monthly median, 25th percentile and 75th percentile discharge in Baron Fork (Fisher Study)



PHABSIM Modeling



WUA and discharge for fish assemblages



The Fisher Study model results indicate that instream flow recommendations could support a minimum instream flow of between 30 and 75 cfs, depending on how the results are interpreted and the level of protection deemed appropriate for the stream.

Current Rule

- A technical committee recommended 35 cfs as the floor.
- Following public review, this was changed to 50 cfs
- In 2003 rulemaking, OAC 785:20-7-3.1 was modified to require suspension of all future permitted withdrawals from Baron Fork Creek when the flow is less than 50 cfs at the Eldon gaging station.