I'd like to add more comments to the 303 (d) impaired stream list due.
In 2012 C&C Farms was producing approximately 550,000 gallons of swine waste a year. It was permitted as 312 sow & pig farm. During the years of 2012 and 2013 C&C modified their permit and began spreading waste on fields aligning Big Creek. C&C is now known as EC Farms and public comment period for further modifications is in Jasper April 11. (see EC Farms permit # 3540-WR-7).
In 2013 Faron Usery, NPS sent information to ADEQ requesting help determining what was impairing the Dissolved Oxygen on Big Creek. Below is a that information and ADEQ's awareness a pollution of this stream existed.
Below is a copy of an email sent from the NPS to ADEQ bringing awareness to Big Creek impairment in Aug of 2013. (This email thread is in ADEQ's archive)
Those ADEQ employees that received this information were Sarah Clem, Bruce Kirkpatrick, Tony Morris, Jason Bolengaugh, Uveda Craig, Jeff Ruehr,
Date: Tue, 6 Aug 2013 16:19:06 -0500Subject: Dissolved Oxygen in Big Creek, Newton County Sarah,
Dissolved oxygen in Big Creek continues to be low despite the rain and cooler temperatures. Last weeks water quality sampling in several of our tributaries found that Big Creek was among the lowest, and todays sampling found that it was 5.8 mg/L at 0940. We are concerned that due to the continuous low dissolved oxygen that there may be a biological impairment in Big Creek. And, dissolved oxygen is being driven down to critical levels in the Buffalo River below the confluence, a reach containing potential T&E species of native mussels. Several weeks ago I requested ADEQ's assistance to determine the source of the dissolved oxygen depletion, has there been any headway in that request? I have no authority to proceed on to lands outside the park, but ADEQ has that investigative authority. In the weeks to come, we will continue to monitor dissolved oxygen in our water quality tributaries and in Big Creek (T06). I look forward to hearing from ADEQ in this issue and will assist you in any capacity that I can. Thank you.
Faron Usrey
Aquatic Ecologist
Buffalo National River
Below is data arrived from BCRET's data showing Big Creek was impaired for e-coli. This data is also in ADEQ's archive, but I will include it as I received it as a spread sheet.
Subject: Big Creek, Newton County, Impairment for *Escherichia coli* based on data collected by Big Creek Research and Extension Team
After a rather exhaustive analysis of Big Creek Research and Extension Team (BCRET) water quality data for two stations on the main stem of Big Creek, Newton County, above its confluence with the Left Fork of Big Creek, it is determined that this reach of the creek, Headwaters Big Creek, 12 digit Hydrologic Unit Code (HUC12) 110100050302 was impaired for *Escherichia coli*

(*E*. *coli*) bacteria based upon Regulation 2.507 during the primary contact period of May 1 to September 30, 2014. According to the Arkansas Water Information System, this HUC12 has an area of approximately 45 square miles, making it Big Creek a Primary Contact Stream.

BCRET site BC 6 is a station on the main stem of Big Creek upstream of the C&H Hog Farm, Inc. facility and manure spreading fields.

If we assume that Big Creek is not part of an Extraordinary Resource Water, Ecologically Sensitive Waterbody, or Natural and Scenic Waterway (ERW, ESW, or NSW) the upper *E*. *coli* limit is 410 colonies per 100 ml (410 col/100ml). During the primary contact period in 2014, the E. coli exceeded 410 col/100ml in 6 of 22 samples for a 27% exceedance. According to Regulation 2.507, for assessment of ambient waters as impaired by bacteria, the *E*. *coli* standard shall not be exceeded in more than 25% of samples in no less than 8 samples taken during the primary contact season.

The regulations enacting the Federal Clean Water Act appear to take a more conservative approach to Outstanding National Resource Waters (ONRW) [40 CFR§131.12(a)(3)] which streams are analogous to ERW, WSW, and NSW streams. 40 CFR indicates that the watershed of ONRWs is part and parcel with the ONRW itself, and watershed protection leads to maintenance and protection of the ONRW. Taking this more conservative approach, the E. coli standard for Big Creek should be 298 col/100ml for an individual sample and 126 col/100ml for a geometric mean of at least five samples over a 30 day period. During the primary contact period of 2014, Station BC 6 exceeded 298 col/100ml in 8 of 22 samples for a 36% exceedance. Also, during the primary contact period there were three periods when the geometric mean was exceeded. These were: May 13 through June 9, 2014 when the geometric mean was 339 col/100ml, June 19 through July 15, 2014 when the geometric mean was 783 col/100ml, and August 20 through September 18, 2014 when the geometric mean was 146 col/100ml.

BCRET BC 7 is a station on the main stem of Big Creek downstream of the C&H Hog Farm, Inc. facility and manure spreading fields. During the primary contact period in 2014, the stream exceeded 410 col/100ml in 7 out of 22 samples for a 32% exceedance of the standard. The stream exceeded 298 col/100 ml in 7 out of 22 samples for a 32% exceedance of the ERW standard. The stream had two periods where the ERW geometric mean was exceeded. These were: May 13 to June 9, 2014 with a geometric mean of 283 col/100ml and June 24 to July 23, 2014 with a geometric mean of 697 col/100ml.

These data indicate that Big Creek is indeed impaired for *E*. *coli* upstream of the Left Fork.

Sincerely,

Carol Bitting, HC 73 Box 182 A, Marble Falls, Ar 72648