

From: [Lombardi, Melissa](#)
To: [ImpairedWaterbodies Comments](#); [Wise, Jim](#)
Cc: [Chris Davidson](#); [Melvin Tobin](#); [Justin Stroman](#); [Jennifer Sheehan](#); [Cindy Osborne](#); [John Turner](#)
Subject: USFWS comments on Eleven Point River removal from 303(d)
Date: Wednesday, March 09, 2016 3:06:12 PM
Attachments: [ADEQ Eleven Pt 303d comments.pdf](#)

Jim,

I've attached the U.S. Fish and Wildlife Service comment letter highlighting the Service's concerns regarding the removal of the Eleven Point River from the 2016 Draft Impaired Waterbodies List. Please contact me if you have any questions. Thank you for the opportunity to comment.

Melissa Lombardi
Endangered Species Biologist

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IN REPLY REFER TO:

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March 7, 2016

Becky Keogh, Director
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, AR 72118-5317

Dear Director Keogh:

The Fish and Wildlife Service (Service) appreciates the opportunity to provide the Arkansas Department of Environmental Quality (ADEQ) with comments on the Draft 2016 Impaired Waterbodies List (2016 303(d) List). Presented below are several concerns the Service would like to highlight as ADEQ moves forward with their process. Our comments are submitted in accordance with the Endangered Species Act (87 Stat. 884, as amended 16 U.S.C. 1531 et seq.).

The Ozark Hellbender is a large, strictly aquatic salamander endemic to streams of the Ozark Plateau in southern Missouri and northern Arkansas. The Eleven Point River provides habitat to the endangered Ozark Hellbender. The Ozark Hellbender uses large, flat rocks for shelter, reproduction, and refuge from predators in spring-fed streams with consistent cool water temperature throughout the year. Their diet consists primarily of crayfish, which also seek refuge under rocks. Hellbenders migrate little, with one study revealing that 70 percent of marked individuals moved less than 100 feet from the site of original capture with home ranges averaging 92 square feet for females and 268 square feet for males (Nickerson and Mays 1973; Peterson and Wilkinson 1996). Due to these specialized habitat and diet requirements, changes to the aquatic environment can have deleterious effects to hellbender populations.

Sediment inputs from land use activities (e.g., agriculture, unpaved road, forest conversion) significantly contribute to habitat degradation in the Eleven Point River. Hellbenders are intolerant of siltation and sedimentation and can be adversely affected in several ways. Sediment deposition degrades or destroys suitable habitat (i.e., cover rocks) for adults and can cover and suffocate egg masses. Sediment fills interstitial spaces in pebble/cobble beds, reducing suitable habitat for hellbender larvae and sub-adults, as well as for their main prey item (crayfish). Suspended sediment loads with more particles absorb heat and can cause water temperature to increase, thereby reducing dissolved oxygen levels and their highly permeable skin can be affected by sediment, potentially reducing dissolved oxygen consumption. Stress associated with higher temperatures has been linked to lower disease resistance, a further danger to amphibians exposed to the devastating chytrid fungus (Pounds et al. 2006).

The Service and Arkansas Game and Fish Commission have documented changes to habitat quantity and quality in the Eleven Point River due to sedimentation. Cover rocks have been embedded or completely buried at numerous sites occupied by Ozark Hellbender. During the past three years of monitoring, artificial nest boxes have been documented to fill with fine sediment in less than three

months, thereby hindering recovery efforts. This rapid siltation potentially provides insight into recruitment failure if similar siltation occurs under native cover rocks when egg clutches and larvae are present. While empirical data to document loss of cover rocks due to sedimentation are lacking, biologists with both agencies have visually observed increased fine sediments filling interstitial spaces and embedding (with fines and gravel) cover rocks at numerous sites occupied by Ozark Hellbender between the Missouri/Arkansas state line and Arkansas Highway 90. Biologist observations are based on biannual monitoring efforts since the monitoring program began in 2005.

The effects of sedimentation are much more prominent at sites downstream of Diles Creek. An initial desktop review of historical and current aerial photography confirms channel widening due to stream bank erosion at 24 sites totaling approximately 3.6 miles from Diles Creek extending downstream to Arkansas Highway 90 (14.5 miles). An additional 22 stream bank erosion sites totaling approximately 1.2 miles are located between the state line and Diles Creek. As the river channel widens and shallows, water velocity slows, leading to greater sedimentation and the shallow, slow moving water then warms. Biologists also have observed increases in aquatic macrophytes in the Eleven Point River, presumably due to fine sediment deposition, and large deposits of gravel near the confluence of tributaries following storm events. There is no discernible improvement in degraded riparian conditions or quantity or condition of unpaved roads, presumably the two largest sources of sediment loading in the Eleven Point River.

The Eleven Point River is delineated in Arkansas Pollution Control and Ecology (APC&E) Regulation 2.203 as an Arkansas Outstanding Resource Water (Extraordinary Resource Water and Ecologically Sensitive Waterbody) and, as such, is to be protected and maintained for those beneficial uses and water quality for which the outstanding resource designation was granted. APC&E's Regulation 2 also includes an anti-degradation policy that applies to all surface waters of the state. Regulation 2.203 states the designated uses of high quality waters, such as the Eleven Point River shall be protected by (1) water quality controls, (2) maintenance of natural flow regime, (3) protection of instream habitat, and (4) encouragement of land management practices protective of the watershed. The Service recommends water quality controls remain in place until protection of instream habitat improves in the Eleven Point River in order to support the designated use for aquatic life. In addition, Regulation 2.304 prohibits significant physical alterations of the habitat within Extraordinary Resource Waters and Ecologically Sensitive Waterbodies. ADEQ is charged with the assurance that no significant degradation of any existing use or water quality necessary to protect that use will occur. The Service considers the sedimentation and turbidity in the Eleven Point River to physically alter the required habitat for the endangered Ozark Hellbender.

During the 2016 Period of Record (April 1, 2010 to March 31, 2015), only 6.5 and 13.1 percent of samples exceeded the turbidity standard (10 and 17 NTU, respectively) during base flows and all flows, respectively. However, if the Period of Record is extended to include the most recent monitoring results (April 1, 2010 to January 19, 2016), 23.9 percent of samples exceed the turbidity standard during base flows and 11.3 percent of samples exceed the turbidity standard during all flows. From the compiled historical data from the WHI0005B monitoring station, the turbidity standard for all flows is exceeded in 11.4 percent of samples and the base flow standard in only 0.06 percent of samples. The turbidity standard is exceeded at a rate much higher than this historical rate in the current and extended Period of Record further documenting the degradation of Ozark Hellbender habitat due to sediment loading.

PECO Foods' recent expansion in northeast Arkansas includes a chicken processing plant in Pocahontas and feed mills in Batesville and Corning and is expected to bring approximately 850 new

poultry houses to Northeast Arkansas. U.S. Department of Agriculture Farm Service Agency loans to Randolph County poultry growers represent an increasing percentage of Service ESA Section 7 consultations with 2 percent in fiscal year (FY) 2012, 10 percent in FY 2014, 13 percent in FY 2015, and 22 percent during the first half of FY 2016. Land use changes that may be reasonably expected to occur in the Eleven Point River watershed include increased land clearing for conversion to poultry operations, which may further add to sedimentation issues in the Eleven Point River.

The Eleven Point River is not listed on the Draft 2016 303(d) list presumably based on the attainment of the turbidity standard during the 2016 Period of Record (April 1, 2010 to March 31, 2015). Waters may be delisted if control strategies other than a Total Maximum Daily Load (TMDL) are present. The Service is unaware of control strategies currently being implemented in the Eleven Point River watershed. For this and aforementioned reasons, the Service opposes removal of the Eleven Point River from the 2016 303(d) list. Furthermore, the Service recommends that the ADEQ anti-degradation policy be followed to protect the Eleven Point River as an Outstanding Resource Water, endangered species, and their habitat.

The Service recommends ADEQ develop a TMDL for turbidity and initiate a watershed management plan to improve water quality in the Eleven Point River. The watershed management plan could direct funding to the area to contend with water quality issues (i.e., sediment loading) associated with land use activities. The continual degradation of water quality further damages habitat conditions in the Eleven Point River. Any additional protections that may be afforded the river as an impaired waterbody could improve habitat for the Ozark Hellbender and contribute to recovery of the species.

In summary, the Service recommends maintaining the Eleven Point River on the 2016 303(d) List and developing a TMDL for turbidity. It is the Service's opinion that the removal is premature as no significant implementation of conservation measures has occurred in the watershed and ongoing and anticipated land use activities in the area continue to degrade water quality and habitat for the endangered Ozark Hellbender.

The Service encourages water quality protective measures and welcomes the opportunity to work with private landowners and other agencies to implement conservation measures to improve water quality in the Eleven Point River. If you have any questions about our comments, you may contact Melissa Lombardi of my staff at (501) 513-4488 or melissa_lombardi@fws.gov. Thank you for the opportunity to comment.

Sincerely,



Melvin L. Tobin
Field Supervisor

cc:

Arkansas Natural Heritage Commission, Little Rock, Arkansas
Arkansas Natural Resources Conservation Commission, Little Rock, Arkansas
Arkansas Game and Fish Commission, Little Rock, Arkansas
Environmental Protection Agency, Dallas, Texas