Message

From: Hentges, Valerie A [valerie_hentges@fws.gov]
Sent: 4/20/2020 10:55:21 PM
To: Hackler, Pam [pam.hackler@dnr.mo.gov]; Campbell, Jennifer [Jennifer.Campbell@mdc.mo.gov]
CC: Dunn, John [Dunn.John@epa.gov]; Herrington, Karen [karen_herrington@fws.gov]; Weber, John S [John_S_Weber@fws.gov]
Subject: Re: Labadie 316 report

Dear Ms. Hackler,

The U.S. Fish and Wildlife Service (Service) has reviewed the information provided in your February 13, 2020, emails regarding the renewal of Ameren Missouri Labadie Energy Center's (LEC) permit in Franklin County, Missouri. Based on the information provided within the Clean Water Act (CWA) Section 316(b) Evaluation to Support 40 CFR 122.21(r) Report, the Service offers the following comments pursuant to the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531-1544).

The Service is concerned about the impacts of the LEC operations on the federally endangered pallid sturgeon (*Scaphirhynchus albus*). Data collected for Ameren Missouri and other entities indicate that pallid sturgeon, shovelnose sturgeons (*Scaphirhynchus platorynchus*), sturgeon chub (*Macrhybopsis gelida*), and sicklefin chub (*Macrhybopsis meeki*) are present in multiple sampling events and studies in the LEC's vicinity. The 2005-2006 impingement monitoring study collected 11 shovelnose sturgeons (7% of impinged biomass) and 1 sturgeon chub (<0.1% of impinged biomass). The U.S. Army Corps of Engineers' (Corps) Pallid Sturgeon Population Assessment Program focused on native fish species presence during their 2013-2015 study. During this study, the Corps researchers collected 53 pallid sturgeons within Segment 14 of the Missouri River, the same segment in which the LEC is located. Shovelnose sturgeon was the most numerous fish species collected (24.2% abundance) which can reflect the use of appropriate benthic sampling gear. Biological abundance of pertinent fish species detected in the study were: sicklefin chub 3.2%; sturgeon chub 0.5%; pallid sturgeons 0.1%; and pallid x shovelnose sturgeon hybrids 0.1%.

Ameren's contractor, ASA, conducted a two-year biological monitoring program during 2017 and 2018. Previous comments from the Service in March of 2020 provided during the draft CWA 316(a) variance request for LEC indicated that some of the sampling gear utilized would not appropriately detect benthic species such as sturgeon. Despite the use of potentially ineffective benthic sampling equipment, sicklefin chubs were detected at 6.6% abundance (or 1,667 individuals) and 148 shovelnose sturgeon, or 0.6% abundance were collected. Additionally, Ameren's consultant documented a larval pallid sturgeon approximately one mile downstream of the LEC discharge on June 15, 2017. These findings indicate that pallid sturgeons are present in the area of LEC and take is likely to occur. Therefore, the Best Technology Available (BTA) practices should be implemented to protect the federally listed species according to the CWA 316(b) Rule.

Shovelnose sturgeon are often used as a surrogate for pallid sturgeon because of their similar habitat and life history functions. The presence of shovelnose sturgeon in Ameren's impingement data further supports the likelihood that pallid sturgeon take may be occurring, especially because genetic

confirmation of shovelnose sturgeon was not conducted. Genetic research is generally necessary to determine which sturgeon species is collected during sampling efforts, or if the sturgeon is a hybrid of the pallid and shovelnose species. Frequent hybridization and the difficulty of species identification brings into question the certainty of the Ameren's data collected without a genetic analysis of species. The Service recommends that the Missouri Department of Natural Resources (DNR) require Ameren to conduct genetic analyses in any future studies to confirm the species of sturgeon present. Adopting additional procedures when a sturgeon species is collected, by preserving a genetic sample in 95% non-denatured ethanol, will provide confidence in the identification through genetic analysis.

Sturgeon chub and sicklefin chub are both prey species for pallid sturgeons. Impingement and entrainment of these two species is a concern to the Service, as it represents a reduction of available food resources for pallid sturgeon, especially for juvenile pallid sturgeons (Gerrity, P.C., et al., 2006). The Service is currently evaluating both the sturgeon chub and sicklefin chub for protection under the ESA; we expect to make a decision by October 2023. Labadie Energy Center would also have to consider these species in the coming years if the assessment performed by the Service determines that protection under the ESA is warranted.

Further monitoring and fish sampling will provide information on the effects of the LEC's current actions. We recommend that Ameren consider conducting additional studies to better characterize the extent of effects to pallid sturgeon, especially around the discharge canal, mixing zone, and zone of passage. The Service recommends that the DNR require Ameren to conduct studies that describe the extent, duration, and temperature profile of the thermal discharges at various seasonal flows, especially during low flows and naturally high water temperatures. These data should further inform BTA decisions and effects to pallid sturgeon from thermal variance under 316(a) of the CWA. In order to be of maximum efficacy, the Service requests upfront and early coordination regarding data collection and modeling results from future studies.

The Service supports LEC's impingement BTA selection with some modification. Of the seven options outlined in the Programmatic Biological Opinion as a BTA standard for impingement mortality, Ameren selected the use of modified coarse-mesh traveling screens with fish lifting buckets, and washing mechanisms for aquatic organism and debris removal with a fish return system. Although Ameren proposes to operate the rotating screens on a continuous or near continuous rotation, the Service recommends that the DNR require that the traveling screens are continuously rotating and fish are returned to the river downstream of the intake to prevent re-impingement and further stress leading to the possibility of mortality. In addition, the fish return should also be located away from the discharge channel of the "thermally exposed zone" (i.e., area of higher water temperature) allowing stressed fish to recover prior to reaching this zone. The Service recommends that Ameren coordinate with us on the fish return system to reduce impacts that may occur from implementing this system. Based on the information provided in the LEC's report and the data summarized above, the Service feels these additional measures, i.e., continuously rotating screens and adjustment to the fish return system, will reduce the likelihood of take for the pallid sturgeon. Additionally, the Service recommends that DNR require continued monitoring after the

installation of the impingement BTA to determine its effectiveness and any potential need for further impingement reductions or adjustments to the implemented BTA.

While the optimal entrainment BTA would be a closed-cycling cooling system, the Service recognizes that the cost of implementing such a system is extreme. Ameren evaluated several options they considered as an entrainment BTA and provided a determination of negative social benefits associated with each option. The Service acknowledges these concerns, but we continue to stress the importance of implementing an entrainment BTA as described with the Programmatic Biological Option for the Insurance and Implementation of the Final Regulations Section 316(b) of the CWA. We recommend that Ameren continue to evaluate additional BTAs over the next permit cycle.

The Service appreciates the ability to review Ameren Missouri LEC studies and findings for their upcoming permit renewal. We hope these comments will assist the Ameren Missouri in their operations while also protecting the pallid sturgeon. If you have questions regarding our comments, please feel free to contact me at (573) 234-2132, ext. 173 or by email at Valerie_Hentges@fws.gov.

Sincerely,
Valerie
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Valerie Hentges
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Reference:
Paul C. Gerrity, Christopher S. Guy & William M. Gardner (2006) Juvenile Pallid Sturgeon are Piscivorous: A Call for Conserving Native Cyprinids, Transactions of the American Fisheries Society, 135:3, 604-609, DOI: 10.1577/T05-122.1

From: Hackler, Pam <pam.hackler@dnr.mo.gov>
Sent: Thursday, February 13, 2020 8:17 AM
To: Campbell, Jennifer <Jennifer.Campbell@mdc.mo.gov>; Hentges, Valerie A <valerie_hentges@fws.gov>
Subject: [EXTERNAL] Labadie 316 report

Good morning,

Thank you both for supplying your addresses. However, I couldn't find anyone to make a copy of a CD so I thought it would just be faster to split the file and email it. The document is 889 pages total. Please confirm after you have received all files.

Thanks,
Pam

Pam Hackler

Pam Hackler, Environmental Scientist
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We'd like your feedback on the service you received from the Missouri Department of Natural Resources. Please consider taking a few minutes to complete the Department's Customer Satisfaction Survey at https://www.surveymonkey.com/r/MoDNRsurvey. Thank you.

My normal office hours are from 7-3:30 M-F. Thanks!