Indiana Bat, FW3 <indiana_bat@fws.gov>

Comments on 2013 Contingency Plan_Copperhead

Steve Samoray <ssamoray@copperheadconsulting.com> Tue, Mar 5, 2013 at 9:35 AM
To: Indiana_bat@fws.gov

Thank you for this opportunity to comment on the 2013 Indiana Bat Survey Guidance Contingency Plan.
Please see attached document.

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1 March 2013

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Re: Copperhead Comments on proposed 2013 Summer Survey Guidance Contingency Plan

As per the U.S. Fish and Wildlife Service request via email, Copperhead Environmental Consulting Inc. (Copperhead) would like to take this opportunity to offer constructive comments on the proposed 2013 Indiana Bat Summer Survey Guidance Contingency Plan. Copperhead fully supports the implementation of a contingency plan to allow for further testing and development of the automated acoustic identification programs currently available. Copperhead is also a signatory of the *Collective Response To: USFWS Draft Revised Rangewide Indiana Bat Summer Survey Guidelines*. Although we believe some modifications may be necessary to improve this document and its methodology, we feel the Collective Response is the most realistic alternative to the Proposed Guidelines and Contingency Plan yet put forward and best meets the USFWS objective "*to provide standardized, rangewide guidelines and protocols and to determine whether Indiana bats (Myotis sodalis) are present or likely absent at a given site during the summer (May 15 to August 15)*."

As it is currently written, the proposed 2013 Summer Survey Guidance Contingency Plan offers no real contingency to the 2013 Draft guidance, just an extra step (Step 3) before researchers are required (Step 4) to assume presence of an Indiana bat maternity colony or to use automated acoustic identification software, filters, or extremely subjective qualitative visual analyses to

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determine the presence or probable absence of Indiana bats. The Step 3 trigger is "[P]*ositive detection of high frequency calls…*" i.e., recorded calls ≥35 kHz. Throughout the majority of the species' range, the Indiana bat shares this echolocation call characteristic with no less than 6 other bat species, several of which are commonly recorded during these types of acoustic surveys. It is very likely that Step 3 will **always** result in recorded calls that meet this ≥35 kHz criterion (especially in the southern and western portions of the Indiana bat range), resulting in an incredible amount of assumed Indiana bat maternity colony presence. If on the other hand, surveyors choose to proceed to Step 4, the burden of proof is again placed on an acoustic analysis method the Service has not determined to be accurate or efficient, hence the need for a contingency plan.

In essence, the USFWS is advising the use of non-approved programs or qualitative visual analysis to make decisions that could have major impacts on the species and/or projects. This is a mandate to use an incomplete, untested, and non-standardized guidance which will either lead to significant impacts to the species or significantly increase costs and delays to projects (i.e., taxpayers) and is not based on the best available science. We do not feel the Service can require surveyors to make this determination using methods they themselves are not willing to fully endorse. Further, Copperhead can not recommend the use of this contingency plan to clients as the uncertainty associated with this new survey technique will result in indefensible results and litigation (Titus 2009).

There are several peer-reviewed papers that suggest a higher level of effort is necessary than that required by the 2007 Indiana Bat Draft Recovery Plan (USFWS, 2007) (O'Farrell et al. 1999, Fenton 2000, Parsons and Jones 2000, Burnett et al. 2001, Fenton et al. 2001, Kazial et al. 2001, Murray et al. 2001, Fenton 2003, Burnett et al. 2004, Rainey et al. 2009, Robbins et al. 2008). All of these conclude that acoustic monitoring and mist netting should be used together to detect the most bat species. While we acknowledge that the Contingency plan is not designed to detect all species but rather Indiana bats alone, we feel that until a targeted approach is available, it makes sense to capture as many bats of all species as possible. Also, in order to record good quality "search phase" calls similar to those found in the typical call library, researchers are required to place detectors in relatively open areas. While this may increase the

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ability of automated software to correctly identify acoustic calls, it decreases the chance of detecting Indiana bats where they are most often found, i.e., interior woodlots and edges (Murray and Kurta 2004, USFWS 2007, Winhold et al. 2005) and effectively eliminates a proven sampling technique for this species: the mist-net. Although the techniques are reversed, this approach is similar to a bird researcher foregoing a call survey and instead waiting to visually identify a secretive woodland species in an open field before claiming presence.

As with the search for anything rare, it is prudent to first increase your efforts using techniques that have proven successful before abandoning them for something new, untested, and in this case unverifiable. Therefore Copperhead suggests the use of a modified version of the Indiana Bat Survey Guidance for Kentucky (USFWS 2011). This would include the use of both acoustic and mist-netting methods. Overall survey effort could be increased to account for population declines by requiring additional net sets, additional net nights, movement of nets between nights (Robbins et. al 2008), and/or additional acoustic monitoring sites.

Until peer-reviewed research indicates that Indiana bat calls collected passively in the field can be reliably identified using acoustics, we do not feel that presence/possible absence should be determined by acoustics alone. Instead, acoustic data should be analyzed with the best available software at the time and those results should **only** be used to indicate the need for additional netting effort. This process has been tested over the past few years and is the logical choice for an effective contingency plan until such time as the USFWS has a complete Revised Guidance in place.

Sincerely,

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Literature cited:

Burnett, S. C., K. A. Kazial, and W. M. Masters. 2001. Discriminating individual big brown bat (Eptesicus fuscus) sonar vocalizations in different recording situations. Bioacoustics 11:189–210.

Burnett, S.C., M.B. Fenton, K.A. Kazial, M.W. Masters, and G.F. McCracken. 2004. Variation in echolocation: notes from a workshop. Bat Research News 45(4): 187-197.

Fenton, M.B. 2000. Choosing the 'correct' bat detector. Acta Chiropterologica 2(2): 215-224.

Fenton, M.B., S. Bouchard, M.J. Vonhoff, and J. Zigouris. 2001. Time-expansion and zero-crossing period meter systems present significantly different views of echolocation calls of bats. Journal of Mammalogy 82(3):721-727.

Fenton, M.B. 2003. Eavesdropping on the echolocation and social calls of bats. Mammal Review 33(3): 193-204.

Kazial, K. A., S. C. Burnett, and W. M. Masters. 2001. Individual and group variation in echolocation calls of big brown bats, Eptesicus fuscus (Chiroptera: Vespertilionidae). Journal of Mammalogy 82:339–351.

Murray, S.W. and A. Kurta. 2004. Nocturnal activity of the endangered Indiana bat (*Myotis sodalis)*. Journal of Zoology 262:197-206.

Murray, K.L., E. R. Britzke, and L.W. Robbins. 2001. Variation in search-phase calls of bats. Journal of Mammalogy 82(3):728-237.

O'Farrell, M.J., and W.L. Gannon. 1999. A comparison of acoustic versus capture techniques for the inventory of bats. Journal of Mammalogy 80(1):24-30.

Parsons, S., and G. Jones. 2000. Acoustic identification of twelve species of echolocating bats by discriminant function analysis and artificial neural networks. Journal of Experimental Biology 203:2641–2656.

Rainey, W. E., T. Ingersoll, C. J. Corben, and E. D. Pierson. 2009. Using acoustic sampling of bat assemblages to monitor ecosystem trends. Unpublished report to U.S. Geological Survey, Western Ecological Research Center, Point Reyes, California.

Robbins, L.W., K.L. Murray, and P.M. McKenzie. 2008. Evaluating the effectiveness of the standard mist-netting protocol for the endangered Indiana bat (Myotis sodalis). Northeastern Naturalist 15:275-282.

Titus, R.W. 2009. Animal Welfare Institute, et al. v. Beech Ridge Energy LLC, et al. memorandum opinion. United States District Court For the District of Maryland. 76p.

USFWS. 2007. Indiana Bat (Myotis sodalis) draft recovery plan: First revision.US Fish and Wildlife Service, Fort Snelling, MN. 258 pp.

USFWS (US Fish and Wildlife Service). 2011. Indiana bat survey guidance for Kentucky. U.S. Fish and Wildlife Service, Kentucky Field Office, Frankfort, KY. 35 pp.

Winhold, L., E. Hough, and A. Kurta. 2005. Long-term fidelity by tree-roosting bats to a home area. Bat Research News 46:9-10.

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