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February 20, 2013

US Fish and Wildlife Service
620 South Walker Street,
Bloomington, IN 47403-2121

RE: Indiana Bat Summer Survey Guidelines Comments

Dear Sir or Madam,

Thank you for the opportunity to provide comments on the US Fish and Wildlife Service's (USFWS) proposed Indiana Bat Summer Survey Guidelines. Bat Conservation International (BCI) is a nonprofit organization dedicated to conserving the world's bats and their ecosystems to ensure a healthy planet.

BCI recognizes the efforts put forth by the USFWS to update the Indiana Bat Summer Survey protocols. With the onset of White-nose Syndrome (WNS), Indiana bats are becoming less and less common on the landscape. Consequently, the likelihood of capture with mist-nets is decreasing while the effort needed to obtain a capture is increasing. Faced with this conundrum, BCI realizes that this survey protocol is an attempt by the USFWS to increase the likelihood of detection by increasing the tools allowable for detection. However, BCI feels that the inclusion of acoustic surveys as a sole means of detecting presence or probable absence is premature, and, at this time, cannot support the use of this tool in the proposal.

Phase 2 of the protocol, Acoustic Surveys, states, "If acoustic surveys do not indicate the presence of Indiana bats, no further sampling is needed." The sole reliance on acoustic surveys as a means of confirming presence is the fundamental flaw in this protocol. To date, there is no accurate and reliable means of confirming Indiana bats using acoustic detectors, thus survey protocols should not rely solely on their use, but rather acoustic detectors should be used as a tool to inform the surveyor on potential locations for further effort. Several recent presentations at the 2013 Northeast Bat Working Group meeting in Albany, NY highlighted the inaccuracies inherent in auto-classification software (BCID, Sonobat, and Echoclass). As these are the only software available on the market, their use in Indiana bat surveys under this protocol is unavoidable. Misclassifications from the available software are common, often identifying the presence of an Indiana bat well beyond the range of this species. Conversely, surveyors have no way of knowing if an Indiana bat was present, if the acoustic call(s) recorded were

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misidentified, yet, Phase 2 of the protocol, Acoustic Surveys, states, “If acoustic surveys do not indicate the presence of Indiana bats, no further sampling is needed.” Consequently, BCI feels that the use of acoustic detectors as a sole method to identify presence/probable absence is inappropriate, and will be detrimental to the remaining Indiana bats on the landscape. However, the protocol could be altered to assume probable absence only if non-Myotis bat calls are recorded at a site. This adjustment would reduce the probability of a false negative and reduce the required work load if no Myotis species positive sites are identified. This is an alternative the USFWS should further review.

Currently no program is approved by USFWS (see <http://www.fws.gov/midwest/endangered/mammals/inba/inbasummersurveyguidance.html>). The two listed as candidates are for zero-crossing analysis only, thus precluding the use of full-spectrum detectors. Although it is possible to convert full spectrum to zero-crossing, the call characteristics can change, which would alter the analysis.

The temporal components and associated guidance have no biological or scientific basis and would appear to conflict. It is noted that mist-netting should be done between 15 May and 15 August, the same period in which acoustic surveys can be completed. What is the basis for the temporal cut points? With respect to wind energy development, many of the Indiana bat fatalities have occurred in September. Moreover, minimization measures for wind operators extend until 15 November. Thus, it would seem that the present cut-off dates do not incorporate movements of bats during migration.

BCI does not agree that the use of directional microphones represent the best approach of determining presence of Indiana bats. Omni directional microphones offer a better opportunity to sample the airspace. In addition, there is insufficient data collected to make conclusions on weather proofing microphones. In Britzke et al. (2010), there were no replicates for the treatment groups. The fact that the PVC weatherproofing detector had the greatest number of files (even over detectors without weatherproofing) is suspect. Moreover, the detector with the bat-hat identified as many Indiana bats as the PVC detector. BCI suggests that more data is needed on this issue before specific recommendations can be made.

BCI questions the scientific basis for site suitability based on acoustics as defined in the protocol: “...at least 10 bat calls (i.e., greater than or equal to 3 high-quality pulses in a call) must be recorded AND a minimum of 40% of all recorded bat calls must be identified to the species level for each detector on each survey night for the site to be deemed suitable.” A suitable site, may have limited activity, particularly in light of WNS. For guidance related to estimating probabilities of detection for bats. In addition to the Service’s review of MacKenzie and Royle 2005, BCI recommends reviewing Duchamp et al. 2006.

BCI questions the scientific basis for determining the suggested minimum mist-netting effort for individual projects. BCI feels the definition of a net night is inadequate. As stated, one could set up 10 locations with 1 net for 1 night. We recommend greater clarity for mist-net protocols and the review of Weller and Lee 2007. Mist net effort required to inventory a forest bat species assemblage, JWM 71:251–257.

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BCI recognizes that the proposed protocol does not preclude the use of mist-netting as a means of identifying presence/probably absence. However, it also does not require it, unless an acoustic survey indicates that Indiana bats are present. This is a significant flaw in the protocol's design. This failure will also have a negative impact to Indiana bats. Until software exists that can accurately and reliably detect Indiana bats, acoustic detection cannot replace the true capture of individuals. A lack of Indiana bat calls may just as likely represent a software error as the probably absence of Indiana bats.

BCI is keenly aware that the detection probabilities for Indiana bats through mist-netting have decreased significantly post-WNS. A greater effort is certainly needed to capture these increasingly rare individuals. As such, BCI would support a protocol that employs acoustics as *one tool* in our collective detection toolbox, but not the sole tool. Acoustic surveys conducted in conjunction with mist-net surveys are a more prudent approach (Kuenzi and Morrison 1998, Detection of bats by mist-nets and ultrasonic sensors, WSB 26: 307–311; Murray et al. 1999, Surveying bat communities: a comparison between mist-nets and the Anabat II bat detector system, Acta Chiropterologica 1:105–112; O'Farrell and Gannon. 1999. A comparison of acoustic versus capture techniques for the inventory of bats. JMAMM 80:24–30; Duffy, et al. 2000. The efficacy of Anabat ultrasound detectors and harp traps for surveying microchiropterans in south-eastern Australia, Acta Chiropterologica 2:127–144).

As long time partners with the USFWS, BCI appreciates this effort and recognizes the need to develop a protocol that is reasonable. However, this cannot be done at the cost of the bat resource. The mission of the USFWS is to “conserve, protect, and enhance” fish and wildlife resources and their habitats. “Protect” is the key word in that mission. BCI feels that implementation of this protocol, without a means to accurately and reliably identify acoustic data, will result in a failure of the USFWS to protect this important species. Thank you for this opportunity to comment. Please contact me if you have any questions or concerns.

Sincerely,

A handwritten signature in black ink that reads "K Gillies". The signature is written in a cursive, flowing style.

Katie Gillies
Imperiled Species Coordinator
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