Reviewer's Name & Affiliati

Dennis Krusac, consolidated for US Forest Service

Document Name	Page #	Comment
Draft summer guideline	1, 1st para	It is misleading to state you are determining presence because if Ibats are recorded acoustically (no scientifically proven software available yet),
		but not captured, presence is ASSUMED, not determined. FWS assumes whether it is maternity colony or male.
	1, 2nd para	We have a concern with a range-wide standardized protocol based on the worst-case scenario. Protocol is based on decimated populations in major WNS impacted area.
		Using the same protocol in areas without mass mortality or where WNS is not even confirmed seems unreasonable and not the best available science. One size does not fit all.
		The problem with detection is you do not have an acoustic software program that reliably detects Indiana bats. You are maximizing the potential to detect bats, not Indiana bat.
		Detection does not confirm Indiana bat presence because we don't have the technology to do it.
	1, 4th para	Two years is unworkable. US Forest Service timber sale contracts are for a minimum of 3 years. We can't shut down sales to resurvey for bats. Also the survey work is needed to
		be done years before the sale is sold so we know we have a viable sale, and can prepare the sale package. With surveys only good for 2 years we may never get past the survey
		stage to project implementation. We recommend 5 year time frame. Also if negative survey us good for two years, how long are positive surveys good for?
	3, 2nd para	Definition of summer habitat includes every acre of forested land on national forests within the range of the bat. Even regeneration areas meet this standard because we are
		leaving snags and potential roosts. This means every acre must enter into the survey equation and we don't have the manpower or budget to do this.
	5, 3rd para	Regarding radio telemetry, Forest Service does not own radio telemetry equipment and does not have the funds to purchase or contract this work.

	5, 4th para	If no bats are captured, what process does FWS use to determine maternity colony of male bat? Detection does not equal maternity colony. Have as high a likelihood to be male.
		5-mile home range: Please provide a scientific peer reviewed reference to a 5-mile radius home range for sodalis. That is 20,300 ha, way bigger than any home range size I have
		seen published. This is 87 times larger than average home range for white-tailed deer in upstate NY (Tierson et al. 1985, JWM 49:760-769)
	7, 3rd para	Definition of potential suitable summer habitat includes every acre of national forest land and we know this is not the case.
	11, 4th para	veg within 33': This will be difficult on most NFS lands because fully stocked stands have trees closer than 33 feet and most stands have midstory and shrub layers.
		What do you do if this criteria cannot be met?
		15 meters from water: We often have old roads and hiking trails this close to streams and they make great flight corridors. These may be the best locations we can find.
	12, 5th para	10 bat calls: Several problems here. What if the site is just a poor site and no bats are present. If equipment is functioning,, people should not be penalized for bats not being
		present. Currently 40% identification is not possible with existing software and may not be possible for years.
	13, 3rd par	weather conditions: Has FWS analyzed historic weather data to determine how many nights it will take to get six good nights of data? Within range of Indiana bat it is not
		unusual for temp at 2 AM to be below 50. Highly unlikely to get 6 straight nights with no rain or sustained winds over 9mph. Need this information for project planning.
	14, 1st par	acoustic surveys: While we appreciate the effort for consistency, the detection probabilities in areas unaffected by WNS are different than those effected by WNS and there
		should be different standards.

		There should be a minimum acreage impacted driving this criteria. Clearing one acre for a cell tower would require 12 detector nights. Clearcutting 60 acres would require 12
		detector nights. Project impacts to habitat and potential impact on bats are grossly different and survey intensity should not be the same.
		We suggest any project impacting 10 acres or less only require one detector.
		USDA Forest Service does not have the personnel or budget to implement this survey intensity. For example, Talladega NF is home to newest Indiana bat maternity site.
		They are also an identified red-cockaded woodpecker recovery population. They prescribe burn about 30,000 acres/year and manage 2,000 acres of timber per year.
		32,000 acres per year would need to be inventoried, which includes 1,067 detector locations, for 6,402 detector nights. Let's assume the forest can find funding to buy 10
		detectors. We now need 640 nights to get survey done. It would take us more than 7 years to complete inventory assuming every night was perfect. Completing the survey in one
		year would require 71 acoustic detectors, an outlay of nearly $200,000 for hardware, perfect weather, and staffing we don't currently employ. This is only one forest.
		The Forest Service does not have the personnel or budget to implement the guidelines for projects that do not result in a permanent loss of habitat.
	14, 2nd par	acoustic analysis: The software does not exist and is likely years away based on how call libraries were built and how bats use the landscape.
	14, 5th par	FWS concurrence: How is FWS going to provide timely concurrence when most field offices don't even have bat expertise, let alone acoustic expertise?
	17, 5th par	equipment decon: We would like to suggest some research be conducted to scientifically determine if bats active during this time period are actively carrying Gd spores. A lot of
		time, equipment, and money are going into summer decontamination of gear and there is currently no scientific proof that bats actively transport Gd spores in summer.

	20	From the examples, it is obvious this protocol was designed for fragmented habitats in the Midwest. In this example there are 41 detector locations in 30 sq. miles. If a project
		area this large occurred on a national forest, assuming at least 10% open land, there would be 576 detector locations. This protocol is not appropriate for heavily forested
		landscapes where landscape scale activities are occurring to benefit bats. Projects designed to improve bat habitat should be exempt from these intensive survey efforts.

21, 5th par	survey period: The recovery plan calls for netting five hours past sunset. Why the additional hour? This will put people in the field netting until 3 AM when the reality of net data indicates capture significantly decreases after 1 AM. By the time people breakdown all gear, pack it out to truck, etc. it will be 5AM, possibly 6 AM before people are back to base. If set up begins at 6 PM, you are looking at an 11 hour night and this is becoming a safety issue.
23, #8	Any other information requested by the local USFWS FO(s) related to the project This is too open-ended. We need to know what is expected up front.
27, 1st par	The Forest Service currently does not have qualified biologists or radio telemetry equipment on every forest. With decreasing staffing levels and budget cuts, it is highly unlikely we will be able to hire staff, purchase equipment or contract telemetry work.
27, 2nd par	May want to re-think the 45 minute max holding time. While it is possible for an experienced person to process and transmitter a bat in 45 minutes, if more than one sodalis is in a net in short succession, it will be impossible to meet this standard.
31	These criteria are clear evidence this protocol is not designed for national forests or extensively forested landscape. Wood lot size for national forests will be 100,000 acres + and distance to non-forest will be in miles not feet or meters.

33, #1

If emergence counts are conducted on hazard trees and no bats exit a tree it is a non-roost and should be cut the next day if not raining or within 48 hours if rain day after count. In areas on national forests that have had
beetle outbreaks or significant wind damage, there could be 100s of hazard trees that could also be potential roost trees. By limiting removal to only 10 trees, FWS is basically

saying public safety is not important, and we don't believe that.