

APPENDIX C. SUMMARY OF PUBLIC COMMENTS AND RESPONSE FROM THE U.S. FISH AND WILDLIFE SERVICE

The U.S. Fish and Wildlife Service (Service) appreciates interest in future management on Key Cave National Wildlife Refuge (NWR). The Service provided public notice for the review and comment period for the Key Cave NWR Draft Spatial Habitat and Species Management Plan (SHSP), Environmental Assessment (EA), and Cooperative Farming Compatibility Determination. Public notice included a Public Information Bulletin and documents posted on the refuge's website, published on June 30th, 2025 for 45 days. Public comments were received by the Service during the public review and comment period from 3 members of the public, 4 NGOs, and 2 Native American Tribes. The Service's responses to comments are categorized, summarized and published here.

Under the National Environmental Policy Act (NEPA), the Service must respond to substantive comments. For purposes of this planning process, a substantive comment is one that was submitted during the public review and comment period, which was within the scope of the proposed action, was specific to the proposed action, had a direct relationship to the proposed action, and included reasons for it to be considered by the Service.

The substantive comments received were grouped under the listed categories.

- Category 1- Resources of concern not listed
- Category 2- Quicker and/or immediate transition from farmed acres to grasslands
- Category 3- Monitoring plans and approaches
- Category 4- Cooperative farming with pesticides and fertilizer application is not compatible with the purposes of the refuge
- Category 5- Revise habitat and life history information on cave-dwelling species
- Category 6- Sinkhole locations and buffering
- Category 7- Pesticide and fertilizer use in cultivating sunflowers

The substantive comments received were summarized and grouped under the listed categories; to provide context, some exact quotes were included from individual comments.

Any page numbers referenced in the comments or responses relate to the original page numbers in the draft Key Cave NWR SHSP, EA and cooperative farming compatibility determination released for public review and comment.

CATEGORY 1

Resources of concern not listed

Comments: One comment was received regarding category 1:

Several resources of concern appear to be missing from the SHSP and EA and Commenters request that they be included.

Service's Response: Resources of Concern included in the SHSP and EA were selected during an earlier planning phase finalized in 2022. The decision report identified the highest priority

resources of concern using a decision-support tool that documents the prioritization and selection process as defined by the U.S. Fish and Wildlife Service¹. While the Service did not select all species of ecological concern, species such as *Cambarus pecki*, *Cambarus tenebrosus*, *Palaemonias sp.*, and *Typhlichthys subterraneus* are encompassed within “other benefitting species” in the SHSP. Because these species have similar habitat requirements, occupy Key Cave pools and similar aquatic environments and will benefit from all proposed management actions, the Service acknowledges these species as important, critically imperiled and needing resource protection. Species accounts were added to the EA in response to this comment.

CATEGORY 2

Quicker and/or immediate transition from farmed acres to grassland

Comments: Three comments were received regarding category 2

1. [Commenters] *“request that (1) FWS follow through with a quicker timeline for the proposed grassland conversion, (2) that FWS allow the 208 acres to go fallow as soon as the lease with the farmer expires, and (3) that FWS convert the remaining 60 crop acres (e.g. sunflower) to native grasslands. If FWS maintains the 60 crop acres, the Service must only approve farming of sunflowers or less intensive organic crops, which must be maintained with no pesticide and minimal fertilizer inputs. Commenters are unclear from the proposal if the Service is committing to prospectively keeping this acreage in sunflower production or whether it will allow for other crops such as corn and soy, as were historically grown on this refuge, to be rotated in at a later date. We ask that the Service clarify this.”*
2. *“While we are glad to see the proposed phase-out of most cropland on the Refuge, the rate of converting cropland to grasslands is too slow.”*
3. *“The SHSP and its associated EA must call for an end to farming on Key Cave National Wildlife Refuge....”*

Service’s Response: The Service anticipates following the tiered priority approach to converting cropland to grassland, taking into consideration the importance of successfully establishing grassland habitat as soon as possible. The tiered plan is outlined on mapsheet 3-*Grassland and Early Successional Habitat*, Figure 2.

Allowing land to remain fallow too soon before grassland conversion can substantially increase restoration costs and success. The most successful conversions occur immediately following row crop production, as active agricultural use suppresses woody vegetation and invasive species. If land is left idle, woody species such as Chinese privet and sweetgum can reach heights of up to 15 feet within 3–5 years. Treating dense sweetgum stands may cost as much as \$2,000 per acre through mechanical and chemical methods, greatly inflating restoration expenses and becoming counterproductive.

Regarding continued cultivation and crop type, the Service plans to maintain this acreage in sunflower production in Units 1, 4, or 12 to provide minimal supplemental wildlife food sources (e.g., sunflowers) supporting shared Service and Alabama Department of Conservation and Natural Resources (ADCNR) goals and objectives for foraging Northern Bobwhites and the

National Bobwhite Conservation Initiative; foraging mourning doves; and wildlife-dependent public use opportunities, including wildlife observation, wildlife photography, and hunting.

CATEGORY 3

Monitoring plans and approaches

Comments: One comment was received regarding category 3

Commenters support the monitoring proposed for Key Cave and suggest more detailed monitoring plans and approaches.

Service's Response: The Service understands the importance of monitoring resources of concern and habitats, recognizing the balance of gaining important information and causing unnecessary disturbance within a sensitive ecosystem. Timing of surveys and mitigation measures will need to be considered. The Service anticipates first developing an Inventory and Monitoring Plan (IMP) which documents the process and selection of the top prioritized habitat management objectives and resource surveys that will be conducted on Key Cave NWR until the Refuge Comprehensive Conservation Plan (CCP) or the Spatial Habitat and Species Management Plan (SHSP) is revised or a comprehensive IMP is completed. The IMP is developed according to the foundations of the Inventory and Monitoring policy (701 FW 2) for the National Wildlife Refuge System. This approach supports the Inventory and Monitoring Implementation Plan for each Refuge in the system to have an IMP.

CATEGORY 4

Cooperative farming compatibility

Comments: Two comments were received regarding category 4

1. *Cooperative farming with pesticides and fertilizer application is not compatible with the purposes of the refuge*
2. *Farming is not compatible with refuge purposes based on the evidence*

Service's Response:

While the Service plans to gradually convert cropland to grassland, this transition must occur incrementally to ensure effective maintenance and successful habitat establishment. Therefore, cooperative farming will continue in accordance with the Service's Cooperative Agricultural Use Policy (620 FW 2) and Compatibility Policy (603 FW 2). This approach supports forage availability for migratory birds, maintains open and early-successional habitats for grassland birds, enhances habitat diversity, and ensures proper land management during the conversion process.

Cooperative farming on Key Cave NWR has been approved under an existing Compatibility Determination². It incorporates best management practices (BMPs), restricted pesticide use with required approvals (517 DM 1), and Section 7 evaluation procedures that include mitigation measures to minimize both short- and long-term environmental and species impacts.

The Service will continue operating under the updated 2025 Cooperative Farming Compatibility Determination until all cropland is converted to grassland, as outlined in the final SHSP.

CATEGORY 5

Revise habitat and life history information on cave-dwelling species

Comments: One commenter addressed multiple instances of incorrect or missing information on cave-dwelling species and habitats.

Service's Response: The Service updated the information where appropriate.

CATEGORY 6

Sinkhole locations and buffering

Comments: Two commenters submitted 4 comments regarding category 6

1. *"In the response by managers (PL and DPL) to my IRT documents noted earlier in this document (see the Discussion section under the section I. **Most Important Point**) regarding the justification for farming they did not directly address my recommendations related to these mapped locations. They merely state, "All of the confirmed sinkholes on Key Cave NWR have extensive buffers..." The PL at the time contended that this data and map only show depressions on the refuge's surface because of how it was collected (using LIDAR data). The SHSP does not mention this GIS data or map either. Why? Please provide the answer in your response(s) to my comments."*

Service's Response:

Data for sinkholes were used from available sources, GSA 2016, Ponta et al 2018 and USFWS unpublished 2024 to identify possible sinkholes and are all mentioned in the Cave Habitat map sheet.

2. *".....three other farm fields identified as areas 0802, 0805, and 0901 of Map 3, Figure 1 have either one GSA GIS data mapped sinkhole in the field (area 0805), four such sinkholes in the field (0901), or two such sinkholes in the field or right on it's boundary (I can't tell using the maps available to me and I don't have software needed to map the GIS data) (area 0802) and have recently been converted to NWSG. Was this because they were identified as having sinkholes in or close to them using the GIS data supplied by the GSA? Please provide the answer in your response(s) to comments."*

Service's Response:

Fields were selected for cropland conversion based on a model mentioned in the SHSP which does incorporate hydrology and known sinkholes.

3. *"Several of the sinkholes identified by the GSA occur in Fields 1 and 12 (see Map 3). These were never buffered for the two years between the time they were identified (2018) and when I retired (2020). At least for two years these sites were unbuffered and did not provide all of the protections of the Key Cave aquifer from contaminants mentioned in refuge documents, including the EA, and herein. If currently not buffered, these sites lack of protections has been occurring for seven years! Both Fields 1 and 12 are slated for conversion (currently conversion priority 3) (see Map 3) and, thus, it is unlikely the sinkholes in these fields (at least two sinkholes in Field 1 and 4 in Field 12)*

have ever been buffered. All sinkholes identified by the GSA should be taken out of production before crops are planted and buffered during the upcoming farming season! In-kind services, in lieu of taking refuge crop shares, can be used to buffer these areas with NWSGs. Please provide a statement(s) whether these sinkholes in these fields are currently buffered in your responses to my comments”.

Service’s Response:

All known sinkholes on Key Cave NWR within the Key Cave watershed are buffered. Since USFWS ownership, many efforts have been invested to establish grassland and natural vegetative buffers around known sinkholes, wetlands, and drainage ways.

4. *One management activity that could directly address the input of agrochemicals into the Key Cave aquifer, including fertilizers, would be the development and application of a Regional Conservation Partnership program with the Natural Resources Conservation Service (NRCS) within the Department of Agriculture.*

Service’s Response:

The Service supports a partnership-based approach to conservation that emphasizes best management practices (BMPs) on agricultural lands to enhance wildlife habitat and water quality throughout the Key Cave watershed. The Regional Conservation Partnership Program (RCPP) provides a partner-driven framework that allows state and local governments, NGOs, and academic institutions to participate. Through this program, the Natural Resources Conservation Service (NRCS) collaborates with partners to implement conservation projects and practices.

CATEGORY 7

Pesticide and fertilizer use in cultivating sunflowers

Comments: Three comments addressed the use of pesticides and fertilizer for sunflower production in category 7.

1. *“The refuge would use minimal to no agricultural inputs and pesticides once the farming program is reduced to 60 acres.” Is the refuge planning to use minimal agricultural inputs and pesticides or none at all? This must be stated in a clear, specific manner since use of farming in general and these agricultural inputs specifically are very controversial!”*
2. *“The remaining 60 acres of supplemental wildlife food sources (i.e., sunflowers) does not require fertilizer and pesticide inputs. Weeding could be accomplished via cultivation or other mechanical means until canopy closure eliminates weed pressure on the sunflowers.”*
3. *“...that FWS convert the remaining 60 crop acres (e.g. sunflower) to native grasslands. If FWS maintains the 60 crop acres, the Service must only approve farming of sunflowers or less intensive organic crops, which must be maintained with no pesticide and minimal fertilizer inputs.”*

Service’s Response: The Service plans to apply pesticides and fertilizers at appropriate rates to support crop production, with the understanding that in some years, no agricultural inputs may

be necessary, while in others, only the minimum required inputs will be used. The Service's goal is not commercial sunflower production, but rather to provide forage for wildlife. The need for agricultural inputs will vary annually based on factors such as weather conditions, soil moisture, and pest thresholds. The Service intends to maintain sunflower production in Units 1, 4, or 12 to provide a minimal but valuable supplemental food source for wildlife. This effort supports shared objectives between the Service and the Alabama Department of Conservation and Natural Resources (ADCNR), including:

- Foraging habitat for northern bobwhites in alignment with the National Bobwhite Conservation Initiative,
- Foraging opportunities for mourning doves, and
- Wildlife-dependent public uses such as wildlife observation, photography, and hunting.

Literature Cited:

¹ Taylor, J. D., and F. L. Paveglio. 2010. Identifying refuge resources of concern and management priorities: A handbook. U.S. Fish and Wildlife Service, Washington, D.C., USA. <<https://ecos.fws.gov/ServCat/Reference/Profile/85243>>.

² U.S. Fish & Wildlife Service, Final 2018 Compatibility Determination