

GMC Eligibility Questionnaire for Key Cave National Wildlife Refuge November 2006

Below is the completed questionnaire requesting permission for the use of genetically modified crops (GMCs) on Key Cave National Wildlife Refuge (KCNWR). Answers are in bold so they can quickly be distinguished from the original questionnaire.

1. Is it practicable to achieve refuge purposes and objectives by managing native plant communities and without growing domesticated crops such as; corn, soybeans, milo, etc.?
 - If yes, stop here. GMCs are not permitted and farming will not be practiced.
 - If no, briefly describe why and go onto Question 2. **No. Domesticated crops are necessary to meet long term refuge goals for migratory birds. Much of the current crop land will eventually be planted with native warm season grasses and forbs for the benefit of grassland birds. The most efficient and effective method for establishing native warm season grasses is to plant the seed in retired crop land, immediately following the cessation of farming. Previous experience on the refuge has proven that establishing native grasses in crop land that is fallow for several years is more difficult and expensive (i.e. using more chemicals) and less successful than establishing native grasses in recently retired crop land. The current farming program provides habitat for mourning doves, that otherwise would not be available. In addition, our final Biological Review document calls for the conservation of migratory birds and uses the strategy of native grass restoration to achieve this goal.**

2. Is it practicable to grow conventional (non- GMC) crops in a quantity sufficient to achieve refuge purposes and objectives without using pesticides?
 - If yes, stop here. GMCs are not permitted.
 - If no, briefly describe why and go onto Question 3. **“Weeds” such as various grasses, sicklepod, and other broadleaves would quickly out- compete the domestic crops and significantly reduce yields. It is unlikely that we would have a cooperative farming program without using GMCs because it would be unprofitable for cooperative farmers and they would likely stop farming the refuge. Currently, we have insufficient resources and/or knowledge to either farm via contract or force account. Thus, we rely on a cooperative farmer to maintain refuge land in crops to fulfill our long term migratory bird goals.**

3. Is growing GMCs on Service lands necessary for achieving refuge purposes and objectives?
 - If yes, briefly describe why and go onto Question 4. **Yes. One reason the use of GMCs is so important on the refuge is that relatively safe pesticides can be used to control weeds when GMCs are planted. Roundup Custom, Rodeo,**

and similar glyphosate products are relatively non-toxic herbicides and do a good job of controlling undesirable plants in Roundup Ready (RR) GMCs. Glyphosate products and Liberty have been recommended as alternatives to atrazine, a chemical that's use has been banned from Region 4 refuges, for control of pest plants. The Daphne Field Office (FO) has encouraged the refuge to use these relatively safe pesticides to reduce any possible impacts to listed species. In addition, GMCs are the most widely used crops in modern agriculture. To purchase other varieties is more expensive for farmers. Farming refuges in Region 4 is a challenge for farmers relative to working private lands due to activities necessary to conserve listed species and Region 4 farming policies. Policies restricting farming activities have increased significantly in recent years making it more and more difficult for farmers to work refuge lands. Cooperative farmers will likely discontinue working refuge land if GMC use is curtailed. As noted above, additional resources and/or farming expertise will be needed to farm via contract or force account. This is unlikely under current declining budgets.

- If no, stop here. GMCs are not permitted.

4. Which GMCs do you seek approval for using?

- List each and go onto Question 5. **RR crops (including sunflower), Liberty Link corn, any RR millets that are developed in the near future (or developed recently), and GMCs developed in the future that will require less toxic pesticides for control of competing vegetation than non-GMCs and/or have shorter maturation times which will permit them to be grown in bottoms.**

5. Is there any Federal or State law that prohibits the planting or production of GMCs on the refuge or in the area in which the refuge is located? Contact the local County Extension Service in your area for updated information pertaining to this question.

- If yes, stop here. GMCs are not permitted.
- If no, go onto Question 6. **No.**

6. Do federally listed threatened or endangered species (or species proposed for listing) inhabit areas of the refuge in which GMCs will be grown?

- If yes, identify the species here and go onto Question A. **Yes- they inhabit Key Cave in the vicinity of farm fields [Gray Bat (*Myotis grisescens*); Alabama cavefish (*Speoplatyrhinus poulsoni*)].**

- If no, the use of GMCs may be approved.

A. Will the use of GMCs have a no effect (NE) or a not likely to adversely affect (NA) listed species (or species proposed for listing)? (Only the Refuge Manager can determine a No-Effect [NE].)

- If yes, there is a potential to affect, contact your local Ecological Services Office regarding Section 7 consultation. Go onto Question B.
- If no, there is no potential to effect, the use of GMCs may be approved. **(To say “no” to the question, it should technically ask will the Section 7 determination for use of GMCs be “May Effect.” Since “no” with the follow up information here means that a NE or NA determination is made, we have answered “no.”). The use of GMCs is unlikely to adversely affect listed species and, as noted above, likely reduce potential impacts to listed species. Thus, the refuge’s Section 7 determination for use of GMCs will be NA (consultation with ES is required even if a NA determination is made). The refuge has not consulted with the Daphne FO specifically on the use of GMCs. This will be completed before the use of GMCs during the 2007 farming season).**
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B. Does the consultation indicate that using GMCs will have a no effect (NE), not likely to adversely affect (NA), or likely to Adversely Affect (AA) listed species?

- If a likely to adversely affect (AA) is determined, GMCs will not be permitted at that time. Compliance documents will be required and additional review will be conducted!
- If a no effect (NE) or a not likely to adversely affect (NA) is determined, the use of GMCs may be approved.

Clarks River NWR

Attachment A: GMC Eligibility Questionnaire

Refuge System field personnel shall use this questionnaire to determine if GMCs are eligible for use. If GMCs are determined eligible for use by field personnel, the completed questionnaire shall be submitted to Whit Lewis, Regional IPM/Farming Coordinator for the Southeast Region by the deadline of December 01, 2006. Whit will compile the questionnaires and forward onto the Regional Chief for review. Send your completed questionnaire to Whit at Hatchie National Wildlife Refuge, 6772 Hwy 76S, Stanton, Tennessee 38069 by the deadline stated above.

From: Clarks River NWR:
Prepared By: Michael Johnson, Refuge Manager
Date: 11/06/2006

1. Is it practicable to achieve refuge purposes and objectives by managing native plant communities and without growing domesticated crops such as; corn, soybeans, milo, etc.?

- If yes, stop here. GMCs are not permitted and farming will not be practiced.
- If no, briefly describe why and go onto Question 2.

It is not practicable to achieve refuge purposes and objectives. In addition, the prevailing intentions of Service personnel and partners involved in the establishment of the refuge in 1997 were to maintain farming on portions of the Clarks River NWR as a management tool to meet wildlife management objectives. These intentions were also presented and accepted by the public during scoping meetings as official refuge official objectives (whether documented in the establishing EA or not). During the public scoping meetings, loss of agricultural land was a concern voiced by the public. It was feared that the newly established refuge would lead to a significant reduction in agricultural land and contribute to a decline in local economics, as well as, resident game populations. The concerned parties were assured significant agricultural land base reduction would not occur, as farming would be a refuge management tool that would be necessary to meet refuge objectives.

Justification:

Refuge purpose: "... the conservation of the wetlands of the Nation in order to maintain the public benefits they provide and to help fulfill international obligations contained in various migratory bird treaties and conventions..."

Refuge Objectives: 1) wintering habitat for migratory waterfowl, 2) nesting habitat for wood ducks, 3) habitat for non-game migratory birds, 4) opportunities for wildlife-dependent recreation

Because the refuge is 90% forested, recommendations were made by the Clarks River NWR Biological Review team to: seek to maintain adequate open lands that included agricultural lands to provide a complex of natural and managed wintering habitats for waterfowl that contribute to meeting goals of the North American Waterfowl Management Plan, and various regional plans.

The team also recognized the importance of agricultural crop management on the refuge as a means to provide habitats that meet the high energy requirements of migrating waterfowl, especially during late winter.

2. Is it practicable to grow conventional (non- GMC) crops in a quantity sufficient to achieve refuge purposes and objectives without using pesticides?

- If yes, stop here. GMCs are not permitted.
- If no, briefly describe why and go onto Question 3.

No, it cannot be done with the rising cost of crop production. It is also impractical from the standpoint of securing cooperative farmers willing to conduct operations that risk production rates. Refuge acreage farmed is insignificant to the cooperative farmer's overall operation and not lucrative enough to entice farmers to conduct farming practices that risk production rates.

Without GMCs, significant more land base would have to be utilized in an agricultural form to accomplish refuge purposes and objectives, further reducing openland habitat management options.

Woody vegetation and other non-desirable species would out compete conventional crops, leading to unwanted succession within agricultural fields.

3. Is growing GMCs on Service lands necessary for achieving refuge purposes and objectives?

- If yes, briefly describe why and go onto Question 4.

Without adequate funding for staff , supplies, etc., and the agricultural expertise to consistently and efficiently achieve desired production rates, it is believed necessary to use GMCs on Service Lands. Adhering to farming technology of the day typically ensures the availability of cooperative refuge farmers. If refuge farming operations

deviate significantly from the normal operations of the participating farmer, other incentives must be in place. For example: extremely fertile lands or significant acreages. Neither exists as an incentive at Clarks River NWR.

FWS limitations placed on refuge farm practices currently have placed strain on the refuge's cooperative farming program (25% unharvested for wildlife, decrease in crop base payments, restricted chemical use (atrazine) etc. have most of the Clarks River station's existing farmers reconsidering the value of farming refuge property. It is likely most will decline to participate in the program if GMC's are restricted or any additional restrictions are implemented that add real or perceived additional burden to the cooperative farmer's overall operation. This does become a significant issue to the refuge as the farmer base in the counties surrounding the refuge is extremely limited. Loss of cooperative farmers (thus the cooperative farming program) would prevent the refuge from achieving it's stated purpose and goals.

➤ If no, stop here. GMCs are not permitted.

4. Which GMCs do you seek approval for using?

➤ List each and go onto Question 5.

Round-Up Ready Corn

Liberty Corn

Lighting Corn

Round-Up Ready Soybeans

Round-Up Ready Milo (if available)

5. Is there any Federal or State law that prohibits the planting or production of GMCs on the refuge or in the area in which the refuge is located? Contact the local County Extension Service in your area for updated information pertaining to this question.

➤ If yes, stop here. GMCs are not permitted.

➤ If no, go onto Question 6.

NO

6. Do federally listed threatened or endangered species (or species proposed for listing) inhabit areas of the refuge in which GMCs will be grown?

- If yes, identify the species here and go onto Question A.

Potential for four listed species American bald eagle (*haliaeetus leucocephalus*), American burying beetle (*Nicrophorus americanus*), gray bat (*Myotis grisescens*), Indiana bat (*Myotis sodalis*). The American bald eagle is frequently observed on the refuge but known nesting has not occurred. The other T&E species noted have not been recorded on the refuge in many years, but potentially may occur as the refuge is within their historic range.

- If no, the use of GMCs may be approved.

A. Will the use of GMCs have a no effect (NE) or a not likely to adversely affect (NA) listed species (or species proposed for listing)? (Only the Refuge Manager can determine a No-Effect [NE].)

- If yes, there is a potential to affect, contact your local Ecological Services Office regarding Section 7 consultation. Go onto Question B.
- If no, there is no potential to effect, the use of GMCs may be approved.

NE, as determined by the Refuge Manager

B. Does the consultation indicate that using GMCs will have a no effect (NE), not likely to adversely affect (NA), or likely to Adversely Affect (AA) listed species?

- If a likely to adversely affect (AA) is determined, GMCs will not be permitted at that time. Compliance documents will be required and additional review will be conducted!
- If a no effect (NE) or a not likely to adversely affect (NA) is determined, the use of GMCs may be approved.