

February 14, 2011

U.S. Fish and Wildlife Service
Division of Conservation Planning
Attention: Farming EA
BHW Federal Building, Room 530
1 Federal Drive
Ft. Snelling, MN 55111

RE: Comments on Environmental Assessment on Use of Row Crop farming and Genetically-modified, Glyphosate-tolerant Corn and Soybeans on National Wildlife Refuge System Lands in the Midwest Region

To Whom It May Concern:

On behalf of Public Employees for Environmental Responsibility (PEER), I am submitting the following comments on the U.S. Fish and Wildlife Service (FWS) Environmental Assessment (EA) evaluating row crop farming and the use of genetically-modified, glyphosate-tolerant corn and soybeans on lands managed by the National Wildlife Refuge System in the eight-state Midwest Region (Illinois, Iowa, Indiana, Michigan, Minnesota, Missouri, Ohio and Wisconsin).

The preferred alternative would allow continued use of genetically modified or genetically engineered (GE) crops. The EA states that currently 20,418 acres are under cultivation in 31 refuge system units. Yet the EA does not provide a breakdown on how many of those acres are cultivated by GE versus non-GE crops. Apparently under the preferred alternative, refuge officials would have discretion to approve cultivation of GE and other crops as they deemed fit.

By way of overview, it should be noted that cultivation of GE crops has been taking place for years in the Midwest Region without compliance with the National Environmental Policy Act (NEPA). Ironically, FWS states that this EA was itself prompted by the "increased use" of GE corn and soybean crops on refuge lands. Thus, this EA is the first, albeit after-the-fact, effort by the Region to comply with NEPA.

While we support efforts of the FWS to comply with NEPA, for reasons outlined below PEER believes that this EA is flawed and that FWS is undertaking this assessment in order to extend a legal fig-leaf over its past practices and help insulate it from future legal challenges. Most notably, the practices identified in the FWS preferred alternative violate the agency's own policies and are counterproductive to refuge purposes. Moreover, the EA does not comport with NEPA, as it fails to analyze alternatives or fully assess likely impacts. Finally, it appears that with respect to approval for GE crops FWS is improperly placing the profitability of local cooperating farmers over the refuge values it is supposed to place paramount.

I. Preferred Alternative Violates FWS Ecological Integrity Policy.

The Fish and Wildlife Service's own policy on Biological Integrity, Diversity and Environmental Health for the National Wildlife Refuge System (NWRS) prohibits the use of GE crops unless use of GE crops are "essential" to the refuge:

"We do not use genetically modified organisms in refuge management unless we determine their use is essential to accomplishing refuge purpose(s)..." 601 FW 3.1.5C

The *Merriam-Webster* dictionary defines essential as "necessary" or indispensable." The EA claims that GE crops may have certain advantages over non-GE crops but nowhere contends that GE crops are necessary or indispensable to accomplishing a legitimate refuge purpose that could not be accomplished by other means.

II. Preferred Alternative Too Vague to Gauge Environmental Impacts

The preferred alternative covers a wide range of agricultural practices which may vary widely over time. Certain agricultural practices will have corresponding impacts in different places but this EA takes a one-size-fits-all approach in which GE crops are lumped in with conventional row crops in quantities and settings covering unspecified refuge sites throughout the Midwest.

The open-ended scope of the preferred alternative makes it impossible for FWS to prepare just one NEPA document that covers the impact of an unknown number of possible farming arrangements in 66 different refuge units covering 1.2 million acres across 8 states.

The EA asserts, however, that "we expect to reduce row crop farming" within Midwest Refuges by 50 percent over "the next 15 years" and that refuge "farming programs...in many cases are being greatly reduced or entirely phased out." Yet, the EA provides no schedule of farming phase-outs and cites no directives mandating these reductions. In

addition, Appendix A of the EA inventories only a marginal decrease in Midwest refuge farming since 2005.

At the same time, it is quite possible that GE cultivation will increase in Midwest refuges, as there is no policy requiring abatement of agricultural activity on refuges. As detailed below, FWS did not consider certain alternatives because the “Service lacks the resources” to engage in habitat restoration – a financial limitation that may grow in the coming months and years. Thus, for financial reasons, FWS may slow or halt farming reductions and may even turn over more refuge acreage for agricultural management. Nonetheless, this EA seeks to assess impacts from potential cultivation of thousands of additional refuge acres that are yet to be determined.

Since this is not a programmatic EA, in order to comply with NEPA, FWS must do a refuge-by-refuge review for each farming program. With respect to a region-wide policy, FWS is legally required to prepare a full Environmental Impact Statement (EIS).

III. Improper Exclusion of No-Farming Alternatives

Two alternatives excluded from consideration by the EA are “No Farming” and “Unmanaged Succession.” The No Farming alternative was not considered for two reasons: 1) the legislative charter of the Crab Orchard National Wildlife Refuge mentions “agricultural” among the development purposes of this unit; and 2) because approximately “40 percent of any new lands added to the Refuge System in the Midwest Region in the future will probably be row crop land” and FWS “lacks the resources to restore all of these acres without the use of row crop farming.”

Taking these reasons in turn – setting aside the less than 50,000 acres in the Crab Orchard NWR should not preclude consideration of a no farming alternative for the more than 1.1 million remaining refuge acres in the Midwest Region. Moreover, nothing in the Crab Orchard statutory charter says that GE crops should be grown.

The second and more convoluted reason rests upon a series of unsupported guesses that the Midwest Region will purchase many new acres in coming years, that these acres will be covered in row crops needing restoration and that FWS will be unable to afford that hypothetical restoration because of low future budget levels. None of these assumptions is backed by evidence nor is a likelihood assigned to any prong of these assumptions. It should also be added that FWS resource shortfalls may be felt first in acquisition funding, thus obviating this barrier to consideration of this alternative. In short, FWS wrongfully failed to consider a No Farming alternative – a failure that leaves this EA vulnerable to legal challenge.

The Unmanaged Succession alternative was rejected from any analysis based upon the claim that this “approach to restoration takes more time when compared to active management methods and typically results in a stand of vegetation dominated by undesirable, non-native plants.” The EA does not provide any direct citation or empirical backing for these twin assertions. This reason is also premised on the assumption that

significant new lands in need of restoration will be purchased in the near future – an assumption of unknown validity. In addition, the EA appears to assume that introducing genetically engineered plants is superior to other immigrant non-native plants.

The real reason to preclude evaluating this alternative seems to be the assertion in the EA that “unmanaged succession [can] be unpopular with local weed boards” but this is not a reason that will pass legal muster under NEPA. The EA then states that natural succession “can result in violations of local and state laws pertaining to control of noxious weeds.” This unsupported claim appears to be botanical fear-mongering. Even if taken at face value, that natural succession could result in conflict with state and local laws, it does not necessarily lead to violations, nor is it precluded by these laws. Thus, this reason is also legally insufficient to bar consideration of this natural alternative to the introduction of GE crops and other pesticide-dependent row crops onto national wildlife refuges.

IV. EA Inaccurately Minimizes Harm to Refuge Wildlife

The EA concedes that use of GE crops may have detrimental effects on wildlife. For example, the most common pesticide formula used with GE crops (glyphosate, sold by Monsanto under the trade name Roundup) harms and kills amphibians. Studies show that certain amphibian populations exposed to low, field-relevant usage rates of Roundup herbicide experience much higher mortality than unexposed amphibians.

Such impacts will only increase with the dramatically rising use of glyphosate associated with Roundup Ready crops. From 1994 to 2005, for instance, USDA data demonstrate that aggregate use of glyphosate on soybeans, corn and cotton has risen from 7.9 million lbs. to 119.1 million lbs. – a 15-fold increase. Thus, alone, this dramatically increased herbicide exposure to wildlife and the ecosystem contravenes the purpose of the refuge system to protect the ecosystem.

Studies also indicate an adverse effect of GE crops on birds because the farming system associated with herbicide tolerant GE crops alters the plant and weed communities in farmed areas, thus affecting the diets of birds. As the EA concedes, glyphosate is “slightly toxic to wild birds.”

While admitting that herbicides can be toxic to wildlife, especially if applied on waters, the EA makes three arguments asserting that these harms will not occur. First, it cites an EA by the U.S. Department of Agriculture (USDA) but does not explain how this assessment of impacts on agricultural lands would apply to a national wildlife refuge. Moreover, the validity of USDA claims of no biological impact is under ongoing legal challenge.

Second, the EA claims that full compliance with pesticide use protocols and other protective procedures will eliminate all risks to threatened and endangered species. Refuge wildlife is not confined to threatened and endangered species nor does the EA provide any evidence that compliance with these protocols eliminates harm. Further, as

elaborated on below (see VIII), FWS has no reason to assume full compliance with these protocols is guaranteed.

Third, the EA relies upon the circular logic that threatened and endangered species will not be affected by row crop intrusion into the refuges because these animals do not “spend any time in row crop fields.” For this precise reason, refuges, which are often biological islands surrounded by row crop agriculture, should provide maximum habitat suitable to the wildlife. Providing that habitat is the reason for the refuges’ existence.

Nonetheless, the EA concedes that “many wildlife species have been negatively impacted by farming.” Indeed, if row crop cultivation provided wildlife habitat, we would not need wildlife refuges in the Midwest. Significantly, the principal mitigation the EA offers against harm to wildlife and wildlife habitats is the assurance that “significant decreases will continue in row crop acreages” in Midwest refuges. This is perverse reasoning, akin to combating a fire by promising to pour less gasoline on it.

V. EA Inadequately Considers Harm to Refuge Plants, Insects and Soil

GE crops also harm beneficial insects, increase weeds and alter soil ecology – impacts not analyzed in the EA. For example, FWS biologists have found that GE crops can harm soils. A primary justification for farming on refuges is the preparation of soil for the planting of native grasses, and many refuges plan to convert existing croplands into native grassland in the future. Using GE crops contradicts this purpose by damaging the very soil that farming is intended to improve.

Studies have shown that cultivation of herbicide-tolerant GE crops dramatically increases the use of herbicides (see VI, below). Herbicides degrade the soil ecosystem and pollute nearby wetlands, streams, lakes, and rivers.

Further, the EA admits that “Endangered and threatened plant species would be negatively affected if exposed to herbicides during the growing season and this would need to be considered prior to spraying....” This admission at the very least will preclude a Finding of No Significant Impact from this EA and trigger the need for a full EIS.

VI. Preferred Alternative Fosters Evolution of Resistant Weeds and Increased Use of Pesticides

Currently, the major use of genetic engineering in agriculture is to make crops herbicide-tolerant (HT), primarily to the weed-killing chemical glyphosate or Roundup. Extensive evidence, including warnings from FWS biologists, demonstrates that greatly increased reliance on glyphosate associated with Roundup Ready crops has fostered a dramatic increase in acreage infested with glyphosate-resistant and glyphosate-tolerant weeds. Many experts in the field recognize the escalating problem of weed resistance, and at least nine different weed species have been confirmed as glyphosate-resistant in 20 states. For example, glyphosate-tolerant horseweed has been reported in annual row crops in 13 states.

The EA admits this risk by noting:

“Herbicide resistance is a growing problem...Glyphosate-resistant horseweed is now found in five of the eight Midwest Region states...Regular widespread use of the same herbicide increases the risk of developing herbicide resistance.”

Nonetheless, the EA preferred alternative would add to this mounting problem by allowing blanket approval of Roundup Ready glyphosate-tolerant GE crops. The EA claims that effective integrated pest management “will help manage herbicide resistance” but it will certainly not eliminate this risk that is aggravated by the preferred alternative.

Weed resistance to glyphosate in turn leads to increasing use of harsher, more toxic herbicides. The most comprehensive, independent study of GE crops and pesticide use to date demonstrates that adoption of HT crops resulted in 138 million pounds more herbicide use than would have been used in their absence over the nine years from 1996 to 2004. Having to resort to more toxic pesticides certainly conflicts with the purpose of the refuge system because they pose significant toxicity risks to wildlife.

VII. Risks of Biological Contamination Are Not Properly Analyzed

Biological contamination is a critical risk arising from GE crops that FWS biologists have acknowledged may adversely affect refuges, and two federal courts have found to be a legally cognizable and significant environmental risk. Biological contamination refers to the unintended co-mingling of GE crops with non-GE crops and can occur through pollination of non-genetically engineered plants by genetically engineered plants or by the mixing of genetically engineered seed with natural or non-genetically engineered seed.

Biological contamination is the worst form of environmental contamination, because unlike standard chemical pollution, this is living pollution that can be spread through pollen flow. Once the gene transmission occurs there is no way for the farmer to remove the gene from the crop or control its further spread.

GE crops contaminate neighboring fields and seed stocks through pollen drift, seed mixing, and human error, and once the seed is contaminated, the harms associated with GE crops become unavoidable and virtually irremediable.

The EA points out that there are an estimated 2,800 certified organic farmers in the Midwest Region, the majority of whom grow organic corn. The EA asserts without citation that the risk of cross-contamination is limited to crops grown within 60 feet of GE crops and goes on to state “If Refuge or District Managers are made aware of adjacent Certified organic farm acres for corn, they may take measures to address neighboring landowner concerns...” Discretionary steps by refuge managers to monitor their neighbors’ crop rotation are a thin reed upon which to hang a mitigation strategy.

VIII. EA Imprudently Premised on Complete Compliance and Lack of Human Error

The principal mitigation offered by the EA against the array of harms catalogued above is that the cooperative farmers on the refuge follow pesticide label instructions to the letter and obey all conditions laid out in the FWS cooperative farming agreement, that FWS Pesticide Use Proposals are faithfully executed and that Integrated Pest Management (IPM) Plans are designed and implemented “for each NWRS unit.”

The EA presupposes that this complete array of requirements and protocols will be carried out on all 31 units without a lapse. This presupposition is not backed by any information about whether these measures are currently being implemented as envisioned. In addition, neither the EA nor FWS policy lays out clear enforcement mechanisms to make sure that safeguards in cooperative agreements, IPM plans or refuge Pesticide Use Proposals are enforced. Without enforcement, the confidence claimed by the EA in compliance may be misplaced.

In addition, the EA assumes that a thoughtful Pesticide Use Proposal is designed in each of 31 refuges with farming programs, yet FWS cannot be bothered to prepare a separate EA for each refuge program. Instead of analyzing the potential environmental effects of each refuge’s farming program, FWS lumps them all together in one short, sweeping but vague EA (see II, above). If refuges cannot prepare detailed EAs for their farming program, it is questionable that these units will prepare detailed, thoughtful Pesticide Use proposals for that aspect of their farming programs.

In short, the EA does not provide a realistic assessment of environmental impacts but rather analyzes a theoretical model based upon ideal conditions.

IX. GE Crops Are Not Needed as a Wildlife Food Source

One of the refuge purposes the EA states is served by farming is providing “supplemental food for wildlife,” principally migratory waterfowl. It is never explained why Midwest refuges need to cultivate crops when the areas surrounding most of the subject refuge units are already under cultivation. As the EA notes, “agriculture is the dominant land use in the eight-state region.”

Even more curiously, the EA states that “Currently, about 4,000 acres of Refuge System lands are farmed to provide food for wildlife.” Thus, less than one-fifth of the Midwest Region farming program is relevant to feeding wildlife. It is also unclear why these 4,000 acres in a sea of commercial grain lands provides an important food source not otherwise available to migrating birds.

The EA states that the principal wildlife food sources are grains, such as wheat, which is not a GE crop. Soybeans are not a grain and, as the EA states “soybeans have resulted in a reduction in the amount of waste grain available for wildlife.” It would also appear that

soybeans, which appear to be 100% GE from the EA description, are not a recommended wildlife food source and may, in fact, detract from wildlife food sources.

With respect to corn, the EA concludes “because it is now the dominant type of corn planted in the Midwest Region, it will be most cost effective and productive to provide high-calorie food (corn) using [GE] corn.” Yet, the EA also points out that organic corn is widely cultivated in the region. Thus, organic corn must also be available in the region. Moreover, FWS does not bear the cost of cultivating the corn; the cooperating farmer does in return for free use of refuge land and water. Thus, cost effectiveness should not be a FWS concern (see XII, below).

Food for wildlife is clearly a pretext and not a valid rationale for GE agriculture on a refuge.

X. Refuges Crops May Illegally Bait Wild Birds

A second refuge purpose identified by the EA served by agriculture is “attracting wildlife for viewing and photography.” Dedicated birdwatchers, however, do not need or desire artificial lures to attract birds. These recreationists pride themselves on finding birds in their natural habitats, rather than having them gathered like livestock.

The EA states that “Although used minimally, natural resource managers have long grown food plots (cultivated stands of corn, milo, sunflowers, millet, etc.) as a method to attract wildlife for increased viewing opportunities for the public.” The EA says that public viewing can promote “wildlife photography, environmental education, and environmental interpretation” but later mentions “wildlife-dependent recreation” – a term commonly associated with hunting.

The issue is that refuges condition ducks and other waterfowl to feed on the bait of waste crops and then allow hunters to shoot them. Hunters refer to birds exposed to bait as “daffy ducks,” so blinded by the quest for food that these wild creatures ignore instinct by acting tame. Ducks have been known to fly into buckshot to reach grain to which they have become hooked.

Under the Migratory Bird Treaty Act, baiting is the illegal practice of using feed to attract game. A baited area is essentially no different than a bird feeder. As hunting is allowed in virtually all of the Midwest refuges using agriculture, the EA should analyze the impact on migratory birds which become hooked on “high-calorie” crops in the range of refuge-based hunters.

XI. No Other Legitimate Refuge Purpose Requires GE Crops

The only two other refuge purposes purportedly served by agriculture, according to the EA, are habitat restoration and management, such as control of invasive plants. The EA maintains that GE crops can ease the restoration and maintenance of new refuge lands – which are principally farmed lands when added to the NWRS.

The EA, however, does not explain how refuges restored and maintained lands before the relatively recent advent of GE crops or why those older methods are less cost effective than GE cultivation. Nor does it provide a measure of cost effectiveness or suggest how big the margin is between GE agriculture and other discarded methods.

While invasive plants can impact wildlife, it should be noted that the crops themselves are invasive plants (GE crops are artificial invasive crops). The EA does not (but should) weigh the relative impacts on wildlife from agriculture versus invasive weeds which immigrate to fill the void after cultivation has ceased.

Significantly, the EA does not specify how long GE cultivation must go on before it has served its purported purpose. The time frame cited in the EA suggests that substantial agriculture (more than 10,000 acres) is envisioned to continue for at least the next 15 years. Nowhere does the EA explain precisely why GE cultivation in a national wildlife refuge for the better part of a generation is needed.

Given this inordinately long time frame, it is all the more questionable that the EA failed to analyze natural succession as an alternative; especially when part of the rationale offered by the EA was that “unmanaged succession...takes more time when compared to active management....”

XII. EA Places Profitability above Refuge Protection

The point repeatedly made by the EA is that GE crops are used because non-GE “seed is becoming more difficult to find and farming without [it] is less profitable” to cooperative farmers.

The convenience of finding GE seeds does not make it essential to accomplishing a refuge purpose. The increased profitability of GE seed to farmers is never quantified. Moreover, the profitability to local farmers should not be a guiding concern for refuge managers. Most importantly, the profitability to private operators should not trump protection for refuge resources.

Under the cooperative farming agreements obtained and reviewed by PEER under the Freedom of Information Act, the refuge provides the cooperating farmer free use of public land and water. In return, the farmer leaves some portion of the crop un-harvested. For soybeans, the agreement typically gives the farmer 100% of that harvest.

These cooperative agreements appear to be quite popular with local farmers, who have been known to contact their Congressional representatives to pressure FWS when cooperative farming opportunities are reduced or eliminated. The EA offers not a shred of evidence that farmers would balk at cooperative agreements premised on non-GE cultivation.

Conclusion:

On September 29, 2010, Interior Secretary Ken Salazar issued an order on scientific integrity which, among other things, provided that throughout the Department of Interior, “when scientific or technological information is considered in decision making, the information must be robust, of the highest quality, and the result of the most rigorous scientific processes as can be achieved within the available time-frame.”

This EA is an exercise in science-based decision making yet this document appears to fall well short of these standards imposed by Secretary Salazar. Rather than robust information and rigorous scientific review, this EA starts from the premise that FWS wants to allow GE cultivation and then constructs a structure of unrealistic assumptions, incomplete analysis and logical leaps to support that foreordained conclusion.

PEER strongly urges FWS to withdraw this EA. The agency should sincerely and thoroughly rethink the role of agriculture in managing national wildlife refuges before preparing a successor document.

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