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Easement Division
Attn: Grassland Reserve Program
Natural Resources Conservation Service
U.S. Department of Agriculture
P.O. Box 2890
Washington, DC 20013-2890

RE: Comments, Grassland Reserve Program

The Coevolution Institute (CoE) is pleased to submit comments to the Natural Resources Conservation Service (NRCS), U.S. Department of Agriculture on the Interim Final Rule implementing the Grassland Reserve Program (GRP).

CoE is supportive of the GRP and believes that, properly implemented, the program offers opportunities to assist landowners in protecting pollinator species that are associated with native grassland regimes. Through voluntary easements and rental agreements, landowners are encouraged to protect and restore eligible grassland and certain other lands.

CoE encourages NRCS to give due consideration to pollinator stewardship, protection and habitat conservation throughout the process of implementing the GRP. This includes technical assistance to producers, recommended practices and plant species, evaluation of applications for GRP contracts, etc.

Available research and field observations have demonstrated that *successfully establishing and sustaining many insect/animal-pollinated plant species (some grasses, forbs, wildflowers, etc) in native grasslands are directly tied to the existence of healthy pollinator species upon which they may be dependent for reproduction.* The absence of such pollinator species in this interdependent ecosystem has been identified as a reason that some native grassland restoration efforts have failed.

INTEREST OF THE COEVOLUTION INSTITUTE
&
POLLINATOR PROTECTION GOALS

The mission of the not-for-profit **Coevolution Institute**¹ is to catalyze stewardship of biodiversity. The Institute places a high priority on efforts to protect and enhance **animal pollinators** (*invertebrates, birds and mammals*) and their habitats in both working and wild land.

Animal pollinators play a pivotal part in the production of an estimated one out of every three bites of food that humans eat and in the reproduction of at least 80 percent of flowering plants. The commodities produced with the help of animal pollinators generate significant income for agricultural producers. For example, domestic honeybees pollinate an estimated \$14.6 billion worth of crops in the U.S. each year produced on more than 2,000,000 acres.² It is thus in the strong economic interest of both agricultural producers and the American consumer to help ensure a healthy, sustainable pollinator population.

Around the world, as many as 200,000 animal species perform the essential ecosystem service of pollination for the quarter million flowering plant (angiosperm) species. Many pollinators also contribute to the cycling of nitrogen and other nutrients, and help to create food and shelter for myriad other wildlife. A small percentage of these pollinators are vertebrates, which visit plants primarily for nectar. Approximately 166 species of bats serve as pollinators, as do hummingbirds and some other birds. A few non-flying mammals and even one lizard are also known to be pollinators. In all, there are over 1,200 vertebrate species in 165 genera that are known pollinators, and as many as 60 percent of these may be of conservation concern.

The champions of pollination are invertebrates, especially insects (bees, flies, wasps, butterflies, moths, beetles, and thrips). Of these, the 20,000 or more species of bees worldwide are the most highly adapted morphologically and behaviorally for pollination. Females of generalist and specialist bees collect pollen to feed their offspring, and both sexes feed on nectar for metabolic fuel and food. Their reliable pollen transfer activities often result in outcrossing, thereby increasing genetic variability of seeds and producing larger, and more commercially valuable, fruit that command higher prices for farmers. In the United States, there are nearly 4,000 described species of native bees and over 780 species of butterflies.

Today, possible declines in the health and population of pollinators pose what could be a significant threat to the

¹ More information about the Coevolution Institute may be accessed at www.coevolution.org.

² Morse and Calderone, "The Value of Honey Bees as Pollinators of U.S. Crops in 2000", Cornell University, Ithaca, NY March, 2000.

integrity of biodiversity, to global food webs, and to human health. In recognition of the need for greater understanding of pollinators, the Board on Life Sciences and the Board on Agriculture and Natural Resources of the National Research Council of the National Academy of Sciences have recently approved a study of the status of pollinators throughout North America.

A number of pollinator species are at risk. Due to several reported factors, the number of commercially managed honeybee colonies in the U.S. has declined from 5.9 million in the 1940's to 4.3 million in 1985 and 2.5 million in 1998³. For example, about 900,000 rented colonies are employed to pollinate 400,000 acres of just one major cash crop, almonds, grown in California. At the same time, feral honeybee hives are today virtually non-existent in the U.S due to infestations of parasitic mites. The widespread disappearance of honey bees from household gardens has been one tangible result.

Commercially managed honeybee hives avoid most parasite losses through periodic treatment with miticides. Should these mites grow resistant to available pesticides used for their management, 2 million acres of crops are likely to depend for their full productivity on remaining populations of wild pollinators.

Factors which can contribute to pollinator declines include: habitat fragmentation, loss, and degradation causing a reduction of food sources and sites for mating, nesting, roosting, and migration; improper use of pesticides and herbicides; aggressive competition from non-native species; disease, predators, and parasites; climate change; and lack of floral diversity.

Effective pollinator protection practices often overlap and complement other conservation practices, particularly those designed to improve wildlife habitat, including native grasslands and other natural habitats, and vice versa. In other instances, the practice designed to achieve wildlife or other conservation practices could generate significant pollinator benefits by integrating modest enhancements.

Success in pollinator stewardship and conservation will require technical service providers trained to ask the right questions related to pollinator needs, such as habitat suitability for foraging, reproduction and shelter; the presence of invasive or exotic plant species; and pest management practices.

For example, NRCS and other technical service providers working with landowners on restoring native grasslands can better assist producers by—

³ Morse and Calderone.

- Providing information about pollinator species and their importance;
- Helping evaluate the health of pollinators and their habitat in the area;
- Suggesting pollinator-friendly plant species for forage, shelter and reproduction;
- Evaluating whether any changes are needed to pest management practices; and
- Assessing whether any invasive or exotic species are present that could harm pollinators.

The landowner then has the opportunity to integrate appropriate enhancements into the grasslands restoration plan in achieving multiple objectives, often at little or no additional cost.

CoE believes it is essential that a healthy diversity of pollinator species and numbers be conserved and the natural ecosystems on which they depend be sustained in order to preserve the quality of human and all other species of life. Native grasslands, including those on working lands, are important in achieving this objective. Without an adequate human constituency and broad efforts to protect and keep them viable, pollinating species could irrevocably decline.

NORTH AMERICAN POLLINATOR PROTECTION CAMPAIGN

To address these challenges, CoE, collaborating with the National Fish & Wildlife Foundation, established the **North American Pollinator Protection Campaign** (NAPPC)⁴ in 1999. NAPPC is a fast-growing, tri-national, public-private collaboration of individuals from diverse stakeholder groups, including concerned landowners and managers, conservation and environmental groups, scientists, private businesses and government agencies. They find common ground in working to ensure sustainable populations of pollinating invertebrates, birds and mammals throughout the United States, Canada and Mexico. NAPPC's participants from 70 entities are working together to:

1. Promote awareness and scientific understanding of pollinators;
2. Gather, organize and disseminate information about pollinators;
3. Provide a forum to identify and discuss pollinator issues; and
4. Promote projects, initiatives and activities that enhance the wellbeing of pollinators.

NAPPC's stated goal is to achieve documented improvements in the health of resident and migratory pollinating animals in North America, to be accomplished through development and implementation of an Action Plan, including—

⁴ More information about NAPPC may be accessed at www.napcc.org.

1. Coordinating projects in pollinator research, education, conservation, policies and practices, and special partnership initiatives;
2. Facilitating communication among stakeholders, building partnerships, and leveraging existing resources; and
3. Demonstrating a positive measurable impact on populations and health of pollinating animals in North America within 5 years.

Since its founding, NAPPC has been instrumental in focusing attention on the importance of pollinators and the need to protect them throughout North America. Its work has included sponsorship of two NAPPC Strategic Planning Conferences at the National Academy of Sciences in Washington, DC. These two conferences resulted in an ambitious, scientifically sound blueprint for pollinator protection.

NAPPC coordinates existing pollinator protection endeavors to avoid duplication, leverages existing resources to maximize effectiveness, and where possible initiates and replicates proposals in new venues. The NAPPC Action Plan builds on current scientific research concerning pollinators and pollinator habitats and seeks to promote and support additional pollinator research.

A critical component of the NAPPC Action Plan 2000 is to *"Promote private landowner incentives for implementing pollinator-friendly practices through regional and national agencies."*

CoE applauds pollinator-friendly actions that NRCS has taken to date, including (1) efforts to increase awareness among field staff about pollinators and pollinator-friendly practices, and (2) ongoing discussions with about possible partnership efforts with NAPPC. CoE and other pollinator stakeholders look to NRCS as a vital partner at the national, state and local levels in helping landowners identify and voluntarily undertake pollinator-friendly actions.

In closing, CoE and other stakeholders interested in pollinators and biodiversity stand ready and eager to work with the agency, private landowners and operators and other stakeholders to facilitate partnering and collaborative efforts that will help realize the full potential of the GRP as it relates to pollinator needs. CoE hopes to assist the agency by facilitating access to experts who can provide additional input about what constitute pollinator-friendly practices and indeed provide technical assistance in helping farmers and ranchers identify needs and implement appropriate remedies as part of a comprehensive approach to grasslands restoration.

Respectfully Submitted,

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