



Partners for Sustainable Pollination

July 8, 2009—By E-mail to Alan.Forkey@ca.usda.gov

Alan Forkey, Program Manager
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U.S. Department of Agriculture
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RE: Habitat for Managed and Native Pollinators as Priority Resource Concern for California CStP

Dear Mr. Forkey:

Thank you for this opportunity as a representative of Partners for Sustainable Pollination (PFSP) on the State Technical Advisory Committee (STAC) for the California Natural Resources Conservation Service (CA NRCS) to provide input on implementation of the Conservation Stewardship Program (CStP) in California. In brief, PFSP urges CA NRCS to take the following actions:

- Designate habitat and best management practices (BMPs) for managed and native pollinators as a priority resource concern in California for the CStP under “Animal Concerns-Terrestrial Wildlife (cover, food)” for both Agricultural Land and NIPF for the entire State.
- Identify conservation practice codes and practices that are appropriate for establishing honey “bee pasture.”
- Improve the new CA NRCS Pollinator Technical Notes and Planting Lists to encourage and educate growers about larger scale “bee pasture” habitat needs critical to the health of managed honey bees.

Any increases in local forage and bee pasture can reduce the needs for imported hives, produce healthier and more sustainable local pollinator populations, reduce the potential for pests and diseases brought in through imports that can devastate honey bees and other pollinators, and increase valuable ecosystem services benefiting both production agriculture and wildlife.

Designate Habitat for Managed and Native Pollinators Under “PLANTS”

If we are limited to the eight national priority resource concerns identified in your communication as eligible for consideration, it would appear that this could be accomplished by specifically mentioning habitat and BMPs for managed and native pollinators under “Plants.”

There is arguably equal merit for also specifically including pollinators in “Animal Concerns-Terrestrial Wildlife (cover, food).” Whether one chooses to classify managed honey bees as “Domestic” or “Wild,” honey bees are clearly an important animal species critical to the future of California agriculture and healthy wildlife ecosystems. Native pollinators certainly qualify as “Wild” and are important to healthy wildlife ecosystems and agriculture.

Designate Habitat for Managed and Native Pollinators Under Agricultural Land and NIPF

Habitat and BMPs for managed and native pollinators should be designated as a priority resource concern in California for both agricultural land (cropland, pastureland and rangeland) and nonindustrial private forest land (NIPF). PFSP includes the latter because it has been clearly demonstrated that forest lands can be managed to include excellent pollinator habitat. The U.S. Forest Service, for example, is actively engaged in pollinator habitat restoration and public awareness efforts.

Include Entire State in Ranking Pool Boundaries

In terms of Ranking Pool Boundaries, PFSP would recommend that the entire State be included. California has a huge pollinator forage deficit for honey bees, and establishment of bee pasture anywhere in the State should be encouraged and rewarded under CStP.

Habitat Forage Essential for Honey Bee Health

Many key specialty crops in California agriculture are almost totally reliant on the services provided by beekeepers and their managed honey bees. Honey bees and their beekeepers are clearly in trouble, and the ag pollination services they provide are at risk. While unprecedented honey bee losses due to Colony Collapse Disorder (CCD) have been making headlines recently, the reality is that honey bees and beekeepers have been struggling with multiple challenges. Honey bees have succumbed in record numbers, jeopardizing the continued viability of our commercial pollination industry and predictable and affordable services for growers in California. There are increasing indications that native pollinators are also at risk.

There is a broad scientific consensus that natural forage and nutrition are essential to good bee health and to bees' ability to cope with pests, pathogens and other stressors. Improving natural forage for honey bees and native pollinators is a proven method of contributing to their health and sustainability.

Historically, beekeepers have had access to bee forage after their bees finish pollinating crops for the season. Unlike other sectors in agriculture, most beekeepers do not have control over the land they need to nourish and manage their bees. They are essentially "guests" of other landowners and are dependent on others to provide safe habitat and practices needed for bee pasture they need to keep their honey bees adequately nourished and healthy honey bees.

Over the decades, a number of forces including urbanization, changes in agricultural practices and pesticide use, and bans on honey bees at restoration projects on public lands have combined to decrease the acreage and sites available as safe bee pasture to beekeepers and their bees. The impact of the lack of availability of natural forage and resulting poor nutrition on the health of honey bees is generally agreed to be a contributing cause of CCD.

Entomologists agree that bees require a mixing of pollens throughout the year to acquire the necessary proteins, lipids, vitamins, minerals and micronutrients required by bees to be at their healthiest—or another way to view it—their most resistant to pests and pathogens. Proper nutrition is also essential for the physiological development of bees to live their intended life span. The colony's survival is dependent on a sufficient adult population to retain viability coming out of winter. Currently there is no man-made supplement that can be substituted and provide for the complete dietary needs of healthy bees. Recent investigations conducted by Dr. Gloria DeGrandi-Hoffman at the USDA, ARS Carl Hayden Bee Research Center (Tucson, AZ) revealed that while supplements are of some use to adult bees they are not useful in raising brood (or new bees). Therefore, honey bees must have access to natural, pollen-producing plants in order to replenish colony populations.

Forage plants are particularly important to honey bees because they provide all the food essential for colony growth and maintenance. Pollens are the health food in honey bee colonies. They provide protein, lipids, vitamins, minerals, sterols, antioxidants and other nutrients required by the bees. No single pollen source can provide all the nutrients required in the diet of honey bees. This can become particularly important when colonies are used for pollinating commercial crops where cultivation and herbicides are used for “clean cultivation” or “removal of competing bloom.” In order to have colonies populated with the most robust bees, best capable of dealing with diseases, parasites, and exposure to toxic chemicals, colonies need access to a simultaneous mix of quality pollens throughout the year.

Honey Bees Need Larger Scale Bee Pasture

The nutritional requirements of honey bee colonies are significant. It is estimated that it takes one full comb cell of mixed pollens and another full cell of honey to rear one honey bee worker. Since honey bee colonies rear 1,000 to 2,000 replacement bees daily, it is estimated that a colony requires 50 pounds of mixed pollens for bee rearing alone each year (Dr. Eric Mussen, UC-Davis). Another way to describe that demand is to state that on every day during the active, brood rearing season (spring, summer, fall), each colony needs to collect pollens and nectar from an acre equivalent of mixed blooming plants. Much of that need may of course be met through neighboring habitat because honey bees are capable of foraging up to a 50 square mile area.

Honey bee colonies are much more dependent on late summer and fall blooming plants as they must over winter thousands of individuals and not just a single queen. Enough honey stores must be accumulated for sufficient honey bees to survive through the winter to the next blooming season. Therefore, special consideration must be given to encouraging plantings of late summer and fall plants to meet this critical need.

While smaller scale plantings for native bees are helpful, larger scale landscape plantings are also needed to adequately meet the nutritional needs of managed honey bee colonies. For growers who wish to integrate larger scale beneficial practices that benefit honey bees, a potentially useful frame of reference is 'Bee Pasture' categories as defined by Dr. Keith Delaplane (University of Georgia): *Single Year Productive, Multi-Year Productive, and Permanent Productive*. By planning for sufficient resources for honey bees, other pollinators will also benefit.

Strengthen Practices and Planting Mix Recommendations to Provide Optimal Forage for Honey Bees

The Enhancement List and Conservation Practice List provided in the “Activity list” attached to your July 1 e-mail provide ample opportunities to incorporate improved habitat and forage for managed and native pollinators. However, to take full advantage of those opportunities, PFSP urges that planting mixes be enhanced by including plants that provide optimal forage for honey bees.

Improve CA NRCS Pollinator Tech Notes by Incorporating Larger Scale Forage Needs of Honey Bees

PFSP is appreciative of the ongoing efforts of CA NRCS in working to improve habitat for native pollinators, including through partnership efforts with Xerces and other native pollinator groups. Improving habitat for native pollinators is part of PFSP’s mission, as we believe enhanced habitat is a good thing for both honey bees and native pollinators.

The “Pollinator Biology and Habitat in California” Technical Notes (TN – BIOLOGY – CA-19) recently published by CA NRCS is an important step in the right direction. However, as indicated in the opening, while recommendations will also benefit honey bees and other native pollinators, the focus is on habitat for native bees.

The opening section of the Tech Notes also invites comments on how to improve this first version for future editions. PFSP urges CA NRCS to build on this important progress for native bees by embracing the forage needs of managed honey bees as a priority, taking expedited steps to improve this Pollinator Technical Notes to include adequate information for growers on conservation practices and plantings that will help meet the larger scale forage needs of honey bees and publishing a second edition as soon as practicable. PFSP stands ready to assist in achieving this urgently needed outcome.

Support for Increasing Forage for Ag Pollinators in California is Strong

A broad and diverse range of stakeholders is already on record in unified support for increasing forage in California for honey bees and native pollinators. For example, last year 24 organizations signed a petition letter (Exhibit 1) to California Agriculture Secretary Kawamura supporting “.....*habitat in California for managed honeybees and other pollinators of California’s agricultural crops, with the goal of 500,000 acres of additional ag pollinator habitat on and around agricultural lands.*”

PFSP believes the stated goal in the petition is realistic and achievable. There are over 110 million acres in California with some 28 million dedicated to agriculture. The goal would be to identify less than ½ percent of California’s total acreage to help provide critical forage for honey bees and native pollinators. This does not mean that acreage must be found that can be dedicated exclusively as bee pasture. Vegetation and management practices can be augmented on and near ag lands without sacrificing crop production. The CStP is an important conservation tool in helping achieve this important goal.

CA NRCS Can Optimize New Farm Bill Pollinator Provisions to Help Managed and Honey Bees

CA NRCS can optimize conservation programs to encourage habitat development and protection for managed honey bees, pursuant to new pollinator conservation provisions in the farm bill. This new provision encourages use of all USDA conservation programs in developing habitat for native and managed pollinators, and conservation practices that benefit native and managed pollinators.

Strategic Planning Needed to Reduce Reliance on Pollinator Imports

Deep concerns exist among both managed and native pollinator interests regarding potential harmful effects of pollinator imports from other regions and countries. The Honey Bee Coalition, a broad, ad hoc coalition of the beekeeping industry, is opposing imports of bee packages from Australia and expressing concerns about imports of contaminated pollen. Concerns and recommendations are being communicated to USDA’s Animal Plant and Health Inspection Service (APHIS). These positive actions are important steps toward reducing the serious deficit in natural forage for honey bees in California. The major forage deficit in California compels beekeepers and growers to import honey bees from other regions of the U.S., import bee packages from Australia and import contaminated pollen for honey bee feed supplements that are being purchased to help meet California agriculture’s pollination needs. These interregional movements and imports present continuing vectors for more diseases and pathogens negatively impacting colony health.

Ag pollination services are critical to the future of California agriculture. The health of honey bees can no longer be only a beekeeper problem. As humans, we want to use the bees to meet our needs, but do not take ownership for the responsibility for ensuring their wellbeing and their right to thrive.

PFSP believes these services are clearly at risk if we do not take decisive action to protect and sustain honey bees, beekeepers and native pollinators. While honey bees and native bees can be regarded as an agricultural input akin to tractors and fertilizer, they are unique in that they are a biological input that requires maintenance and nutrition throughout the year.

PFSP is a volunteer-based nonprofit headquartered in Santa Rosa, California that is dedicated to improving the health of honey bees through a collaborative approach involving beekeepers, growers, scientists and land management agencies with a concurrent objective of contributing to restoring native pollinator populations. We are excited about our evolving working relationship with CA NRCS and look forward to contributing to the potential of CStP and other USDA conservation programs in improving habitat forage for honey bees and other pollinators.

Respectfully Submitted,

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