

## **PARTNERS FOR SUSTAINABLE POLLINATION**

### **“POLLINATING CALIFORNIA’S AG VISION”**

My name is Kathy Kellison. I am founder and executive director of Partners for Sustainable Pollination, a volunteer-based nonprofit. Our organization 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. I am also on the board of directors of the California State Beekeepers Association and a member of the American Beekeeping Federation. Though by profession, I am an educator, I have been keeping bees for 5 years and enjoy mentoring and teaching others about beekeeping.

I would like to express my appreciation to Secretary Kawamura and the California Department of Food and Agriculture (CDFA) for convening this series of listening sessions to collect input to guide future consensus-based decision-making regarding policies for forwarding agricultural practices in California.

The objective of my testimony is to urge that ag pollination services be included as an important and necessary part of policies and programs for California agriculture. The focus should be on programs, collaborative partnerships and incentives to improve natural forage, or “bee pasture,” for agriculture’s pollinating partners—honey bees and native pollinators.

We have been asked to respond to four questions during these listening sessions. Here are my responses:

⌘ What is your vision for California agriculture by 2030?

My vision for California agriculture in 2030 must include healthy honey bees. Without pollination, there is no crop in many California specialty crops.

⌘ What will be the biggest challenge in achieving that vision?

One of the biggest challenges to providing healthy pollinators and sustainable ag pollination services will be providing adequate bee pasture to support and sustain a locally based honey bee population that is better able to resist pests and diseases.

⌘ In 2030, how has the public perception of agriculture changed?

The public in 2030 can and must not only appreciate the vital partnership role of honey bees and native pollinators in producing the nutritious food and wildlife ecosystems, but will be inspired to take individual actions to help provide bee habitat, even in their own back yards.

⌘ What is a "must have" in an Ag Vision for California?

I believe a “must have” for the future wellbeing of California agriculture is that

CDFA must lead now in fostering partnerships and providing incentives to facilitate necessary increases in bee pasture to ensure an Ag Vision of a strong and vibrant agriculture in California in 2030.

Secretary Kawamura has captured the essence of the challenge we face as we work to shape a successful vision for California agriculture, in stating “When we forget the stable foundation upon which agriculture must stand, we do so not at our own peril, but at the peril of civilization itself.” I believe that pollination services provided by healthy honey bees are essential to a stable foundation for California agriculture, and that to ignore their wellbeing—and in particular their habitat and forage needs—will be at our peril.

Honey bees are the primary contributor of pollination services to specialty crops with annual revenues exceeding \$15 billion in the U.S. and several billion dollars in California. Native pollinators are believed to pollinate an estimated \$3 billion of crops annually. In addition, wildlife ecosystems are vitally dependent on pollinating partners.

We have all been made aware of the current crisis facing our honey bees and beekeepers termed CCD. The truth is honey bee populations have been on the decline in the U.S. for decades. There are many reasons for this, just as there are many contributing factors to the more recent die offs of honey bees we are hearing so much about. While CCD may still be termed “mysterious”, the underlying causes are clear. While they are clear, they are also complicated as there are multiple contributing factors that make it difficult to craft a simple solution.

Solving the health problems of honey bees will necessitate strong collaboration between experts in bee biology, management by beekeepers, working relationships with growers, and perhaps most importantly a greater appreciation for the critical deficit of “bee forage” in California. Honey bees are not like other forms of livestock, as they cannot maintain good health on artificial supplements alone. Honey bees require a simultaneous blending of pollens and nectar available in succession to provide an adequate diet of the essential amino acids needed to produce the most robust offspring possible.

Beekeepers must seek permission and keep current with ever changing conditions on or near lands used to nourish their bees. This past spring for example, one migratory beekeeper reportedly lost 21,000 hives when he arrived in California, because he had nowhere to stage his bees prior to the almond bloom when he found lethal pesticides had been used on his intended site.

Poor nutrition is widely agreed by entomologists including UC-Davis entomologist Eric Mussen and ARS researcher Judy Chen to be the greatest “stressor” on honey bees. A substandard diet creates increased vulnerability to viruses and pathogens, and negatively affects overall adult honey bee vitality and longevity

essential to colony survival in order to successfully perpetuate from winter into spring. It is sadly ironic that a species we rely on so heavily for the most nutritious portions of our food supply is suffering from malnutrition.

Identifying, enhancing and increasing bee forage in California would significantly improve conditions for our honey bees while also providing habitat for native bees. Lack of bee forage is a limiting factor to both bee health and the pollination industry. We are already taking action. To address this issue, 22 organizations and leading individuals—including the California Farm Bureau, beekeeping organizations at the state and national levels, and leading scientists—have joined with PFSP in a petition requesting that Sec. Kawamura and CDFA convene a work group to identify 500,000 acres of bee forage on or near agricultural lands. The petition and an accompanying exhibit are attached to this statement.

At first glance the acreage goal may seem unrealistic. However, when one considers that there are over 110 million acres in California with some 28 million dedicated to agriculture, this is less than ½ percent of California's total acreage to help provide critical forage for honeybees and native pollinators. Furthermore, 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, and public lands and rights-of way offer potential.

Here are some key factors that should be considered as intrinsic to any efforts to identify and establish bee pasture:

Water. Not all land is created equal when it comes to bee pasture. It is important to recognize that water is a critical limiting factor in establishing bee pasture. Water must be available at a level sufficient to support suitable forage and for the bees.

Incentives. Producers may need incentives and assistance to help them establish bee pasture on their land. CDFA should play a lead role in identifying and facilitating access to financial incentives and assistance available through Farm Bill programs, state-level programs and private sources for this purpose.

Public Lands. Public lands and rights-of-way also offer considerable potential in providing bee pasture. CDFA can play a leadership role in reaching out to agencies and landowners with jurisdiction or ownership, perhaps by inviting representatives to serve on the "bee pasture" work group.

Pesticides. Pesticides are an important part of the equation to quality bee pasture and healthy honey bees. In addition to needed improvements in pesticide registration protocols at the national level, there are opportunities through improved pest management practices by growers, including selection and timing of pesticide applications, that can make or break the value of land for bee pasture.

When it comes to bee pasture, we are losing ground, not gaining. Historically, there was abundant “bee forage” in California. Over the decades, changes in agricultural practice, including increased use of agrochemicals, urbanization and recently even anti bee legislation, combine to deplete traditional foraging grounds available to beekeepers and honey bees and native bees.

It is also important to recognize that California is losing farmland to the pressures of a growing population. In a 2007 document prepared by Ed Thompson of American Farmland Trust by 2050 most of the major counties in the Central Valley will lose between 50 to 80 percent of lands currently involved in agricultural production. Increasing the utility of our production lands, by integrating habitat for the priority of honey bees and all pollinators, could aid in slowing the loss of farmland.

We need to understand that neither beekeepers nor science alone can solve the problems facing the health of our honey bees, a component that is vital to the prosperity of California agriculture. Beekeepers certainly don’t have the financial capacity to pay rent for bee pasture or for planting pollinator-beneficial habitat. In a way, we need to all become beekeepers by exercising our influence in the landscapes we interface with whether as a homeowner, farmer, or involved with private or public land management. Working together to adopt management practices that benefit pollinators and their habitat is in all of our best interest to ensure reliable pollination services and sustain healthy numbers of honey bee colonies and native pollinators for the future.

I would be remiss if I failed to point out the repercussions of allowing importation of the non-native bumble bee, *Bombus impatiens* into California. There are serious ecological risks to our native species of bumble bees in approving their use in California as a pollinator for blueberries even on a temporary basis. There is good reason to believe we have already lost two species of bumble bees, the latest as documented by Dr. Robbin Thorp, B. Franklini, due to pathogens transmitted by imported species.

Before closing, I would like to thank Secretary Kawamura for his recent action in proclaiming last week as California Pollinator Week. National Pollinator Week is facilitated by the North American Pollinator Protection Campaign. I am privileged to be a participant in that collaborative effort. I hope that in upcoming months we can be a resource to CDFA in outlining and implementing activities to be associated with Pollinator Week in 2009 to increase public awareness in California about the issues facing not only honey bees but all native pollinator species and to encourage actions to protect honey bees, other pollinators and their habitat.

In conclusion, PFSP, in collaboration with organizations and individuals representing a diverse range of stakeholders, recommends the following actions:

CDFA should take ownership and leadership in convening a “work group” composed of representation from the agricultural community, beekeeping

industry, native and honey bee biologists, state and federal public land agencies to identify 500,000 additional quality bee forage acres on or near agricultural lands.

CDFA should actively pursue and facilitate incentives and assistance to growers who are willing to provide pollen and nectar plants on their land. For example, pollinator habitat incentive payments could be added to the Conservation Reserve Program. Additional sources of funding include USDA, NRCS and private foundations and businesses.

We should all work to develop increased public awareness in California about the issues and essentiality of pollinators to both the food we eat and healthy wildlife ecosystems. One initiative could be to launch a “Pollinator Friendly Communities” initiative, perhaps in conjunction with Pollinator Week.

CDFA could help foster improved communications where needed between growers and beekeepers to minimize adverse impacts on honey bees and other pollinators by pesticide applications.

CDFA should reject any action to establish bee exclusion zones around seedless mandarin groves. This would effectively deny access to historic habitat for honey bees.

CDFA should deny any petition seeking to import non-native species of bumble bees.

Respectfully Submitted,  
Kathy Kellison, Executive Director  
Partners For Sustainable Pollination (PFSP)

Attachment-Pollinator Habitat Working Group Petition Letter & Exhibit