Role of the Plant Materials Program in Creating and Improving Pollinator Habitat

USDA-Natural Resources Conservation Service
East Texas Plant Materials Center, Nacogdoches, Texas

NRCS Natural Resources Conservation Service

Importance of Pollinators

Most pollinators (up to 200,000 species) are beneficial insects such as flies, beetles, wasps, ants, butterflies, moths, and bees.

- Worldwide, of the estimated 1,330 crop plants grown for food, beverages, fibers, condiments, spices, and medicines, approximately 1,000 (75%) are pollinated by animals.
- An estimated one-eighth to one-third of all foods and beverages is delivered by pollinators.
- More than half the world's diet of fats and oils comes from oilseed crops, of which cotton, oil palm, canola and sunflowers are pollinated by animals.
- In the U.S., pollination by insects produces nearly $40 billion worth of products annually

NRCS Natural Resources Conservation Service

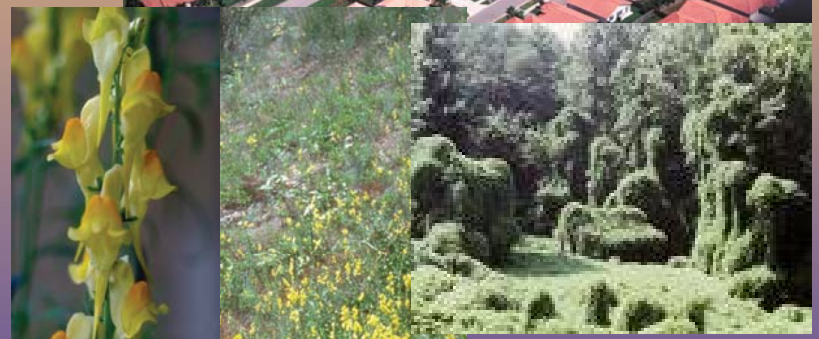
“Insect and other animal pollinators that help American agriculture produce much of the food we eat are at risk due to habitat losses……..”

Laurie Adams, Executive Director
CoEvolution Institute

NRCS Natural Resources Conservation Service

Pollinator Habitat Loss/Decline

- Urban Sprawl
- Invasive species
- Urban Sprawl
- Fragmented landscape
- Residential/commercial construction
- Pesticides/herbicides
- Agricultural practices
- Disease
- Others



Kudzu

Dalmatian toadflax

NRCS Natural Resources Conservation Service

Pollinator Habitat Information


Pollinator Conservation Information

Plants for Native Bees

Written by Matthew Shepherd, The Xerces Society

Native bees are a vital part of our environment. They ensure healthy wildflower communities and harvests of fruit and vegetables. Bees are suffering from the fragmentation and loss of their habitat and extensive use of pesticides.

Bees require two essential components in their habitat, somewhere to nest and flowers from which to gather nectar and pollen. Native plants are undoubtedly the best source of food for bees, because the plants and their pollinators have coevolved. There are also some garden plants that are great for pollinators.

In many landscapes, flowers have been pushed to the margins, surviving on roadsides and field edges, as well as in wild areas and gardens. Providing patches of flowers is something that we all can do to improve our environment for these important insects. One of the great things about creating foraging habitat is that not only will it help bees (and other pollinators) but it also makes a beautiful place for people.

Flower-rich areas provide good foraging for bees and other pollinator insects.

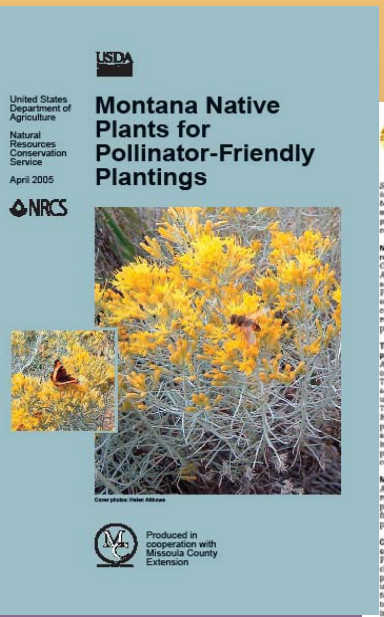
Choosing the Right Flowers

To help bees and other pollinator insects—the butterflies—you should provide a range of plants that will offer a succession of flowers, and thus pollen and nectar, through the whole growing season. Patches of foraging habitat can be created in many different locations, from backyards and school grounds to golf courses and city parks. Even a small area planted with good flowers will be beneficial for local bees, because each patch will add to the mosaic of habitat available to bees and other pollinators.

Native plants are usually best for native bees, and can be used in both wild areas and gardens. There are also many garden plants—particularly older, heirloom varieties of perennials and herbs—that are good sources of nectar or pollen. Together with native plants, these will make a garden attractive to both pollinators and people.

In such a short information sheet it is not possible to give detailed lists of suitable plants for all areas. On the back are two lists of good bee plants, the first of native plants and the second of garden plants. These lists, combined

For complete information on bee-friendly plants, buy the *Pollinator Conservation Handbook* from the Xerces Society. The *Handbook* also has details of nesting sites and pupation and overwintering sites for bees, butterflies, flies, and beetles, and some education ideas. Contact us at the address on the back or via our website www.xerces.org.


USDA

United States Department of Agriculture

Natural Resources Conservation Service

April 2005

NRCS

Montana Native Plants for Pollinator-Friendly Plantings

Cover photos: Helen Atkinson

Produced in cooperation with Missoula County Extension


U.S. Fish & Wildlife Service

Pollinator Conservation and Education

Supporting pollinator conservation and education is important to the U.S. Fish and Wildlife Service (Service) because we are entrusted to protect certain pollinators and plants that rely on animal pollination. Additionally, pollinator conservation and education are critical components of the Service priorities.

National Wildlife Refuge System: Conserving our lands and resources.

One of the mandates of the Refuge System Improvement Act is to ensure that the biological integrity, diversity, and environmental health of the system are maintained. Pollinators are vital to the ecological integrity of ecosystems and serve as indicators of environmental conditions. Therefore, fulfilling our statutory mandate requires that we recognize and incorporate the needs of pollinators into planning and management of refuges.

Threatened and Endangered Species: Achieving recovery and preventing extinction.

At least 34 animals federally listed as endangered or threatened play a role in pollination. Currently, 718 species of flowering plants are federally listed as endangered or threatened. While we do not fully understand their pollinator relationships, more than 75 percent of all flowering plants are animal pollinated. Recovery may depend on ensuring the health of their pollinator partners because of the critical role these animals play in flowering plant reproduction. The Service is also responsible for wildlife trade control for several pollinators that are internationally traded, including certain bats, butterflies and hummingbirds.

Migratory Birds: Conservation and management.

Among the migratory birds that the Service is responsible for protecting, hummingbirds are well-known pollinators. Furthermore, many migratory birds feed on fruits, berries and seeds that stem from animal pollinated plants.

Connecting People with Nature: Ensuring the future of conservation.

Pollinators capture the interest of the public, especially children, because many are attractive and familiar, particularly those found in suburban backyards and urban gardens. They are vitally important to the human food supply, with estimates that pollinators contribute to one in every three bites of food we eat. Promoting an interest in pollinators helps connect people with nature. A greater understanding of pollinators, their plant partners, and the importance of healthy habitats to their survival increases the public's appreciation for the resources the Service is responsible for conserving.

Landscape Conservation: Working with others.

Habitat loss is believed to be responsible for the decline of many pollinators. To address these and other threats to pollinators, the Service partners with the North American Pollinator Protection Campaign (NAPPC). NAPPC is an international collaboration of people from over 100 private, government, university and nonprofit organizations working together to encourage the health of resident and migratory pollinating animals in North America. The Service has a Memorandum of Understanding with the Coevolution Institute, the nonprofit administrator of NAPPC. NAPPC task forces and partners prepare many tools (e.g., posters, fact sheets, brochures, activities) that the Service can use in education and outreach programs.

Who is the Service Pollinator Work Group?

The Service Pollinator Work Group is a cross-programmatic group of designated staff who work to integrate pollinator conservation into Service activities using existing authorities. Some examples include:

- Make education and outreach materials about pollinators available.
- Promote use of pollinator-friendly native plants in habitat restoration plantings.
- Work with others to protect migration corridors used by migratory pollinators, such as bats and hummingbirds.
- Provide expertise on power line and wind tower placements to minimize impacts to pollinators.
- Advocate for reduced pesticide use by using an integrated pest management approach.

For more information, please contact:
Soleree Savignano, Division of Environmental Quality
Telephone: 703/358-2148
http://www.fws.gov/pollinators/


USDA National Agroforestry Center

AF Note—32

August 2006

AGROFORESTRY NOTES

Agroforestry: Sustaining Native Bee Habitat For Crop Pollination

Introduction

Agroforestry connection

Crops pollinated by native bees

- Alfalfa seeds
- Almonds
- Apples
- Avocados
- Blueberries
- Canola
- Cherries
- Chokecherries
- Cranberries
- Cucumbers
- Grapefruit
- Macadamia nuts
- Pears
- Plums
- Prunes
- Pumpkins
- Soybeans (hybrid seed production)
- Squash
- Sunflower seeds
- Tomatoes
- Vegetable seeds
- Watermelons

Windbreaks reduce wind speed and provide more favorable conditions for bee activity, which can increase crop pollination and yield. USDA National Agroforestry Center file photo.

1

Native plants are key to pollinator habitat development and enhancement

NRCS Natural Resources Conservation Service

Why Native Plants?

- Involved in evolution of pollinators
- Food
- Shelter
- Reproduction
- Better adapted to growing conditions
- Less maintenance and care

NRCS Natural Resources Conservation Service

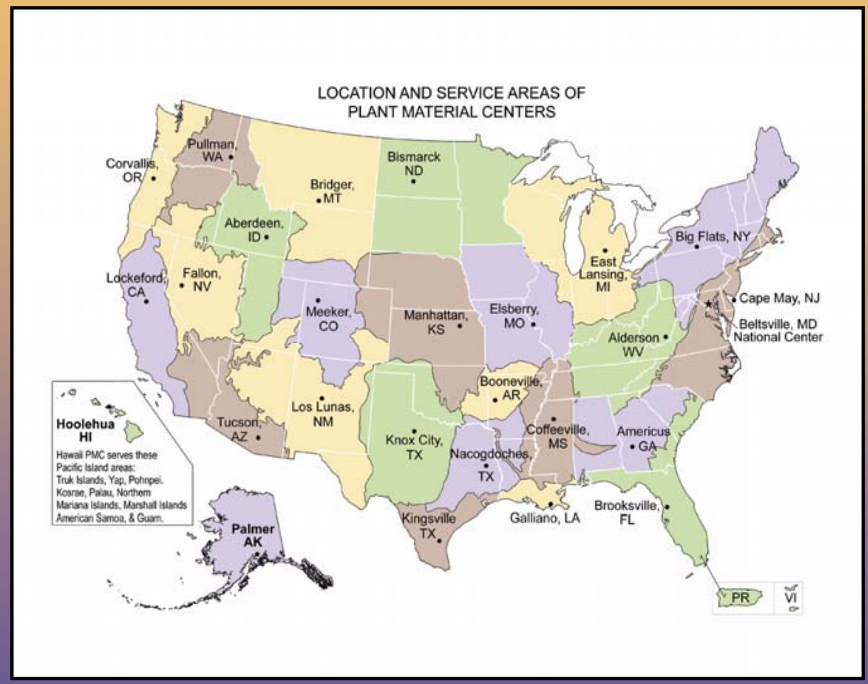
Native Plant Resource

USDA - Natural Resources Conservation Service, Plant Materials Program

Select plants and develops plant science technology for use in resource conservation and environmental programs

› 70 years experience in collecting, evaluating, selecting, producing and releasing native plants for conservation

Emphasis is on selecting and promoting native plants as an environmentally safe, friendly, and healthy way to address resource conservation problems

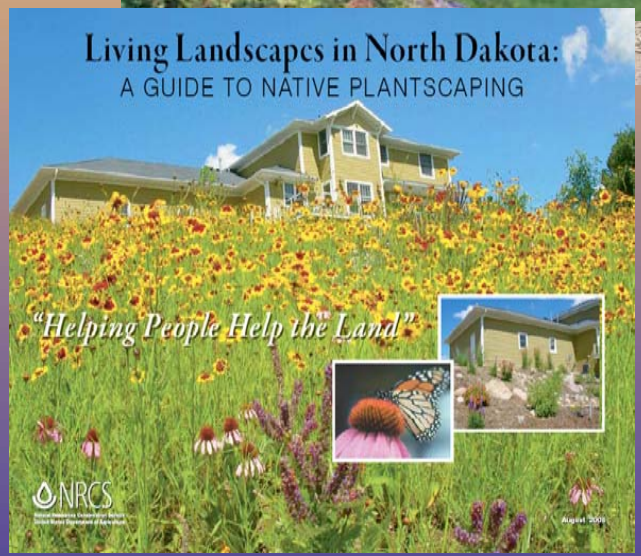


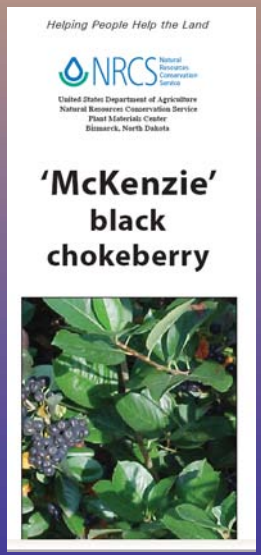
27 Plant Materials Centers serving all 50 states and territories.

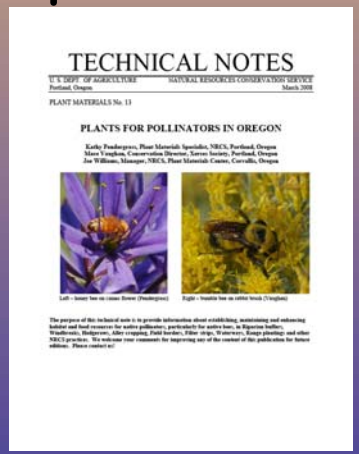
NRCS Natural Resources Conservation Service

Plant Technology

- > 600 plant releases
- Plant guides
- "How to Guides" and technical references
- Technical specialists





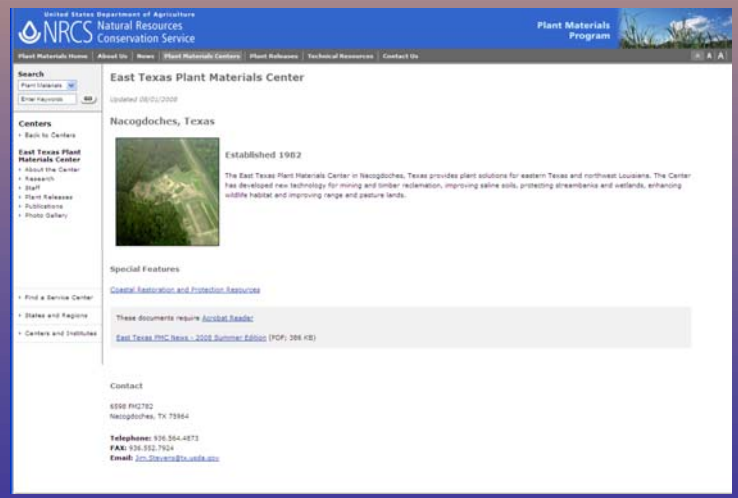


117,000 document downloads per month

NRCS Natural Resources Conservation Service

Plant Information

http://plant-materials.nrcs.usda.gov/



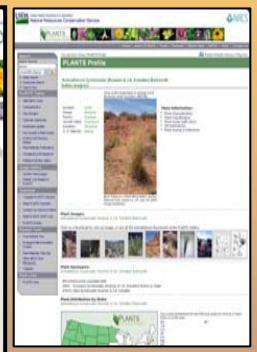
- About the Center
- Research
- Staff
- Plant Releases
- Publications
- Photo Gallery

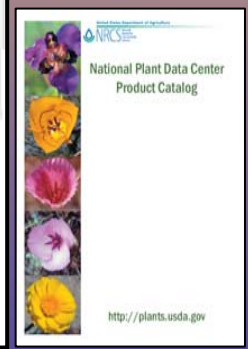
NRCS Natural Resources Conservation Service

Plants Database Center

http://plants.usda.gov/

- Profiles for 43,000 plants
- Images/Photos
- Distribution & Attributes
- Legal status-Noxious/T&E
- Conservation traits
- Plant guides & fact sheets
- Wetland indicator status





18,000,000+ hits per month

NRCS Natural Resources Conservation Service

NRCS Natural Resources Conservation Service