Milkweed for Monarchs

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Seeds of Success

- 5-year agreement with BLM to collect for CPNPP, AZ Strip and Mojave regions, with partial funding through NFWF
- Goal: 21+ collections
- 8 collected in 2017
- 2018 focus on Mojave region spring species
- Volunteers as in-kind match
Separate funding, similar goals

- USFWS Partners For Fish and Wildlife Program

- Goals similar to the BLM National Seed Strategy:
  - Action #1.3.1: Expand and improve facilities and plant production capability
  - Action #2.2.3: Develop species specific protocols for seed and seedling production

- Goals similar to the BLM NFWF Pollinator Initiative:
  - Collect food and nectar plants for monarchs
  - Seed production
  - Education outreach
Monarch Decline

- Monarchs have declined by 80% over the past two decades
- An 80% decline points to extinction if not acted upon
- USFWS to make a decision by June 2019
- Decisions include: proposing protection, denying protection, or placing on Candidate waiting list
Why Are Monarchs Declining?

- Habitat & food source loss
- Urban development and aggressive roadside “weed” elimination through mowing and herbicide
- Challenging to replace milkweed due to limited sources for seed and plants
- Perception that milkweed species are invasive and dangerous prohibits support
Genus *Asclepias*

- 72 species native to North America
- deserts, swamps, forests, grasslands & prairies
- endemic species in soils rich in serpentine, iron & magnesium
- Texas (37 spp.) and Arizona (29 spp.) have the highest diversity
- AZ, CA, TX, FL, UT are the only states with endemic milkweed species
- U.S. Fish and Wildlife Service and Coconino Master Gardener Association funds

- Collect wild AZ *Asclepias* species, propagate and establish seed production beds

- Establish 300 individuals of *A. asperula*, *A. speciosa*, *A. subverticillata*, and *A. tuberosa*

- Resulting seed to be distributed to USFWS and other interested parties for restoration or enhancement of Monarch butterfly habitat

- Interpretation at The Arboretum
USFWS- Grant, shares common goal of special status species conservation
Monarch Watch- Waystation Program
USFS- The Arb currently is a permit holder for forest service land where we will locate wild milkweed populations for seed collection
The USFWS supports The Arboretum at Flagstaff’s efforts in monarch butterfly habitat restoration. Agreement goals are to increase milkweed on Arboretum grounds, become a reliable seed supplier for USFWS and others interested in locally sourced milkweed restoration plant materials, and to expand public education about monarchs and milkweeds through interpretive signs on Arboretum grounds, partnerships with schools, and active participation in presentations and talks.

- The Arboretum is forming an agreement with the Flagstaff Unified School District to donate plants to schools interested in engaging students in monarch and wild pollinator habitat restoration.

[www.fws.gov/savethemonarch](http://www.fws.gov/savethemonarch)
Monarch Waystations: Habitats that provide resources necessary for monarchs to produce successive generations and sustain their migration.

The need for host plants for larvae and nectar plants as energy sources for adults applies to all monarch and butterfly populations around the world.
The USFS supports a program called The Monarch Joint Venture (MJV)

- Partnership of federal and state agencies, non-governmental organizations, and academic programs
- Support and coordinate efforts to protect the monarch migration across the lower 48 United States
- The MJV is committed to a science-based approach to monarch conservation work, guided by the North American Monarch Conservation Plan (2008)
- Taking an active role in public outreach and conservation by creating pollinator habitat gardens

The Arboretum is a permit holder with the USFS to allow collection of wild provenance seed from the National Forests of Arizona and New Mexico.

http://www.fs.fed.us/wildflowers/pollinators/Monarch_Butterfly/index.shtml
Our Strategy

- Locate wild plant populations
- Collect seed (never take more than 20% from wild sources)
- Cultivate plants
- Plant in Arboretum gardens
- Establish grow-out beds for seed harvest
- Provide plants and seed for sale and donation
- Research and monitoring of wild and cultivated plants
Grow-Out Beds

Planted June 2016
The Arboretum greenhouses & gardens are open to the public.
The Arboretum propagates 4 milkweed species native to Northern Arizona: *Asclepias subverticillata*, *A. speciosa*, *A. tuberosa*, and *A. asperula*. 
Asclepias subverticillata
Asclepias speciosa
Asclepias asperula
- Mediterranean Oleander Aphid (*Aphis nerii*)
- Rusts
- Milkweed Bugs (*Oncopeltus fasciatus*)
- Milkweed Tussock Moth (*Euchaetes egle*)
- Leaf beetles, fungus, leaf spot……..
Outreach

- Future Monarch Waystation in Picture Canyon (City of Flagstaff 500 acre preserve)

- Talks and Presentations 2017:
  - 14 different community events
  - 2491 total in attendance
The Arboretum is expanding interpretive signs in some gardens to expand public understanding of native plants and pollinators.
Pollinator Garden
Monarch Butterfly Habitat Restoration: Producing a Local Seed Source

The Monarch butterfly has experienced drastic declines in numbers in the past 20 years, and has been petitioned for listing under the Endangered Species Act.

Milkweed (Asclepias spp.) is the only plant on which Monarch butterflies lay their eggs, and is the only food source for their larvae.

To complete their incredible North American migration, the butterflies need patches of milkweed habitat all along their route.

The Arboretum at Flagstaff is propagating and establishing seed production beds of locally sourced milkweed. These production beds will provide a source of seed and serve as habitat for monarchs in our area.

Illustrations and Photos by Shella Murray, Research Botanist, The Arboretum at Flagstaff
Resources

- www.fws.gov/savethemonarch/
- www.fs.fed.us/wildflowers/pollinators/Monarch_Butterfly/index.shtml
- www.monarchwatch.org/index.html
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