

National Native Plant Materials Development Program: Ensuring Options in a Changing Climate

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National Native Seed Conference

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National Native Plant Materials Development Program

- History of the Program
- Need for the Program
- Funding
- Leveraging Investment
- Native Plant Materials Development Process
- Accomplishments
- Next Steps

Importance of Program to DOI and BLM

- Climate Change
- Treasured Landscapes
- Youth Program
- Renewable & Conventional Energy
- Healthy Lands and Restoration



National Native Plant Materials Development Program

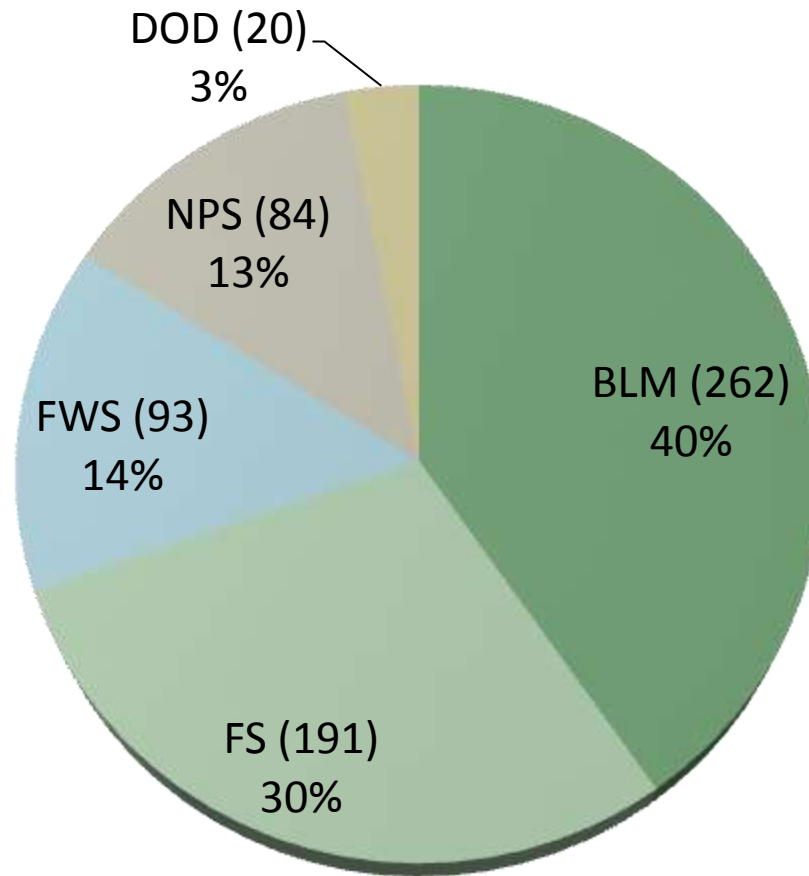


House of Representatives' FY2001 Conference Report

- Directs "...the agencies to develop a long-term program to manage and supply native plant materials for various Federal land management restoration and rehabilitation needs.
- Recommends "... the interagency Plant Conservation Alliance lead this effort."

Federal Government Lands

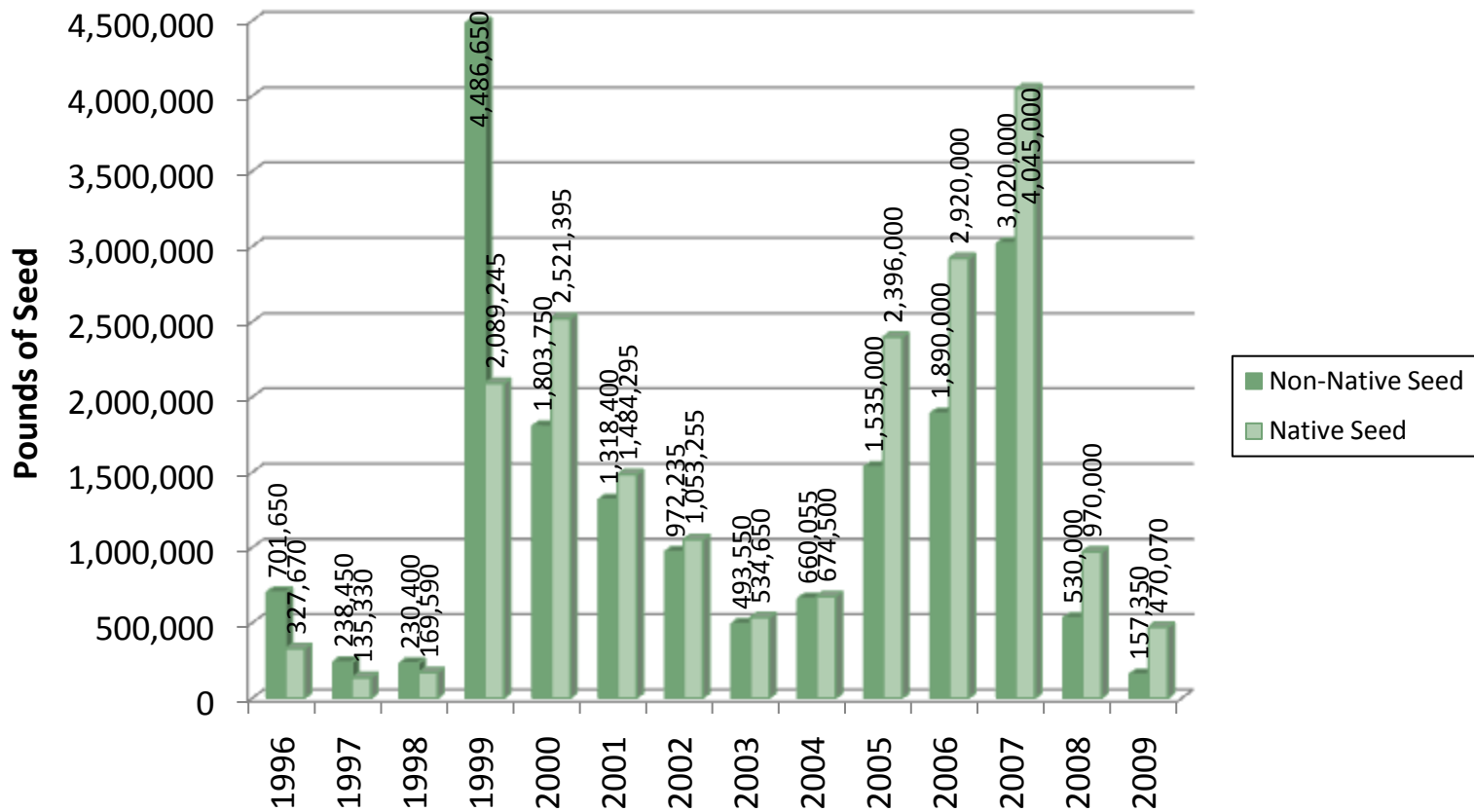
in millions of acres



650 million acres
29% of total US land area

Demand for Native Plant Materials

BLM Consolidated Seed Buys

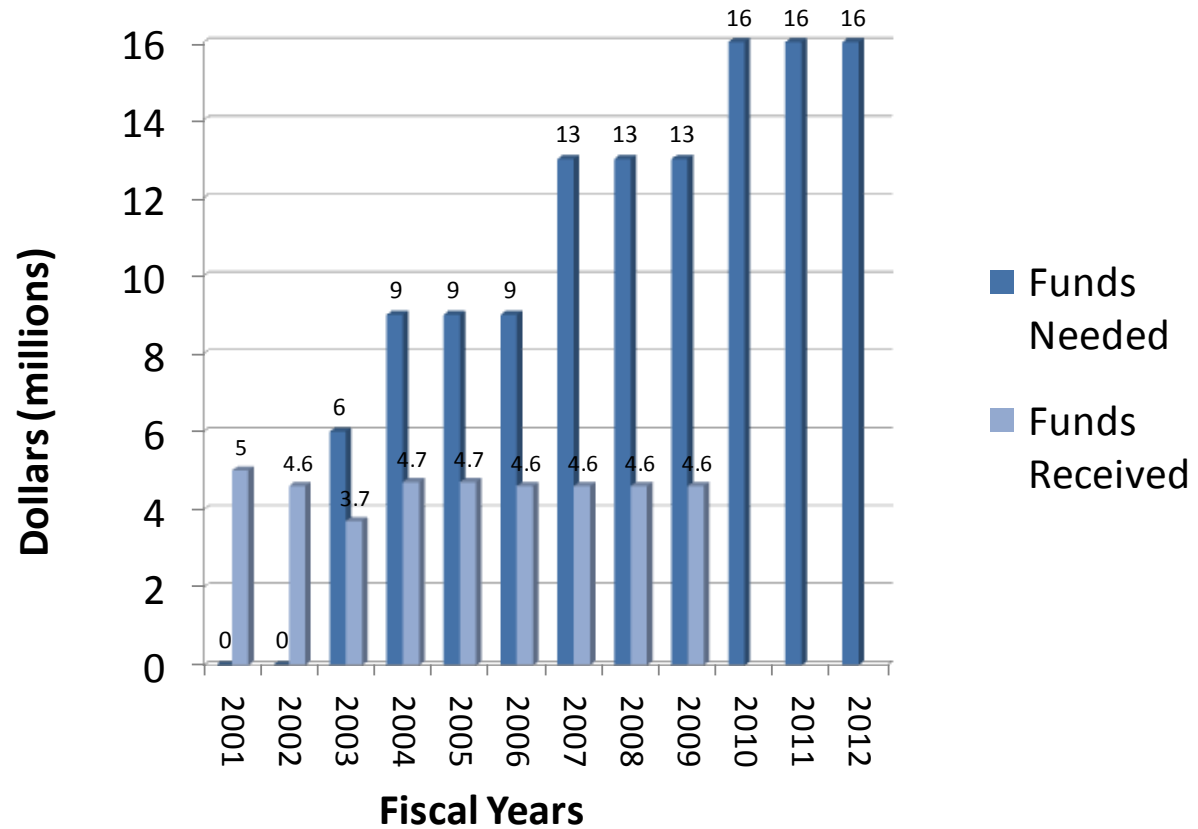


Demand for Native Plant Materials

	Native		Non-Native	
Habit	Species	Cost/Pound	Species	Cost/Pound
Grasses	<i>Hesperostipa comata</i> (needle and thread grass)	\$35.00	<i>Agropyron cristatum</i> (crested wheatgrass)	\$1.19
Forbs	<i>Lupinus sericeus</i> (silky lupine)	\$90.00	<i>Sanguisorba minor</i> (small burnet)	\$2.01
Shrubs	<i>Artemisia nova</i> (black sagebrush)	\$25.00	<i>Bassia prostrata</i> (forage kochia)	\$8.00

Ten-Year Budget Strategy

Needs vs. Funds Received





National Native Plant Materials Development Program Annual Funding

FY2001 - \$5.3 m

FY2006 - \$4.4 m

FY2002 - \$4.7 m

FY2007 - \$4.6 m

FY2003 - \$2.3 m

FY2008 - \$4.6 m

FY2004 - \$4.6 m

FY2009 - \$5.8 m (ARRA)

FY2005 - \$4.6 m

FY2010 - \$7.6 m

2001-2010 Total : \$48.5 million

National Native Plant Materials Development Program *Leveraged Funds (2001-2007)*

Royal Botanic Gardens Kew	\$2.3m
Chicago Botanic Garden	\$2.1m
Native Seed Network	\$1.7m
Center for Plant Conservation	\$1.5m
Uncompahgre Plateau Project	\$1.4m
Lady Bird Johnson Wildflower Center	\$0.8m
PCA/NFWF Grant Program	\$1.3m
Great Basin NPSIP (20+ partners)	\$3.0m
<u>Pacific Northwest (OR/WA)</u>	<u>\$1.5m</u>
	\$15 million

BLM Five Year Strategy for Native Seed Increase

- Increase seed storage capacity to 5 million pounds
- Establish ecoregional native plant materials development programs
- Expand seed collection and curation to 15,000 accessions
- Develop seed transfer zones for 250 species
- Provide programmatic leadership & infrastructure

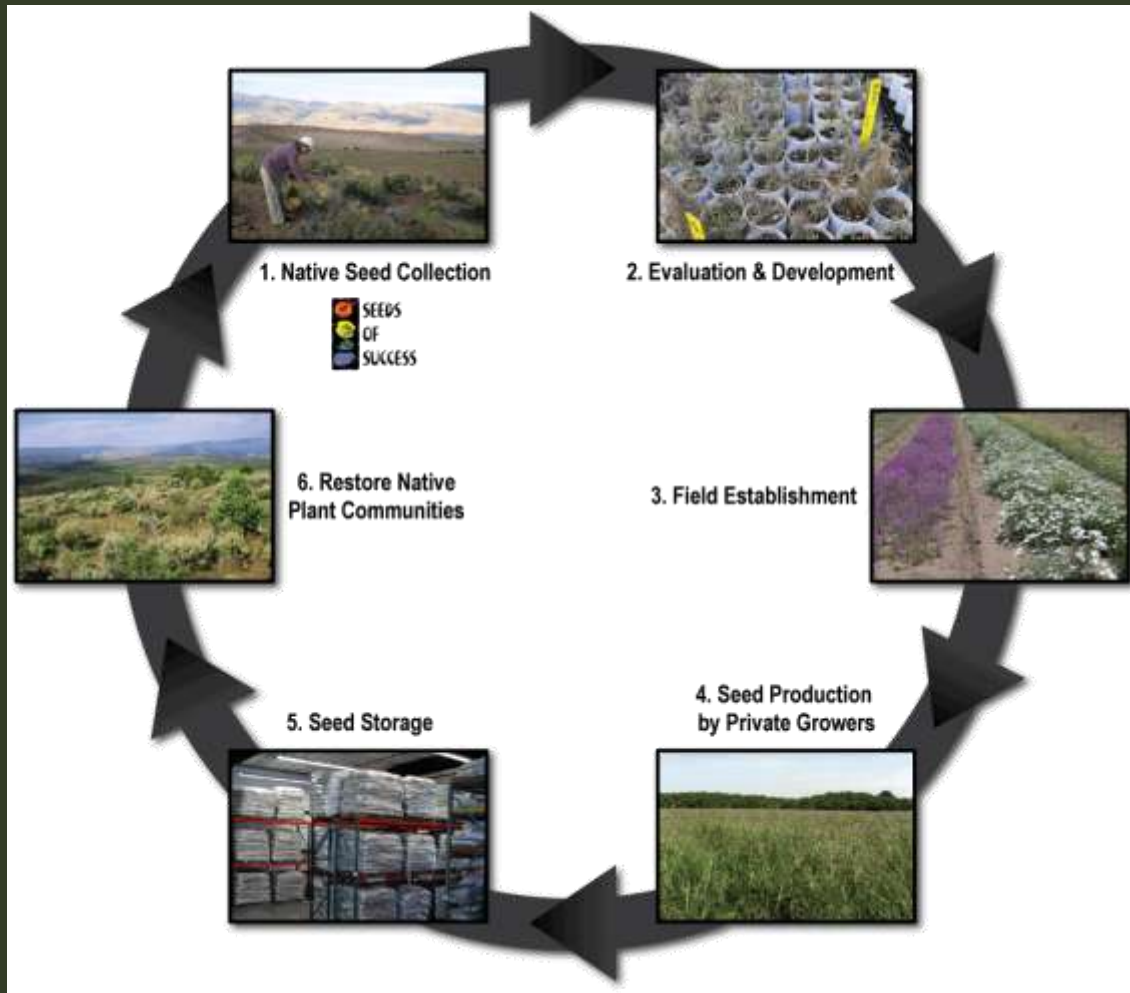


Ecoregional Native Plant Programs

- Great Basin Native Plant Selection & Increase Program
- Colorado Plateau Native Seed Program
- OR/WA Native Plant Program
- California Native Plant Program
- Mojave Desert Restoration Initiative
- Sonoran & Chihuahuan Deserts



Native Plant Materials Development Process

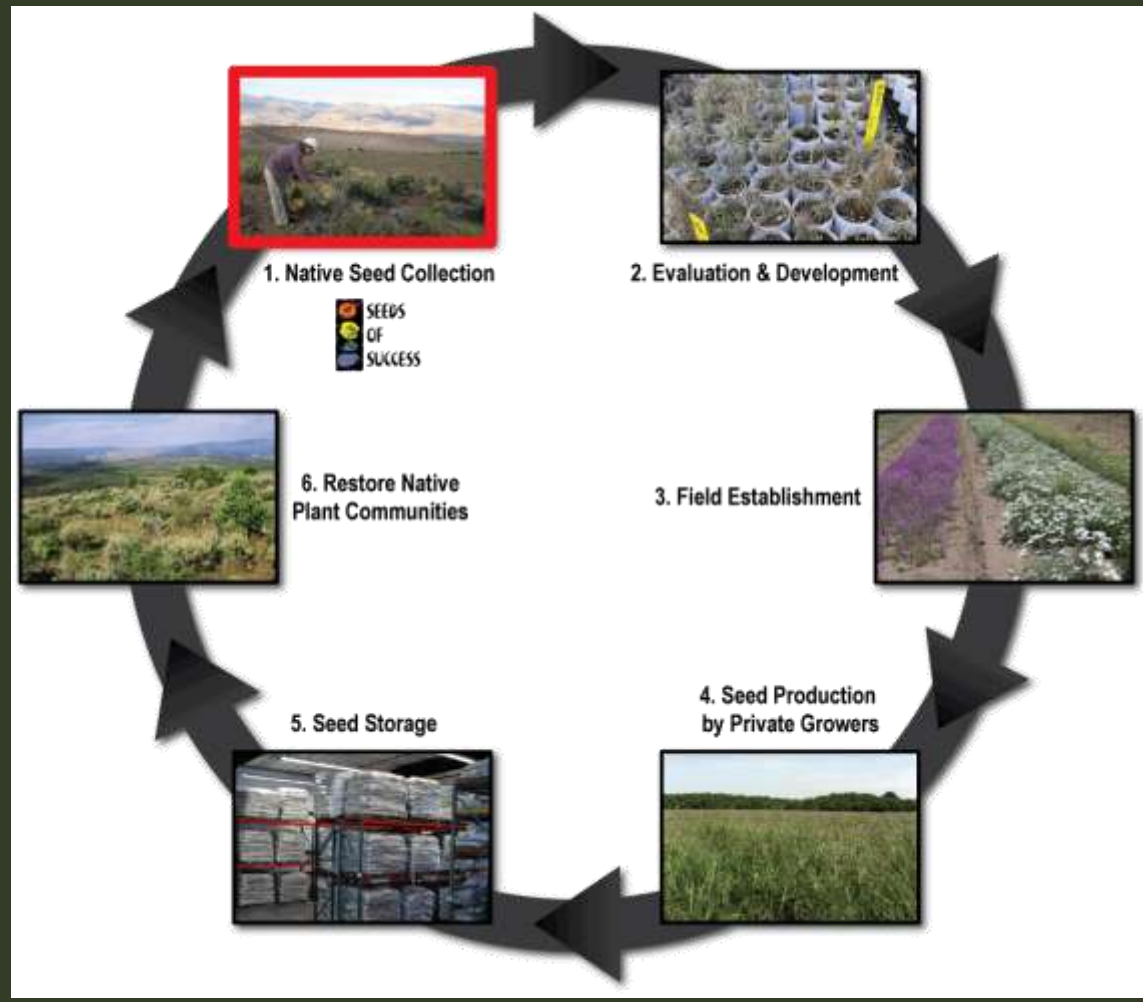


Native Plant Materials Partners (over 500)

- Tribal Entities 22
- Research Institutions 83
- Industry 118
- Federal Govt. 199
- State Govt. 20
- Local Govt. 24
- Non-Profit Organizations 95
- Botanic Gardens 24
(including international)

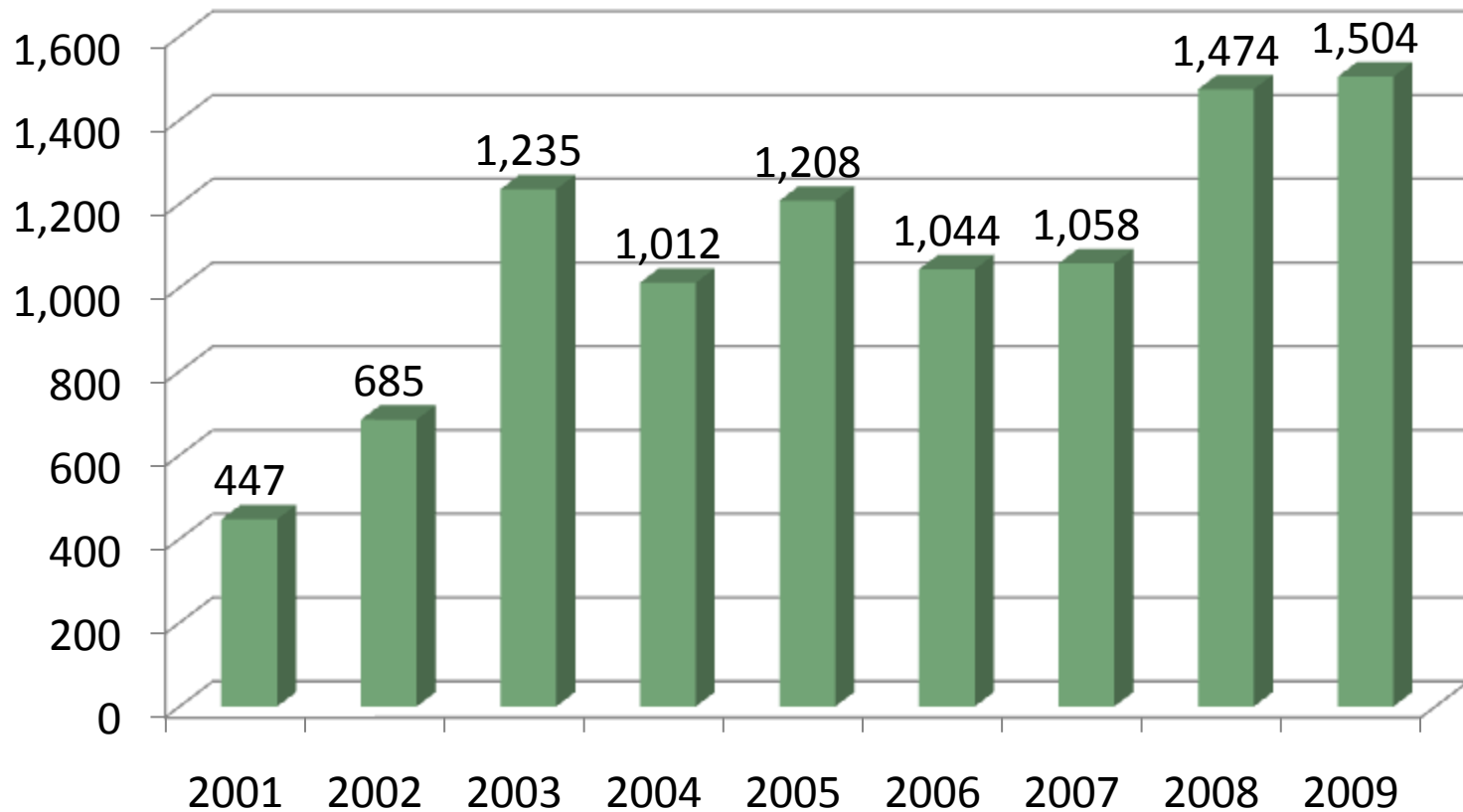
Native Plant Materials Development Process

Native Seed Collection



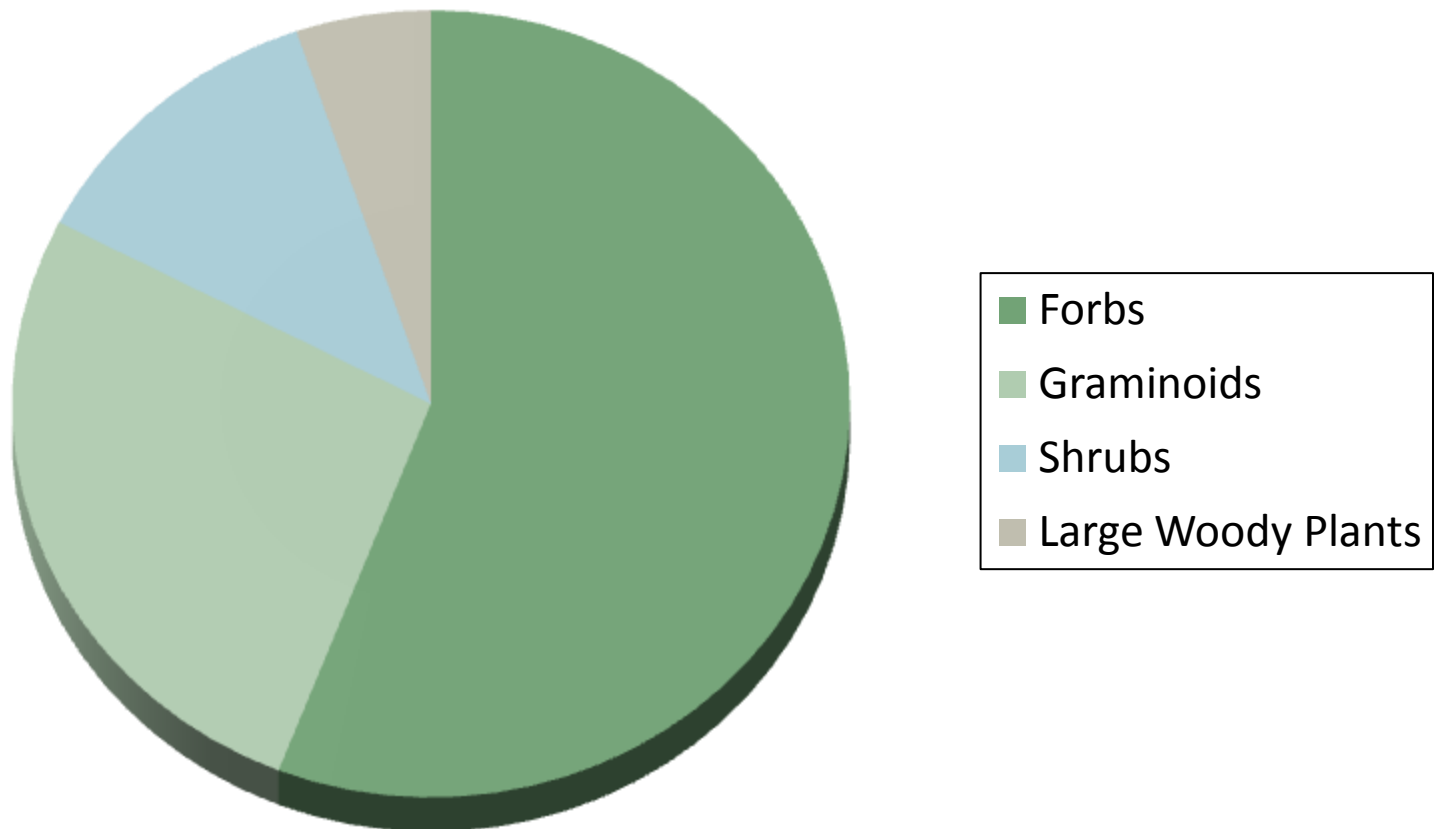
SOS National Collection

Yearly Seed Collections



SOS National Collection

Collections by Habit



Seeds of Success Collecting Teams

Teams with ARRA Funds in Blue



Seeds of Success National Collection

Land Manager

Bureau of Land Management

USDA Forest Service

Department of Defense

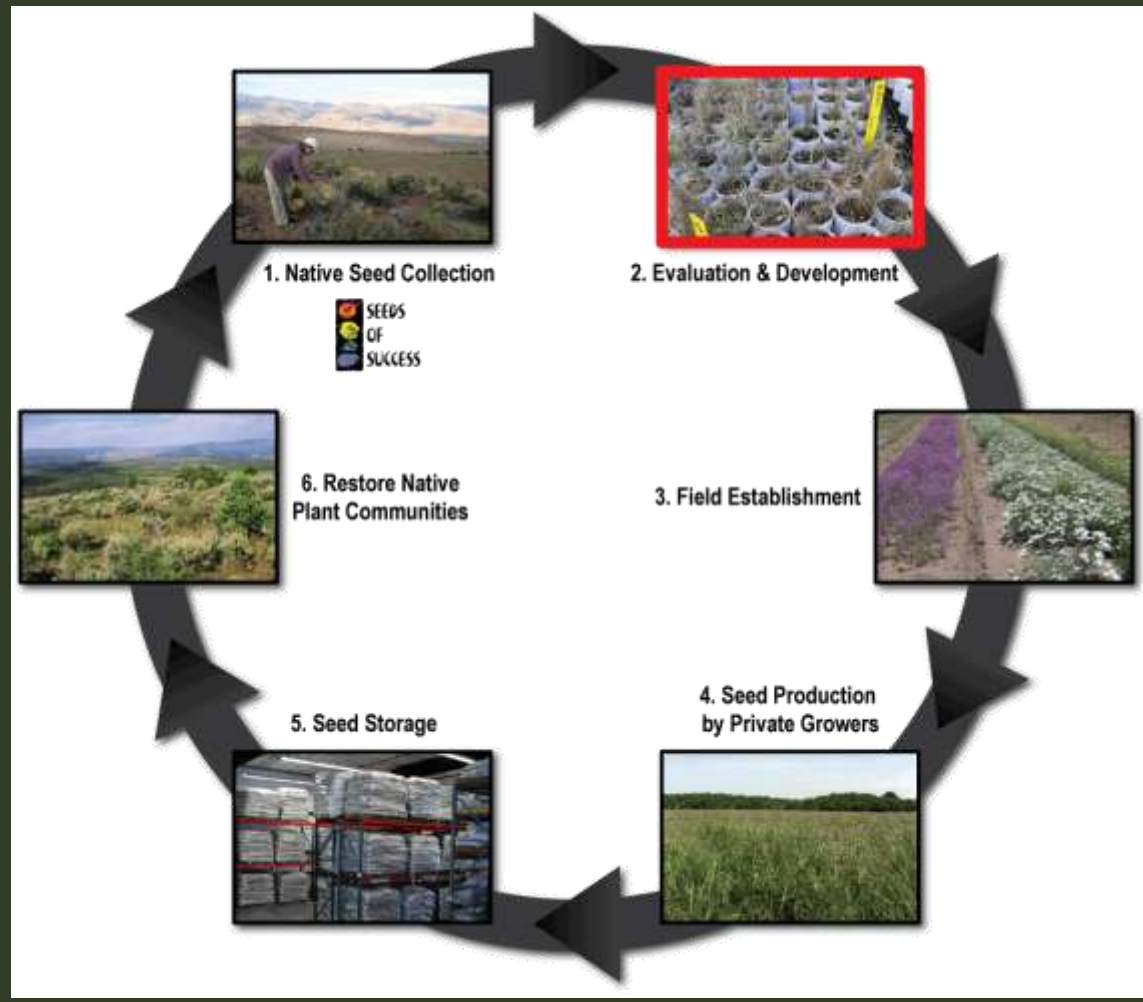
U.S. Fish and Wildlife Service

National Park Service

Bureau of Reclamation

State/Private

Native Plant Materials Development Process Evaluation & Development



Seeds of Success

Working Collection



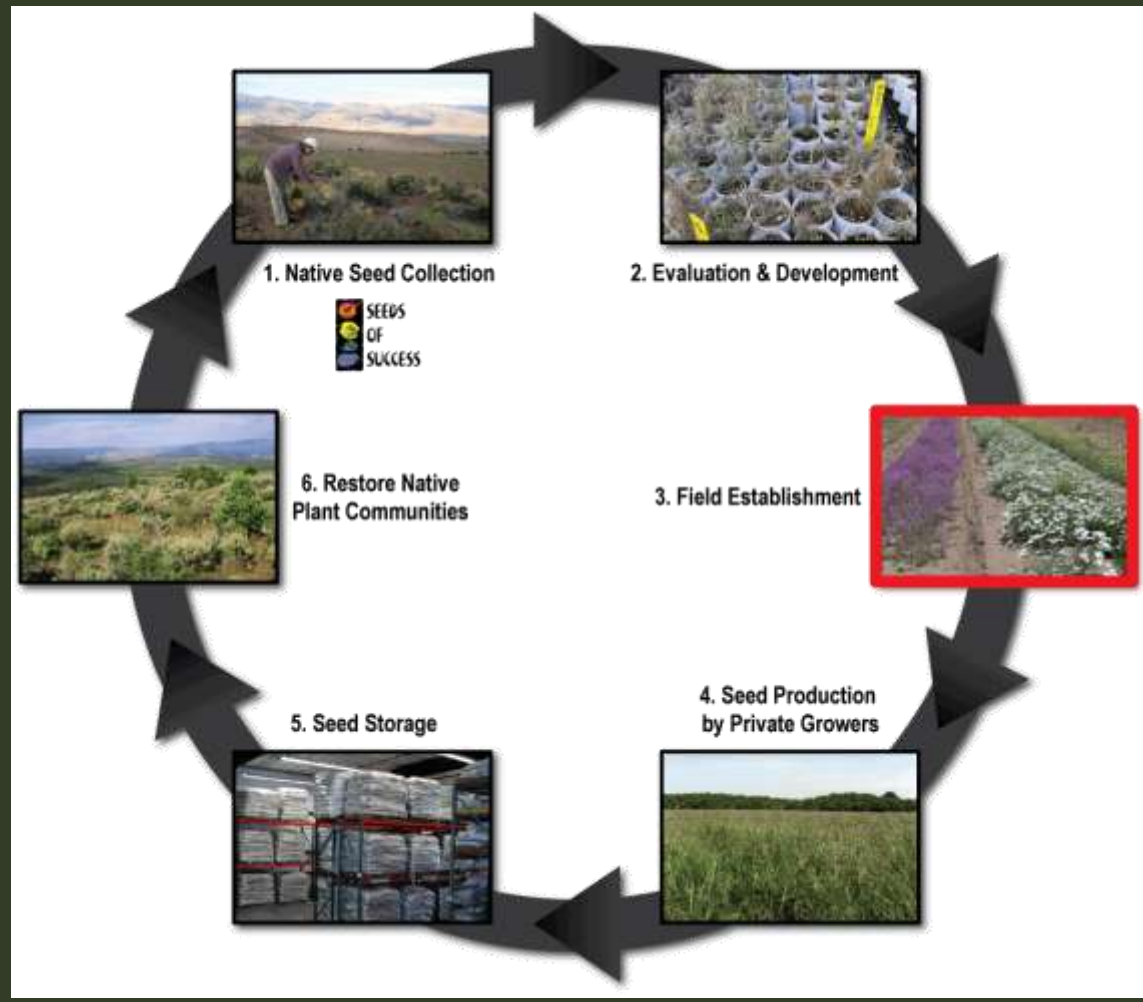
Common Garden Studies



Developing Germination Protocols

Evaluated >3,327 taxa of forbs, grasses & shrubs.

Native Plant Materials Development Process Field Establishment



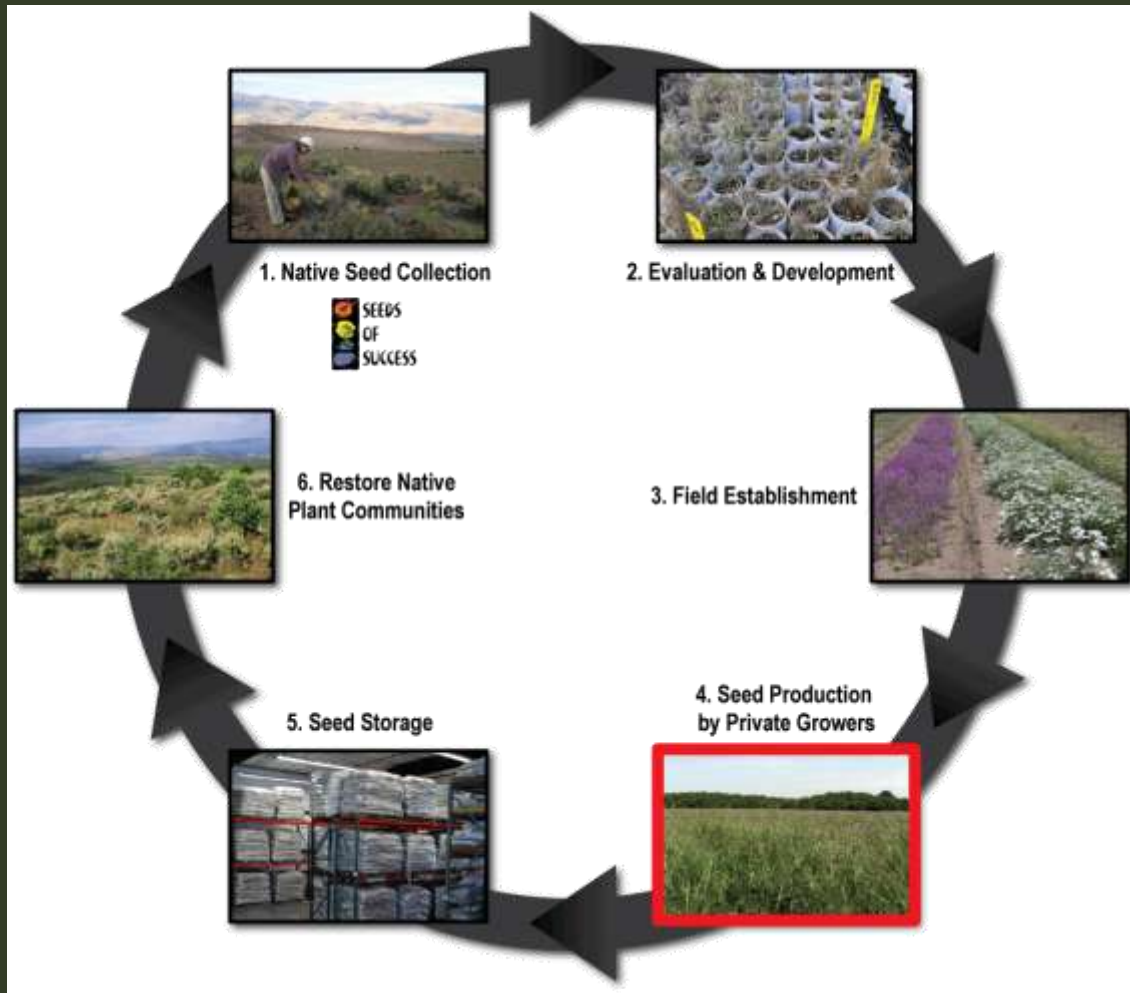
Native Plant Materials Development Field Establishment

Conducted:

- 738 Agricultural Practices Studies
- 295 Seeding Strategy Studies
- 474 Operational Seedings
- 579 Harvesting, Cleaning & Seed Storage Studies



Native Plant Materials Development Process Seed Production by Private Growers



National Native Plant Materials Development Program

- Provided foundation seed for 193 species to private growers.
- Made 122 native species commercially available.

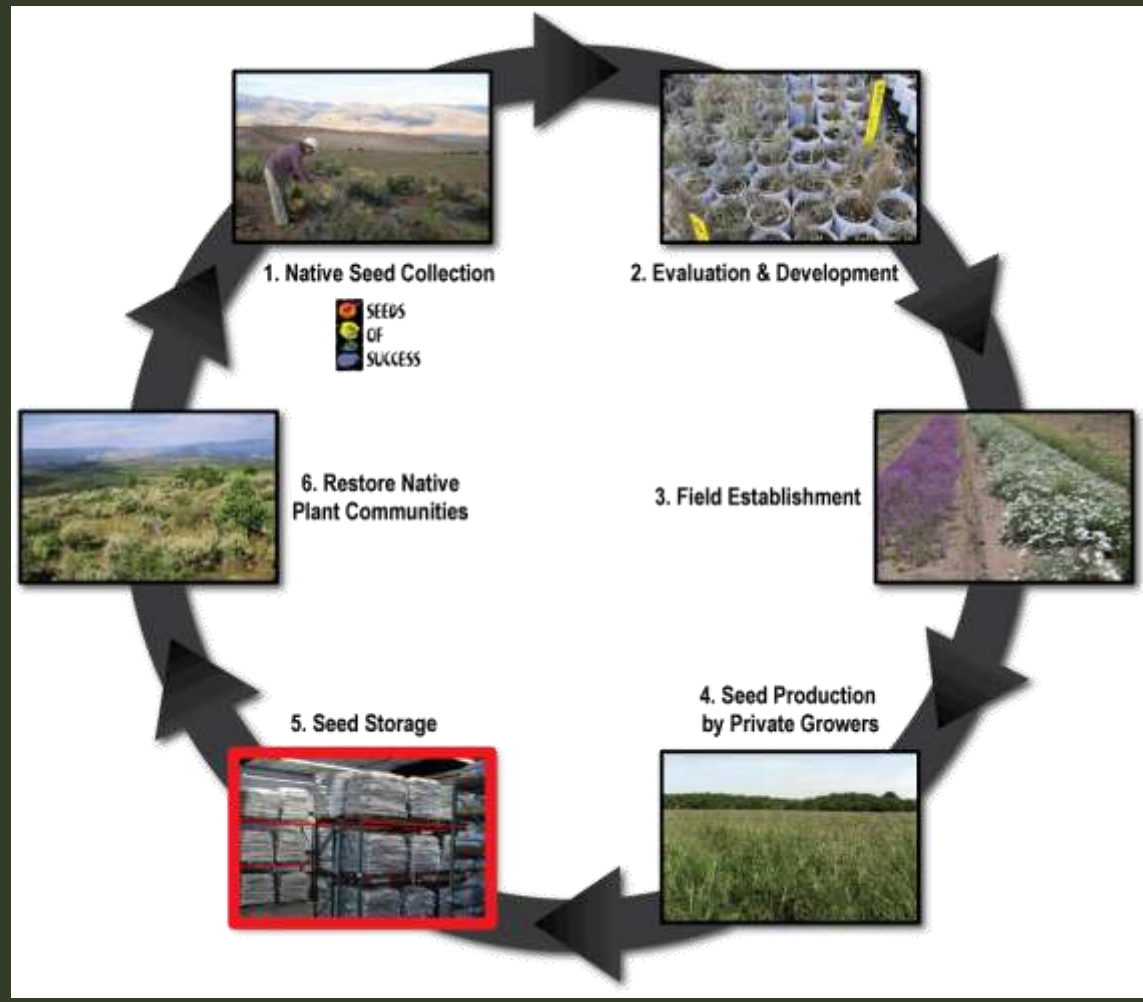


National Native Plant Materials Development Program



www.nativeseednetwork.org

Native Plant Materials Development Process Seed Storage



Future Seed Storage Capacity



National Seed Warehouse Boise, ID

- 3.5 million pounds storage
- 100,000 pounds cold storage

Utah Div. of Wildlife Res. Ephraim, UT

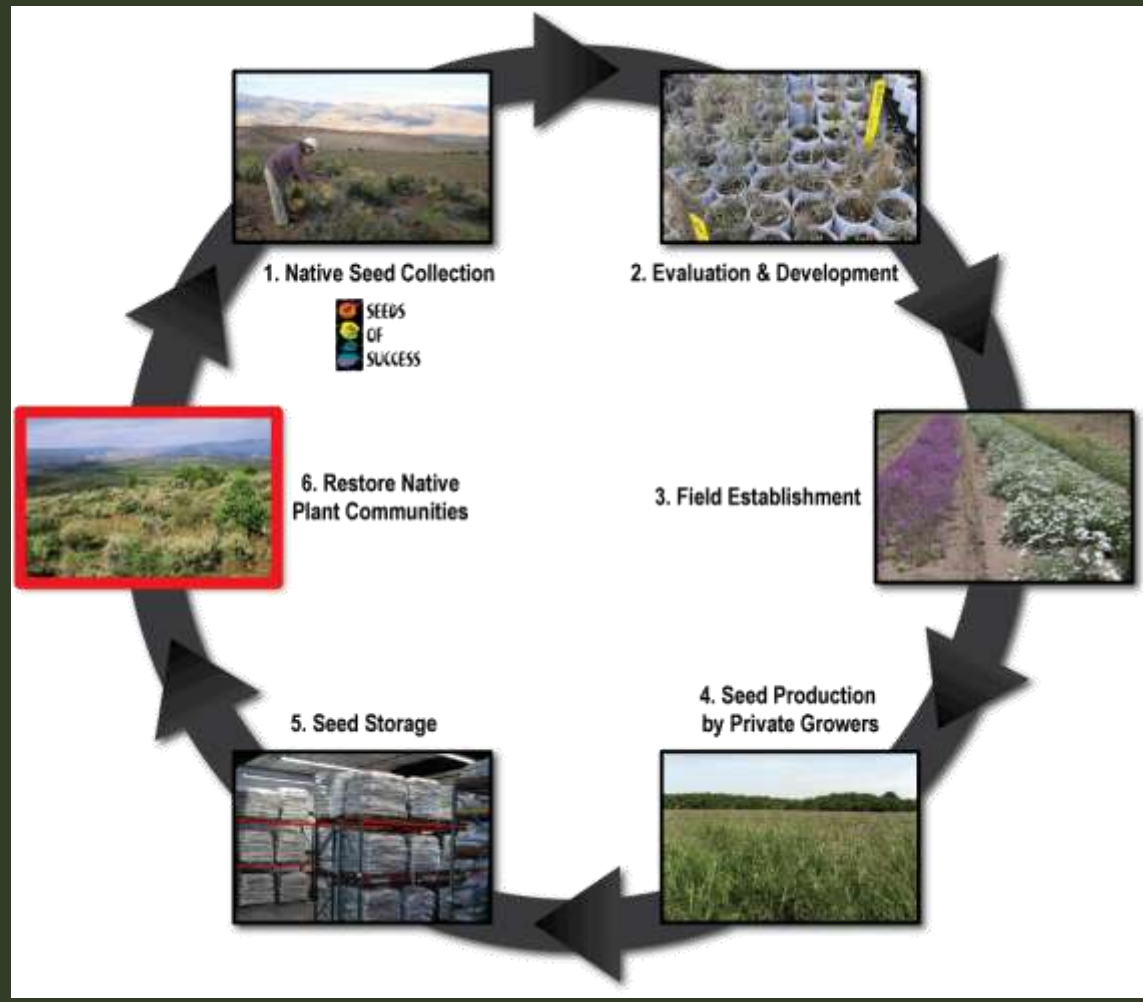
- 700,000 pounds storage
- 100,000 pounds cold storage

New Seed Warehouse Ely, Nevada

- 800,000 pounds storage
- 100,000 pounds cold storage

Native Plant Materials Development Process

Restore Native Plant Communities





According to the models, flowering of Sonoran Desert shrubs might have advanced by 20–41 days from 1894 to 2004 (Bowers 2007).

Change in flowering effects migratory hummingbirds and population dynamics of shrubs

Climate Change

Globally, plant species are migrating towards the poles at an average of 20 feet per decade

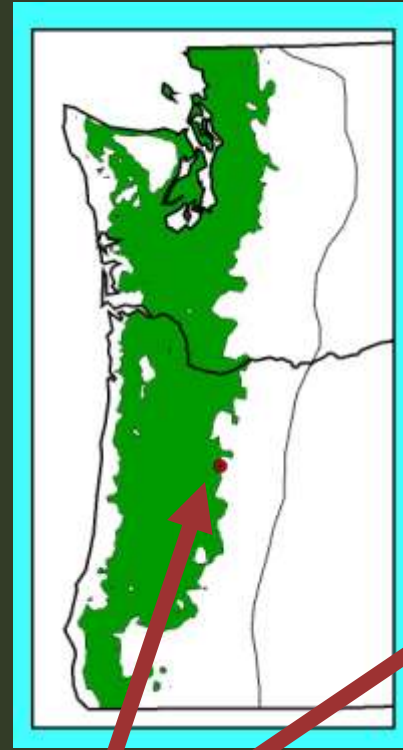
(Parmesan and Yohe, 2003. Nature 421, 37-42)



Present

2030

2090



Collecting & Restoration Site

R. Johnson & B. St. Clair
USFS

Key Recommendations from Program Review

- Establish Subactivity for Plant Conservation
- Establish Interagency Advisory Group
- Develop Interagency Strategic Plan
- Identify Priority Workhorse Species
- Develop Seed Transfer Zone Guidance
- Identify Long-term Storage Capability



Plant Conservation Program

Next Steps

- BLM Five-Year Strategy for Native Plant Materials Development
- Brief the DOI & other DOI agencies on NPMDDP
- Increase Seed Storage Capacity
- Establish Subactivity for Plant Conservation Program
- National Native Seed Conference: May 17-21 in Snowbird, UT



Native Plant Materials Development Program Progress Report (2001-2007)

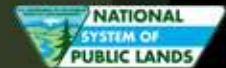


A central collage of images related to the Native Plant Materials Development Program. The collage is arranged in a grid-like fashion. At the top, there are three images showing different types of plant materials: dried leaves, seeds, and a textured surface. Below these are three images: a greenhouse filled with plants, a person using a tool to dig, and a field of young plants. The bottom row features three images: a field of purple flowers, a field of orange flowers, and a field of purple flowers. At the bottom of the collage, there are three images: a desert landscape, a field of plants, and a person kneeling in a field. The text "Native Plant Materials Development Program" is overlaid on the top row. The text "Progress Report for FY2001-2007" and "December 2009" is overlaid on the bottom row. The BLM logo is on the right side of the collage, and the U.S. Department of the Interior logo is at the bottom right.

Native Plant Materials Development Program

Progress Report for FY2001-2007
December 2009

Available at the BLM Booth in the exhibit hall.



Accomplishments

- Provided foundation seed for 193 species to private growers.
- Made 122 native species commercially available.
- Made over 10,000 native seed collections
- Evaluated >3,327 taxa of forbs, grasses & shrubs.
- Coordinated ~90 seed collecting teams.



Accomplishments

- Collaborate with 10 western NRCS Plant Materials Centers.
- Cooperative Agreement with Forest Service Seed Extractory in Bend, OR to clean, test and distribute native seed collections.
- Interagency Agreement with ARS for long-term conservation storage and distribution.
- Guidebook to the Seeds of Native and Non-native Grasses, Forbs & Shrubs of the Great Basin.



Accomplishments

- Support the Intertribal Nursery Council to ensure Native American participation.
- Developed 4 training courses (seed collecting, seed processing, selecting native plants, and electronic field notes), held 40 sessions and trained over 1,800 people.
- Maintained the Seeds of Success website (www.nps.gov/plants/sos).



National Native Plant Materials Development Program

“If you are not on the edge, you are taking up too much room.”



Acknowledgements



- Mary Byrne, SOS National Collection Curator



- Olivia Kwong, PCA Manager

Native Plant Materials Development Process

