



SEEDS



OF SUCCESS



National Native Seed Collection Program

Mary Byrne
Seeds of Success

What is SOS?

**National Native Seed Collection
Program**

Coordinated by BLM

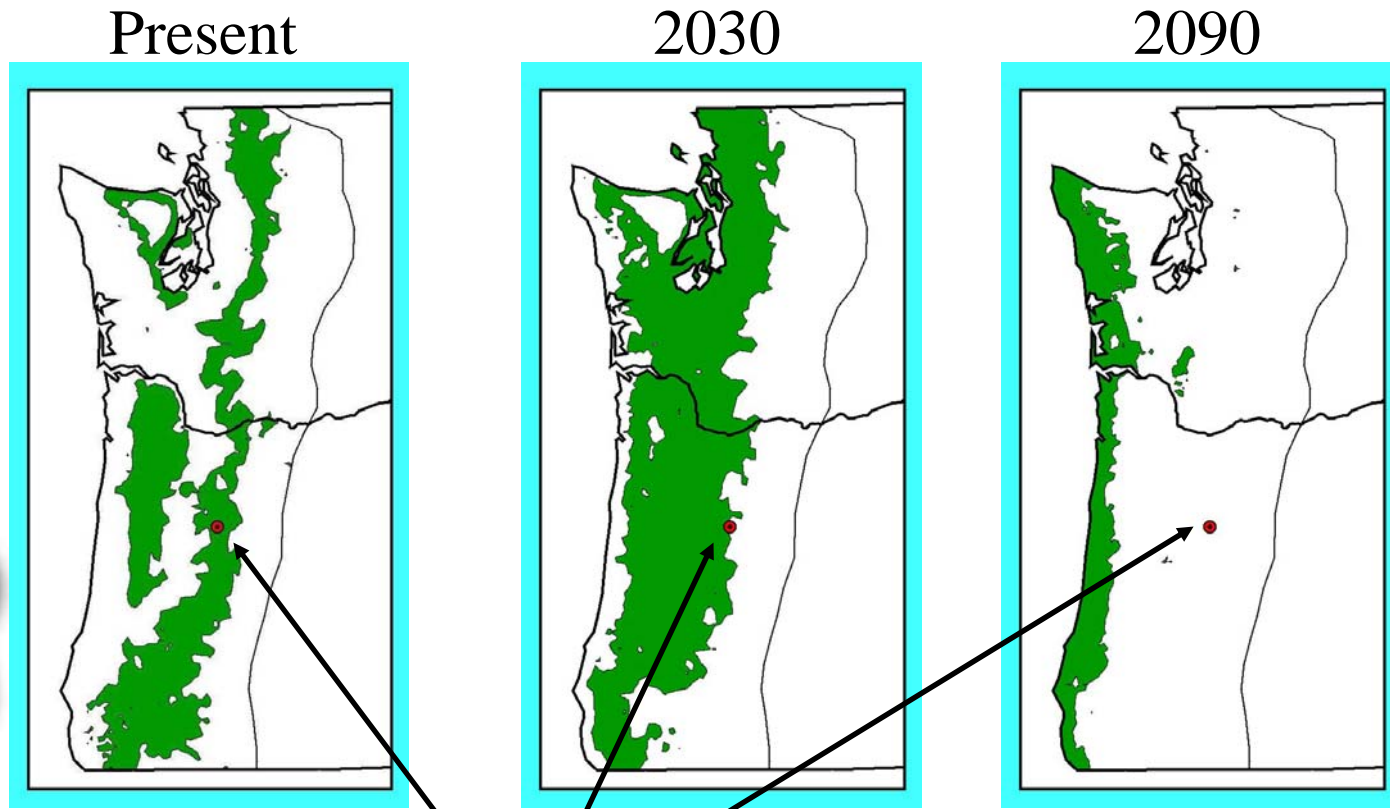
**Part of the National Native Plant
Materials Development and
Conservation Program**

**Part of the international
Millennium Seed Bank Project**

Climate Change

**1700 species showed current average range shifts of
6.1 km per decade towards the poles**

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



Planting site

R. Johnson & B. St. Clair
USFS



Climate Change

Pathogens the USFS is Watching

Insects:

Emerald Ash Borer	Exotic
Asian Longhorned Beetle	Exotic
Hemlock Woolly Adelgid	Exotic
Gypsy Moth	Exotic
Banded Elm Bark Beetle	Exotic
Sirex Woodwasp	Exotic
Bark Beetles	Native
Spruce Budworm	Native
Koa wilt	Native

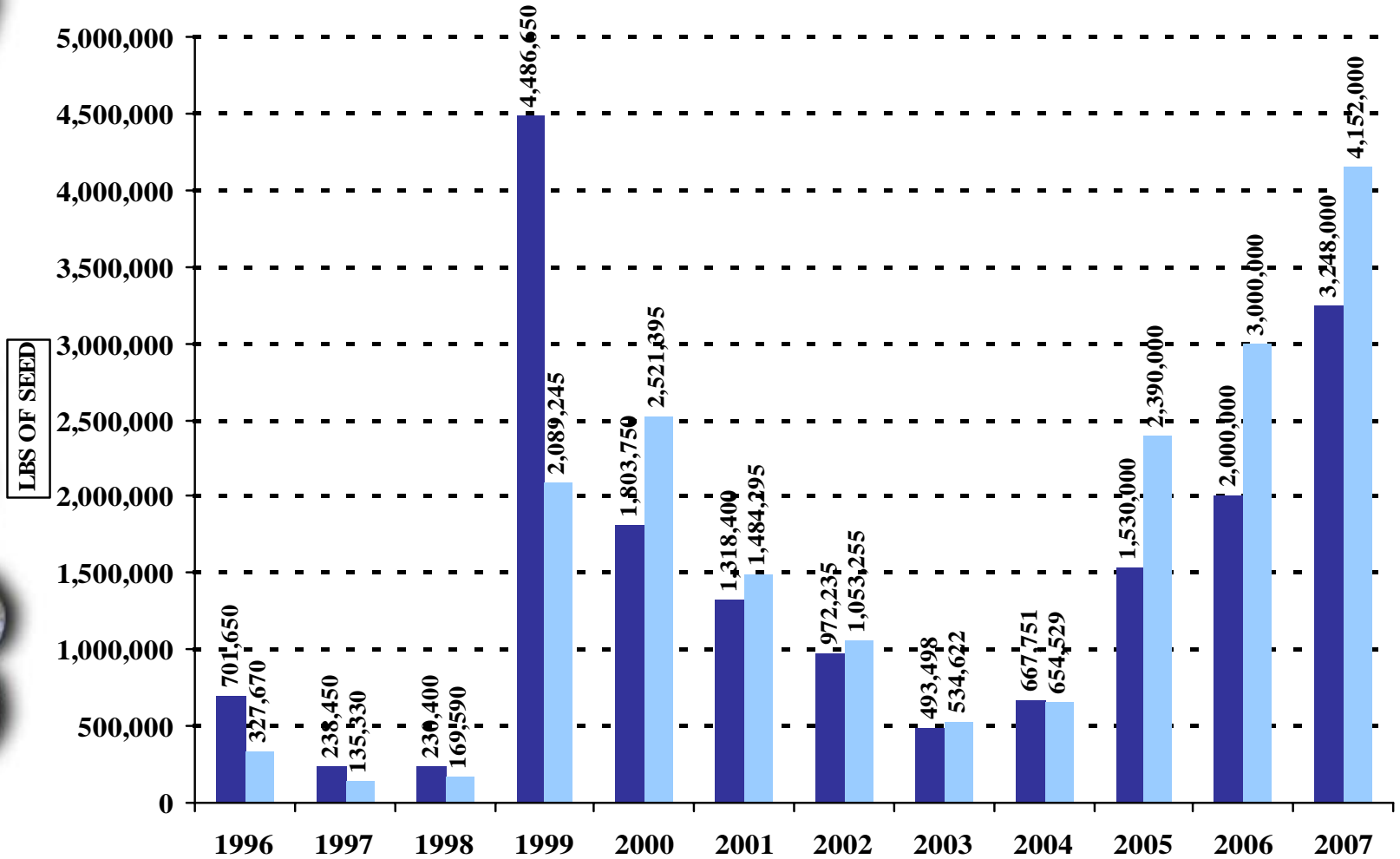
Diseases:

Sudden Oak Death	Exotic
White Pine Blister Rust	Exotic
Beech Bark Disease	Exotic
Chestnut Blight	Exotic
Dutch Elm Disease	Exotic
Port-Orford-cedar root disease	Exotic
Dogwood Anthracnose	Exotic
Fusiform rust	Native
Armillaria	Native
Swiss needle cast	Native

106 pathogens rated high risk in EXFOR data base



BLM CONSOLIDATED SEED BUYS QUANTITY



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Seeds of Success History

House of Representatives' FY01 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."



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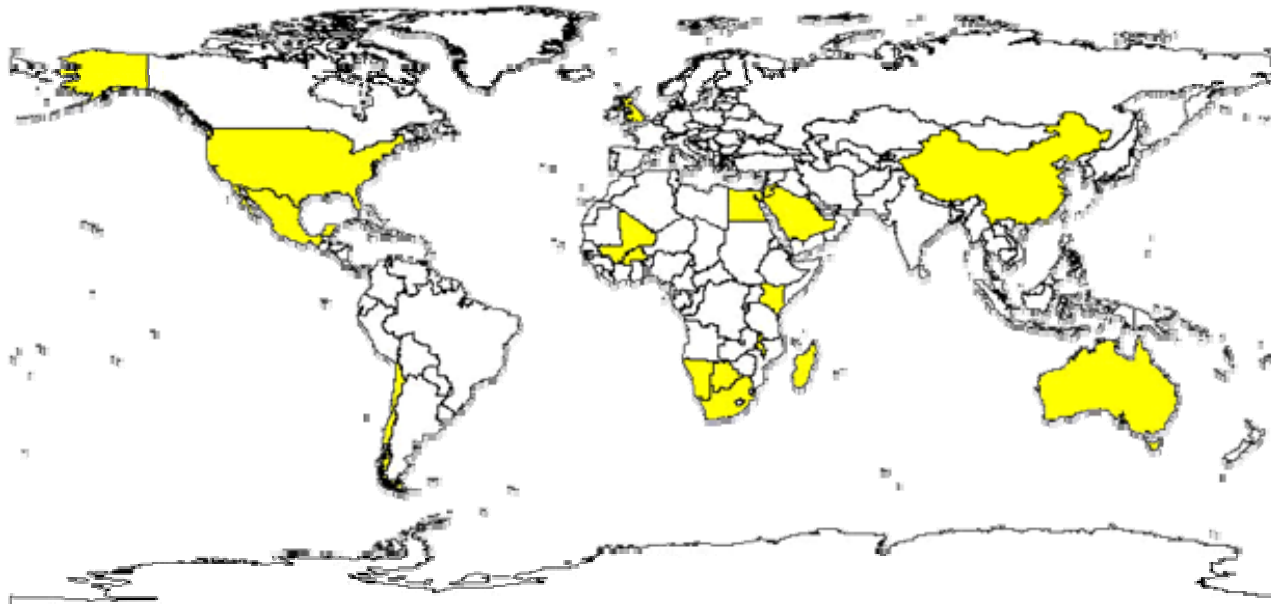
Seeds of Success History



2000 – The Millennium Seed Bank Opens



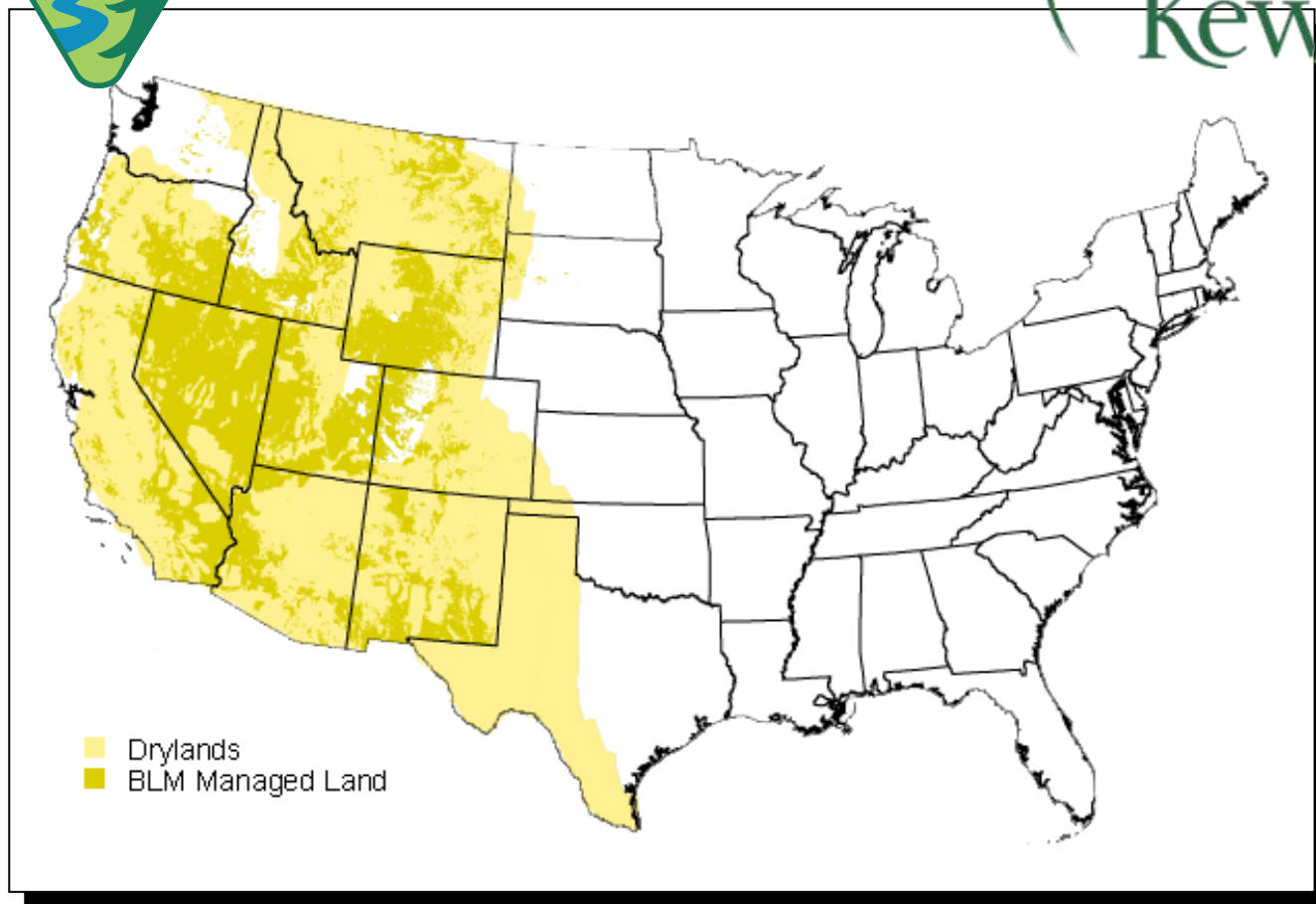
Millennium Seed Bank Project



Target: Collect 24,200 species (10% of the world's seed-bearing flora) from the **drylands by 2010**



BLM and Millennium Seed Bank: Partnership



2001 – BLM and MSB Sign a 5 year Agreement



Collection Begins



2002 – First Collection Season
500 Collections



Expansion

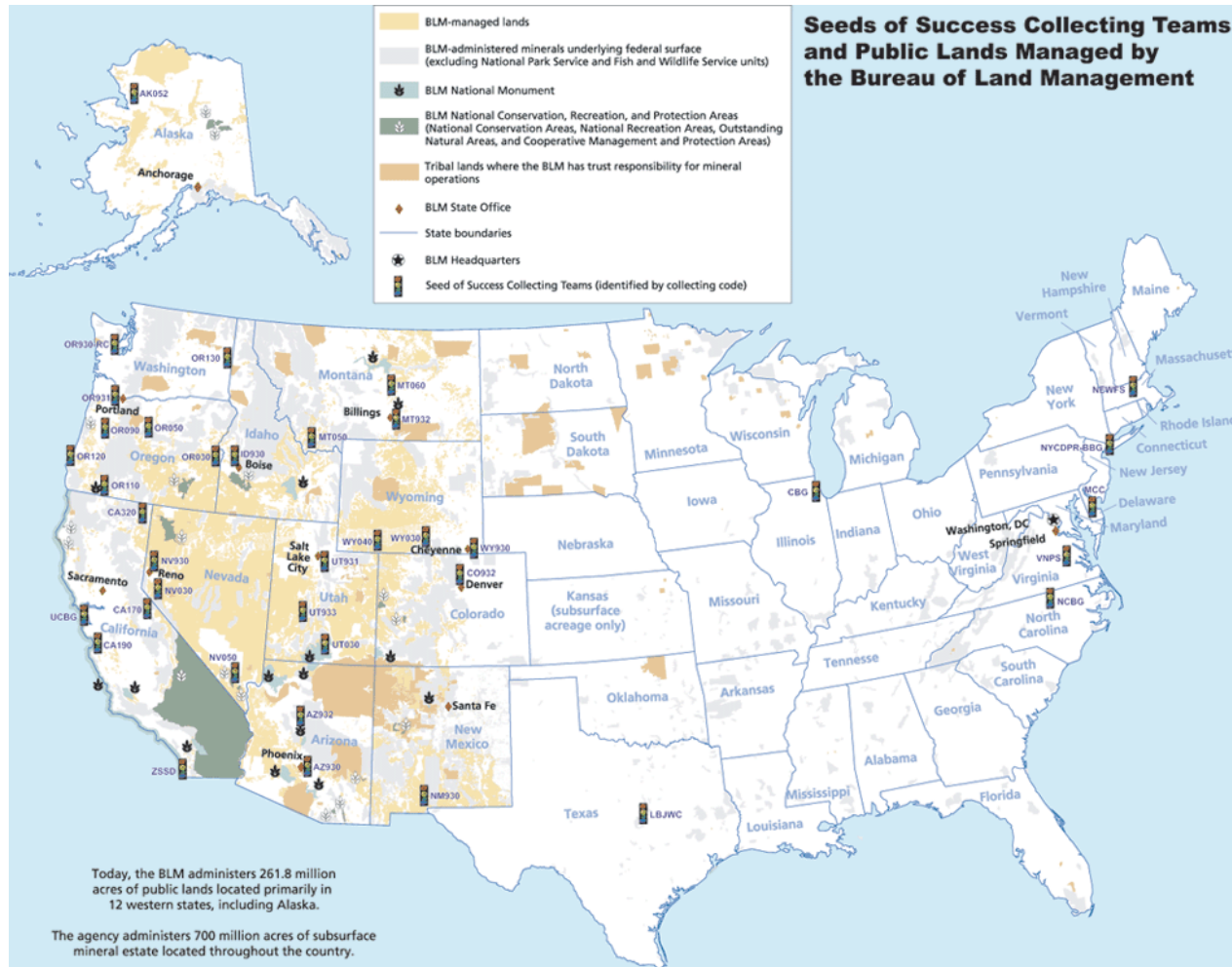


**2004 – U.S. Forest Service’s Bend Seed Extractory
begins receiving SOS collections**

2006 – BLM and MSB renews agreement



Current Collecting Teams



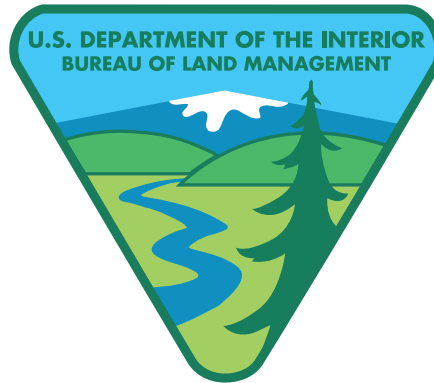
2008 – 5,000 collections total

40 collecting teams

> 300 people work on Seeds of Success every year



Collecting Teams and Partners



**NEW YORK CITY
DEPT. OF PARKS & REC.**



New England Wild Flower Society

NORTH CAROLINA BOTANICAL GARDEN



Collections

Agricultural Research Service, USDA

Bureau of Land Management, USDO

Department of Defense

Fish and Wildlife Service, USDO

U.S. Forest Service, USDA

Private Land

State and Local Government

The Nature Conservancy

5000 Collections in the SOS National Collection



Seeds of Success and GBNPSIP



2008 – GBNPSIP collections will be documented in the SOS database, and some material will be added to the SOS National Collection for distribution



SOS Priority Species

Restoration Value

Early, Late and Mid
Successional Species

Shrubs, FORBS, Trees,
and Grasses



Eriogonum ovalifolium



Balsamorhiza sagittata



Penstemon speciosus



SOS Priority Species



Achnatherum hymenoides

Browse and Forage Value



Krascheninnikovia lanata



Penstemon pachyphyllus



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Species Excluded from SOS

T & E species

**Candidate or Proposed
species under the ESA**

G1, G2, S1, or S2



Arabis mcdonaldiana

Collecting Teams



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Collecting Team Leaders



BLM - Botanists, Wildlife Biologists and
Natural Resources Specialists

Botanic Garden - Botanists, Ecologists and
Conservation Scientists



Collection Data and Herbarium Vouchers



Ipomopsis macombii

Please use BLOCK CAPITALS		MSB Serial Number
Please complete all previously fields labeled in bold		EFCC IL ABTY Code
Please enter relevant descriptions shown in italics		
Date Collected (DDMMYY):		Seed Collection Reference Number:
Collection:		
Country: USA	Eco region:	State:
Locality Description:	County:	
Lat. (decimal dec) (e.g. 40° 30' 19.4" N)	GPS Used? Yes No	If no, please see other side
Long. (decimal dec) (e.g. 107° 36' 51.4" W)	GPS Datum: NAD83 NAD27 WGS84 Other	
Elevation (feet):	Landowner Details (Permission?):	
HABITAT DATA		
Associated species:		
Modifying Factors:	Mowed Burned Grazed Fertilized Sealed Trampled Other	
Land Form:	Slope:	
Land Use:	Aspect: N NE E SE S SW W NW	
Geology:		
Soil Texture: Clay Sil Sand Other	Soil Color:	
COLLECTION DATA - If plant has been identified by a specialist, please see other side.		
Family:	No. of Plants Sampled (max. 500):	
Genus:	No. of Plants Found (approx.):	
Species:	Area if sampled (acre):	
Subspecies/Variety:		
Seed: Collected From: Plant Ground Bark		
Plant Habit: Tree Shrub Herb Succulent Grass/Grasslike	Plant Height (feet):	
Does the prepared specimen have diagnostic reference to the seed collection?	Yes No	
If not, enter date of collection, reference, where lodged, and date collected:		
Does a size record specimen of prepared specimen (e.g. flower color, odor, presence of closely related species):		
Common Name(s) of Plant:		



Long-term Storage



**USDA-ARS
NCGRP
Fort Collins, CO**

**USDA-ARS
Western Regional Plant
Introduction Station
Pullman, WA**



**Millennium Seed Bank,
Wakehurst Place,
United Kingdom**

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SUCCESS

USDA Forest Service Bend Seed Extractory



- Cleans restoration collections
- Photographs collections
- Posts inventory on website

fsweb.f01.r6.fs.fed.us/seedextractory/extractory.shtml



Distribution

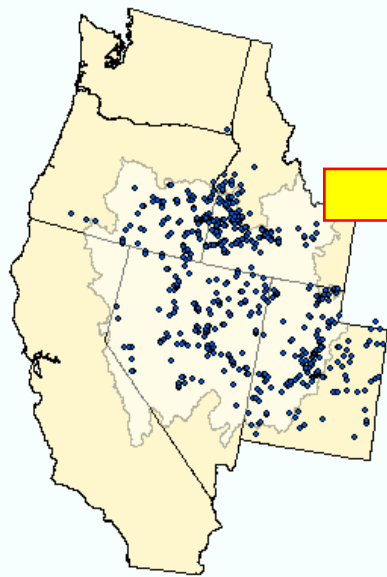


**ARS - Western Regional Plant Introduction Station
Pullman, WA**



Native Plant Materials Development

Seed Collection



>20 pops. across range
per species

Cultural practices



Private Production



Results



Application



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Research



**Developing
Germination Protocols**



Common Garden Studies



Field Restoration Trials



Desert Botanic Garden SOS Collector at
Agua Fria National Monument

Research

Post-fire Vegetation Change
and Ecological Restoration
of Semi-arid Grasslands

Species

Pleuraphis mutica

Leptochloa panicea ssp.
brachiata

Hilaria belangeri

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Restoration: Wildlife and Rare Plant Habitat



Snake River Birds of Prey National
Conservation Area - BLM

Methods

Direct Seeding

Material Increase

Create Centers of Dispersal

Species

20+ species

Mostly forbs



Lepidium papilliferum





Plant Conservation Alliance

www.nps.gov/plants

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