SEED USE BY THE BUREAU OF LAND MANAGEMENT

SCOTT LAMBERT

BLM

National Seed Coordinator

BLM: Public Lands in the Western USA

- Federal land management agency in DOI
- 261 million acres of public land in the western states (excluding Hawaii)
- 41% of the total federal land is BLM
- Highest concern for site rehabilitation are the arid lands with < 12 in. MAP.

BLM SEEDINGS PRIOR TO 1990'S USED FEW SPECIES for Site Rehabilitation

- Crested wheatgrass
- Siberian wheatgrass
- Intermediate wheatgrass
- Alfalfa
- About 10-12 species, some natives

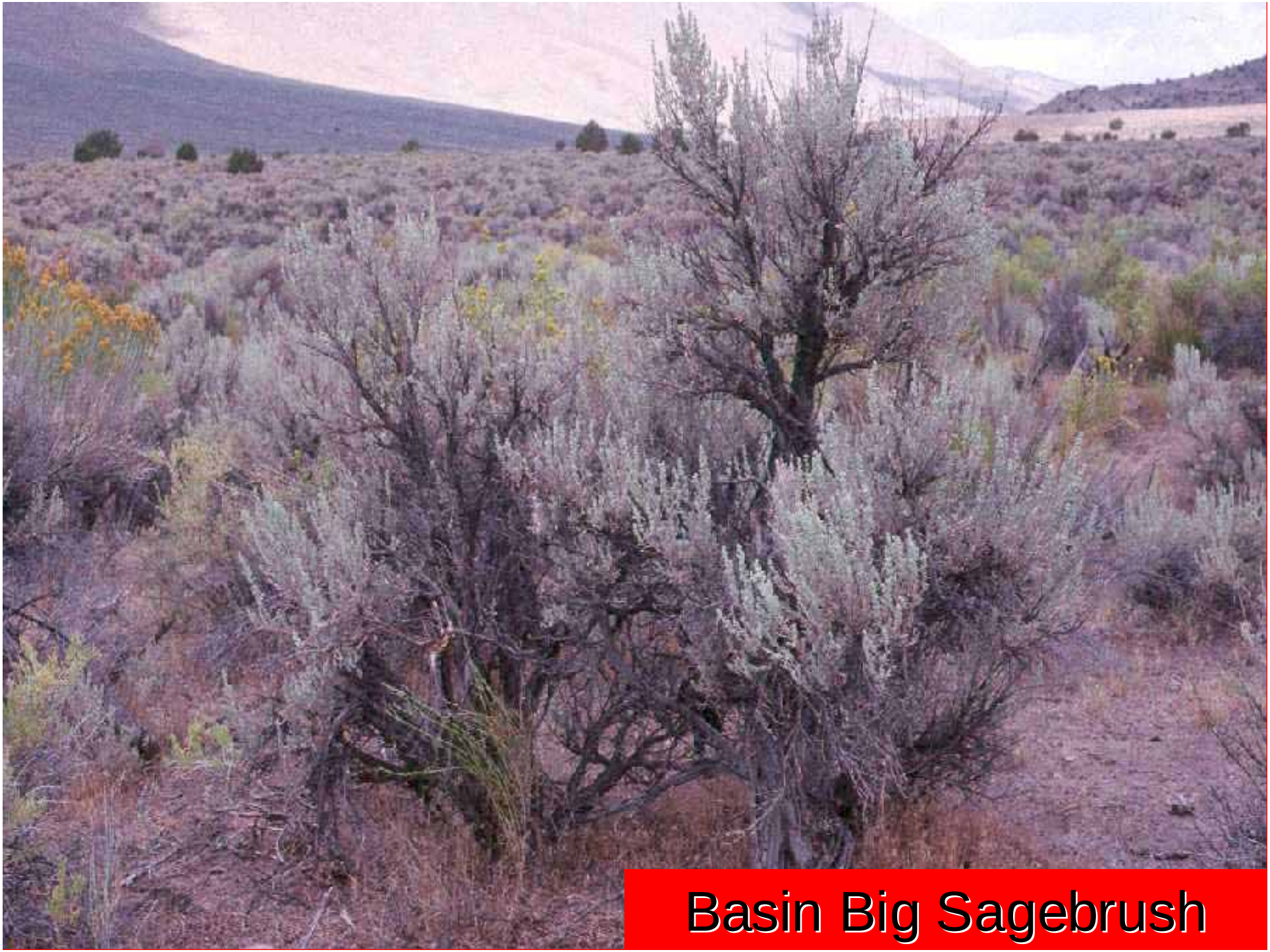
Since the mid-1990's , BLM has procured and used more native seeds/plants in fire rehabilitation and restoration program.

- Our goal is to continue using native plants, native cultivars, and source identified seed.
- All seed will meet seed certification standards.
- Great Basin Restoration Initiative emphasis on native plant materials and land health.
  - Plant Conservation Alliance, Seeds of Success, Native Plants Program

8TH Street Fire And Rehab Efforts (Boise, ID)

PURPOSE OF BLM SEEDINGS

- Emergency watershed protection after fire, floods and other natural disasters
- Erosion control and soil stabilization
- Rangeland improvement
- Restoration of wildland with intact native plant community
- About 85% of the seed procured by BLM has been used in the Great Basin region of Idaho, Utah, Nevada, Oregon, and California.


Basin Big Sagebrush

NATURAL PLANT COLONIZATION

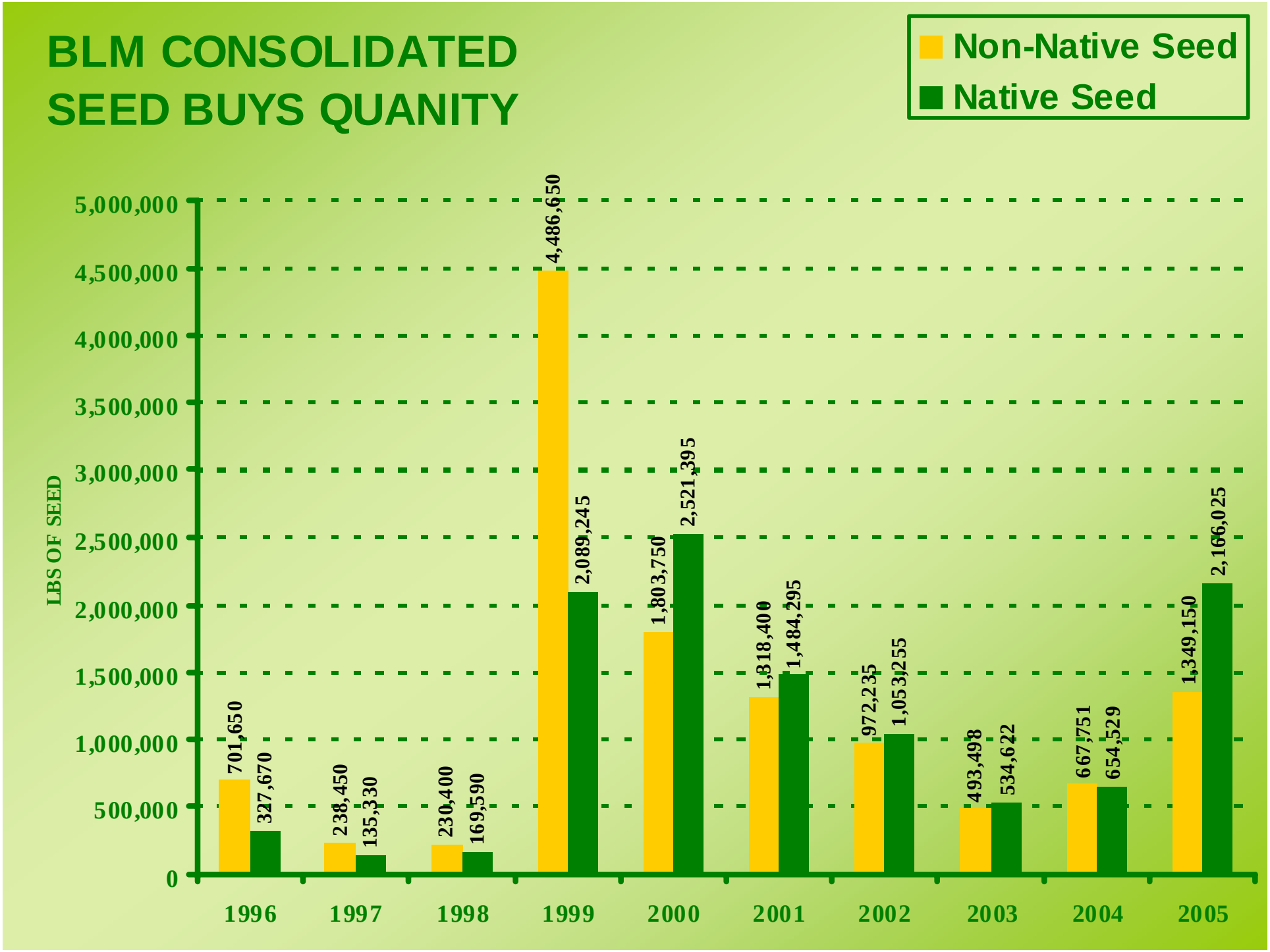
- Restoration of native plants without intentional seeding
- Wilderness study areas, monuments, parks
- In areas with a low potential for Weed Invasion
- Slightly more than 50% of BLM acres that have a possibility of rehabilitation are not seeded.

BLM seedings have diversified to include many native plant species

- The BLM Regional Seed Warehouse current inventory has 115 species/types of seed
- 75% of the species/types are considered to be native (54% of the total pounds in stock)
- RSW has a 1 million pounds of seed storage capacity with
  - Cold storage capacity of 25,000 pounds.

Regional Seed Warehouse Boise, Idaho

BLM CONSOLIDATED SEED BUYS QUANITY



BLM Consolidated Seed Buys

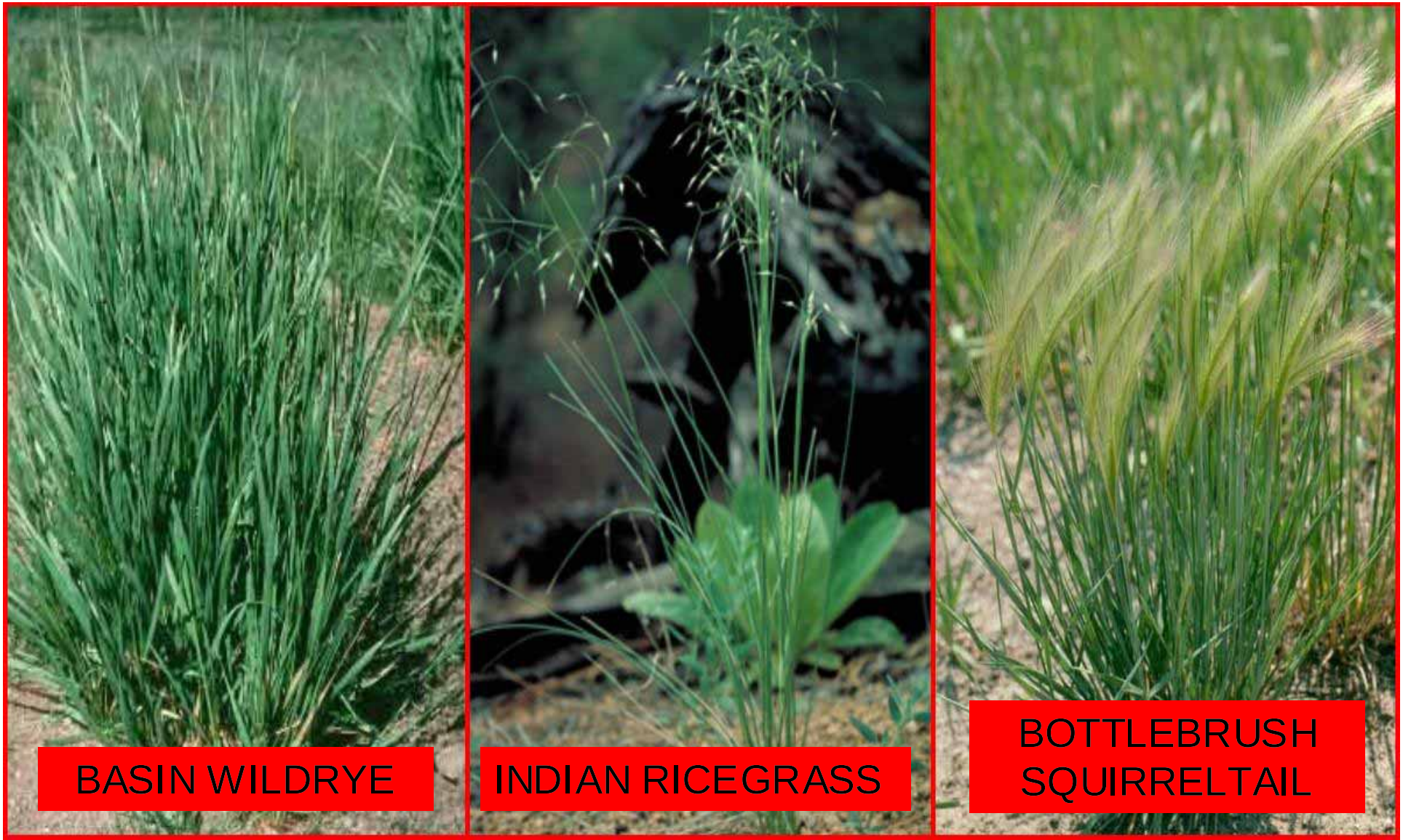
- Ten year average is 2.2 million pounds of seed bought in a year
- Highest use - 6.6 million pounds in 1999
- In 2003 – one million pounds of seed
- Calendar year 2004 – 1.3 million pounds
- **In 2005 – over 3.6 million pounds**
  - **Native seed 59%**
  - **Non-native seed 41%**
  - **About 1.1million lbs to Mohave Desert area**

BLM – Top Seed Types, 2005

- Secar Snake River wheatgrass
- Hycrest crested wheatgrass
- Vavilov Siberian wheatgrass
- Nezpar Indian ricegrass
- Anatone bluebunch wheatgrass
- Appar blue flax (+ Maple Grove Lewis' flax)
- Delar small burnet

BLM – Top Seed Types, 2005 Continued

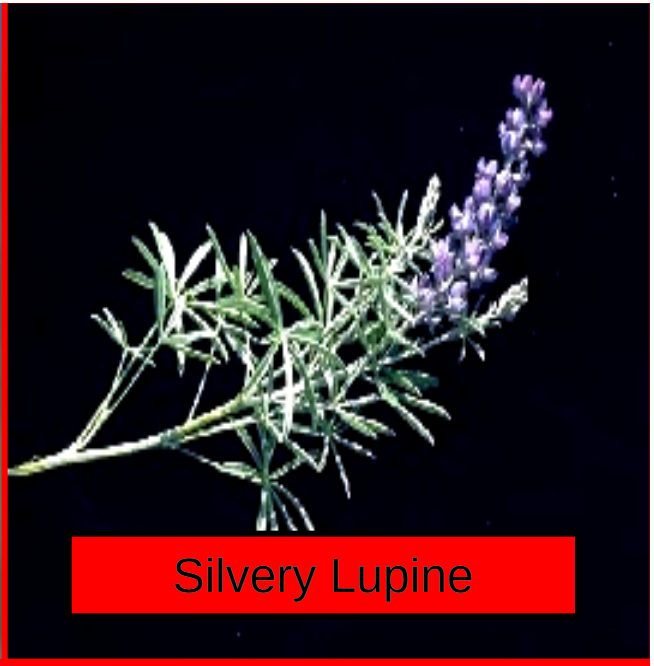
- Sandberg's bluegrass
- Bottlebrush squirreltail
- Wyoming big sagebrush
- Ladak alfalfa
- Fourwing saltbush
- Arriba western wheatgrass
- Bozoisky Russian wildrye



BLM Native Grasses


Hawksbeard


Palmer Penstemon


Silvery Lupine

BLM Native Forbs

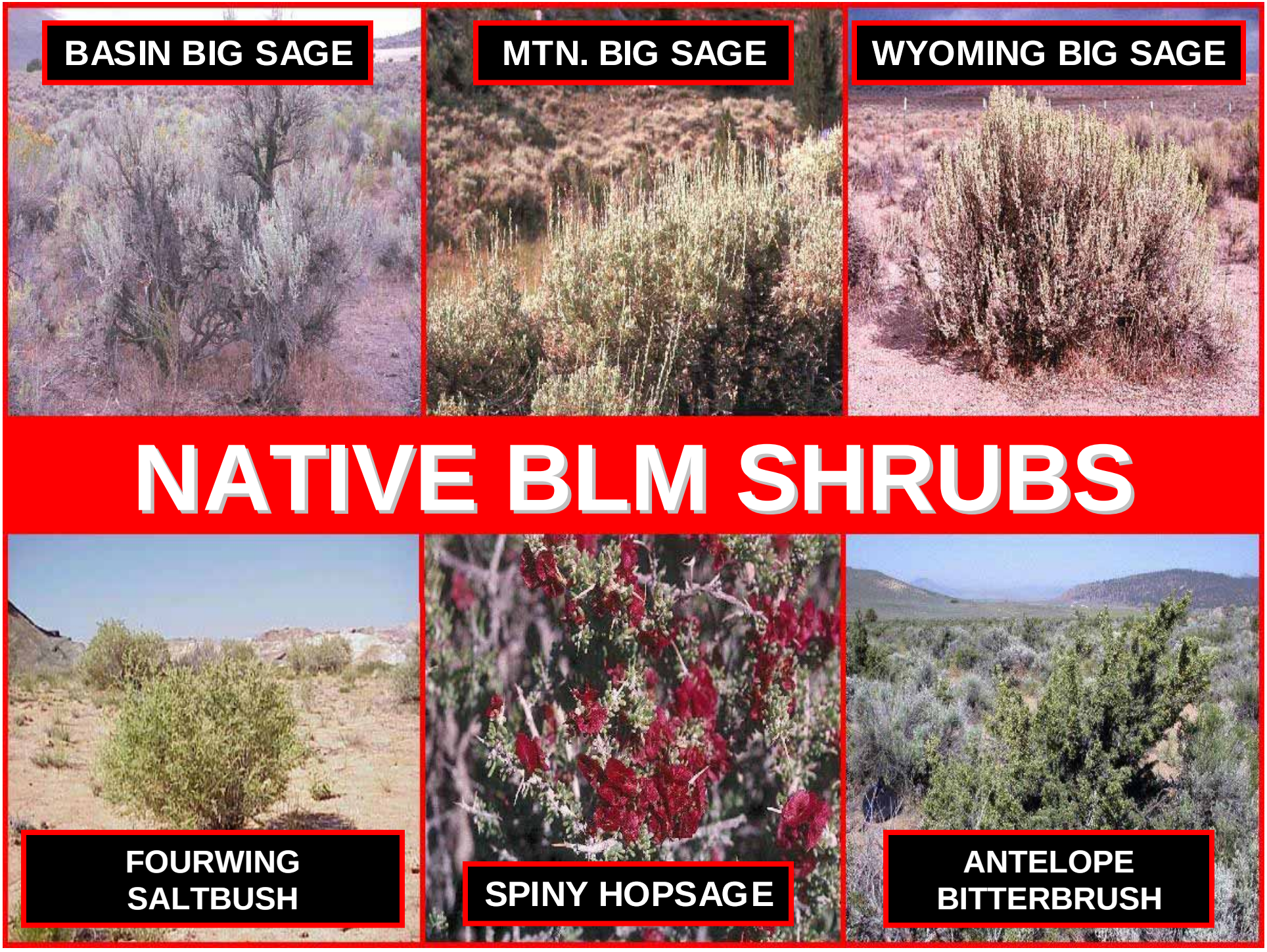

Yellow Beeplant


Munroe Globemallow


Fern-Leaf Biscuitroot

Native Forb Seeds

- In cooperation with the Great Basin Native Plant Materials Development Program, the US Forest Service Shrub Sciences Lab, NRCS, private native seed growers, and others.
- Species include: Tapertip hawksbeard
- Aridland Penstemons and lupines
- Basalt and Utah milkvetch
- Munroe's, desert and small-flower globemallow
- Biscuitroot and Desert-parsley


BASIN BIG SAGE
MTN. BIG SAGE
WYOMING BIG SAGE
NATIVE BLM SHRUBS
FOURWING SALTBUSH
SPINY HOPSAGE
ANTELOPE BITTERBRUSH

Native Shrubs for the Great Basin (Source Identified

- Big sagebrush
  - Wyoming
  - Basin
  - Mountain
- Fourwing saltbush
- Shadscale
- Spiny hopsage
- Bitterbrush
- Winterfat

Future BLM Native Seed Needs

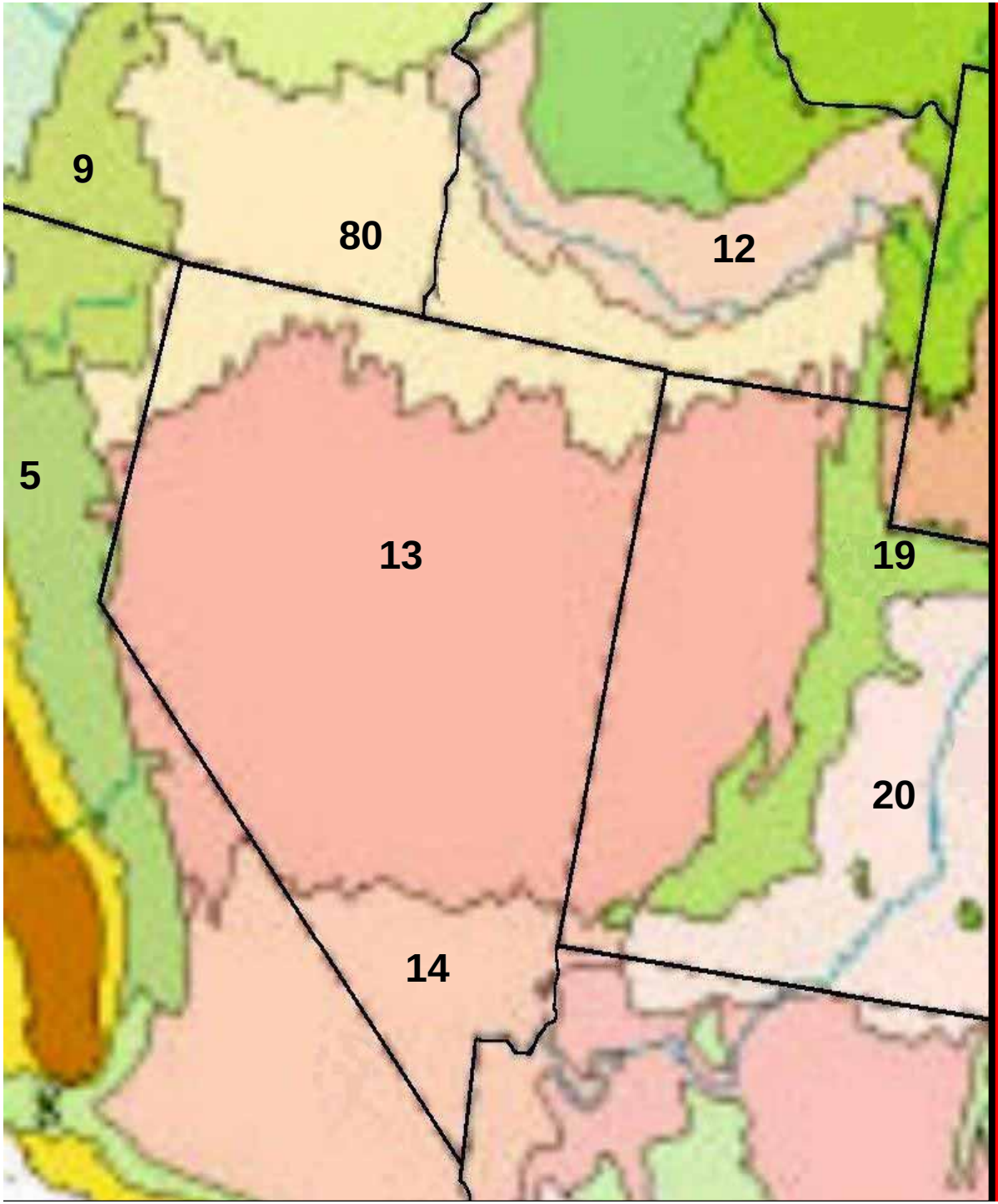
- Mohave Desert ecoregion:
  - Desert needlegrass
  - Needle grama grass
  - Aridland bluegrasses
  - Bottlebrush, squirreltail
  - Needle and thread grass
  - Indian ricegrass
  - Native forbs
  - Native shrubs
- Native warm season grasses and forbs (Colorado Plateau)

BLM Consolidated Seed Buys

- BLM seed procurement is usually based on the amount of seed needed for fire stabilization and rehabilitation seedings.
- Also fuels management, oil & gas reclamation, rangeland seedings, wildlife habitat restoration, monuments, and wilderness study area projects also procured lesser amounts of seed.

Seed is purchased on PLS (Pure live seed) rate (% purity X % germination or TZ)

- Minimum purity and germination varies with species
- Seed meets Certification standards
- No noxious weed seeds
- Less than 0.5% other weed seeds allowed unless specified otherwise.
- Less than 2.0% other crop seed (except Critana).



EcoRegion Level III (EPA)

5-----East Sierra Mountains

9-----East Slope Of Cascades

12---Snake River Plain

13---Central Basin & Range

14---Mohave Desert

19---Wasatch Mountains

20---Colorado Plateau

80---Northern Basin & Range

Seed Selection

- Seed selection(s) determined by site needs and desired plant community to be restored/rehabilitated.
- Acceptable plant cultivars for the ecoregion or MLRA
- Examples of ecoregion or subecoregion:
  Northern Basin and Range, Colorado Plateau, Mohave Desert,
  or Owyhee Mtns- subecoregion

Source identified certification on native species

- Seed collected from natural stands provided to BLM will meet Certification standards.
- Provides verification to plant species and seed collection site information.
- SI prevarietal germplasm may be specified for an area of collection or use by BLM.

Monitoring Seedings

- Essential for continued project funding.
- BLM has the ability to track seed lots from procurement of the seed through where the seed is used on field sites.
- Project seeding evaluation information is necessary to determine if we are seeding the appropriate plants.
- Determine success in the establishment of diverse native seed mixtures across our public lands.

Monitoring Seedings

- Apply monitoring protocols to evaluate seedings to determine the success or failure of our projects.
- On arid sites, a seeding is often considered to be successful when
- At least 0.5 mature plants per square foot or one plant per square meter are established.