



Native Plants & Genetics

Program Accomplishments



Volunteers plant at Maple Loop on the Methow, RD.



Native seed processed at R6
Bend Seed Extractory ready for
sowing



Iris tenax from Willamette NF
in production at NRCS
Corvallis Plant Material Center

Fiscal Year 2015

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Pacific Northwest Region, US Forest Service Native Plant Restoration Program

2015 Accomplishments



The R6 Native Plant Program focuses on the collection, development, and use of native plant materials in restoring biodiversity, resilience, and ecosystem function to disturbed or degraded sites on NFS lands in the Pacific Northwest. Focused investments in trainings, regional agreements and IDIQ contracts, staffing and infrastructure improvements at R6 nursery facilities are key to our nationally recognized program and continued advances in restoration capacity, expertise, and overall success in FY15.

Genetically diverse and adapted seed and seedlings produced by our work are utilized in a broad array of integrated restoration projects across the region. Benefitting program areas and associated funding BLIs include NFWW, NFWF, NFTM, WFHF, CMRD, CMLG and others. Funds are used to manage forest programs, develop partnerships, and accomplish priority work such as:

- determine plant material needs for future projects, and develop revegetation and propagation plans for desired species
- locate and map native plant collection sites
- collect seeds, roots, and cuttings propagules
- process materials at R6 Bend Seed Extractory
- produce native seed and planting stock in nursery and agronomic settings
- collaborate with other resource specialists to establish seed and planting stock for habitat enhancement, invasive plant control, and restoration of disturbed or degraded sites
- monitor project sites for planting/sowing response and performance

Other program activities include developing seed zones and plant movement guidelines to ensure adaptation to current and future climates, developing plant propagation protocols, and providing training and technical support to help build program capacity and expertise.

A major new emphasis area in FY15 has been pollinator habitat enhancement, and collaborating with wildlife staff, geneticists, and others on implementation of the National Pollinator Strategy and a new R6 CCS initiative for seed collection and propagation of plant species beneficial to priority pollinators such as the monarch butterfly, western bumble bee, and rufous hummingbird.

Specific FY15 Accomplishments include:

Plant Material Development

- R6 Bend Seed Extractory (BSE) processed nearly 14,000 pounds of wild-collected and field grown seed for R6 forests and other federal agencies and clients across the western U.S.
- Forests procured over 21,000 pounds of cleaned native seed from J. Herbert Stone Nursery and private growers.
- The Clarno Hardwood Production Facility (OCH NF) provided 39,900 locally sourced willow and cottonwood cuttings to 16 federal lands partners for riparian restoration plantings. Native milkweed seed production fields were established to provide seed for monarch butterfly habitat enhancement in central OR.

Consultation Services/Training/Tech. Transfer

- Provided workshops and webinars on seed collection, seed inventory management, climate change adaptation, and accomplishment reporting.
- The R6 Restoration Services Team (RST) began collaborating with the Riparian Assistance Team (RAT) to provide consultation services and revegetation expertise in restoring degraded streams and watersheds in the PNW.

Regional Contact:

Vicky Erickson, 541-278-3715
verickson@fs.fed.us

Program Website:

<http://fsweb.r6.fs.fed.us/natural-resources/native-plants/>



**Pacific Northwest Region
US Forest Service**
Natural Resources Staff
P.O. Box 3623
Portland, OR 97208

Region 6 Bend Seed Extractory Native Plant Restoration Program

2015 Accomplishments



The Region 6 Bend Seed Extractory purchased new equipment, upgraded existing equipment and developed & documented new technologies for processing the ever-increasing native species seed needs of the Federal seed program. Reporting numbers reflect extractory accomplishments for the seed year which runs August 1, 2014 through July 31, 2015.

Number of diverse native species and pounds processed:

- 7,693 pounds of nursery harvested seed for seed increase were received from R6 JH Stone Nursery for processing/testing at BSE. This resulted in 4,013 pounds of clean seed.
- 6,286 pounds of wild seed collections were received, processed, packaged & placed into storage for future use or shipped to growers or back to the unit for site projects. This resulted in 4,448 pounds of clean seed.
- 1,468 native species seed collections were received from 14 states, collected by the FS, BLM, NPS, BIA & other government organizations.

Bend Seed Extractory News:

- We had a volunteer from Oregon State University, Amy Rosendahl. She contributed 581 hours of time during FY15. Amy was an honoree for the President's Volunteer Service Award (500+ hrs in FY15). Amy was awarded the USDA Forest Service Chief's Award for donating a total cumulative 1,121 hours to BSE (FY14 & FY15).
- Seed Extractory tours were given to more than 15 different classes from central Oregon schools, from elementary to college level.
- BSE provided a tour for the Society for Ecological Restoration 2014 Regional Conference Attendees.
- Sarah Garvin and Kayla Herriman presented a restoration webinar for the Great Basin Fire Science Exchange series The Right Seed in the Right Place at the Right Time.
- Sarah Garvin and Kayla Herriman presented posters and participated in a panel at the National Native Seed Conference in Santa Fe, New Mexico.
- BSE participated in the USFS Nursery Managers Meeting in June 2015.



Performing cut tests for seed quality FY15.

FY15 Income/Expenditures:

NFVW \$31,000

Staff:

2 PFT employee

2 PSE employees

7 temporary seasonal

1 student volunteer

Type of Projects: Processing, packaging, imaging, documenting and improving native species field seed collections for storage, seed increase and future use.

Partners/Clients: USFS, BLM, NPS, BIA, Fed. Hwy., ODF&W, Yosemite National Park, North Carolina State, Boulder County Parks & Open Space, & other government organizations.

Contact:

Kayla Herriman, Extractory Manager,
541-383-5481

Extractory Website:

<http://fsweb-ochdes.r6.fs.fed.us/seed-extractory/>



Region 6 Bend Seed Extractory

Deschutes National Forest
63095 Deschutes Market Road
Bend OR 97701

Clarno Hardwood Propagation Center

2015 Native Plant Program Highlights



Facility along John Day River, Clarno, Or.

The Clarno Hardwood Propagation facility is a collaborative FS and BLM project nursery supporting Regional (R6) and National native plant restoration activities through the production of locally sourced native plant materials. Annually, over 50,000 native willow and cottonwood cuttings are harvested for revegetating activities on public lands restorations projects.

New 2015 Emerging Programs in the Nursery:

Native milkweed (*Asclepias spp*) garden

- Established a 1000 plant garden of *A. speciosa* and *A. fascicularis* to supply seed for central Oregon region. Collected 3 pounds seed in 2015.
- Documented 29 adult Monarch nectaring and breeding occurrences in new garden
- Welcomed USF&W as new partner with funding support



Wetland sod (*Carex spp*) production beds:

- Pilot project for restoring and revegetating river banks
- Determined efficacy of seedling vs. wild plugs
- production methods quantified for efficacy
- Over 450 sq feet of beds.



Native Hardwoods:

- Harvested 39,900 cuttings involving 16 federal lands partners
- Increased 9075 individual new plants from 363 accessions (.25 acres)
- Recipient of a sustainable operations micro-grant used to Improved irrigation
- Piloting increasing west-side hardwood material from Olympic NF.



Managed by Ochoco and Deschutes National Forest

3160 NE 3rd Street
Prineville, Oregon 97754



Year Awarded: 2015
Base Funding: \$20,000 Total NFN3
Contact: Chris Jensen
(541-383-4779).

Dorena Genetic Resource Center

2015 Native Species Program Highlights

Restoration Project Implementation

Provided native plant materials and staff for implementing R6 Restoration Services Team projects in the PNW:

- Restored 3 highly disturbed wetlands with salvaged plants and nursery stock grown at our nursery.
- In process of restoring 29 acres of highly disturbed ground resulting from a large pipeline and highway project for the City of Bend.
- Provided plants for 8 restoration projects in Washington, Oregon, and Idaho.
- Initial planning completed and revegetation plans for 3 new projects in Oregon and Washington.



Native Species Plant Materials

Provided small quantities of containerized seedling to augment J. Herbert Stone Nursery production orders for NFS and partner clients.

- 41,000 total plants grown from collected seed, including 39 species for 10 projects.
- Plants included native grasses, sedges, forbs, shrubs, and trees species.
- Salvaged and /or collected cuttings and propagated 10 shrub and fern species for 4 projects.
- Working on documentation of 80 new species protocols for plant production.
- Initiated germination/propagation studies on several ferns and devils club.

New Partnership Development

- Willamette National Forest.
- Mt Baker Snoqualmie National Forest.
- Bureau of Land Management – Medford District (in combination with DOT, Western Federal Highways Division).
- USFS-BLM Riparian Assistance Team (RATS).



Contact: Lee Riley
Dorena Genetic Resource Center
34963 Shoreview Drive
Cottage Grove, OR 97424

Dorena Genetic Resource Center

2015 Genetic Program Highlights

Port-Orford-Cedar Resistance Breeding (to *Phytophthora lateralis*)

- Hired new Geneticist (Erin Hooten), Program Coordinator.
- Produced 7000 seedlings from 163 families in R5 and R6 for inoculation and new testing at Oregon State University.
- Grew 900 seedlings (from 25 families) for Redwood National Park; and over 550 seedlings used by OSU as controls in the testing program and by the Rogue River-Siskiyou NF as bait to test for presence of the disease in gravel pits.
- Established over 260 rooted cuttings of resistant trees from 2 breeding zones in R5 that will be preserved in the R5 Chico clone bank.
- Completed 95 controlled cross pollinations on known resistant parents for validation testing and advanced generation resistance production.
- Established new field test site with 750 seedlings (23 families) at Nickel Mountain in partnership with Rick Barnes, Small Woodlands landowner and forester.
- Reviewed 3 Region 5 field test sites in the Smith River National Recreation Area and a site in Redwood National Park with Region 5 Pathologist, Pete Angwin and Geneticist, Chuck Frank.
- Continued work with South Slough National Estuarine Research Reserve (SSNERR) monitoring planted resistant seedlings and began consulting on a Watershed Management Plan for the Wassen Management Area (part of SSNERR) to promote the use of resistant material across the landscape.



Information Sharing

- Co-hosted, presented, gave field tours, and entered 9 posters at the Whitebark Pine Ecosystem Foundation annual conference.
- Presented at an international conference on rust resistance.
- Presented at, and hosted a tour for the Western Nursery Conference.



Contact: Lisa Winn
Dorena Genetic Resource Center
34963 Shoreview Drive
Cottage Grove, OR 97424

Five-Needle Pine Resistance Breeding (to white pine blister rust)

- Inoculated 13,000 seedlings (425 families, 5 pine species) for new resistance tests. Seed from 13 National Forests in R5 and R6, Crater Lake NP, 2 tribes, and Southwestern white pine collected by Northern Arizona University from around the southwest.
- Ongoing assessment work on over 400 families already in testing.
- Maintained, inventoried, and collected pollen and/or cones from 7 USFS and BLM pine orchards.
- Produced seedlings for 2015 establishment of 6 field trials in eastern Washington with material from Regions 1 & 6, BLM, Warm Springs Confederated Tribes, and British Columbia.
- Monitored and inventoried 13 field trial sites working with PSW Research Station, R5, WA Department of Natural Resources and USFS Forest Health Protection. Also monitored 7 whitebark pine restoration planting sites at Crater Lake and Mt. Rainier National Parks, and the BLM.
- Visited 10 seed orchards for assessment, consultation, maintenance, controlled cross establishment, and/or pollen collection.

National Tree Climbing Program

- Completed a 10-year update to the Tree Climbing Field Guide.
- Successful annual instructor training with 60 attendees from USFS (most regions), APHIS, Border Patrol, BLM, ODF, WA DNR and many other universities and agencies.
- Put on a specialized advanced climbing course for chainsaw use in trees. Certified 15 students.
- Helped several forests with climbing needs including red tree vole assessment, and whitebark pine cone caging and cone collection.
- Facilitated the annual Technical Advisory Group Meeting in Region 5 supported by all 7 regions.



Eastern Oregon Area Genetics Program

Serving the OCH, DES, WIN-FRE, CRNG, MAL, WAW, UMA

2015 Program Highlights

In 2015 the Eastern Oregon Area Genetics Program collaborated with, and provided support to a diverse collection of internal and external cooperators. Below is a brief list of highlights. *Not all program activities are listed.*

EDUCATION AND OUTREACH

- International Programs Forest Landscape Restoration Seminar
- Developed Seed/Cone collection training (Olympia, WA)
- LaPine Outdoor Adventure Day (2nd/3rd graders)
- Co-advising OSU Cascades Master's Student

ADMIN STUDIES IN SUPPORT OF OPERATIONS

Results in press

- Basalt Milkvetch and Western Prairie Clover seeding trials (with ARS-Provo).

Data analysis phase

- Bottlebrush Squirreltail Common Garden Trial (with USFS PNW RS, ARS-Pullman, and UNR).
- Prairie Junegrass Common Garden Trial (with USFS PNW and RMRS RS's).

Data collection phase

- Phenology Monitoring on the Pringle Falls Experimental Forest (DES NF).
- Phenology monitoring study at Kelsey Butte Seed Orchard (DES NF).

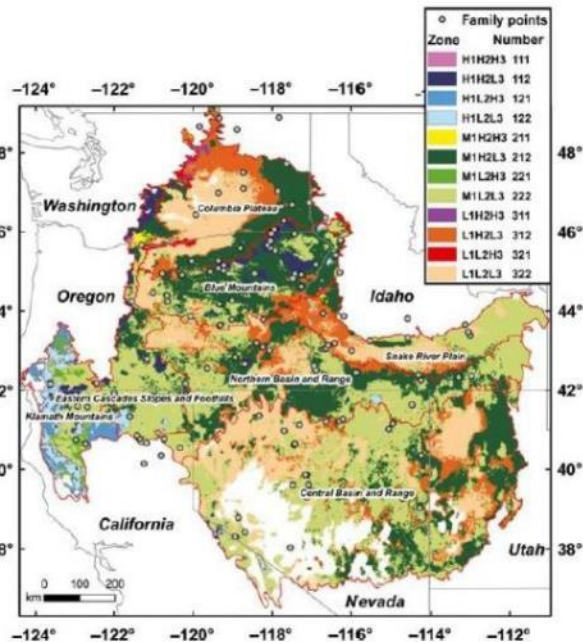


Figure 2. 12 proposed seed zones for inter-mountain west for Bottlebrush Squirreltail (citation below).

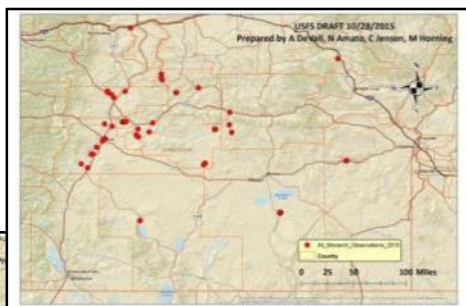


Figure 1. Milkweed (left) and Monarch (above) monitoring.



2015 Partners/Cooperators ARS-

Pullman Western Regional Plant

Introduction Center (RC Johnson, Mike Cashman)

ARS-Sydney Northern Plains Agricultural Research Laboratory (Erin Espeland)

ARS-Provo Forest and Range Research Laboratory (Doug Johnson, Shaun Bushman)

USFS PNW Research Station (Brad St. Clair, Rich Cronn)

USFS RM Research Station (Francis Kilkenny, Kas Dumroese) University of Nevada – Reno (Beth Leger)

Pringle Falls Experimental Forest (Paul Anderson)

Native Plant Nursery Consulting (Tom Landis)

The Xerces Society (Candace Fallon) OSU Cascades (Matt Orr, Kathryn Alexander)

Recent Publications:

Johnson RC, **Horning ME**, Espeland EK, and Vance-Borland K. Relating adaptive genetic traits to climate for Sandberg bluegrass from the intermountain western United States. *Evolutionary Applications* 8: 172-184

Espeland EK, Perkins LB, **Horning ME**, and RC Johnson. Seed source may determine field-specific germination and emergence: the source by planting environment interaction. *Crops Science* 56: 1-10.

Contact: Matt Horning, 541-383-5519



Deschutes National Forest
63095 Deschutes Market Rd.
Bend, OR 97701

Western & Eastern Washington Area Genetics Program

2015 Program Highlights –

Colville, Okanogan – Wenatchee and Mt Baker – Snoqualmie NF's



Seed Orchard Aluminum Tags – Aluminum tags were placed on 1,737 rust western white pine & 1,059 Engelmann spruce in the TeePee orchard; 1,230 western larch, 980 Engelmann spruce, 934 lodgepole pine & 1,318 Douglas-fir in the Cedar Creek orchard; & DF in the Branch Cr orchard. The tags were attached to the tree bole with 6 inch deck screws to allow the tag to move along the screw with yearly tree diameter growth.

Seed Orchard Roguing Contracts – Contracts were written for thinning & pruning 936 orchard locations in the Flower Trail WL, PP & DF & 351 orchard locations in the Brown Mountain WL, PP & DF seed orchards. Trees at these orchard locations were reduced to the very best leave trees for each species per planted location.

Blister Rust Resistant Western White Pine – Rust resistant western white pine were planted in the TeePee seed orchard on the Sullivan Lake RD. This orchard is almost filled with 1700 planted, rust resistant, western white pine. 12 bushels of cones were collected from rust resistant WWP. This was the first cone collection in this orchard.

Ponderosa Pine Cone Collections – 26 bushels of PP cones were collected from the Brown Mountain seed orchard on the Republic RD. This was the first cone collection in this seed orchard.

McCullough Seed Orchard – The fence was relocated & rebuilt, mulch mats that were girdling the tree bases were removed, natural regeneration was removed, old plastic irrigation lines were removed & a 100 feet wide strip, outside the orchard, was created to remove any trees that could fall across the fence.

Blister Rust Resistant Western White Pine Cone Collections McCullough Seed Orchard – Plans were made to collect cones for the Okanogan – Wenatchee NF from the rust resistant WWP in the McCullough seed orchard.

Noble Fir Cone Induction McCullough Seed Orchard – Dan Cress, Regenetics Forest Genetics Consulting, treated Noble fir in the orchard to help induce cone production for collection in 2016.

Darrington Seed Orchard – The fence was relocated away from the eroding river bank & repaired in other places. Mats were removed from around tree bases.

Western Spruce Budworm Development & Damage Surveys & Bt-k Insecticide Spraying – Forest Entomologists conducted larval development surveys in the Brown Mt seed orchard DF & WL to monitor numbers & potential damage to the orchard trees. Treatment using Bt-k insecticide was recommended. NEPA was completed & Bt-k insecticide was sprayed on the WL & DF in the orchard to reduce impact to crowns.

Needle Disease Surveys – A Forest Entomologist & Pathologist surveyed western white pine in the TeePee orchard & DF in the Flowery Trail & Pal Moore seed orchards to identify casual agents to needle damage. A midge is causing damage to the DF. Spraying with an insecticide is recommended.

Fire Damage Survey Pole Pick Seed Orchard – An updated survey was conducted by Methow RD personnel to determine which PP & DF survived one year after the Carlton Fire damaged them. About 2/3 of the trees are believed to be healthy enough to survive the fire. Hazard trees around the orchard perimeter were removed.

Wenatchee Silviculture Meeting Seed lot Code Training – Silviculturists & Reforestation Specialists on the Okanogan-Wenatchee NF were trained in how to key out the information contained in the seed lot codes from past cone collections on the forest.

Whitebark pine – A Colville NF wide programmatic NEPA document is being developed with the goal to allow treatment of whitebark pine stands, outside of wilderness areas, across the forest. Work on the document by specialists is ongoing.

2015 Partners/Cooperators

USFS Region 1, Genetic Resources (Mary Frances Mahalovich, Marie McLaughlin)

USFS Wenatchee Forest Insect & Disease Service Center (Connie Mehmel, Darci Dickinson, Roy Magelssen, Betsey Goodyear)

Dorena Genetic Resources Center (Angelia Kegley, Sally Long.)

Washington State DNR (Jeff deGraan, Jeff DeBell)

Dan Cress, Regenetics Forest Genetics Consultin



Contact: Tom DeSpain 509-684-7225
Colville National Forest
765 South Main Street
Colville, WA 99114

Western Washington Area Genetics Program

2015 Program Highlights – Olympic, Gifford Pinchot, & Mt. Hood NF's

PROJECTS

Population Genetics of rare species – working with NFGEL, USFWS, and WADNR a project was undertaken to assess the population structure and genetic diversity of *Artemisa campestri* var. *wormskioldii*, which is limited to only 2 populations, both located on federal lands. Partnering with University of Minnesota and University of Alabama, a study of population structure of Oregon white oak has doubled in sample size and distribution (laboratory analysis currently under way).

Cone and seed collection training – the Olympic National Forest hosted the Regional workshop on cone and seed collection July 7-8.

SEED & SEED ORCHARDS

Gene Conservation of High Elevation Conifers – working with the UK Forestry Commission, seed collections were made from several high elevation conifer species for gene conservation with samples to be archived in the ARS NCGP in Ft. Collins, and the Millenium Seed Bank run by Kew Gardens.

Noble fir seed orchards – working with the NWTIC and several private timberland owners, 3 USFS noble fir seed orchards are being utilized for scion collection for establishment of a new seed orchard, and inventory and retagging is taking place in preparation for future cone collections.

Phenology monitoring year 5 – a 5th year of data was collected on phenology of Pacific silver fir and western white pine to build a baseline to monitor impacts of climate warming. 23 Time lapse cameras were used to monitor bud flush and pollen shed remotely.

Seed collection MOU – an MOU between the USFS and WA Dept. of Natural Resources has been signed that establishes a partnership in which a “virtual seed bank” will be developed allowing parties to share seed inventory information, and an agreement to cooperate in allowing the collection of cones from orchards and wild stands on partner lands in the state of Washington.



UK visitors (left to right) Guy Horwood (Harcourt Arboretum), John Allen (Bedgebury Pinetum), Andy Bryce (Westonbirt Arboretum), Daniel Luscombe and Luke Wallace (Bedgebury Pinetum) after 12 days, 2000 miles, and ~40 species of trees and shrubs collected throughout western OR and WA and northern CA.

PARTNERS/COOPERATORS

UK Forestry Commission (John Allen, Andy Bryce, Guy Horwood, Daniel Luscombe, Luke Wallace)

Morton Arboretum (Matt Lobdell)

USFS NFGEL Laboratory (Valerie Hipkins)

USFS PNW Research Station (Brad St. Clair, Connie Harrington)

WA DNR (Jeff DeBell, Jeff DeGraan)

University of Alabama (Travis Marsico)

University of Minnesota (Jessica Hellman)

NWTIC (Keith Jayawickrama)

Regenetics Forest Genetics Consulting (Dan Cress)

Hancock Forest Management (Florian Deisenhofer)

Quinalt Indian Nation (Jim Hargrove)

WCC (Darryll Bordon)

WSU Extension (Jim Freed)



Contact: Andy Bower
Olympic National Forest
1835 Black Lake Blvd. SW
Olympia, WA 98512

Colville National Forest

2015 Native Plant Material Accomplishments

The Colville National Forest Native Plant Restoration Program continues to focus on developing stocks of native grasses, forbs, and shrubs for restoration projects.

New foundation seed collections were made across the Forest totaling 140 gallons of uncleaned seed from 16 species (8 shrubs, 7 forbs and 1 grass). These collections included 49 gallons of 5 species for the R6 CCS pollinator project. All collections were sent to Coeur d'Alene Nursery for cleaning and storage.

Restoration efforts continue at the Growden Dam removal and Pierre Creek culvert replacement sites, where 1800 two-year-old shrubs were planted on a total of 5 acres. A half-acre pollinator garden was seeded at the Sullivan Lake Ranger Station.

Planting natives took a backseat this summer as 103,000 acres of the Forest burned and effectively closed even larger areas to any activities.

Funds were used to locate and map 10 additional native plant collection sites; pay for seed cleaning, testing and storage; collect hardwood cuttings; provide revegetation consultation; develop and track budgets; and administer agreements.

Contact: Kathy Ahlenslager, 509-684-7178



Colville National Forest
765 S. Main
Colville, WA 99114



Collecting fireweed.

Expenditures	\$35,000 Total
	\$29,000 (NFVW)
	\$ 9,750 (NFWF)

Partners/Contractors Coeur d'Alene and J. Herbert Stone Nurseries.



Native seed collections ready for spreading.

Deschutes National Forest

2015 Native Plant Material Accomplishments

Deschutes National Forest Native Plant Restoration Program continues to focus on developing/planting stock of native grasses, forbs, and shrubs for restoration projects. Funding is also used to test/clean/store seeds, develop contracts, plan revegetation projects, develop/track budgets, develop partnerships, further education about the benefits of using native plants, and training to further our knowledge of native plant restoration.

Seed and Propagule Propagation:

- Purchased 13 lbs. of genetically-local low beardtongue (*Penstemon humilis*) from Benson Farms.
- Under an existing contract with Benson Farms, received 13 lbs. sulphur-flower buckwheat (*Eriogonum umbellatum*), 10 lbs. glaucous beardtongue (*Penstemon euglaucus*), and 18 lbs. low beardtongue; extended this contract with a new Task Order to produce an additional 20 lbs. sulphur-flower buckwheat and 9 lbs. glaucous beardtongue.
- Ordered 350 grass and forb propagules for a 2016 restoration project with partners Discover Your Forest and Gilchrist School.

Restoration Projects:

- With Discover Your Forest and Bend High Life Skills Program, seeded the new SunLava paved path (*Bend/Ft. Rock*).
- Seeded Three Trails, Big Marsh North Canal and closed roads & trails in Odell/Browns Creek Watershed (*Crescent*).
- Planted forbs and grasses at the Deschutes Headquarters and Lava Lands Visitor Center (*Bend/Ft. Rock*).

Revegetation Planning and Monitoring:

- Monitored restoration projects including Soda Creek (in partnership with Trout Unlimited) and Little Deschutes River.
- Board member for Deschutes Basin Native Plant Seedbank.
- Collected southern beaked sedge (*Carex utriculata*) to develop sedge beds at Clarno Hardwood Production Facility future restoration projects.
- Developed a revegetation plan for Diamond Peak Viewpoint Restoration on Highway 58.

Pollinator Conservation:

- Participated in USFS Region 6 Challenge Cost Share Project to collect seed of 5 forbs and 1 shrub to benefit native bees (including Sensitive western bumble bee), rufous hummingbird, and butterflies. Seed will be propagated for future restoration projects.
- The diversity of native plants at Deschutes Headquarters is a mecca for pollinators (*thanks to Charmane Powers, Bend/Ft. Rock Botanist*).



Figure 1. Bend/Ft. Rock employees planting willows, Soda Creek, Deschutes National Forest.



Figure 2. Freshly collected Oregon sunshine (*Eriophyllum lanatum*) seed collected on Crescent District for the R6 Pollinator Challenge Cost Share Project.

Year Awarded: 2015

Expenditures: \$46,000 Total Funding

\$ 22,000 NFTM

\$19,000 NFWW

\$ 5,000 WFHF

Partners: Deschutes Basin Native Seedbank, Benson Farms, Clearwater Native Nursery, Dorena Genetic Resource Center, Clarno Hardwood Production Facility, Bend/LaPine and Gilchrist Schools.

Contacts:

Katie Grenier (kgrenier@fs.fed.us)

Charmane Powers (cpowers@fs.fed.us)

Christina Veverka (cveverka@fs.fed.us)

Maret Pajutee (mpajutee@fs.fed.us)

Marlo Fisher (mrfisher@fs.fed.us)



Figure 3. Bend/Ft. Rock received 18 lbs. of lowly penstemon (*Penstemon humilis*), an important pollinator plant, via a contract with Benson Farms.



Deschutes National Forest
63095 Deschutes Market Rd.
Bend, Oregon 97701

Fremont-Winema National Forest

2015 Native Plant Material Accomplishments



Native seed was spread at the Swan Lake Communication Site on the Klamath Falls District this fall.

Partnership and appropriated funds were used to produce and deliver:

- 900 lbs. of tufted hair grass seed
- 600 seedlings of willow
- 350 seedlings of spirea
- 300 seedlings of current
- 275 seedlings of chokecherry
- 250 seedlings of bitterbrush
- 400 seedlings of aspen
- 250 seedlings of wildrose

Most of the native plant seedlings delivered in the fall of 2015 were distributed by the USFWS Ecosystem Restoration Office's partnership program for use in restoration projects on private land.



A current contract has been awarded to Benson Farms, and funds obligated for the production of:

- 500 lbs. of *Elymus glaucus*
- 500 lbs. of *Elymus elymoides*

Appropriated funds were used to collect seed of yarrow, wooley sunflower, goldenrod, and nettle-leaf hyssop.

Contacts:

Joe Washington 541-947-6253
Erin Rentz 541-885-3444
Jeannette Wilson 541-576-7593

Botany staff joined the Klamath Tribes during cultural plant collections of yampah roots and offered assistance with concerns for continued use of these resources.

The Botany Program assisted the Fisheries Program by completing reclamation planting of three culvert replacement sites with native grasses, shrubs, and trees.



Culvert replacement site one year after planting.

20 wild rose and 20 serviceberry seedlings were planted by botany crews on NFS land. 10 lbs of tufted hairgrass was spread at the Four-mile Creek restoration site.

Funds were also used to locate and map new source populations and organize maps and spreadsheets according to new seed zones, test, clean, and store native seeds, and develop and administer contracts and agreements.

The Fremont-Winema NF also provided wild-collected grass seed to the Klamath NF for initial development of their own native plant materials program.

The Botany Program continues to work with other resource programs to increase awareness, development, and implementation of native plant materials during project planning and analysis.



Expenditures: \$ 40,500
(NFTM/NFVW/NFWF)

Partners/Contractors/Cooperators:

SFWS
Benson Farms
Karmas Forest Nursery
Clearwater Native Plant Nursery

Gifford Pinchot National Forest

2015 Native Plant Material Accomplishments

Seed Growout Contracts:

- 1450 lbs. Mountain Brome delivered by Benson Farms

Seed Collection:

- Foundation seed collection completed for *Deschampsia elongata*; grow-out to occur in FY16.

Seed use:

- Approximately 1716 lbs. of native grass seed was applied over approximately 44 acres of habitat in need of restoration. Re-vegetation projects included :
 - Cougar and Riley Creek fires (areas of damage caused by suppression activities)
 - culvert replacements
 - riparian restoration
 - road repair/maintenance
 - stabilizing timber sale/stewardship sale landings and skid trails

Native Plant - Pollinator Seed collections:

- Native seed was collected as part of regional efforts to develop foundation seed for propagation to restore/improve pollinator habitat. On the South Zone of the Gifford Pinchot National Forest, the Wilderness Program partnered with the Botany Program and collected high elevation *Lupinus latifolius* seed (Figure 1).
- Species collected on Mt Adams RD included: *Lupinus latifolius*, *Anaphalis margaritacea*, and *Penstemon subserratus*.
- Species collected on Cowlitz Valley RD included: *Lupinus latifolius*, *Penstemon cardwellii*, *Penstemon ovatus*, *Penstemon subserratus* and *Anaphalis margaritacea*.

Monitoring:

- During winter 2014-2015, tiny insects were discovered to be thriving in stored native seed (Figure 2). Investigation revealed the insect to be *Lepinotus reticulatus*, which subsists on mold and bacteria. Good news: bugs not eating seed. Bad news: seed supporting mold and bacteria. As a result, temperature and humidity patterns in the seed cooler were measured using i-buttons and subsequently adjusted to maintain optimal seed storage conditions (i.e. temperature + relative humidity equal to less than 100).



Figure 1: Gifford Pinchot National Forest South Zone Wilderness Manager Justin Ewer proudly displays high elevation lupine seed collected by Wilderness Rangers for use in development of pollinator friendly seed mix.



Figure 2. *Lepinotus reticulatus* discovered in stored native seed. Inset shows mm. scale.

Year Awarded/Completed: 2015

Expenditures: \$ 47,525.00 Total

\$ 26,000.00 (NFTM03)

\$ 10,000.00 (NFVW03)

\$ 11,625.00 (NFWF0315)

Partners/Contractors/Coop:

Benson Farms Inc.

Gifford Pinchot National Forest Wilderness Program

Contacts:

HQ: Carol Chandler 360-891-5106

S. Zone: Andrea Ruchty Montgomery 509-395-3414

Tom Brumbelow 509-395-3413

N. Zone: Brad Kriekhaus 360-497-1164



Gifford Pinchot National Forest

10600 N.E. 51st Circle

Vancouver, WA 98682

Malheur National Forest

2015 Native Plant Material Accomplishments

Revegetation Projects – The Malheur NF used native plant materials for restoration, revegetation, and habitat improvement:

- *Riparian Habitat*: over 6,000 willow, 250 cottonwood, and 1,200 red-osier dogwood cuttings; 90 lbs. of riparian native grass seed mix; and 5 lbs. of native forb seed were used for stream restoration projects (Figure 1).
- *Logging and Fuels Reduction*: over 3,600 lbs. of upland native seed mix was applied to disturbed ground as a result of skid trails, landings, and large burned-out slash piles.
- *Forage Improvements*: over 500 lbs. of upland seed mix was used for rangeland habitat improvements associated with livestock allotments and big game winter range.
- *Mining and Special Use Reclamation*: 170 lbs. of upland seed mix was provided to revegetate disturbed areas for utility corridors and special use projects.

Seed Production Contracts – Contracts were awarded to produce 500 lbs. of Idaho fescue and 1000 lbs. of bluebunch wheatgrass. Approximately 10 lbs. of bush penstemon (*P. fruticosus*) was received from an ongoing seed production contract.

Fire Suppression Rehab – Over 2240 lbs. of excess native seed (8+ species mix) was purchased and used for rehab of fire suppression activities associated with the Canyon Creek Complex.

Seed Collection and Source Mapping – Continued to collect and map source populations of native grass and forb species, including significant quantities of showy milkweed (*Asclepias speciosa*, Figure 2), horse nettle (*Agastache urticifolia*), and scarlet gilia (*Ipomopsis aggregata*), to be used in future pollinator improvement projects, and tufted hairgrass (*Deschampsia cespitosa*) to be used in riparian and meadow restoration.



Figure 1. Botany, wildlife, aquatics, and range employees cooperatively planting willows at the Canyon Creek Dam removal site. Native seed was also sowed (prior to snowfall).



Figure 2. Showy milkweed (*Asclepias speciosa*) is a focal species for seed collections for future pollinator improvement projects. R6 challenge cost share program funded collection of pollinator-preferred species (NFWF). Photo by T. Prendusi

Expenditures: \$ 35,000	Total
\$ 20,000	NFTM
\$ 10,000	NFWW
\$ 5,000	WFHF
\$ 2,065	NFWF

Partners/Contractors: Benson Farms, Western Reclamation, Eastern Oregon Stewardship, North Fork John Day Watershed Council, Oregon Department of Transportation, Carter Ranch, Southworth Ranch, Confederated Tribes of Warm Springs, The Nature Conservancy, Deschutes Basin Native Seed Bank.

Contact: Joseph Rausch
Forest Botanist/Ecologist
541-575-3141



Malheur National Forest
431 Patterson Bridge Road
P.O. Box 909
John Day, OR 97845

Mt. Baker-Snoqualmie National Forest

2015 Native Plant Material Accomplishments

Native Plant Material

Collected approximately 4.5 pounds of blue wildrye (*Elymus glaucus*) for grow out in upcoming years.

Five sites seeded with genetically appropriate native seed were monitored for germination and cover. Six sites seeded with a non-native, non-persistent seed mix were monitored for cover.

Native seed mixes and selection of shrubs and forbs for elk forage was started in partnership with the Muckleshoot, Tulalip Tribes, Puget Sound Energy, and the Upper Skagit Tribe.

Approximately 103 acres of revegetated sites were monitored for health, vigor, and mortality. Most monitoring was completed by partners.

Five projects were seeded with the genetically appropriate native species smallflowered woodruck (*Luzula parviflora*) and largeleaf avens (*Geum macrophyllum*).

Collected 1 pound of pearly everlasting (*Anaphalis margaritacea*) as part of the Pollinator Challenge Cost Share (CCS) project.



Figure 1. Pearly everlasting being visited by a pollinator

Partners prepared 4 project sites and planted 39 acres of native shrubs and trees. An additional 50 acres of plantings were maintained.



Mt. Baker-Snoqualmie National Forest
2930 Wetmore Ave, Suite 3a
Everett, WA 98201

Revegetation

5 acres of the Ovenell Skagit Wild and Scenic River Parcel were prepared and planted by partners, including the Immaculate Conception seventh and eighth graders. An additional 15 acres of plantings were maintained. This project was funded through CCS. Monitoring in late summer showed greater than 95% viability of species planted.



Figure 2. Students planting trees at the Ovenell Skagit Wild and Scenic River Parcel, Mt. Baker Ranger District

Native Plant Program Expenditures

Native Plant Program support	NFWW = \$10,000
Native Plant Program support	NFTM = \$10,000
Ovenell Revegetation Project (CCS)	NFWW = \$13,800
Pollinator Project (CCS)	NFWF = \$3,750

Partners & Cooperators: AmeriCorps, Bend Seed Extractory, Immaculate Conception School, J. Herbert Stone Nursery, Mt. Adams Institute VetsWork Program, Muckleshoot Tribe, WSDA Native Plant Materials Center, Puget Sound Energy, Seattle City Lights, Skagit Fisheries Enhancement Group, Skagit River System Cooperative, South Puget Sound Salmon Enhancement Group, The Tulalip Tribes, Washington State Department of Agriculture, Whatcom County Correction Program

Contacts:

Kevin James (Program Manager); 425-783-6043
Shauna Hee (North Zone Botanist); 360-854-2635
Carrie Schreiber (South Zone Botanist); 425-888-8753

Ochoco National Forest and Crooked River National Grassland

2015 Native Plant Material Accomplishments

The Ochoco National Forest Native Plant Restoration Program continues to focus on developing/planting stock of native grasses, forbs, and shrubs for restoration projects. Funding is also used to test/clean/store seeds, develop contracts, plan revegetation projects, develop/track budgets, develop partnerships, further education about the benefits of using native plants, and training to further our knowledge of native plant restoration.

Seed and Propagule Production/Purchase:

Contracted with Benson Farms to produce 750 lbs. of blue wildrye (*Elymus glaucus*) seed.

Seed Collection:

- Collected seeds of 19 shrubs, forbs, grasses and sedges through a Seed Collection Contract with Eastern Oregon Stewardship Service.
- Collected 6 lbs. of tufted hairgrass (*Deschampsia cespitosa*) and 3 lbs. Nebraska sedge (*Carex nebrascensis*) for future riparian restoration.

Restoration Planning, Monitoring & Implementation:

- Planted 1,770 propagules for stream restoration of Trout and McKay Creeks; partnered with Powell Butte Charter School students to plant 75 willows and 100 cottonwood.
- Seeded 5 acres as part of a combination of treatments designed to help identify effective controls for invasive annual grasses on the CRNG.
- Assisted planting bluebunch wheatgrass as part of a genetic study.
- Worked with Madras High School Transition Program to grow milkweed and create a school pollinator garden.
- Assisted in creating a milkweed garden at Clarno Hardwood Facility.
- Seeded Jackson Creek Riparian Restoration project with blue wildrye, and Mt. Pisgah Communications Site and several timber sale projects with our Ochoco upland native grass seed mix.
- Mixed 4,000 lbs. of genetically local seed to create a seed mix for fire rehabilitation, timber sales and restoration (blue wildrye, prairie junegrass, squirreltail, Sandberg's bluegrass, Idaho fescue, bluebunch wheatgrass).
- Board member for Deschutes Basin Native Plant Seedbank.

Pollinator Conservation:

- Participated in USFS Region 6 Challenge Cost Share Project to collect seed of 6 forbs to benefit the western bumble bee, rufous hummingbird.



Figure 3. Golden currant (*Ribes aureum*) is one of 19 forbs, shrubs, and sedges collected for future restoration projects via a contract with Eastern Oregon Stewardship Services. Photo courtesy of Wikimedia.



Figure 1. Paulina Botanist, Jill Welborn, collecting tufted hairgrass and Nebraska sedge seed.



Figure 2. Contracted with Benson Farms to produce 750 lbs. of blue wildrye seed. Photo by Matt Lavin, courtesy of Wikimedia.

Year Awarded: 2015

Expenditures: \$30,000 Total Funding

\$ 10,000 NFWW

\$ 20,000 NFTM

Partners: Clearwater Native Nursery, Madras and Powell Butte Schools, Crooked River Watershed Council, Benson Farms, Deschutes Basin Native Plant Seedbank, Clarno Hardwood Facility.

Contacts:

Jill Welborn (jillewelborn@fs.fed.us),
Katie Grenier (kgrenier@fs.fed.us);
former Ochoco Botanist Krista Farris
(kfarris@fs.fed.us)



Ochoco National Forest
3160 NE 3rd Street
Prineville, Oregon 97754

Okanogan-Wenatchee National Forest

2015 Native Plant Material Accomplishments

One of the agency's goals is to promote the use of native plant materials for the revegetation, restoration, and rehabilitation of native plant communities to provide for the conservation of ecosystem diversity and maintain healthy ecosystem functions. Land management prescriptions will include the selection and use of native plant species that are genetically appropriate and adapted to on-the-ground ecological conditions.

Using FY15 Native Plant Materials Program funds in NFWW, NFWF, CMRD, CMLG, CMTL, CWFS, NFRG, and other funding, we accomplished the following:

Managed native plant programs with the objective of providing native plant materials, principally, native grass, forb, and shrub seed, cuttings, or plants to restore biodiversity, resilience, and ecosystem function to disturbed or degraded sites on National Forest system lands. Funds were used to manage local programs, including: 1) planning appropriate species collections, 2) surveying and mapping collection sites, 3) collecting native plant materials, 4) process materials at R6 Bend Seed Extractory, 5) increase native seed using R6 Restoration Services Contract, 6) sow native seed or plant native stock in appropriate project sites for restoration, rehabilitation, revegetation or pollination purposes, and 7) monitor project sites for planting/sowing response and performance.

Accomplishments for FY15 include:

- Collected, increased or purchased 5,082 pounds of seed.
- Awarded contracts for seed increase to meet future restoration seeding needs.
- Propagated and planted 103,219 containerized native plant seedlings for restoration purposes on sites including federal highway rights-of-way, lake or pond habitat, and subalpine parklands.
- Revegetation projects used numerous grass and forb species (including *Festuca idahoensis*, *Pseudoroegneria spicata*, *Erigeron speciosus*, *Elymus glaucus*, *Bromus carinatus*, *Poa curtifolia*, *Achillea millefolium*, *Phyllodoce empetriformis*, *Cassiope mertensiana*, *Festuca viridula*, *Vaccinium deliciosum*, *Luetkea pectinata*, *Potentilla flabellifolia*).
- Maintain controlled environment seed storage capability for three zones on the Forest (North, Central, and South Zones).



Volunteers plant at Maple Loop on the Methow RD

FY15 Expenditures: \$1,402,919 (NFWW, NFWF, CMRD, CMLG, CMTL, CWFS, NFRG)

Partners/Contractors/Cooperators: Benson Farms Inc, Derby Canyon Natives, North Cascades National Park, North Cascades Institute, National Forest Foundation, WSU Extension, RCO Surf Board; Fish and Wildlife Service; Fish and Wildlife Foundation; Patagonia World Trout Initiative, Methow Natives, Mid-Columbia Fisheries, WCC, Mountain to Sound Greenway, R6 Restoration Services, Tapash CFLRP, WA Dept. of Transportation.

Contacts:

SO – Lauri Malmquist (Acting)
Chelan & Entiat RDs - Brigitte Ranne, 509-682-4941
Cle Elum RD – Kelly Evans, 509-852-1036
Methow Valley RD - Kelly Baraibar, 509-996-4019
Naches RD - Jodi Leingang, 509-653-1450
Tonasket RD - Larry Loftis, 509-486-5160
Wenatchee River RD - Lauri Malmquist, 509-548-2575



Okanogan-Wenatchee National Forest
215 Melody Lane
Wenatchee, WA 98801

Olympic National Forest

2015 Native Plant Material Accomplishments

The Olympic National Forest Native Plant Program continues to focus on developing and providing stocks of native grasses, forbs, and shrubs for habitat restoration and enhancement projects. Specific accomplishments include:

Seed collection completed under contract with K.H. Hewitt Forest Resources.

Foundation Seed Collected for Taylor's checkerspot butterfly habitat restoration:

<i>Plectritis congesta</i>	1.9 oz cleaned seed
<i>Castilleja hispida</i>	3.0 oz cleaned seed
<i>Eriophyllum lanatum</i>	3.0 oz cleaned seed
<i>Collinsia parviflora</i>	1.7 oz cleaned seed
<i>Lomatium utriculatum</i>	1.9 oz cleaned seed

Mesic understory forb seed collection:

<i>Aranucus dioicus</i>	32 oz cleaned seed
<i>Tellima grandiflora</i>	6.0 oz cleaned seed
<i>Tolmiea menziesii</i>	32 oz cleaned seed

Seed collection completed with Regional CCS Project

"The Birds and the Bees: Pollinators if you please":

<i>Achillea millefolium</i>	2.7 oz cleaned seed
<i>Anaphalis margaritacea</i>	2.4 oz cleaned seed
<i>Aquilegia formosa</i>	1.5 oz mostly cleaned seed
<i>Geum macrophyllum</i>	5.5 oz mostly cleaned seed
<i>Holodiscus discolor</i>	10.3 oz unprocessed
<i>Lilium columbianum</i>	2.2 oz mostly cleaned seed
<i>Lupinus latifolius</i> var. <i>latifolius</i>	1.3 oz unprocessed
<i>Prunella vulgaris</i> ssp. <i>Lanceolata</i>	13.5 oz unprocessed
<i>Solidago canadensis</i>	19.2 oz mostly cleaned seed

Production fields were established for eight different species this year:

All five Taylor's checkerspot butterfly habitat restoration species listed above are being grown by Center For Natural Lands Management. Fields will be kept in production for the next three years and are expected to yield the following:

<i>Plectritis congesta</i>	12 lbs seed
<i>Castilleja hispida</i>	6 lbs seed
<i>Eriophyllum lanatum</i>	16 lbs seed
<i>Collinsia parviflora</i>	10 lbs seed
<i>Lomatium utriculatum</i>	3 lbs seed

J.H. Stone Nursery established beds for *Achillea millefolium*, *Anaphalis margaritacea*, and *Solidago canadensis* from seed collected this year. This seed will be used to enhance pollinator habitat while providing erosion control and weed exclusion is more xeric sites across the Forest.

Benson Farms continues to produce native grass seed.

A total of 2200 lbs of *Bromus carinatus* and *Elymus glaucus* seed and 12 tons of weed free straw harvested from the production fields was delivered this year.

Beds established at Clarno Hardwood Facility

15 lots of red osier dogwood were planted this Spring. Source plants for *Salix scouleriana*, *S. sitchensis*, *S. lasiadra*, and *Populus balsamifera* were flagged this summer, and will be harvested this winter to establish beds in FY16.



Figure 1. *Solidago canadensis* in the Calawah River watershed with a variety of pollinators.

Expenditures: \$ 40,000 Total

\$27,000 NFTM

\$8,000 CMRD

\$5,000 NFVW

Partners/Contractors/Cooperators:

Benson Farms, Center for Natural Lands Management, K.H. Hewitt Forest Resources, Washington Conservation Corp

Contacts: Cheryl Bartlett 360-956-2283



Figure 2. Red osier dogwood beds being planted at Clarno.



Olympic National Forest

1835 Black Lake Blvd. SW

Olympia, WA 98512

Rogue River-Siskiyou National Forest

2015 Native Plant Material Accomplishments

2015 Farm Seed Production:

- J. Herbert Stone FS Nursery (JHSN) harvested *Danthonia californica* (2 lots), *Elymus glaucus*, *Festuca californica*, *Sitanion hystrix*, *Stipa lemmonii*, and *Stipa nelsonii*, grown for wildland restoration on our Forest.

2015 Wild Seed Collections:

- 68 species of forbs, shrubs, and grasses collected for pollinator plant propagation, revegetation projects, wildlife forage, erosion control, and seed increase purposes (HCRD, WRRD, GBRD and Powers RD).

New contracts were awarded and funds obligated to:

- None this year.

Restoration project implementation:

- Jackson/Josephine Job Council youth crews completed gully stabilization in upper Glade Creek basin.
- Ongoing monitoring of Siskiyou Crest barrens seeding trials and gully rehab.
- Seeding areas disturbed during wildland fire suppression efforts on High Cascades Ranger District and Wild Rivers R.D.
- Copper Salmon Wilderness Legacy Roads project; total 1700 Port Orford cedar, bigleaf maple, shrubs, and native herbs planted (Figure 2).

Other Projects:

- Ashland Forest Resiliency Project; seeding for native plant diversity and erosion control after a prescribed burn (Figure 1).
- Planted 150 oak trees in Equine Thin KV sale area.
- Seeding for wildlife, erosion control, and invasive plant abatement in KV sale areas, across the Forest.
- Viability tests at OSU Seedlab for older seed lots in storage.

Funds were also used to:

- Help manage seed crops at JHSN.
- Write seeding/fertilizer/site prep prescriptions and assemble seed for various other wildland restoration projects.
- Pay seed cleaning and storage costs.



Figure 1. Lomakatsi youth interns seeding native grasses in Ashland Watershed in August 2015

Expenditures: \$ 37,000 (NFVW)
\$ 15,000 (CWKV) (approx.)
\$ 50,207 (Fire P code funds obligated to grow replacement seed and container stock needed for fire suppression rehabilitation)

Partners/Contractors/Cooperators: Lomakatsi Restoration, Bend Seed Extractory, Dorena Genetic Resource Center, Medford BLM.

Forest Contact:
Forest Botanist 541-618-2056



Figure 2: Northwest Youth Corps planting bigleaf maple along decommissioned roads in Copper Salmon Wilderness



Rogue River-Siskiyou National Forest
Supervisor's Office
3040 Biddle Road
Medford, OR 97520

Siuslaw National Forest

2015 Native Plant Material Accomplishments

The Native Plant Program continues to provide seed and plant material for restoration projects benefiting threatened Oregon silverspot butterfly, coastal coho salmon, and meadow habitat.

Seed Produced:

blue wildrye (<i>Elymus glaucus</i>)	147 lbs.
6 herbaceous species	90 lbs.

Seed Collected for Production:

western columbine (<i>Aquilegia formosa</i>)	2.3 oz
common cowparsnip (<i>Heracleum maximum</i>)	53 oz
toughleaf iris (<i>Iris tenax</i>)	2.0 oz
Columbia lily (<i>Lilium columbianum</i>)	3.0 oz
seep monkeyflower (<i>Mimulus guttatus</i>)	0.2 oz
redflower currant (<i>Ribes sanguineum</i>)	0.5 oz

Plants Produced: 13,000 Total

big-leaf maple (*Acer macrophyllum*)
black twinberry (*Lonicera involucrata*)
Bolander's rush (*Juncus bolanderi*)
California aster (*Aster chilensis*)
camas (*Camassia quamash*)
Canada goldenrod (*Solidago canadensis*)
Douglas spiraea (*Spiraea douglasii*)
early blue violet (*Viola adunca*)
oceanspray (*Holodiscus discolor*)
Oregon-grape (*Mahonia nervosa*)
Pacific ninebark (*Physocarpus capitatus*)
pearly everlasting (*Anaphalis margaritacea*)
red alder (*Alnus rubra*)
red elderberry (*Sambucus racemosa*)
currant species (*Ribes sanguineum*, *R. bracteosum*)
sedge species (*Carex obnupta*, *C. stipata*)
vine maple (*Acer circinatum*)
swamp crabapple (*Pyrus fusca*)
willow species (*Salix lucida*, *S. sitchensis*)
yarrow (*Achillea millefolium*)

Restoration Projects Supported:

- Oregon silverspot butterfly habitat restoration,
- Five Mile-Bell Creek riparian restoration project,
- Marys Peak summit meadow restoration,
- coastal coho riparian habitat enhancement



Figure 1. **Riparian Restoration.** Seedbed preparation. A tined implement pulled behind a modified tractor! The watershed scale Five Mile-Bell riparian restoration project..

Year :	FY 2015
	\$27,000 (SRS2)
	\$20,000 (NFVW)
	\$ 10,000 (SSCC)
	\$ 8,100 (NFWF)
	\$11,250 (OWEB) SWC Grant

Expenditures: \$76,350 Total

Partners: USFWS, NRCS Corvallis Plant Materials Center, Oregon Coast Aquarium, Oregon Zoo, Siuslaw Watershed Council, Tillamook Estuaries Partnership, Elkton Community Education Center, Salmon-Drift Watershed Council, Institute for Applied Ecology, Coffee Creek Correctional Facility, Willamette Gardens, Yachats Trail Crew, J. Herbert Stone Nursery

Contacts: Greg Treber 541-563-8419
Marty Stein 541-563-8417



Figure 2. **Tillamook Estuaries Partnership.** Youth native plant field day.



Siuslaw National Forest
3200 SW Jefferson Way
Corvallis, OR 97339

Umatilla National Forest

2015 Native Plant Material Accomplishments

The Umatilla National Forest native plant materials program continues to be a leader in the collection, propagation, and planting of genetically appropriate native species for projects that require seeding or planting of cuttings. Staff at the supervisor's office work closely with district personnel to assure that restoration projects are done using appropriate materials planted under the best possible conditions. Sites are monitored for success, and results are used for improving future projects.

New Contracts Awarded and Funds Obligated:

- Funds obligated to Benson Farms for 6000 lbs of mountain brome and 1,000 lbs Idaho fescue in warehouse available. Also producing small-flowered penstemon in greenhouse for North Fork John Day District.

Seed produced and purchased in existing increase fields:

- Benson Farms shipped parsnip-flower buckwheat and yarrow for use on Walla Walla District.
- 4,200 pounds of grass seed produced by Benson farms for the Walla Walla and Pomeroy Ranger Districts.

Seed Collections and cuttings:

- Participated in the Regional pollinator CCS project. Collected seed of skyrocket gilia, Oregon sunshine, and bee balm. Sent to USFS Bend seed extractory for cleaning and storage.
- Collected creamy buckwheat and mountain brome seed from Walla Walla and/or Pomeroy Districts.

Planting/Restoration Project Implementation:

- Planted native grasse and forb seed in timber sale areas, decommissioned roads, fish passage projects, fire lines, and other disturbed sites.
- Partnered with CTUIR to have them water native hardwoods planted for floodplain restoration project.



Figure 1. Oregon sunshine being grown at Benson Farms



Figure 2. Native grass being grown for USFS at Benson farms

Expenditures: \$102,153 Total

\$6,848	(SSCC)
\$64,000	(NFVW)
\$ 5,000	(WFHF)
\$ 10,000	(CMLG)
\$ 16,305	(CWKV)

Integration: Other BLIs and grants including Title II funds contributed to accomplishments as a result of program integration esp. the Watershed and Aquatic Restoration Program.

Partners/Contractors: Benson Farms, Dorena Genetic Resource Center, Clarno, Confederated Tribes of the Umatilla Indian Reservation (CTUIR), Nez Perce Tribe, Northwest Youth Corps, OSU seed lab.

Walla Walla District partnered with Whitman College to hire an intern who collected native seed and conducted a native seed needs assessment.

Forest Contacts Paula Brooks 541-278-3931 (Supervisor's office); Eric Pfeifer 509-522-6022 (Walla Walla and Pomeroy Districts); Megan Smith 541-676-2129 (North Fork John Day and Heppner Districts)

NOTE: Native plant expenditures shown in box above include salary for Karen Prudhomme (North Fork John Day RD) for management of task orders for the regional seed production and restoration services contracts.



Umatilla National Forest
72510 Coyote Road
Pendleton, OR 97801

Umpqua National Forest

2015 Native Plant Material Accomplishments

Seed Collection and Propagation

Feld production continues for multiple fields of blue wildrye and California fescue at the J. Herbert Stone Nursery. Collected seeds from six native plant species that are important for pollinators to be grown out for pollinator waystations along the Row Rover Trail.

Umpqua Botany personnel continued to partner with the Roseburg Phoenix High School to develop a successful native plant nursery on school grounds.

Restoration Project Implementation

Transplanted plugs and seeded the following shrubs and forbs for wildlife, recreation, engineering, and mitigation based projects:

Red elderberry (plugs)	175
Snowberry (plugs)	175
Mannagrass (plugs)	170
Blue wildrye	425 lbs
California brome	200 lbs
Roemers fescue	230 lbs
Prairie June grass	105 lbs
Pearly everlasting , big deervetch, California tea, California oatgrass and wyethi	23 lbs

Seeded the following species at several KV-funded projects:

Blue wildrye	250 lbs
California brome	155 lbs
Roemers fescue	215 lbs
Prairie Junegrass	115 lbs
Pearly everlasting, Oregon grape, needlegrass and reed grass	2 lbs

Fire Suppression Repair Seeding

Seeded the following on the Bunker Hill and Potter Mt. fires:

Blue wildrye	525 lbs
California brome	275 lbs
Roemers fescue	10 lbs
Lemmon's needlegrass	20 lbs
Pearly everlasting, yarrow and clover	0 5 lbs



Figure 1. Stump Lake immediately after the ponds had been excavated in the summer of 2014. This wetland area is associated with a PacifiCorp operated reservoir and is being enhanced as a condition of the relicensing of the hydroelectric project.



Figure 2. Stump Lake in late summer of 2015 subsequent to revegetation and one growing season.

Contact : Richard Helliwell, 541-957-3337



Umpqua National Forest
2900 NW Stewart Parkway
Roseburg, OR 97471-1274

Wallowa-Whitman National Forest

2015 Native Plant Material Accomplishments

The Wallowa - Whitman National Forest Native Plant Program continues to support restoration projects across the forest, providing native grasses, forbs, shrubs and mulch.

During 2015 funds were used to collect seed from the following: (*Agastache urticifolia*, *Anaphalis margaritacea*, *Asclepias speciosus*, *A. fascicularis*, *Eriogonum umbellatum*, *Mondardella odoratissima*, *Penstemon fruticosus*, *P. venustus*, *P. wilcoxii*, *S. missouriensis*). We also used funds to acquire 1000 milkweed seedlings (*Asclepias speciosus*, *A. fascicularis*) to be reared at the Clarno Hardwood Production Beds. The milkweeds will be used to enhance habitat for the monarch butterfly. Funds were also used to pay for seed cleaning and testing; maintenance of seed storage facilities; and updating the GIS layers for seed collection sites and seeding / restoration projects.

Restoration project implementation

Provided approximately 3,023 pounds native grass and forb seed for rehabilitation of 110–acres on 21 projects across the forest.

836 lbs. - Fire suppression/BAER Rehabilitation:

585 lbs. - Skid trails, decks and landings:

83 lbs. - Range Improvement / Ponds

389 lbs. - Revegetation after utility/road work

205 lbs. - Misc. Rehab / noxious weed prevention

25 lbs. - Backcountry Runway Rehabilitation

370 lbs. - I-84 Large Woody Debris Landings

530 lbs. - Aquatic Restoration

3023 lbs. Total native grass and forb seed planted

In addition, approximately 15,000 deciduous trees and shrubs and 4,000 hardwood cuttings were planted on Aquatic Restoration Projects.



Figure 1. Chicken Creek Road Obliteration – Seeded in 2013 with *Bromus marginatus*, *Koeleria macrantha*, *Elymus glaucus*, & *Deschampsia cespitosa*,

Partners / Cooperators /
Contractors:

The PlantWorks, LLC,
Bend Seed Extractory, Clarno
Hardwood Production Beds,
The Nature Conservancy and
Wallowa Resources.

Contacts: Susan Geer, Penny
Hall, Jerry Hustafa, Gene Yates



Wallowa-Whitman National Forest

P.O. Box 907
1550 Dewey Avenue
Baker, OR 97814

Willamette National Forest

2015 Native Plant Material Accomplishments

Seed Growout Contracts:

We used the Regional Grass Seed Growout contract to procure the following:

- 5146 # blue wild rye seed
- 2400 # California brome seed

We provided Columbia brome and California fescue to JH Stone Nursery for seed increase. We bought a greater amount of blue wildrye than normal because we have started providing native seed to the timber program so timber sale purchasers can seed with genetically local natives-beginning implementation of the seed collection clause in timber sale contracts.

More than 20 acres were seeded across the forest for erosion control, weed competition and forage.

Seed Collection:

The Willamette participated in the Regional Pollinator challenge cost share so we used CCS and base natives funding to collect broadleaf lupine, yarrow, penstemon, aster, trumpet gilia, pearly everlasting, goldenrod, blue fields gilia, columbine, ocean spray, Oregon sunshine, red flowering currant and honeysuckle. We will combine our collections with those from other Forests in our ecoregion for seed increase next fiscal year.

Cooperative Projects:

The McKenzie District Wildlife program received a grant for developing an educational program for schools called Hummingbirds Forever!

This is the third year we got a crop from our seed increase plots for **Corvallis Plant Material Center**: *Iris tenax* (9 lbs), *Lotus unifoliatius* (100 g) and *Penstemon cardwellii* (3 lbs), *Lotus crassifolius* (134 g).

A total of **3 Tons of weed free straw** was obtained for Middle Fork watershed and recreation departments.

Twenty pounds of **Willamette wildlife seed mix** was provided to each Ranger District Biologist to use in field trials. Mixes were tailored for north/south forest and included grasses and legumes we have in production.



Figure 1. *Iris tenax* from Willamette NF in production at Corvallis Plant Material Center.

Year Awarded/Completed: 2015

Expenditures:	\$ 94,000 Total
	\$ 29,000 (NFVW)
	\$ 5,000 (NFWF)
	\$ 9,000 (CMLG)
	\$ 7,000 (CMRD)
	\$ 3,500 (NFXN)
	\$ 23,775 (CWKV)

Partners/Contractors/Coop: Benson Farms Inc., Corvallis NRCS Plant Material Center, JH Stone Nursery, Eagle's Pride Nursery at McKenzie High School
Contact: Jenny Lippert 541-225-6440



Figure 2. Measuring legume seed for adding to wildlife seed mix (legumes and grasses) for trials in fall 2015.



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