

Genetic Diversity/Structure

Project#	Species	Client (KEY)	Project Date	Sample Size	Objective
184	<i>Pseudotsuga menziesii</i> (Douglas-fir)	USDA FS - R5/ R6	2004- 2005	1388 indiv.	Determine the natural genetic diversity
149	<i>Populus tremuloides</i> Quaking aspen <i>Populus acuminata</i> Lanceleaf aspen <i>Salix lutea</i> Yellow willow <i>Salix gooddingii</i> Gooding's black willow	USDA FSR-6 / NRCS	2003	30 indiv.	Conservation management
143	<i>Rorippa subumbellata</i> and <i>Rorippa curvisiliqua</i>	USFWS	2002- 2003	592 indiv.	Assess genetic variability in native and planted populations
130	<i>Pseudotsuga menziesii</i> (Douglas-fir)	USDA FS - R5	2001- 2002	127 indiv.	Species diversity
126	<i>Pinus elliotii</i> (slash pine)	USDA FS - SRS -R8	2002	23 indiv.	Comparison of genotypes between seed vs. bud tissues (Project 80)
104	<i>Heliomeris</i> (= <i>Viguiera</i>) <i>multiflora</i>	USDA FS RMRS -R4	2001- 2003	122 indiv.	Compare indigenous populations/ seeded populations and the populations from which those seeded populations originated ("source populations").
100	<i>Populus tremuloides</i> (quaking aspen)	USDA FS - R5	2001	663 indiv.	Conservation management
99	<i>Pinus ponderosa</i> (ponderosa pine)	Private	2001	25 indiv.	Assess genetic differences between pre- and post-settlement stands
98 98	<i>Pinus radiata</i> (Monterey pine)	CalTrans/ UCDavis	2001	254 indiv.	Assess genetic variation for mitigation; determine presence of 'local' stands
93	<i>Pinus caribaea</i> (caribaea pine), <i>Pinus elliotii</i> (slash pine), <i>Pinus elliotii</i> X <i>Pinus palustris</i> (slash pine X longleaf pine)	USDA FS - SRS	2000	159 indiv.	Determine the natural genetic diversity in some Southern pines.
92	<i>Pinus massoniana</i> , <i>P. taeda</i> (loblolly pine)	USDA FS - SRS	2000	385 indiv. 11 pops	Genotypic data will be used to investigate natural genetic diversity
91	<i>Pseudotsuga menziesii</i> (Douglas-fir)	Private	1999	36 indiv.	Assess genetics of Douglas-fir that are susceptible or resistant to western spruce budworm
90	<i>Pinus palustris</i> (longleaf pine), <i>P. taeda</i> (loblolly pine), <i>P. caribaea</i> x <i>P. elliotii</i> (caribaea pine x slash pine)	USDA FS - SRS	1999	95 indiv.	Determine the natural genetic diversity in some Southern pines
89	<i>Elymus elymoides</i> <i>Achnatherum spp.</i>	USDA FS - R5	2000	150 indiv. 44 families	Establish native grass seed zones and seed bank system
84	<i>Populus tremuloides</i> (quaking aspen)	USDA FS - R6	2000	246 indiv.	Conservation management
80	<i>Pinus elliotii</i> (slash pine)	USDA FS - SRS	1999	536 indiv.	Rangewide diversity
79	<i>Collomia rawsoniana</i>	USDA FS - R5	2000	252 indiv.	Clonal ID, species diversity

76	<i>Sisyrinchium spp.</i>	USDA FS - R6	1999	207 indiv.	Determine grazing effects on genetic diversity
73	<i>Pinus lambertiana</i> (sugar pine)	CDF/USDA FS - R5	1997	1452 embryos	Relatedness of rust resistant vs. non-resistant seedlots
68	<i>Populus tremuloides</i> (quaking aspen)	USDA FS - R6	1997	528 indiv.	Conservation management
65	<i>Pinus lambertiana</i> (sugar pine)	CDF	1997	97 indiv.	Diversity among non-resistant and rust resistant tree clusters
63	<i>Pinus lambertiana</i> (sugar pine)	USDA FS - R5	1997	258 indiv.	Assess genetic variation throughout R5 sources
61	<i>Abies fraseri</i> (Fraser Fir)	USDA FS - SRS	1997	36 indiv. 6 sources	Screen for polymorphic loci
59	<i>Bromus carinatus</i>	USDA FS - R5	1997	341 indiv. 13 pops.	Genetic structure within and between province and population
58	<i>Pinus palustris</i> (longleaf pine)	USDA FS - SRS	1996	618 indiv. 20 sources	Characterize genetic diversity to assess geographic variation present
55	<i>Rorippa subumbellata</i>	USFWS	1995-00	150 indiv.	(1) Assess genetic variability in pops along shores of LakeTahoe (2) ID unique pops
52	<i>Pinus echinata</i> (shortleaf pine)	USDA FS - SRS	1996	2 crosses	Segregation distortion among clonal crosses in two environments
50	<i>Pinus flexilis</i> (limber pine)	USDA FS - R1	1995-96	594 indiv. 5 pops.	(1) Genetic diversity in isolated stands (2) Determine origin & location of founding trees
47	<i>Pinus palustris</i> (longleaf pine)	USDA FS - SRS	1994-96	618 indiv. 20 sources	Characterize genetic diversity to assess geographic variation present
46	<i>Pinus ponderosa</i> (ponderosa pine)	USDA FS - R5	1995	215 indiv.	Breeding zone development
45	<i>Elymus glaucus</i>	USDA FS - R6	1995-96	2746 indiv. 117 pops.	Genetic structure among and within populations
44	<i>Purshia tridentata</i> (bitterbrush)	USDA FS - R5	1995	404 indiv.	Assess effects of silvicultural treatments on genetic diversity/structure
43	<i>Festuca idahoensis</i> (Idaho fescue)	USDA FS - R5	1995	401 indiv.	Assess effects of silvicultural treatments on genetic diversity/structure
42	<i>Pinus ponderosa</i> (ponderosa pine)	USDA FS - R5	1995	207 indiv.	Assess effects of silvicultural treatments on genetic diversity/structure
40	<i>Pinus echinata</i> (shortleaf pine)	USDA FS - R5	1994-95	9 clones 24 seedlots	Segregation distortion among clonal crosses in two environments
39	<i>Elymus gaucus</i>	USDA FS - R5	1994	598 indiv. 18 pops	Genetic structure within and between province and population
30	<i>Pinus ponderosa</i> (ponderosa pine)	USDA FS - R5	1993	370 indiv.	Breeding zone determination

29	<i>Pinus clausa</i> (sand pine)	USDA FS - R8	1993	49 clones, 1 seedlot	Assess diversity among clones and wild seed collection
27	<i>Pseudotsuga menziesii</i> (Douglas-fir)	USDA FS - R6	1993-94	150 indivs.	Assess managed vs. native stand diversity
23	<i>Taxus brevifolia</i> (Pacific yew)	USDA FS - R1,5,6,10	1990- 1991	54 pops.	Interspecific diversity
20	<i>Pinus lambertiana</i> (sugar pine)	USDA FS - R5	1991	563 indiv.	Genotyping rust resistant trees
16	<i>Pinus lambertiana</i> (sugar pine)	USDA FS - R6	1990	254 indiv.	Regional isozyme variation study
15	<i>Pseudotsuga menziesii</i> (Douglas-fir)	USDA FS - R6	1988-91	94 embryos	Determine levels of inbreeding
5	<i>Pinus lambertiana</i> (sugar pine)	USDA FS - R5	1988-89	378 indiv.	Refine/redefine seed and breeding zone boundaries

Key

Agency

USDA FS	USDA Forest Service
R1	Region: Montana, northern Idaho, N. Dakota
R4	Region: Nevada, southern Idaho, Utah
R5	Region: California
R6	Region: Oregon and Washington
R8	Region: southeastern USA
R9	Region: northeastern USA
R10	Region: Alaska
SRS	Southern Research Station
PSW	Pacific Southwest Research Station
CDF	California Department of Forestry
BLM	Bureau of Land Management
USFWS	US Fish and Wildlife Service
CalTrans	California Department of Transportation
private	private company or University