

# NFGEL Open Project Status

National Forest Genetics Laboratory (NFGEL), US Forest Service – WO Forest Management. Valerie Hipkins, NFGEL Director  
Placerville, California, 530-622-1609, vhipkins@fs.fed.us, <http://www.fs.fed.us/NFGEL/>



## ON-GOING NFGEL PROJECTS

PROJECT #	PARTNER	SPECIES	CONTACT	PROJECT TITLE	STATUS
232	BLM/FS-R1-4	Ponderosa Pine	R.Means; MF Mahalovich	Genetic testing of disjunct Ponderosa Pine stands on BLM lands in Wyoming and throughout the west	In reporting.
248	FS-R6	Golden Chinquapin	A. Bower	Genetic structure of Golden Chinquapin ( <i>Chrysolepis chrysophylla</i> )	716 samples. Isozymes extracted; 1/3 of samples run; marker dropped due to poor resolution. DNA isolated; 10 SSRs have been tested: 8 are being applied to current set of full samples. 10 additional SSRs are awaiting testing. A next-generation sequencing approach is being tested with partners from Oregon State University.
251	FS-R5	<i>Fritillaria eastwoodiae</i>	J. Nelson	Population genetics study of <i>Fritillaria eastwoodiae</i>	Original lab report submitted in FY12. One population added and a report addendum submitted late 2012. Additional sample collections received in 2013. Isozyme and ploidy analyses complete. DNA extracted and stored. Information will be re-analyzed and a second report addendum submitted FY14.
254	BLM	Ponderosa Pine	B. Means	Genetics relationships of isolated, disjunct ponderosa pine stands	In reporting.
258	FS-R6	<i>Sisyrinchium sarmentosum</i>	A. Bower	Hybridization and species identity in <i>Sisyrinchium sarmentosum</i>	Ploidy complete; SSR marker development unsuccessful; DNA sent to Rich Cronn (USFS-PNWRS) for next-gen sequencing (cpDNA SNPs). Data is in analysis and reporting.

PROJECT #	PARTNER	SPECIES	CONTACT	PROJECT TITLE	STATUS
259	FS-R8	Longleaf Pine	B. Crane	Is there a genetic difference between the traditional coastal sources and the piedmont sources of longleaf pine?	Isozyme data complete. SSR data complete. SSR data sent to Craig Echt (USFS-SRS) for combination with SRS data and full analysis.
268	FS-R6	Oregon White Oak	A.Bower	Oregon white oak genetic diversity and geographic differentiation	Isozyme prepped and DNA extracted from samples that have arrived. Waiting for additional samples to arrive before lab analysis begins.
270	Oregon State Univ.	Douglas-fir, Western White Pine	G.Howe	SNP development in Douglas-fir and western white pine	DNA extracted and shipped to University of Arizona for SNP development. Report pending.
273	FS-R1-6/BLM	Ponderosa Pine	M.Mahalovich /R.Means	Genetics relationships of isolated, disjunct ponderosa pine stands	DNA extracted, isozymes prepped, needles counted. Awaiting any additional collections before analysis. These samples will fill in holes in the ponderosa database or be off site stands that need seed source identification.
277	Northwest Tree Improvement Cooperative (NWTIC)	Douglas-fir	K.Jayawickrama	Genetic Quality Control Study in Coastal Douglas-fir	To date, we have received samples from 601 clones (2,461 ramets). DNA has been extracted from clonal bulk collections and some individual ramet collections to verify mislabeling. SSR data is being collected at 6 loci. We also sent DNA from 282 samples to University of Arizona to test the utility of SNP data to address project objectives (data has been received but not yet assessed). Further clonal samples are expected to be received.
279	Center for Natural Lands Management	San Diego Thornmint	D.Rogers	Population Genetics Study of <i>Acanthomintha ilicifolia</i>	Isozymes complete. In analysis and reporting.
281	Private Company	Slash Pine, Loblolly Pine	-----	Ramet identification in slash and loblolly pine clones	DNA extracted. SSRs loci have been tested. SSR data being collected for all samples at a final 6 loci.
282	FS-R5	Vaccinium spp	J.Nelson	Genetic structure of Vaccinium (Huckleberry): a further comparison of Shasta Lake and Sierra Nevada populations.	Extension of Project 238. DNA extracted. Awaiting SSR analysis of the same 5 loci as in Project 238. Results will be merged in analysis and reporting.
285	GreenWood Resources, Inc.	Poplar	R.Shuren	DNA fingerprinting elite populus clones	Waiting for samples to arrive (SSR analysis using 12 loci).

PROJECT #	PARTNER	SPECIES	CONTACT	PROJECT TITLE	STATUS
286	FS-R9	Butternut	S.Rogers	Identifying butternut ( <i>Juglans cinerea</i> ), Japanese walnut, and their hybrids	DNA extracted. Waiting for laboratory analysis (CAPS and SCAR markers of ITS, other nuclear loci, and cpDNA loci will be used).
288	FS-R5	Ponderosa Pine	G.Lunak	Verification of controlled mass pollination (CMP) in two ponderosa pine seedlots	Seed is in stratification (SSR analysis will be conducted).

## Project Ideas in Development

PARTNER	SPECIES	CONTACT	PROJECT TITLE
FR-R1	<i>Festuca</i> species	M.F.Mahalovich	Species identification and cultivar detection in <i>Festuca</i> collections from Montana
Center for Natural Lands Management	Spineflower	D.Rogers	Genetic studies of <i>Chorizanthe parryi</i> var. <i>fernandina</i> (San Fernando Valley Spineflower)
FS-R6	<i>Sidalcea</i>	C.Emerson	Resolving taxonomic confusion around <i>Sidalcea setosa</i> and <i>Sidalcea oregana</i> ssp. <i>spicata</i>
FS-R8	Table Mountain Pine	B.Crane	Table mountain pine conservation and restoration
FS-R8	Butternut	B.Crane	Identification of pure butternut
FS-all regions	Botrychium	-----	Identification of Botrychium species
NRCS	Tanglehead	S.Mitchell	Is southern Texas Tanglehead more similar to local invasive Tanglehead or to non-invasive Australian Tanglehead
FS-R5	Sugar pine	J.Dunlap	Genetic diversity and structure of Southern California sugar pine
UC Davis	Poplar	M.Zinkgraf	DNA extraction from poplar
FS-R8	Atlantic white cedar	B.Crane	Atlantic white cedar conservation and restoration
FS-R10	<i>Vaccinium</i> spp.	M. Stensvold	Examining genetic distinctiveness of <i>V. ovalifolium</i> ssp. <i>alaskaense</i> , and testing the putative hybrid origin of "Beebleberry".
FS-R10	Dune tansy	M. Stensvold	Examining the possible migrant source of a disjunct population of dune tansy ( <i>Tanacetum bipinnatum</i> subsp. <i>Huronense</i> ).
Sierra Pacific Ind.	<i>Lewisia</i> spp.	J. O'Brien	Morphometric analysis of the <i>Lewisia kelloggii</i> group from California.