

NFGEL Open Project Status

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ON-GOING NFGEL PROJECTS

PROJECT #	PARTNER	SPECIES	CONTACT	PROJECT TITLE	STATUS
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 have been applied to current set of full samples. 10 additional SSRs were initially tested. Re-runs of first 10 loci needed; further testing of second 10 loci needed and then applied to all samples. Next-generation sequencing data has been obtained for a subset of samples from Oregon State University partner.
258	FS-R6	<i>Sisyrinchium sarmentosum</i>	A. Bower	Hybridization and species identity in <i>Sisyrinchium sarmentosum</i>	Ploidy complete; SSR marker development unsuccessful; Next-gen sequencing (cpDNA SNPs) data obtained from Rich Cronn (USFS-PNWRS). Data is in analysis and reporting.
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.

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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 over 750 clones (over 2,800 ramets). DNA has been extracted from clonal bulk collections and some individual ramet collections to verify mislabeling. SSR data has been collection on all samples 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 and is being assessed). All data has been generated and is in final analysis and reporting.
285	Private Company	Poplar	-----	DNA fingerprinting elite populus clones	SSRs (12 loci) complete on samples received to date. Waiting for 10 additional samples to arrive.
290	FS-R8	Atlantic white cedar	B.Crane	Atlantic white cedar conservation and restoration	37 samples from four locations received. DNA extracted and isozymes prepared. Waiting for additional samples and proposal form.
294	FS-R8	Table Mountain Pine	B.Crane	Table mountain pine conservation and restoration	346 samples received. DNA extracted from all (average yield = 9ug). Needles from each sample freeze-dried. DNA from 23 samples shipped to FS-SRS to aid in marker development. Waiting for markers to be developed (20 loci) before proceeding with SSR runs.
295	FS-R5	<i>Festuca</i> species	M.Mahalovich	Species identification and cultivar detection in <i>Festuca</i> collections from Montana	A panel of samples for marker screening have been germinated and are growing in the greenhouse. The panel has been examined for DNA content using flow cytometry. Screening for isozymes, ITS, and cpDNA variation is underway.
298	FS-R6	<i>Packera</i>	M.Darrach	A molecular genetic comparison of <i>Packera</i> "novum" and <i>Packera cana</i> in Washington State	A total of 170 samples from 7 populations shipped to NFGEL have been prepped for isozymes, had DNA extracted, and have been examined for DNA content via flow cytometry. Remaining tissue lyophilized for preservation. Marker screening (ITS and cpDNA) is underway. Full lab analyses will wait until final collections arrive in 2015.
299	Center for Natural Lands Management	Spineflower	D.Rogers	Genetic studies of <i>Chorizanthe parryi</i> var. <i>fernandina</i> (San Fernando Valley Spineflower)	Leaf tissue from half of the populations were received in 2014 and were isozymes-prepped, had DNA extracted, and are currently being screened for ITS and cpDNA variation. Seed have been collected by the collaborator for the greenhouse study but have not been delivered to NFGEL. Project is awaiting contract.

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300	FS-PSW	Torrey pine	T.Ledig	Source identity of a Torrey Pine stand located in Bolinas, CA	Seed obtained from P'ville Nursery seed bank. All seed prepped for isozymes and awaiting isozyme run.
301	FS-PSW	rust	D.Vogler	Species identification of <i>Cronartium</i>	DNA extracted from submitted infected leafs and spores. Need more spores to re-extract. We have the primers ordered and in lab. Once final DNA is obtained, will run PCR reactions and sequence.
302	FS-R8	Butternut	B.Crane	Identifying butternut (<i>Juglans cinerea</i>), Japanese walnut, and their hybrids	264 samples received. DNA extracted from all samples and extra leaf tissue was freeze-dried. Samples are in lab getting run for three markers.
303	Private Company	Slash Pine, Loblolly Pine	-----	Ramet identification and parental verification in slash and loblolly pine clones	1278 trees submitted for genotyping. Many of these trees were organized into bulk extractions for analysis resulting in a total of 399 DNA extractions. All samples (wood and needles) have been extracted and analyzed at 6 SSR loci. Contaminated bulk samples need to be re-extracted as individual trees to find the mis-labels. DNA from individual trees still needs to be extracted and analyzed at the 6 loci separately.
304	FS-R6	<i>Sidalcea</i>	C.Emerson	Resolving taxonomic confusion around <i>Sidalcea setosa</i> and <i>Sidalcea oregana</i> ssp. <i>spicata</i>	90 samples have been received. More are expected this next year. All samples have been prepped for isozymes, and remaining leaf tissue freeze-dried for possible DNA extraction later if needed. A subset of samples was also run for ploidy.
306	FS-R9	Butternut	S.Rogers	Identifying butternut (<i>Juglans cinerea</i>), Japanese walnut, and their hybrids	50 samples received. DNA extracted from all samples and extra leaf tissue was freeze-dried. Samples are in lab getting run for three markers.
307	Private Company	Douglas-fir	-----	Ramet identification and parental verification in Douglas-fir clones	403 trees submitted for genotyping. Many of these trees were organized into bulk extractions for analysis resulting in a total of 159 DNA extractions. All samples have had extracted and are awaiting analysis at 6 SSR loci. Detected contaminated bulk samples will need to be re-extracted as individual trees to find the mis-labels. DNA from those individuals will then need to be extracted and analyzed at the 6 loci separately.
308	FS-RMRS	Limber pine	A.Schoettle	Limber pine family identification	Seed has been germinated and prepped for isozymes. Bud tissue received has been prepped for isozymes. Extracts waiting for isozyme run and analysis.
309	FS-PNW	Douglas-fir	R.Cronn	DNA extraction from Douglas-fir for SNP development	393 samples of Douglas-fir were received. Each sample consists of 1 seedling per microfuge tube, or several mature needles per microfuge tube. Some samples came frozen; others were delayed in shipment and thawed during transit. Tissue samples are being transferred from frozen microfuge tubes to Qiagen collection tube racks before DNA extraction can take place.

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310	FS-all Regions	<i>Botrychium</i>	-----	Technology transfer of allozyme markers for species identification in <i>Botrychium</i> (moonworts)	Further modifications to isozyme protocols will be made this FY to finalize the technology transfer needed for NFGEL to take over isozyme runs for <i>Botrychium</i> species identification.

PROJECT IDEAS IN DEVELOPMENT

PARTNER	SPECIES	CONTACT	PROJECT TITLE
FS-R6	<i>Lewisia columbiana</i>	R.Helliwell	Taxonomy of <i>Lewisia columbiana</i>
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
Sierra Pacific Ind.	<i>Lewisia</i> spp.	J. O'Brien	Morphometric analysis of the <i>Lewisia kelloggii</i> group from California.
Green Diamond Resource Company	<i>Erythronium</i> spp.	B.Hayashi	Identifying <i>Erythronium</i> Species on Green Diamond Resource Company Property
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>).
Oregon State University	Mistletoe	B.Oblinger	Dwarf mistletoe species identification
FS-R5	Sugar pine	A.Ferreira	Marker assisted selection for blister rust resistance in sugar pine

COMPLETED NFGEL PROJECTS (OCT 2014 - FEB 2015)

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