Forest Health Monitoring Program
Monthly Update
August 2017

NEWS ABOUT FHM PARTNERS

A July, 2017 celebration at the Hoyt Arboretum in Portland, Oregon featured planting a *Phytophthora lateralis* root disease resistant Port-Orford-cedar (*Chamaecyparis lawsoniana*) tree and placement of a sign recognizing the ongoing partnership between the Forest Service and the American Public Gardens Association to educate the public about invasive pests and work to develop tree species that are resistant to their negative effects. *P. lateralis* is a fungus-like pathogen that is native to Taiwan. It was introduced to the Seattle area on nursery stock in 1923. Native Port-Orford-cedar, which grow in a limited range of northwestern California and southwestern Oregon, are highly susceptible to root disease, root crown girdling and subsequent death due to this pathogen. In 1997 the Forest Service and partners began a program to breed resistant Port-Orford-cedar using seed from surviving trees in infested areas. Current work indicates that 30% or more of the seedlings from orchards survive in greenhouse or field trials that show high (often 100%) mortality of the susceptible seedlings, and the progeny of some parent trees show 50-100% survival. The Dorena Genetic Resources Center has also sent other species, including whitebark pine, to the Hoyt Arboretum to showcase the vulnerability of these species and efforts to sustain them. These pines are still too small to be planted and featured, but, for now, the new sign and cedar tree display the Forest Service's continuing work. For more information about these and other tree resistance development projects, contact Richard Sniezko, Center Geneticist, Dorena Genetic Resource Center, Cottage Grove, Oregon at rsniezko@fs.fed.us. You can also visit this Forest Service blog for additional information.

UPCOMING EVENTS

(Items beginning with * indicate a new listing or new information)

October 24-26, 2017. Park City, Utah. 2017 Forest Inventory and Analysis Science Stakeholder Meeting: Doing more with the Core. The US Forest Service, Forest Inventory and Analysis (FIA) Program is pleased to announce the 2017 FIA Science Stakeholder Meeting. The theme of the 13th biennial Science Stakeholder Meeting is Doing More with the Core, emphasizing innovation around how FIA analyzes, augments, and delivers information derived from its central data collection operations. The Symposium brings together international forest scientists, managers, and stakeholders to share insights on a wide variety of topics, including contemporary issues, science policy, mensuration, geospatial products, and inventory methods. The first call for presentations is available. Presentation abstracts were due May 5, 2017. For

more information about the meeting including lodging, call for papers, author standards, and manuscript guidelines, visit the meeting web site.

October 24-26, 2017. Knoxville, TN. Oak Symposium: Sustaining Oak Forests in the 21st Century through Science-based Management. This symposium is the third in a series that began in 1992 and continued in 2002. The purpose of the symposium is technology transfer of state-of-the-art management and research for sustainability of oaks in the Central Hardwood Region. Topic to be covered by invited speakers are prescribed fire, silviculture, economic markets, forest health, and climate change of upland oak forests. There will be a poster session (abstracts were accepted until July 15, 2017), and a field tour to showcase collaborative research among the University of Tennessee (UT) Forest Resources Research and Education Center, the UT Tree Improvement Program, and the USDA Forest Service Southern Research Station. For complete information about the symposium including lodging and registration, visit the conference website.

October 24-26, 2017. Anchorage, AK. SAVE THE DATE! 2017 Alaska Invasive Species Workshop. Sponsored by Alaska's Committee for Noxious and Invasive Pests Management (CNIPM) and the University of Alaska Fairbanks Cooperative Extension Service. For more information about the meeting as it becomes available, visit the Alaska invasives web site. The organizers of this workshop are always open to talks about the detection and management of invasives outside of Alaska. Please contact Tricia Wurtz (U.S. Forest Service, Region 10) at twurtz@fs.fed.us.

November 15-19, 2017. Albuquerque, New Mexico. The 2017 Society of American Foresters National Convention. For complete information about the convention as it becomes available, visit the convention web site.

*August 5-10, 2018. Mt. Sterling, OH. SAVE THE DATE! The 6th International Workshop of the Genetics of Host-Parasite Interactions in Forestry. The workshop is titled *Tree Resistance to Insects & Diseases: Putting Promise into Practice*. For more information contact the workshop web site. Because the size will be limited to 110 participants, for planning purposes please contact Richard Sniezko (rsniezko@fs.fed.us) or Jennifer Koch (jkoch@fs.fed.us) and specify if you plan to attend, may attend, or will not attend but want to be on the Tree Resistance mailing list. Sending this email is not a commitment to attend the meeting.

UPCOMING WEBINARS

(Items beginning with * indicate a new listing or new information)

*Learn at Lunch Live Webinars: (Sponsored by the Utah State University Forestry Extension) Past webinars are available for viewing at the following website http://forestry.usu.edu/videos-conferences-webinars/webinars/webinars

*Computer Models: Getting More Out Than You Put In. (USDA Natural Resources Conservation Service (NRCS) – Science and Technology, National Technology Support Centers) Speakers: Dan Moore (Hydrologic Engineer,

USDA NRCS National Water Quality and Quantity Team, Portland, OR) and Harbans Lal (Environmental Engineer, USDA NRCS National Water Quality and Quantity Team, Portland, OR). Models are more ubiquitous than often realized. The cliché, all models are wrong, but some are useful will be examined by considering some fundamental skills all model users should possess. These include knowing what questions the model is capable of answering (and to what precision), choosing a model no more sophisticated than necessary, weighing the effect of input data of insufficient quantity or quality, and knowing enough about what is going on in the "black box" to not misunderstand model results. This webinar will shed light on the roles of the model developer, the user who applies the model, and the decision maker who depends upon model output. Better outcomes can be expected from a more enlightened understanding of each of these roles. The usefulness of the computer model is a direct reflection of how humans perform these roles. The presenters will also discuss techniques of model building, output analysis, trouble-shooting, and sensitivity analysis, with comparison and contrast of some existing NRCS models, such as RSET for conservation planning, the WQIag for assessing conservation practices, WinTR-20 and HecRAS for hydraulics and hydrology, RUSLE for soil erosion, and SWAT for continuous simulation of watershed water quality parameters. No pre-registration is required! CEU available: American Forage and Grassland Council – 1 hour CFGP Credit; Certified Crop Advisors – 1 hour CCA - SW Credit; Conservation Planner – 1 hour Conservation Planning Credit; Society of American Foresters – 1 hour Category 1 Credit; State Professional Engineer – 1 hour State Specific Approval Credit; and Society for Range Management – 1 hour SRM Credit. CEU applied for: New York Logger Training - .25 hour NYLT TLC Credit. This webinar will be conducted at **2:00 p.m. (EDT) on August 16, 2017**. To access this free webinar, visit the webinar information site for more details. Plan to join the webinar 15 minutes early.

*The Use of the National Hierarchical Framework of Ecological Units for Seed Zone Demarcation. (Sponsored by Eastern Seed Zone Forum) Speaker: Dr. Greg Nowacki (Regional Ecologist, Acting Soil Program Leader, USDA Forest Service). The sixth in the Eastern Seed Zone Forum's online lecture and discussion series aimed at providing both information about the creation of seed zones in general and a forum in which professionals, experts, and interested parties discuss the possibility of drafting seed zone guidelines for the eastern United States. In this webinar, Dr. Greg Nowacki will deliver a presentation on how to use and understand ecological subdivisions in relation to the development of seed zones. No pre-registration is required! CEU available: Society of American Foresters - 1 hour Category 1 Credit. This webinar will be conducted at **11:00 a.m. (EDT)** on **August 23, 2017.** To access this free webinar, visit the webinar information site for more details. Plan to join the webinar 15 minutes early.

*Privet Biology and Management in Southeastern Forests. (Sponsored by Southern Regional Extension Forestry) Speaker: Dr. Nancy Loewenstein (Alabama Cooperative Extension System, Auburn University). Chinese and Japanese privet (*Ligustrum* spp.) are now prevalent across much of the

southeastern U.S. Once a prized landscape shrub, privet has become extremely common in many wooded areas, impacting wildlife, native vegetation, and biodiversity. Privet management is essential when reforesting harvested areas. This webinar will discuss different species of privet, and their biology and ecology. Different management tactics will be covered, including those for small and large privet-infested areas. No pre-registration is required! CEU available: Georgia Master Timber Harvester – 1 hour CLE – Environment Credit; Mississippi Professional Logging Manager – 1 hour Other Credit; Texas Pro Logger Program – 1 hour Other Credit. CEU applied for: New York Logger Training – .25 hour NYLT TLC Credit; Society of American Foresters - 1 hour Category 1 Credit. This webinar will be conducted at **1:00 p.m. (EDT)** on **August 31, 2017.** To access this free webinar, visit the webinar information site for more details. Plan to join the webinar 15 minutes early.

The Sustainable Forest Roundtable offers periodic webinars. For information about accessing past and future webinars, please visit the Webinar Portal for Sustainable Forests.

*Webinars offered by the U.S Forest Service Geospatial Technology and Applications Center (GTAC) include three varieties. The lightning talks (**Lightning Talk**) are very short presentations that will last approximately 15-30 minutes; they will focus on specific geoprocessing tasks and are designed to provide concise and useful information in a very efficient manner. The Awareness Sessions (**Awareness**) are designed to build your knowledge base on the particular topic and enable you to further explore the technology with realistic expectations. The Technical Training Webcasts (**Technical**) are designed to provide you with the technical skills and tools to complete geospatial tasks. **GIS** listed after presentation type indicates GIS training. **RM** listed after the presentation type indicates remote sensing training. **Note: If you don't have access to the Forest Service Intranet, the registration links will not work. Please email Brenna Schwert (bmschwert@fs.fed.us) directly to make accommodations.**

- **ArcGIS 10.3 Cartographic Tools** (**Technical - GIS**) Participants will learn how to work with various cartographic related properties in ArcGIS. The course covers how to set Layer and Data Frame properties, work with Layer files, assign classification symbology, work with labeling and annotation, and create a final map product. **10:00 am – 4:00 pm (Mountain Time) on August 8, 2017.**
- **ArcGIS 10.3 Editing** (**Technical - GIS**) This class demonstrates editing environment in ArcGIS Desktop 10.3. You will be exposed to the new editing environment. The course covers editing attribute data, performing spatial edits, and creating new data (digitizing). The hands on exercises teach basic editing functionality. **10:00 am – 4:00 pm (Mountain Time) on August 17, 2017.**
- **Introduction to ArcGIS Online** (**Technical - GIS**) **Forest Service Only** **Note: This is not an introductory course for ArcGIS Desktop. If you are interested in an introductory training in ArcGIS, please see our ArcGIS 10.3 Quick Start course. Participants will learn how to create simple web maps, create and manage groups, create a Story Map Journal web app, and learn how to work with ArcGIS Collector. This course also covers how to

administer ArcGIS Online and how roles and privileges relate. Included in the course is an optional lesson on further exploring Story Maps by creating a Tour App. **10:00 am – 4:00 pm (Mountain Time) on August 22, 2017.**

- **ArcGIS 10.3 Working with Tables** (**Technical - GIS**) Participants will learn how to work with tabular information in ArcGIS. The course covers how to use different commands and functions within tables, query attribute data, and join and relate tables. Suggested Background: The prerequisites for this class are the Quick Start course or basic GIS skills (Participants must be open projects, load data, understand Data Frame and Layer properties, and be able manage GIS data in ArcCatalog). **10:00 am – 4:00 pm (Mountain Time) on August 29, 2017.**

- **Introduction to Forest Service Geospatial Resources** (**Awareness - GIS**) **Forest Service Only** NEW! This course is for people who are new to the Forest Service or new to GIS and need to learn about the geospatial data, protocols, and platforms available in the Forest Service. PLEASE NOTE: This course will not teach you how to use specific GIS software. If you are new to GIS, we recommend you take the GSTC ArcGIS 10.3 Quick Start class, or the Introduction to ArcGIS Online course. **10:00 am – 12:00 pm (Mountain Time) on August 30, 2017.**

- **ArcGIS 10.3 Quick Start** (**Technical - GIS**) Participants will learn how to get started using ArcGIS Desktop's primary applications, ArcMap and ArcCatalog. The course covers fundamental GIS concepts and basic functionality to view and manipulate display properties. The hands on exercises teach basic viewing functionality and GIS data types and their properties. **10:00 am – 4:00 pm (Mountain Time) on September 6-7, 2017.**

- **ArcGIS 10.3 - Spatial Statistics** (**Technical - GIS**) Participants will learn the basics of Spatial Statistics and ways in which you can explore spatial data using the Spatial Statistics toolset. This course covers measuring the distribution and relationship of spatial features and any significant patterns that may exists. Participants will also learn how to analyze patterns in spatial data and identify locations of statistically significant spatial clusters and/or dispersion. **10:00 am – 4:00 pm (Mountain Time) on September 12, 2017.**

- **ArcGIS 10.3 - Editing** (**Technical - GIS**) This class demonstrates editing environment in ArcGIS Desktop 10.3. You will be exposed to the new editing environment. The course covers editing attribute data, performing spatial edits, and creating new data (digitizing). The hands on exercises teach basic editing functionality. **10:00 am – 4:00 pm (Mountain Time) on September 13, 2017.**

- **ArcGIS 10.3 - Spatial Analyst** (**Technical - GIS**) ArcGIS Spatial Analyst provides a broad range of powerful spatial modeling and analysis capabilities. You can create, query, map, and analyze cell-based raster data; perform integrated raster/vector analysis; derive new information from existing data; query information across multiple data layers; and fully integrate cell-based raster data with traditional vector data sources. **10:00 am – 4:00 pm (Mountain Time) on September 14, 2017**

- **ArcGIS 10.3 - Working with Tables** (**Technical - GIS**) Participants will learn how to work with tabular information in ArcGIS. The course covers how to use different commands and functions within tables, query attribute data, and join and relate tables. Suggested Background: The prerequisites for this class are the Quick Start course or basic GIS skills (Participants must be open projects, load data, understand Data Frame and Layer properties, and be

able manage GIS data in ArcCatalog). **10:00 am – 4:00 pm (Mountain Time) on September 19, 2017**

- **ArcGIS 10.3 - Geoprocessing** (**Technical - GIS**) Do MORE with your data! The Analysis toolbox puts POWERFUL tools right at your fingertips. This course covers 19 of the 21 tools in the Analysis toolbox found right in ArcMap. Whenever you need to solve a spatial or statistical problem, look to the Analysis toolbox. **10:00 am – 4:00 pm (Mountain Time) on September 20, 2017.**

- **ArcGIS 10.3 - Using Citrix for GIS Projects** (**Technical - GIS**) **Forest Service Only** Participants will learn how to use GIS data to analyze a vegetation project proposal and prepare information for a NEPA analysis. Students will use the Forest Service Data Center and Citrix programs that allow for inter-discipline collaboration, and provides a central repository for all the project data. This course covers the process of finding, creating, managing, and analyzing GIS data in order to prepare outputs for a collaborative Forest Service Project. **10:00 am – 4:00 pm (Mountain Time) on September 21, 2017.**

- **ArcGIS 10.3 Thematic Data 1 – Development and Classification** (**Technical - GIS**) Learn the fundamentals of raster data and imagery including data extraction and exploration techniques and how to perform image classification using the ArcGIS Spatial Analyst extension and the Image Classification toolbar. Students will become familiar with - remote sensing principles such as: Raster types, their resolutions and essential properties; Concepts of multi band imagery including the display and interpretation of Landsat 7 & Landsat 8 Imagery; Data extraction and exploration techniques such as classifications and reclassifications to create valuable thematic datasets for use in project analysis. **10:00 am – 4:00 pm (Mountain Time) on September 26, 2017.**

- **ArcGIS 10.3 Thematic Data ll – Analysis and Modeling** (**Technical - GIS**) Participants will learn how to use GIS data to analyze a vegetation project proposal and prepare information for a NEPA analysis. Students will use the Forest Service Data Center and Citrix programs that allow for inter-discipline collaboration, and provides a central repository for all the project data. This course covers the process of finding, creating, managing, and analyzing GIS data in order to prepare outputs for NEPA specialist reports. **10:00 am – 4:00 pm (Mountain Time) on September 27, 2017.**

- **Introduction to ArcGIS Online** (**Technical - GIS**) **Forest Service Only** This course covers how the Forest Service administers ArcGIS Online using roles and privileges, and how we leverage Forest Service data in this WebGIS platform. Participants will learn how to use AGOL to create simple web maps, create and manage groups, create a Story Map Journal web app, and learn how to work with ArcGIS Collector. Included in the course is an optional lesson on further exploring Story Maps by creating a Tour App. **Note: This is not an introductory course for ArcGIS Desktop. If you are interested in an introductory training in ArcGIS, please see our ArcGIS 10.3 Quick Start course. **10:00 am – 4:00 pm (Mountain Time) on September 28, 2017.**

JOB OPPORTUNITIES

The Louisiana Tech University, School of Agricultural Sciences and Forestry is currently advertising an assistant/associate professor position in forest health and ecology. This is a 9-month, tenure track position with 60% teaching, 35% research, and 5% service. Summer salary may be available. Qualifications: A Ph.D. in Forest Health or related discipline and at least one degree in forestry is required. Applicant must have a significant interest, experience, and demonstrated expertise in forest health and ecology, particularly forest entomology, plant pathology, and at least one other aspect of forest ecology. A strong commitment to undergraduate education, teaching, and interacting with students is a requisite for the position. Experience in teaching and/or research using GIS is preferred. A demonstrated ability to conduct research (e.g., design studies, analyze and interpret data, publish manuscripts in professional journals, transfer information to users) is required. A Ph.D. is required, however applicants with considerable progress toward completion of their doctoral degree will be considered. Candidate must complete the terminal degree within one year of their initial appointment. The candidate selected for this position must be able to meet eligibility requirements for work in the United States at the time the appointment is scheduled to begin and continue working legally throughout the term of employment. Excellent written and interpersonal communication skills are required. Responsibilities: The successful candidate will be expected to teach, conduct research, and assist in the School's overall mission. Duties will include (1) a major commitment to undergraduate instruction in courses in forest health, ecology, and/or other areas of expertise as needed; (2) developing a focused research program; (3) seeking and securing external funding; and (4) participation in outreach activities. The successful applicant will be expected to build an externally funded research program and work with clients in the region as well as in cooperation with Unit and College faculty. The successful candidate will help recruit and advise undergraduate students, direct graduate students, serve on School, College, and University committees, and participate in professional and/or scientific societies. For more information about the University, visit the University website. Application Procedures: Email a cover letter summarizing teaching and research interests and philosophy, a detailed curriculum vitae, copies of undergraduate and graduate transcripts from all degrees, and names, addresses, telephone numbers, and email addresses of at least three references to: Dr. Joshua Adams, Chairperson, Forest Health/Ecology Search Committee, School of Agricultural Sciences and Forestry, Louisiana Tech University, P. O. Box 10138, Ruston, LA 71272; Voice (318) 257-4457; FAX (318) 257-5061; Email: adamsj@latech.edu. Deadline: Review of applications will begin immediately and continue until the position is filled. Candidate's anticipated starting date is December 1, 2017. *Louisiana Tech University is a member of the University of Louisiana System and an Affirmative Action and Equal Opportunity employer. Women and minorities are encouraged to apply.*

PUBLICATIONS OF INTEREST

1. **Sniezko, R.A.; Koch, J.** 2017. Breeding trees resistant to insects and diseases: putting theory into application. Biological Invasions. doi:10.1007/s10530-017-1482-5.

FOR MORE FHM INFORMATION

Visit the **FHM homepage** and the **Forest Health Portal** or access both via the **USDA Forest Service homepage**