



UNIVERSITY *of* WASHINGTON

School of Forest Resources

RESEARCH NEWSLETTER ISSUE TWO, VOLUME 3

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NEWS AND INFORMATION

New Facilities and Administration rates:

Grants Information Memorandum 13 Attachment A has been updated; other administrative and institutional systems, such as FAS and SAGE, are in the process of being updated. See <http://www.washington.edu/research/osp/gim/gim13a.html>. OSP still has not decided how cost share contributions that were based on the 56% rate will be managed, but it appears it will only be addressed going forward (so supplements and extensions will be adjusted from the date of the new agreement, but history will not be written).

Change In Grant Submission Deadlines

Here is the link to the updated GIM 19 (The effective date is actually January 3, 2011):
<http://www.washington.edu/research/osp/gim/gim19.html>.

Please remember that non-competitive renewals and supplements will be reviewed and submitted within 5 days of submission of a complete package to OSP. This will be true even if the sponsor announces a deadline sooner than the 5 days, so we will need to be aware of that when doing the end-of-fiscal-year flurry of proposals.

SAGE Budget upgrades

Some of you have used the budget module in SAGE. This is a tool, developed by the same people who brought us SAGE, that has the potential to really transform how we manage budgets on proposals. It has the capacity to develop a proposal budget complete with sup-to-the-minute salary and benefit information for named individuals (faculty or staff) or classes of people (by title or job class code), because it is linked to the HEPPS data base (reducing the amount of time required in shuttling back and forth between databases). In addition, inflation rates can be entered for future periods, and can be adjusted on a year-by-year basis. Budget 2.2 is due to be rolled out in January – improvements include features that will give users the opportunity to set targets and designate variables to reach the target, and enter inflation factors for all elements, among other things. This budget will reside on the web, so it is accessible by a group of users and may be helpful for a wide range of applications other than grant preparation – changes made by any individual will be visible by the others instantly.

Anyone who has ASTRA access to SAGE can use it. Sign on to Sage at <http://www.sage.washington.edu/>; just below the sign in button, you will see a link to the SAGE training module. There, you can play around with a budget and experiment with the various features. Unfortunately, the training budgets cannot be linked to actual SAGE proposals, as the regular budgets can be. To access the regular module (which can be linked and shared with anyone with SAGE access by adding access), toggle the tab at the top of the first page in SAGE (on the green bar, between SAGE and EGC1 FORMS). Once you have set up a budget, include the number on the SFR Grants Cover Sheet (<http://www.cfr.washington.edu/sfrTools/forms/SFRProposalCoverSheet.pdf>), or email it to whomever you want to work on the budget. If you are working with multiple budgets or have sub-budgets, they can be created on the original, or linked afterward.

OPPORTUNITIES

National Science Foundation

[Major Research Instrumentation Program](#) Deadline: January 27, 2011

The Major Research Instrumentation (MRI) program serves to increase access to shared scientific and engineering instruments for research and research training in our nation's institutions of higher education, museums, science centers, and not-for-profit organizations. This program especially seeks to improve the quality and expand the scope of research and research training in science and engineering by providing shared instrumentation that fosters

the integration of research and education in research-intensive learning environments. Development and acquisition of research instrumentation for shared inter- and/or intra-organizational use are encouraged, as are development efforts that leverage the strengths of private sector partners to build instrument-development capacity at academic institutions. To accomplish these goals, the MRI program assists with the acquisition or development of shared research instrumentation that is, in general, too costly and/or not appropriate for support through other National Science Foundation (NSF) programs. Instrument acquisition or development proposals that request funds from NSF in the range \$100,000 to \$4 million will be accepted from all eligible organizations. Proposals that request funds from NSF less than \$100,000 will also be accepted from all eligible organizations for the disciplines of mathematics or social, behavioral, and economic sciences and from non-Ph.D.-granting institutions of higher education for all NSF-supported disciplines. The estimated number of awards is 175. The anticipated total funding amount is \$90 million.

Program Name: Specialty Crop Research Initiative

Program URL: http://www.nifa.usda.gov/funding/rfas/specialty_crop.html

Deadline: January 31, 2011

Program Description: The Specialty Crop Research Initiative (SCRI) was established to solve critical industry issues through research and extension activities. SCRI will give priority to projects that are multistate, multi-institutional, or transdisciplinary; and include explicit mechanisms to communicate results to producers and the public. Projects must address at least one of five focus areas: (1) research in plant breeding, genetics, and genomics to improve crop characteristics; (2) efforts to identify and address threats from pests and diseases, including threats to specialty crop pollinators; (3) efforts to improve production efficiency, productivity, and profitability over the long term; (4) new innovations and technology, including improved mechanization and technologies that delay or inhibit ripening; and (5) methods to prevent, detect, monitor, control, and respond to potential food safety hazards in the production and processing of specialty crops. There is no commitment by the United States Department of Agriculture to fund any particular application or to make a specific number of awards. Approximately \$47.3 million will be available to fund SCRI applications in fiscal year 2011.

Federal-State Marketing Improvement Program

url: <http://www.ams.usda.gov/AMSV1.0/FSMIP>

Deadline: February 17, 2011

FSMIP provides matching funds on a competitive basis to assist eligible entities explore new market opportunities for U.S. food and agricultural products and to encourage research and innovation aimed at improving the efficiency and performance of the U.S. marketing system. FSMIP funds a wide range of applied research projects that address barriers, challenges, and opportunities in marketing, transporting, and distributing U.S. food and agricultural products domestically and internationally. Proposals may address issues throughout the marketing chain including direct, wholesale, and retail. Proposals may involve small, medium or large-scale agricultural entities but should potentially benefit multiple producers or agribusinesses. Proposals that address issues of importance at the State, multi-State, or national level are

appropriate for FSMIP. Proprietary proposals that benefit one business or individual will not be considered for funding. FSMIP also seeks unique and innovative proposals on a smaller scale that may serve as pilot projects or case studies useful as models for other States. Of particular interest are proposals that reflect a collaborative approach between the States, academia, the farm sector and other appropriate entities and stakeholders. FSMIP funds may be awarded for projects of 1 to 2 years' duration.

AWARDS

Application Number: A62323

Faculty Member: Ivan Eastin

Role: Principal Investigator

Title: **Branding Tribal Timber**

Agency: Intertribal Timber Council

Period: 12/21/2009 - 3/31/2011

Amount: \$7,260

Supplement and Extension

A state of emergency exists in many forest-dependent Indian communities. Depressed markets for forest products have resulted in the loss of jobs, revenues to support tribal government, and threaten the health of the forests themselves, jeopardizing the water, fish, wildlife, foods, and medicines that are vital to sustain tribal lifeways. The timber crisis adds to the suffering being experienced in Indian Country during the current economic downturn. Nationwide, tribal economies have a 50% average unemployment rate (BIA Indian Labor Statistics) and tribes with gaming operations have experienced a 20% reduction in revenues.

The objectives of this research project include:

- (1) Identify the tribes interested in participating in a tribal branding program, and develop an inventory of available products (logs, manufactured products, non-timber forest products), processing capabilities, species, locations, etc.
- (2) Determine the level of market interest in Indian forest products, identify opportunities to distinguish Indian forest products in the marketplace through branding and marketing, describe the features that could add value to tribal wood products, and quantify the magnitude of any potential market premiums.
- (3) Identify requirements for branding tribal wood products (e.g., product standards & quality assurance controls, reporting), opportunities for regional branding, and alternatives for defraying costs (e.g., use of trademarks, labeling fees).
- (4) Identify and evaluate alternatives and opportunities for marketing Indian forest products (e.g., individual tribal programs, regional multi-tribal consortia, internet-based matching of buyers and suppliers, fee-based brokerage & sales services), public awareness campaigns to increase market presence and shares, niche markets.

- (5) Identify and evaluate alternatives for certification (forest and finished products) for Indian forest products, (chain of custody, sustainability for domestic and foreign markets).
- (6) Identify other opportunities to increase income from Indian forest products and management.

Proposals

Application Number: A62968

Faculty Member: Jonathan Bakker

Role: Principal Investigator

Title: **Prairie Habitat Restoration for Endangered Species**

Agency: USDI Fish and Wildlife Service

Period: 7/1/2011 - 6/30/2012

Amount: \$80,000

Competing Supplement

The prairie ecosystems of Puget Sound contain a disproportionate number of federal and state listed species. Habitat degradation and destruction have been identified in recovery documents and by biologists as key factors contributing to the rarity of these species. These threats are ubiquitous, of high magnitude, and ongoing (imminent). There is not enough extant habitat of reasonable quality to support these species, so restoration of highly degraded sites such as abandoned agricultural fields is urgently needed. Furthermore, restoration activities need to occur at ecologically meaningful scales to provide adequate habitat to support viable new populations of these species. This project addresses these recovery needs by adaptively improving our methods for restoring highly degraded sites. By doing so, it will result in habitats that can support viable populations of these species. Restoring this habitat will also benefit other species, common and rare, within prairie ecosystems. Finally, this project specifically addresses the recovery of golden paintbrush by establishing two new populations of this species. We have initiated experimental treatments (combinations of site preparation and seeding) at four sites, two in South Puget Sound and two in North Puget Sound. Multiple research arrays are being established at each site, as are scaled-up plots that are 10-100x larger than the experimental plots. Year 4 activities will include seeding the scaled-up plots, monitoring all plots at all sites, data analysis, and outreach.

Application Number: A63114

Faculty Member: Jonathan Bakker

Role: Principal Investigator

Faculty Member: Matt Davies

Role: Co-Investigator

Title: **Shrub and grass fuels in the sagebrush steppe: integrating fuel structure and community dynamics**

Agency: USDI Bureau of Land Management

Period: 1/1/2012 - 12/31/2014

Faculty Member: Ernesto Alvarado

Role: Co-Investigator

Amount: \$343,409

New

Sagebrush steppe ecosystems in the western United States are among the most imperiled in the United States. Fire is an important disturbance in this system. Invasive species may alter fuel structure, including fuel quantity, continuity, and spatial arrangement. Restoration and management actions can further alter fuel structure. The overall goal of this project is to develop and validate models of shrub and grass fuels in the sagebrush steppe as a function of edaphic characteristics, disturbance history, and plant community composition. These models will be used to examine the spatial and temporal dynamics of fuels, and to explicitly link changing fuel structure to community dynamics. Products will include the development of predictive models relating fuels to commonly collected plant community data, the application of state-and-transition models to fuels and communities, and the development of models describing the fuelbeds of communities within the sagebrush steppe. By developing methods and models that directly relate data normally collected as part of studies of plant community ecology we aim to expand the utility of such datasets and allow existing studies of vegetation patterns to be related more strongly to fire management issues.

Application Number: A63137

Faculty Member: Jonathan Bakker

Role: Principal Investigator

Title: **DISSERTATION RESEARCH: Phenotypic Plasticity: a Mechanism for Success?**

Agency: National Science Foundation

Period: 6/1/2011 - 5/31/2013

Amount: \$14,200

New

What strategies do plants employ in order to exploit novel habitats? Why do some species excel at competition and become invasive? These are some of the most compelling questions in invasion biology. Although a number of theories have been proposed, ranging from escape from natural enemies to novel weapons, few theories have been able to predict which species will become invasive. This research focuses on phenotypic plasticity, the ability of an organism to change its morphology or physiology in response to the environment, in native and exotic plant species. A number of studies have looked at phenotypic plasticity of exotic species, but many fail to make meaningful ecological comparisons between exotic invaders and their closely related native counterparts.

The investigation focuses on plasticity in traits related to nitrogen (N) acquisition and competition in plants that inhabit Pacific Northwest (PNW) prairies. N-deposition and enrichment are projected to increase in the future, and a large body of work indicates that elevated soil N promotes plant invasion. Analysis will be undertaken of plant responses across a range of soil N levels commonly found in the PNW, ranging from unenriched to levels commonly seen in agricultural settings, followed by measurement of plant- and leaf-level responses to these conditions, with a particular focus on traits that confer a competitive advantage (tissue allocation, height, etc.) We propose a greenhouse experiment

wherein a very-plastic exotic species and a less-plastic native species are subjected to low and high resources levels, and low and high competition, to test whether or not exotic plants are better able to deal with both low-stress, high resource environments and high-stress, low-resource environments when compared to closely related native species, and whether these exotic species are able to use plasticity to switch from a highly competitive strategy to a stress tolerating strategy. If phenotypic plasticity is shown to improve competitive ability for soil N, it could be used to predict invasive ability.

Application Number: A62991

Faculty Member: Christian Grue

Faculty Member: John Perez-Garcia

Role: Principal Investigator

Role: Co-Investigator

Title: **Forest Biomass Supply Assessment**

Agency: WA Department of Natural Resources

Period: 11/1/2010 - 9/30/2011

Amount: \$470,420

New

Our work plan strategy consists of (i) building upon the existing Washington State Forestland Database to provide a flexible platform for modeling and supply assessment, (ii) utilizing the modeling and assessment expertise at the University of Washington and (iii) capitalizing on TSS Consultant's capacity to provide technological and economic knowledge of biomass resource collection and utilization alternatives.

Application Number: A62687

Faculty Member: Soo-Hyung Kim

Role: Co-Investigator

Title: **BREAD: Pest Pressure and Food Security Under Climate Change**

Agency: National Science Foundation

Period: 6/1/2011 - 5/31/2014

Amount: \$982,087

New

A billion people currently lack access to sufficient food and over 35% of the calories consumed by these people come from rice and maize. Physiological crop models predict that climate change poses a much larger threat for crops in tropical regions than in temperate regions, but these models do not account for changes in insect pest pressure. Currently insect pests reduce yields by more than 10%, and generic models linking physiology, demography and climate suggest substantial increases in insect pest pressure in temperate regions but little change in tropical regions. In this work, we critically evaluate predictions from these generic models by examining population growth and consumption rates as a function of temperature for stem borers on maize and rice. We will work in Kenya and NE China, which have large

differences in predicted changes in pest pressure, given our understanding of global variation in insect tolerance to climate change.

Application Number: A62935

Faculty Member: Clare Ryan

Role: Principal Investigator

Faculty Member: Christian Torgersen

Role: Co-Investigator

Faculty Member: L. Monika Moskal

Role: Co-Investigator

Faculty Member: Kathy Wolf

Role: Co-Investigator

Title: CNH: Integrating Social and Ecological Footprints of Stewardship: A Model and Assessment of the Benefits

Agency: National Science Foundation

Period: 10/1/2011 - 12/30/2014

Amount: \$798,901

Resubmission

This research will address the question: How do we measure the contributions of stewardship activities toward ecosystem recovery and health? Scientific and popular publications proclaim numerous landscape-scale environmental concerns and challenges, particularly in urbanized areas. Large estuarine ecosystems such as the Puget Sound, Everglades, and Chesapeake Bay are severely degraded and are thus the focus of significant restoration and recovery programs. The influences of human residents in these ecosystems are often described and analyzed as separate, negative impacts. However, solutions and remedies for degraded ecological systems must involve and be integrated with human systems and activities. Little is known about actual or potential contributions of environmental stewardship for ecosystem recovery. In the face of limited and declining financial and human resources, we must understand how stewardship activities contribute to ecological recovery goals. The proposed research will develop knowledge and a conceptual framework for examining how human presence in ecosystems can have positive consequences. We will 1) test comprehensive procedures for stewardship census and assessment across a landscape scale; 2) provide knowledge about the types and extent of ecological and social co-benefits generated by stewardship in local communities; 3) develop a model for explicitly assessing the contributions of stewardship activities toward ecological recovery and management goals; and 4) test the model with several example watersheds in the Puget Sound region. Though the science will be conducted in Puget Sound region watersheds, the research will provide an exportable model that can be used by resource scientists and managers who seek to evaluate the influence of stewardship activities on the ecosystem conditions in urbanized ecosystems.