



UNIVERSITY of WASHINGTON

School of Forest Resources

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NEWS ALERT – No more waivers!

Last November, the Office of Research announced that changes in submission deadlines for proposals. Effective January 22, 2009, Grants Information Memorandum 19 (<http://www.washington.edu/research/osp/gim/gim19.html>) was implemented. GIM 19 sets the deadlines for all submissions that have the potential to bring research funding into the University, including subcontract and collaborations that are routed through other institutions. The terms are this: no less than 10 business days prior to the sponsor deadline, the eGC1 and **final** versions of business-related elements of the proposal (budget, cost-share commitments, identification of required resources, etc.) are required. No less than 5 business days prior to the deadline the final application in ready-to-submit form, must be received in OSP. Any application received later than 12:00 noon 2 business days prior to the deadline will be returned to the PI and department contact.

When implemented, OSP made provisions to request waivers and has been fairly liberal in allowing researchers and units to submit on a more-relaxed schedule than that. However, now that a full year has passed, we are being held to the standards set out in GIM 19 – there will be **no waivers** issued for anything other than a call of proposals that was issued on such short notice that meeting the deadlines is unreasonable.

Please keep in mind that there are many researchers in Forest Resources, and many of them are working on the same submission deadlines. Now that OSP will no longer be flexible, we can't either. Beginning immediately, please begin working with the Forest Resources Grant Office on **any** grant, contract, joint venture agreement proposals, requests for extension or supplement, etc, **at least 3 weeks prior** to the sponsor deadline.

NEW COVER PAGE

After some missteps, the revised School of Forest Resources grants cover page is ready for use, thanks to our new Data Manager, David Campbell. You will find it on the SFR Tool page, at <http://www.cfr.washington.edu/sfrTools/forms/index.shtml>. This is a very useful summary sheet that will provide important compliance documentation for the bureaucrats, as well as making the grant preparer's job easier and more accurate. Please submit this form as far in advance of your submission as possible (and no later than 3 weeks before the proposal deadline; see paragraph above).

NSF TRAINING REQUIREMENT

All students and postdoc researchers supported by the National Science Foundation must undergo Responsible Conduct of Research Training as part of the America Competes Act. OSP has put together a training page – <http://www.washington.edu/research/main.php?page=rcr>. As of January 4th, we are required to provide training and will also be required to verify “that undergraduate students, graduate students, and postdoctoral researchers supported by NSF to conduct research have received RCR training.” More news later on how SFR will verify.

OPPORTUNITIES

Strategic Environmental Research and Development Program January 7, 2010 SERDP is seeking to fund environmental research and development proposals. SERDP is DoD's environmental science and technology program, planned and executed in partnership with DOE and EPA. The Program invests across the broad spectrum of basic and applied research, as well as exploratory development. SERDP pursues solutions to DoD's most intractable environmental problems. Advances in the understanding and management of DoD's resources support the long-term sustainability of training and testing ranges and facilities. Innovative environmental technologies significantly reduce current and future environmental liabilities.

Proposals responding to focused Statements of Need (SON) in the following areas are requested:

- Environmental Restoration
- Munitions Management
- Sustainable Infrastructure
- Weapons Systems and Platforms

Proposals responding to the Fiscal Year (FY) 2011 SONs will be selected through a competitive process. Separate solicitations are available to federal and non-federal proposers. The SONs and detailed instructions for federal and private sector proposers are available on the SERDP web site at instructions for federal and private sector proposers are available on the SERDP web site. The Core SERDP Solicitation provides funding in varying amounts for multi-year projects. For the Core solicitation, pre-proposals from the non-Federal sector are due by **Thursday, January 7, 2010**. SERDP also will be funding environmental research and development through the **SERDP Exploratory Development (SEED) Solicitation**. The SEED Solicitation is designed to provide a limited amount of funding (not to exceed \$150,000) for projects up to one year in duration to investigate innovative approaches that entail high technical risk and/or require supporting data to provide risk reduction or proof of concept. All SEED proposal are due by Thursday, March 11, 2010.

EPA Puget Sound Watershed Management Assistance Grants January 24, 2010

EPA is issuing a competitive grant announcement, soliciting proposals under Puget Sound Watershed Management Assistance Program. The program will assist local and tribal governments as they implement the Puget Sound Partnership's Action Agenda, support protection and restoration of high value, aquatic resources, and enhance local programs in areas threatened by growth. Successful proposals are expected to achieve measurable outcomes through protection and recovery of water quality and aquatic resources across watersheds. Entities of local governments, special purpose districts and federally recognized Indian tribes in the greater Puget Sound Basin are eligible to apply. State agencies, institutions of higher learning and non-governmental entities are not eligible to directly receive grant awards under this announcement; however, EPA encourages tribes and local governments to solicit their participation as local collaborators.

January 30, 2010 (Pre-proposal) Allen Foundation

The Allen Foundation has announced a new funding opportunity for supporting cutting-edge research in the life sciences, specifically for the application of data management and/or new technologies in life sciences. They say: "We are keenly interested in projects that are on the cusp of creating new disciplines. We encourage submissions to be creative, cutting-edge, and free thinking. Our vision is for supporting projects which are expected to take no longer than a couple years to complete on a modest budget."

The Office of Research is expecting thousands of applications to be submitted, and are recommending submitting as soon as possible, rather than wait until the Jan. 30 deadline. The preproposal stage does not require OSP approval, although full proposals will. For more information, go to:

<http://www.pgafoundations.com/TemplateMain.aspx?contentId=113>

National Institute of Food and Agriculture (NIFA) deadlines that are on the horizon:

January 14, 2010 Specialty Crop Research Initiative (SCRI) 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 trans-disciplinary; and include explicit mechanisms to communicate results to producers and the public. Projects must address at least one of five focus areas: research in plant breeding, genetics, and genomics to improve crop characteristics; efforts to identify and address threats from pests and diseases, including threats to specialty crop pollinators; efforts to improve production efficiency, productivity, and profitability over the long term; new innovations and technology, including improved mechanization and technologies that delay or inhibit ripening; and methods to prevent, detect, monitor, control, and respond to potential food safety hazards in the production and processing of specialty crops. <http://www.nifa.usda.gov/fo/specialtycropresearchinitiative.cfm?pg=5>

February 5, 2010 Higher Education Challenge Grants Projects supported by the Higher Education Challenge Grants Program will: (1) address a State, regional, national, or international educational need; (2) involve a creative or non-traditional approach toward addressing that need that can serve as a model to others; (3) encourage and facilitate better working relationships in the university science and education community, as well as between universities and the private sector, to enhance program quality and supplement available resources; and (4) result in benefits that will likely transcend the project duration and USDA support.

<http://www.nifa.usda.gov/fo/educationchallengehigheredhep.cfm>

NSF deadlines that are coming up:

Ecosystem Science January 9, 2010 Two programs are identified: Ecosystem Science Cluster and Ecosystem Studies. http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=12822&org=NSF&sel_org=NSF&from=fund

There will be another offering with a deadline of July 9, 2010.

Long Term Research in Environmental Biology (LTREB) January 9, 2010; thereafter July 9, 2010 http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=13544&org=NSF&sel_org=NSF&from=fund

Systematic Biology and Biodiversity Inventories January 9 and July 9, 2010. http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=12825&org=NSF&sel_org=NSF&from=fund

Geography and Spatial Sciences January 15, 2010 for regular research proposals; February 15, 2010 for Doctoral Dissertation

proposals. http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5410&org=NSF&sel_org=NSF&from=fund

SBE Doctoral dissertation Research Improvement Grants Varying deadlines in January & February; see http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=13453&org=NSF&sel_org=NSF&from=fund

Geomorphology and Land Use Dynamics January 16,
2010 http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=13690&org=NSF&sel_org=NSF&from=fund

Environmental Engineering March 3,
2010 http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=501029&org=NSF&sel_org=NSF&from=fund

PROPOSALS FUNDED

Application Number: A51684
PI: James Agee
Title: **Coordination of Protocol Reviews for Inventory and Monitoring Long-term Monitoring in the Pacific West Region**
Agency: National Park Service (NPS)
Period: 07/15/04 – 07/15/11
Amount: \$132,075

Supplement and Extension

Application Number: A50655
PI: Joshua Lawler
Co-PI: James A. Lutz
Title: **Scaling of climate change scenarios: Yosemite Case Study**
Agency: Nature Conservancy
Period: 06-11-2009 - 06-30-2010
Amount: \$14,060

Using Yosemite National Park as a case study, we will determine the relative effects of coarse- vs. fine-resolution climatic data on the accuracy of models of plant species distributions, and use the resulting models to compare and contrast forecasts of future species distributions under four different climatic scenarios. This case study supports the NCEAS project "Global climate change and adaptation of conservation priorities," led by Rebecca Shaw, Frank Davis, and Lee Hannah.

PROPOSALS SUBMITTED

Application Number: A54434
PI: Stanley Asah
Title: **Public Perceptions of Smoke, and Management Implications**
Agency: National Interagency Fire Center (NIFC)
Period: 09/1/2010 - 12/31/2011
Amount: \$348,532

Managers need to know how the public "sees and thinks about" smoke management actions, so as to better judge which, and whether, actions will be socially acceptable. Decisions about the location, timing, and specific parameters for prescribed fires; and priorities for initial attack, incident response, and the extent of mop-up activities for suppression fires can all benefit from precise knowledge of public perceptions. Accurate understanding of public perceptions can be used to design better communication strategies to improve social acceptability and/or compliance with smoke management actions, and consequent political support for such actions. But, misunderstandings of public perceptions often undermine efficient management when the complexity of perceptions is inadequately explored. We propose to combine both social observations of perceptions with physical data about smoke to examine how public perceptions of smoke exposure, source, and levels of active management and community preparedness for fire, influence their tolerance for smoke and the implications of these on the management of both prescribed and suppression fires. We will also analyze the interactive effects of perceptions on tolerance to provide further insights into the efficient execution of management actions. We will use focus group interviews so that the public and managers can collectively identify/define/construct the five key categories of perceptions, as mentioned in task #3 of JFSP RFA 2010: exposure, source, levels of active management and community preparedness, and tolerance for smoke. Analysis of focus group

data will highlight the meanings of these perceptions, their influences on tolerance, and implications for managing both prescribed and suppression fires. Interview results will be used to develop a questionnaire with scales measuring each key category of perception as constructed in the interviews. Results will be analyzed for reliability and validity. Statistical modeling will be used to explore key categories of perceptions, and to test hypothesized models of how perceptions influence tolerance.

Application Number: A54693
PI: David Briggs
Title: **Stand Management Coop**
Agency: Green Diamond Resource Company
Period: 1/1/2010 - 12/31/2010
Amount: \$16,869

Supplement and Extension

Application Number: A54697
PI: David Briggs
Title: **Stand Management Coop**
Agency: Hampton Resources, Inc.
Period: 1/1/2010 - 12/31/2010
Amount: \$6,668

Supplement and Extension

Application Number: A54699
PI: David Briggs
Title: **Stand Management Coop**
Agency: Longview Timberlands, LLC
Period: 1/1/2010 - 12/31/2010
Amount: \$28,496

Supplement and Extension

Application Number: A54735
PI: David Briggs
Title: **Stand Management Coop**
Agency: Port Blakely Tree Farms LP
Period: 1/1/2010 - 12/31/2010
Amount: \$13,892

Supplement and Extension

Application Number: A54650
PI: David Briggs
Title: **Stand Management Coop**
Agency: King County Department of Natural Resources and Parks
Period: 1/1/2010 - 12/31/2010
Amount: \$7,500

Supplement and Extension

Application Number: A54216
PI: Sharon Doty
Title: **Stress-Tolerant Poplar Trees for Sustainable Biofuel Production**
Agency: US-Israel Binational Science Foundation (BSF)
Period: 09/1/2010 - 08/31/2012
Amount: \$118,004

Approximately half of the cost of bioethanol production comes from the expense of growing the biomass. This cost can be reduced by growing hardy, stress-tolerant, high biomass plants on inferior land not suitable for food crops. By overexpressing an aspen (*Populus tremula*) stress associated gene, sp1, in transgenic hybrid poplar, the plants had superior desiccation tolerance

and salt tolerance. In this proposal, we aim to evaluate the spectrum of tolerance of the engineered plants and determine the suitability of feedstock for the biofuel industry.

Application Number: A54526
PI: Thomas Hinckley
Title: **McIntire-Stennis 2009-2010**
Agency: US Department of Agriculture (USDA)
Period: 10/01/2009 - 9/30/2010
Amount: \$465,719

The McIntire-Stennis Act of 1962 provides the basis for federal funding in forestry research and graduate education programs at state-certified schools of forestry in the United States. The School of Forest Resources, University of Washington, is eligible for McIntire-Stennis funding. This is a long-standing program, formerly administered by the Cooperative State Research, Education and Extension Service (CSREES); effective 10/1/2009, the program is administered through the National Institute of Food and Agriculture (NIFA). Funds are used to conduct research in areas such as: (1) ecological restoration, (2) catastrophe management, (3) valuing and trading ecological services, (4) energy conservation, biomass and bio-based materials development; and (5) ways of fostering healthy forests and a globally competitive forest resources sector. At the University of Washington research will focus on: Forest management, coarse woody debris, and soil processes, wildlife use of managed forests, modeling branch dynamics in coastal Douglas-fir and western hemlock plantations as affected by silvicultural treatments, understanding the systematics of commercial ornamental plants, and natural stand development in western coniferous forests. A proportion of the funds will be use for program administration.

Application Number: A53645
PI: Soo-hyung Kim
Co-PI: Sarah Reichard
Title: **Climate Change Monitoring Garden at the University of Washington Botanic Gardens**
Agency: Chicago Botanic Garden
Period: 11/1/2009 - 12/31/2012
Amount: \$6,360

Informal (free-choice) science education is becoming increasingly important but has been challenged to inspire interest in science, and, subsequently transform this interest into active participation in science-based initiatives. As one of the five pilot sites across the country, the University of Washington Botanic Gardens (UWBG) will partner with the Chicago Botanic Garden (CBG) in establishing a network of climate change monitoring gardens as a platform to engage citizen scientists in informal science education. The aim of climate change monitoring gardens is to provide opportunities for the general public as well as students to discover and understand how their environment, especially plant communities, is changing relative to climate, while collecting useable data that is of utmost importance to climate change researchers. Specifically, this project aims to introduce the public to the issues of global climate change by integrating exhibits, internet-based interactions, self-driven citizen-science initiatives, and informal, community-based, and youth programs. UWBG will participate in the following activities of the project: 1) establish and maintain an interpretive display garden ("climate change monitoring garden"), 2) involve UW students and local community organizations in plant phenology monitoring, 3) collect and archive plant data on a central server. Kim will lead this effort at UWBG and collaborate with researchers at CBG and other participating botanic gardens on developing proposals for further funding opportunities. Funds from CBG will be used to set up and manage the climate change monitoring garden at UWBG.

Application Number: A54503
PI: L. Monika Moskal
Co-PI: Kathleen Wolf
Title: **Forest Health and Green Jobs: Natural Resources and Social Data Analysis**
Agency: US Forest Service
Period: 1/1/2010 - 12/31/2013
Amount: \$244,210

The purpose of this agreement is to document a cooperative effort between the parties to provide data management, analytical support, and technical products and reports to support the ARRA Forest Health and Green Jobs in Puget Sound projects funding by the American Resource and Recovery Act (OTH-2619-01O). The following objectives will guide the work: (1) Provide technical advice and products regarding data management and analysis activities for three Forest Health and Green Jobs JVAs in the Puget Sound region, (2) Conduct Assessments of Forest Conditions on Select Parcels in King, Pierce, Snohomish and Thurston Counties, (3) Develop and Implement Tools to Evaluate How Forested Parklands and Natural Open Spaces Contribute to Human Health, (4) Evaluate Forest Stewardship Projects & Activities, and Participants to Expand Program Capacity and Operations and (5) Identify High Value Data Sets and Help Acquire and Store Relevant Data. Results and products: (1) Identify and Provide Data Platform and Develop Analysis Methods to Improve Forest Health and Resource Inventory, (2) Build Understanding of the Public Values of Forest Parcels in the Places Where People Live and Work, (3) Develop Forest Health

Assessment Tools, (4) Develop and Use Stewardship Assessment Tools and (5) Provide Best Management Practices Guidelines Reports.

Application Number: A54679

PI: L. Monika Moskal

Title: **Detection and Drivers of Arid Wetland Heterogeneity**

Agency: National Aeronautics and Space Administration (NASA)

Period: 1/1/2011 - 12/31/2013

Amount: <preapplication>

Wetlands are valuable ecosystems that benefit society. They allow for gradual recharge of groundwater, provide critical habitat for plants, fish and wildlife, control erosion, mitigate water pollution, provide food and recreational bases for people and contribute to healthy water cycles and lake levels [1]. However, throughout history wetlands have been converted to other land. Remote sensing is commonly used to detect and monitor wetlands. Traditionally, research focused on remote sensing of wetlands has used a pixel-based approach. This approach uses the spectral signatures of an object to classify each pixel within an image. It relies heavily on color and therefore requires imagery with additional bands of color beyond the visible spectrum. Hierarchical Object-based Image Analysis (HOBIA) combines the analyst's personal knowledge with the power of computer processing. HOBIA has shown to improve accuracy in classification of hyperspatial imagery, especially with images that do not have a high spectral resolution, such as aerial photographs. The context of land conversion is a fundamental factor driving spatiotemporal change of wetlands, thus, we will utilize the Washington Parcel Databases to assess the land conversion patterns around the wetlands. We propose to use the HOBIA method to derive spatial metrics for wetland change in the aerial eastern Washington state, over the last 60 years and couple these changes with spectral metrics derived from Landsat data. The objectives of this research are: (1) Test the effectiveness of the HOBIA method to classify arid wetlands using 3-color (RGB) aerial photographs; (2) Assess the temporal characteristics of the water regime for each wetland using Landsat satellite imagery, (3) Standardize the change to MODIS based drought index, and; (4) Determine the Factors Driving the Change through the use of Change in Land Parcel Ownership database.

Application Number: A54418

PI: Sergey Rabotyagov

Co-PI: L. Monika Moskal

Title: **Collaborative Research: Northern Gulf of Mexico Hypoxia and Land Use in the Watershed: Feedback and Scale Interactions**

Agency: National Science Foundation (NSF)

Period: 7/1/2010 - 6/30/2013

Amount: \$211,935

Oxygen-depleted hypoxic (dead) zones have increased exponentially since the 1960s and now impact over 400 coastal marine systems, with a total combined affected area of 245,000 km² (Diaz and Rosenberg, 2008). Natural processes can result in the development of marine hypoxic zones; however, the formation of many hypoxic zones can be directly linked to anthropogenic influences including riverine transport of nutrients from fertilizer and other sources (Diaz and Rosenberg, 2008). These hypoxic zones can result in greatly stressed marine and estuarine systems, including mass mortality and dramatic changes in the structure of marine communities (Diaz and Rosenberg, 1995). Since 1985, Rabalais and others have documented the annual extent of the seasonal hypoxic zone that forms in the Northern Gulf of Mexico (Rabalais et al., 2002; Rabalais et al., 2007a; Turner et al., 2008), which is currently the largest in the western Atlantic Ocean (Rabalais et al., 2002). The 2008 Northern Gulf of Mexico hypoxic zone covered 20,720 km², which was the second largest ever recorded (LUMCON, 2008). While much remains unknown, the process has clarified the critical need for models and tools to help direct an adaptive management approach to solving this complex problem. The recent science assessment of the hypoxic conditions in the Northern Gulf of Mexico (EPA SAB, 2007) suggests that nitrogen (N) and phosphorus (P) loads discharged from the Mississippi-Atchafalaya River Basin (MARB) are the primary cause of the Northern Gulf of Mexico hypoxic zone. The report further states that both N and P will need to be reduced by at least 45% each to achieve a target size of 5,000 km² for the zone and that the Upper Mississippi River Basin (UMRB) and the Ohio River Basin (ORB) are the watersheds that contribute the greatest N and P fluxes to the Gulf. Previous studies reveal the lack of a total integrated modeling system that interfaces alternative land use and/or management scenarios in key MARB nonpoint source pollution subregions with the Northern Gulf of Mexico hypoxic zone. In this project, we propose the first complete modeling system that links land use decisions made at the field scale in the reaches of the Upper Mississippi, Ohio, and Tennessee Basins through both environmental and hydrologic components to downstream water quality effects and the size of the hypoxic zone in the Gulf. Once completed, this modeling system can be used to analyze detailed policy scenarios identifying the costs, benefits, and ancillary effects on the environment associated with various policy measures including a wide range of mitigation strategies such as those suggested by Mitsch et al. (2001) and Dinnes et al. (2002). It can also be used to investigate the post-World War II period of fertilizer. We further propose to undertake rigorous uncertainty analysis so that degree of certainty associated with the scenarios can be formally considered in policy decisions. Several fundamental science and integrated modeling challenges will need to be met to accomplish this task: 1) existing land use and watershed models will need to be spatially refined to more accurately depict the range of options available to private landowners, 2) these models will also need to be extended geographically to cover a larger range of the basin so that all of the highest sources of nutrients can be addressed, 3) improvements to the existing water quality and economic models must be achieved so

that the full range of land use options available can be explicitly modeled, 4) explicit linkages must be developed between the upstream hydrologic and water quality model and the hypoxic zone model, and 5) the computational challenges associated with analyzing large amounts of micro-level data and finding least-cost solutions to water quality goals must be met. Our team has the experience and knowledge necessary to accomplish these tasks. Once completed, a unique and powerful set of models will allow policy makers to evaluate a wide range of scenarios.

Application Number: A53776

PI: Clare Ryan

Co-PI: L. Monika Moskal, Christian Torgersen, Kathleen Wolf

Title: Integrating Social and Ecological Footprints of Stewardship: A Model-based Assessment of the Basis and Benefits of Environmental Action

Agency: National Science Foundation (NSF)

Period: 9/1/2010 - 8/31/2014

Amount: \$1,053,955

The Puget Sound estuary and surrounding urbanized watersheds are expected to attract an additional three million human residents in the next 20 years. Despite the breathtaking appearance of this estuarine system, many of the processes supporting diverse species and ecosystem services have been disrupted or severely degraded. The Puget Sound Action Agenda includes extensive recommendations for public involvement in addressing such threats. As a result, a wide range of stewardship activities, representing large investments of public and private funds and human resources, are being initiated and coordinated to address Puget Sound ecosystem recovery, yet 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 which stewardship activities have the greatest benefit for ecological recovery outcomes, but also for social consequences. Stewardship, as used here, refers to the specific actions of engaged individuals, groups, and communities acting on behalf of natural systems. Based on a preliminary characterization of the stewardship domain we will investigate three primary questions at multiple scales – individual, group, and community: (1) What actual and potential ecological benefits result from environmental stewardship activities? (2) What motivates citizens and groups to engage in environmental stewardship activities? (2) What social benefits (direct and indirect) result from environmental stewardship activities?
