State and Private Forestry FY 2010 Western Competitive Resource Allocation Single-State Project Proposal

Filename	
OR_Trask	
Administration Information	
Dollar Amount Requested:	**$300,000**
Matching Share:	**$300,680**

	Applicant Information	
1	**State Forestry Agency:**	Oregon Department of Forestry
	Contact Person:	Liz Dent
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	Project Information			
2	**Descriptive Title of Project:**	Demonstrating Public Benefits of Managed Forests to Aquatic Resources		
	Names of Partnering Agencies / Organizations:	Weyerhaeuser Co., Oregon Dept. of Forestry, US Geological Survey, US Forest Service, Oregon State University and Bureau of Land Management, form the interdisciplinary science team for the project. There also is involvement by other organizations including the Oregon Watershed Enhancement Board, Tillamook Estuary Project, Oregon Dept. of Fish and Wildlife, Oregon Dept. of Environmental Quality, the Watersheds Research Cooperative, National Council for Air and Stream Improvement, and Tillamook Watershed Council.		
	State(s):	Oregon	**Congressional Districts:**	5 (Schrader) and 1 (Wu)
	Counties:	Tillamook and Yamhill	**Forest Service Regions:**	Region 6

3 **Total Leverage**

Please specify each 3rd party contributor (partnering organizations and agencies, including other Federal) and the dollar value of each contribution. Please DO NOT show grant requested funds in this table.

Contributors: (Please specify by name)	Weyerhaeuser	OR Watershed Enhancement Board	OR Dept. Environmental Quality	BLM	ODF Forest Development Fund		**TOTAL**
Value of Contributions:	$275,000	$45,000	$24,000	$25,000	$50,680		**$419,680**

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Project Budget				
	Grant Share ($ requested)	**Applicant**	**Non-Federal Contributors**	**TOTAL**
		Cash[1]	**In-Kind[2]**	
Personnel / Labor:	$0	$10,773	$0	**$10,773**
Fringe Benefits:	$0	$4,309	$0	**$4,309**
Travel:	$0	$0	$0	**$ 0**
Equipment:	$0	$0	$0	**$ 0**
Supplies:	$0	$0	$0	**$ 0**
Contractual:	$285,000	$32,000	$230,900	**$547,900**
Construction:	$0	$0	$0	**$ 0**
Other:	$0	$0	$0	**$ 0**
Indirect Costs:	$15,000	$3,598	$19,100	**$37,698**
TOTAL:	**$300,000**	**$50,680**	**$250,000**	**$600,680**

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Project Duration

What is the duration of this project? ☐ **One Year** ☐ **Two Years** ☒ **Three Years**

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National Relevance

Conserve Working Forest Landscapes ☐ **Protect Forests From Harm** ☐

Enhance Public Benefits From Trees and Forests ☒

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Project Description

Maximum 5500 Characters Including Spaces – Clearly summarize the proposed project, including goals, objectives, measurable outputs, outcomes, and how grant funds will be used towards successful completion of the project.

This proposal expands the innovative Trask River Watershed Demonstration Project and addresses two USFS Redesign Themes: (#5) Water quality and quantity is protected and enhanced and (#9) Wildlife and fish habitat is protected, conserved, and enhanced. The demonstration project will result in outreach and education for small landowners and forest managers and products to support science-based policy decisions for private, state, and federal programs in Oregon and the Pacific Northwest. These outcomes will have substantial and widespread implications for on-the-ground management of forests and aquatic resources thereby improving forest stewarship over time.

Every natural resource agency in the Pacific Northwest claims that policies and management strategies are informed by the "best available science." As such, this project is directly integrated into ODF's adaptive management process. Because this project is an integral part of this process, the results will directly influence forest operations and outcomes for aquatic resources across the broad landscapes managed by federal, state, and private landowners in western Oregon.

The Oregon Forest Practices Act establishes Best Management Practices (BMPs) for protecting and conserving

[1] 'Cash' is the value of *any qualifying match* the applicant pays for such as cash, staff time, supplies, or equipment.
[2] 'In-Kind' is the value of *any qualifying match* contributed by a non-federal 3rd party contributor such as donated time, supplies, or equipment.

clean water and high quality fish habitat on state and private forests. Over time, BMP adjustments have improved stream protection. However, the effectiveness of several aspects of current BMPs have not been evaluated, including protections provided for small, headwater streams and the effect of multiple headwater management actions on fish habitat downstream. The Trask Watershed Demonstration Project is evaluating the effect of contemporary forest harvest on small, headwater streams on water quantity, quality, and aquatic biota and the extent to which responses observed from upstream forest harvest are transmitted downstream Harvest in headwater basins, with and without riparian buffers, will occur in 2012, with 2010 and 2011 being pre-harvest monitoring periods. The Trask River, in northwest Oregon, is primarily managed by the Oregon Department of Forestry (ODF) and Weyerhaeuser Company (Weyerhaeuser), with a small area managed by Bureau of Land Management (BLM).

Goals of the Trask River Watershed Demonstration Project are to:
1. Quantify the influence of forest harvest on water quality and fish habitat in small headwater basins and downstream fish-bearing reaches.
2. Provide technical transfer of information produced by this project to woodlot owners, forest land managers, and policy makers through field-based workshops, white papers, and decision support tools.

Objectives
Under this project we will measure water quantity, water quality, and aquatic habitat throughout the 6,000 acre Trask River watershed, within and downstream of forest harvest units, before and after harvesting. We will examine the effect of clearcut harvest with and without riparian buffers at headwater sites and determine if effects are translated downstream from the harvested basin. Goals and objectives will be addressed by evaluating responses to forest harvest in 7 harvested headwaters, 8 reference headwaters and 4 downstream sites. Postharvest patterns will be compared to pre-harvest and reference conditions. Water quality measures will include stream temperature, stream nutrients and suspended sediment concentrations. Aquatic habitat, fish populations, primary production and aquatic invertebrates will be examined at the harvested headwaters, reference headwaters, and at downstream sites.

Outreach to audiences ranging from the woodlot owners to policy makers represents the key measurable outputs from this work. Information will be made available through Extension brochures, website, workshops, and field tours. Past examples of our activities are available on-line (www.watershedsresearch.org). Past workshops have attracted 100-200 small woodland owners, private forest managers and agency policy personnel. Materials, workshops, and field tours will quantify the roles of forest BMPs for protection of water quality and fish habitat. In addition, project results will be periodically communicated to the Oregon Department of Forestry's Board of Forestry. We will communicate findings with grantors and other collaborators describing relationships between streams and forests and implications for forest managers.

Outcomes
Outcomes include a forest management community better prepared to practice sustainable forestry. This project is also an essential component of adaptive management process for ODF. Finally, knowledge gained from this project will inform statewide science-based policies.

Use of Grant Funds
Grant funds will be used to support information gathering and technical transfer during two pre-harvest and one post-harvest year. This will include field work, data management, final analyses, report writing, and educational outreach. Essential employees will be funded to complete these tasks over a three year period. The funds from this grant will be used to organize and host workshops for private forest landowners and managers. Funds will also be used to prepare material for the Board of Forestry, produce web pages and reports, and develop brochures and other outreach products.

8 Program Integration

Maximum 1250 Characters Including Spaces

The Federal, ODF state, and private forest relationship is synergistic and complementary in several ways. An interdisciplinary team with members from each partner already meets several times each year to address technical, organizational and logistical issues. Relevance of the work to forest managers is addressed by periodic input from ODF State and Private Forests programs. Active participation by the Bureau of Land Management and Forest Service has enabled the Trask Project to address questions of interest to federal forest managers and provides a link to federal monitoring and evaluation efforts. If this project is funded, the combination of technical, management and policy expertise from the organizations involved in the Trask Project provides an unparalleled opportunity to generate scientific information that is both of high technical rigor and of direct relevance to forest management issues in the PNW. Regional integration also is enhanced by incorporation of the Trask Project in the Watersheds Research Cooperative (WRC). This cooperative includes two other large, watershed studies being conducted in Oregon and periodic meetings of the WRC ensure that all projects are coordinated.

9 Collaboration

Maximum 1250 Characters Including Spaces

The collaboration of scientists from federal, state, and private organizations in this project is a major strength. This collaboration is organized and directed by the interdisciplinary team which includes members from Oregon Department of Forestry (State and Private Programs), the Pacific Northwest Research Station of the U.S. Forest Service (PNW), U.S. Geological Survey Forest and Rangeland Ecosystem Science Center (USGS), Weyerhaeuser and Oregon State University (OSU). Other Oregon natural resource agencies (including Oregon Department of Fish and Wildlife, Oregon Watershed Enhancement Board (OWEB), and Oregon Department of Environmental Quality), National Council for Air and Stream Improvement, and local groups, such as watershed councils, collaborate frequently with this Trask team.

An operations team works closely with the interdisciplinary team to plan compatible management activities and provide input on project objectives. The landowners are providing partial financial support for the Trask Project and have modified their scheduled operations to accommodate the experimental design of the project. The investment by private, state, and federal landowners speaks to the high priority they place on this work.

10 Leverage

Maximum 1250 Characters Including Spaces

The funding we are requesting will be combined with financial and in-kind contributions from multiple organizations and sources (~ 369K). An initial investment in the Trask Project by ODF and Weyerhaeuser (275K), and the willingness of these organizations to alter their management plans to suit the needs of the demonstration has attracted a large number of additional collaborators. The interdisciplinary team has been able to obtain several grants to help support establishment of the sampling infrastructure and to expand the project to the point where most elements of the stream ecosystem are being evaluated and can be related to forest landscape and forest management. Funding has been obtained OWEB (45K) to support infrastructure. In-kind support from OR Department of Environmental Quality (24K) and OR Department of Fish and Wildlife also contribute substantially to the success of this project. Additional federal leverage from USFS PNW and USGS supports techncial leadership and labor and BLM has financed equipment operation (25K). Finally, outreach efforts are being leveraged by involving the Oregon Forest Industries Council in education and outreach efforts for all the projects included in the WRC.

11 Meaningful Scale

Maximum 1250 Characters Including Spaces

This project is unique in part because of the watershed scale and collaboration with WRC. Most previous studies of forest management effects on streams have been conducted at relatively local scales, given the challenges associated with implementing experiments at the scale of entire watersheds. Yet many of the unanswered questions about the effectiveness of forestry BMPs can only be investigated by establishing experiments at appropriately large spatial and temporal scales. The Trask Project is applying harvest treatments to multiple small watersheds. Our design also enables the evaluation of effects downstream from the locations where the harvest treatments are being applied. Our study area encompasses about 6000 acres and our design examines 16 small watersheds in four tributary systems. The desired outcomes for this project can only be achieved with a study of this scale. The scale of the Trask Project also is enhanced by its inclusion in the WRC. The compatibility of the approaches being applied in the watersheds studies in the WRC will provide some indication of the regional variability iin BMP effectiveness throughout western Oregon.

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Sphere of Influence

Maximum 1250 Characters Including Spaces

The best available science is needed by forest managers and policy makers if they are to balance resource use and environmental protection. Forest managers in Oregon and the PNW have demonstrated a desire to base operational decisions that affect water quality and fish habitat on sound technical information. The Trask Project will provide information in areas that are currently poorly understood. The project will have considerable influence on regional forest management. In addition, the interdisciplinary nature of the work and scientific products (e.g., peer-reviewed publications) will guarantee not only local relevance, but national and international relevance. Such has been the case for early watershed studies in the West and PNW, including the original Alsea Watershed Study, H.J. Andrews Experimental Forest, Carnation Creek Study in British Columbia, and Caspar Creek Study in California.

The education and outreach to woodlot owners, state and private forest managers further increases the sphere of influence by making information available quickly and effectively to those who are implementing BMPs. This innovative project is a perfect example of the added-value potential of S&PF Redesign..

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Sustainability of Outcomes

Maximum 1250 Characters Including Spaces

Sustainability of forest lands in the PNW is of key importance to the maintenance of ecological health of the regions forests. BMPs must be stringent enough to protect aquatic habitats and the organisms they support. But BMPs also must enable forest owners to profitably manage their lands or the rate of conversion from forest to other land uses may accelerate. Improved understanding and sharing from this project will aid regulatory agencies in developing forest management strategies that effectively and efficiently protect aquatic habitat. The Trask Project in conjunction with other watershed projects in the region will be critical in achieving this objective.

This project builds capacity for all the collaborators but especially for ODF State and Private Forests. Because of the infrastructure in the Trask, many other groups have been attracted to work at the site increasing the breadth of topics being addressed. Substantial investments have been made in the project that will remain for at least a decade. The work proposed in this grant request increases the richness of the overall approach and potential for the project to provide targeted outcomes for ODF State and Private Forest issues around water quality and fish habitat.