

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

Filename	
ND_Reporting.doc	
Administration Information	
Dollar Amount Requested:	\$272,300
Matching Share:	\$272,359

Applicant Information	
1	<b>State Forestry Agency:</b> North Dakota Forest Service
	<b>Contact Person:</b> Larry Kotchman
	<b>Address:</b> 307 First Street East
	<b>City/State/Zip Code:</b> Bottineau ND 58318-1100
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Project Information				
2	<b>Descriptive Title of Project:</b>	Web-based forest resource mapping and reporting system		
	<b>Names of Partnering Agencies / Organizations:</b>	North Dakota State University-Dept. of Geosciences, All ND Park Districts		
	<b>State(s):</b>	North Dakota	<b>Congressional Districts:</b>	All
	<b>Counties:</b>	Statewide	<b>Forest Service Regions:</b>	Northern Region One

Total Leverage								
Please specify each 3 <sup>rd</sup> 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.								
3	<b>Contributors: (Please specify by name)</b>	NDSU Dept. of Geosciences	All ND Park Districts					<b>TOTAL</b>
	<b>Value of Contributions:</b>	\$122,359	\$125,000	\$0	\$0	\$0	\$0	<b>\$247,359</b>

Project Budget					
	Grant Share (\$ requested)	Applicant	Non-Federal Contributors	TOTAL	
		Cash <sup>1</sup>	In-Kind <sup>2</sup>		
4	<b>Personnel / Labor:</b>	\$18,000	\$18,500	\$21,960	<b>\$58,460</b>
	<b>Fringe Benefits:</b>	\$3,000	\$6,500	\$6,599	<b>\$16,099</b>
	<b>Travel:</b>	\$30,000	\$0	\$9,000	<b>\$39,000</b>
	<b>Equipment:</b>	\$36,000	\$0	\$40,000	<b>\$76,000</b>
	<b>Supplies:</b>	\$5,300	\$0	\$22,000	<b>\$27,300</b>
	<b>Contractual:</b>	\$162,000	\$0	\$147,800	<b>\$309,800</b>
	<b>Construction:</b>	\$0	\$0	\$0	<b>\$ 0</b>
	<b>Other:</b>	\$18,000	\$0	\$0	<b>\$18,000</b>
	<b>Indirect Costs:</b>	\$0	\$0	\$0	<b>\$ 0</b>
	<b>TOTAL:</b>	<b>\$272,300</b>	<b>\$25,000</b>	<b>\$247,359</b>	<b>\$544,659</b>

Project Duration	
5	What is the duration of this project? <input type="checkbox"/> One Year <input type="checkbox"/> Two Years <input checked="" type="checkbox"/> Three Years

National Relevance	
6	Conserve Working Forest Landscapes <input checked="" type="checkbox"/> Protect Forests From Harm <input checked="" type="checkbox"/> Enhance Public Benefits From Trees and Forests <input checked="" type="checkbox"/>

Project Description	
7	<p>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.</p> <p>FOCUS: The North Dakota Forest Service (NDFS) in collaboration with North Dakota State University (NDSU) Department of Geosciences proposes to develop a web-based system to inventory forest species, map resource threats, and serve as a reporting mechanism for state and private forestry management. This integrated real-time web-portal interface will be linked to the current forestry decision support system located at the URL (web address) <a href="http://ndfsdss.ndsu.nodak.edu/">http://ndfsdss.ndsu.nodak.edu/</a>. This online system will be designed to specifically: (A) serve as a city, county, state and federal reporting mechanism for NDFS and affiliated partners' forestry management accomplishments; a resource locale identifier; a tracking and monitoring geospatial interface; and a public resource to monitor or track threats or vulnerabilities including invasive species, catastrophic wildfire, climate change effects on forestry and forest conversion. (B) Provide baseline data on the forest resources of North Dakota to model potential forest resource threats and offer management opportunities identified through the state forest resource assessment and/or vulnerabilities identified using the State and Private Forestry Redesign national assessment tool. (C) Determine and identify tracts that were not included in the spatial analysis project guidelines meant to delineate potential stewardship tracts within states; provide tools necessary for the North Dakota Forest Service to effectively and efficiently address critical forest resource issues at state, regional, and community scales; and provide forest</p>

<sup>1</sup> 'Cash' is the value of any qualifying match the applicant pays for such as cash, staff time, supplies, or equipment.

<sup>2</sup> 'In-Kind' is the value of any qualifying match contributed by a non-federal 3<sup>rd</sup> party contributor such as donated time, supplies, or equipment.

	<p>resource managers with unbiased means to address problems, opportunities and objectives associated with intermingled federal, city, state and private land ownership patterns within North Dakota. (D) Provide a concise central repository and inventory of forestry programs identifiable by searchable attributes such as city, county or associated wildland-urban interface. The attractive quality about this proposed project is that this has never been achieved in any other state and therefore would be highly replicable to other states. A system like this needs to be put in place before any state can adequately deal with resource threats.</p> <p><b>PAST NDFS-NDSU PARTNERSHIP HIGHLIGHTS:</b> The highlights of an initial partnership project were to provide support for Forest Stewardship programs in North Dakota. Key achievements have placed North Dakota as the only state in the United States with (1) all stewardship plans digitized and catalogued within a secure geodatabase identifiable only with a 15-character identifier that has two encryption levels and (2) digitized and georeferenced forest resources with widths less than 30m, like windbreaks, across the state and within city limits.</p> <p><b>PRIORITY:</b> This online system will serve as a rapid response and mitigation online reporting mechanism that would be ideal in monitoring and curtailing threats to trees and forests. This will significantly promote the long-term sustainability of state and private forests by balancing future public needs for forest products with the need for protecting and enhancing watershed productivity, air and water quality, fish and wildlife habitat, and threatened and endangered species. It will also provide a user-friendly system for affiliated partners to continually update the electronic spatial database beyond project completion.</p> <p><b>OUTCOME:</b> Ultimately this project if funded will help: (1) develop a rural-urban continuum of managed trees and forests within the state from urban park districts, urban city forestry to rural forestry (2) develop a historic prioritized spatial database and associated geo-referenced maps of potential state and private forest areas that would maximize public benefits from the redesigned state and private forestry programs benefiting communities, fire districts and private forest landowners; (3) Enhance North Dakota’s statewide assessment of important forest lands by incorporating spatial and tabular display of natural resource data critical to the sustainability of forest resources and the risks or vulnerabilities facing those resources.</p>
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	<p style="text-align: center;"><b>Program Integration</b></p> <p><b>8</b> <span style="color: red;">Maximum 1250 Characters Including Spaces</span></p> <p>All forest stewardship program components have been in existence for nearly 20 years. The North Dakota Spatial Analysis Program has been in existence for 5 years. This is the first year that the general public can access management accomplishments. The project will be an integrated approach to meeting current and future community forestry, forest health, cooperative fire programs for forest landowners, city, state and private forest managers, and the general public. The central repository will also have secondary benefits as a helpful resource for K-12 education by providing an ability to create theme-varied printable maps. The proposed project will promote conservation and build partnerships designed to increase public understanding and awareness of the benefits provided by trees and set a firm base for managing forests to secure those benefits. The project will also (a) address significant threats to forests, such as insect and disease infestations, catastrophic fire, and the loss of critical forested landscapes to urban development and (b) explore areas of emerging importance such as community wildfire protection, carbon sequestration, biomass energy generation, limited species diversity, and overmaturity.</p>
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<p><b>9</b></p>	<p style="text-align: center;"><b>Collaboration</b></p>
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**Maximum 1250 Characters Including Spaces**

Under the terms of this grant, the NDFS will assume administrative leadership and subcontract NDSU for the coding, hosting, and geospatial work. NDSU, the first North Dakota land-grant institution in North Dakota, is a publicly supported comprehensive institution, with a strong agriculture and applied science tradition. Other supported NDSU affiliated organizations include the North Dakota Forest Service, Agricultural Experiment Station, Cooperative Extension Service, and Northern Crops Institute. A comprehensive dataset has been acquired from other agencies like NRCS, USGS, US Forest Service, North Dakota Natural Heritage Institute, EPA, USDA, Soil Conservation Districts, NDSU's Agricultural Extension, and Farm Service Agency. Each of these entities provides support via in-kind contributions of time and/or materials. The success and longevity of this proposed project will be a comprehensive database aimed to (a) display active conservation and management of native forests; (b) establish a linkable state and private forestry management interface; (c) provide an interface to aid in management and sustainability of city, state and private forests; and (d) display conservation and agroforestry benefits of rural tree plantings.

**Leverage**

**10** **Maximum 1250 Characters Including Spaces**

The initial North Dakota Forest Stewardship project has thrived for nearly 20 years in part due to direct financial and in-kind contributions from many entities that support Forest Resource Management, Red River Riparian, Forest Land Enhancement, and Community Forestry Programs. This grant will leverage local, state and federal financial assistance for critical nature resource management needs identified in “Redesigning the North Dakota Forest Service Initiative” for forestry programs. The applicant will provide \$25,000 in staff time for the implementation of the project combined with \$247,359 in third party contributions. This grant will also leverage \$420,000 for wildfire hazard mitigation and “FireWise” landscape projects from participating landowners. The project will also leverage \$136,286 for state and local participants for Red River riparian forestry management. The grant will also enable leveraging of in-kind contributions from all Soil Conservation Districts, state ecological sciences staff, and administrative services personnel. Park Districts will also leverage \$300,000 for tree inventory and management from agencies, resource professionals and non-profit organizations.

**Meaningful Scale**

**11** **Maximum 1250 Characters Including Spaces**

The NDFS-NDSU partnership will consolidate all species data from cities, park districts and available rural plots at a sub-meter scale for each defined geographic area. Species data available from FIA are at 1 kilometer square area size which is not adequate to address threats and vulnerabilities at a meaningful scale for North Dakota. Gaps in species data will be identified and remote sensing analyses done to complete data sets. This will significantly reduce costs for statewide acquisition of satellite imagery. The NDFS, NDSU and Fargo Park District are already conducting a pilot study to test recently developed species identification algorithms. These algorithms will be made available to other state natural resource organizations at project completion. Each identified community data set will be hosted by the NDFS as an individual community forest and aggregated for the statewide scale. This project will also be crucial for estimating carbon sequestration by species. NDFS-NDSU have already finished compiling statewide species spectral data which will be an integral component of this project proposal.

**Sphere of Influence**

**12**

	<p><b>Maximum 1250 Characters Including Spaces</b></p> <p>The proposed project will be an integral component in supporting the three major components required by the State and Private Forestry (S&amp;PF) Redesign as stipulated in the current Farm Bill. The project will promote sustainability and future Farm Bill requirements extendable to regional and national forestry programs. The proposed project will have a key influence in generating competitive State and Private Forestry proposals by initiating innovative landscape level projects like carbon sequestration; riparian forestry and affiliated floodplain management; associated innovative forestry BMPs; modeling of water quality issues in watersheds within the state; and assessing and evaluating the survivability of native genetically improved tree species. The NDFS stands at a threshold of being the only state to have species data available statewide at community forest scale. This novel approach has the potential to be highly replicable to other states. Such a system would assist states in dealing with resource threats and reporting outcomes.</p>
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<b>Sustainability of Outcomes</b>	
<b>13</b>	<p><b>Maximum 1250 Characters Including Spaces</b></p> <p>The proposed project will focus leadership and resources on landscape level forest resource issues to improve the delivery of program services and strengthen customer service. There currently are no searchable databases of state and private forests within the state. At project sunset, all major state and private forest programs and management activities will be hosted in a central repository managed by NDFS. This initiative will provide the state as well as cities, park districts and natural resource managers with a consistent methodology to spatially display: (1) important tree clusters that may be vulnerable to threat; and (2) areas of opportunity to focus state and private forestry management efforts. The project outcomes will seek to address the following: (a) provide baseline species data on state forest resources; (b) ascertain forest resource threats and opportunities, both environmental and socioeconomic; (c) delineate areas to target interested landowners or seek competitive funding for state and private forestry; (d) provide a tool for state and private forest managers to address problems, opportunities and objectives associated with intermingled federal, state and private land ownership patterns within the state.</p>