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

Filename	
2010_singlestate_WCG_ApplicationForm	
Administration Information	
Dollar Amount Requested:	**$238,422**
Matching Share:	**$238,422**

1	Applicant Information	
	State Forestry Agency:	Kansas Forest Service, KSU
	Contact Person:	Bob Atchison
	Address:	2610 Claflin RD
	City/State/Zip Code:	Manhattan, KS 66502
	Phone (Work/Cell):	785-532-3310
	Email:	atchison@ksu.edu
	Fax:	785-532-3305

2	Project Information			
	Descriptive Title of Project:	Assessing Ecosystem Service Values of Riparian Forests		
	Names of Partnering Agencies / Organizations:	Kansas Department of Wildlife and Parks (KDWP); Kansas Department of Health and Environment (KDHE), Watershed Management Section; USDA FS Northern Research Station National Inventory and Monitoring Applications Center (NIMAC); KS Watershed Restoration and Protection Strategy (WRAPS) State Working Group and Local Groups.		
	State(s):	Kansas	**Congressional Districts:**	1, 2 & 3
	Counties:	Nemaha, Brown, Atchison, Jackson, Jefferson, Leavenworth, Wyandotte, Douglas, Shawnee, Pottawatomie, Wabaunsee, Riley, Nemaha, Washington, Marshall	**Forest Service Regions:**	Rocky Mountain Region 2

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)**	KS Dept. of Wildlife & Parks	KS Dept. of Health & Environ.	CWA Section 319 WRAPS Grant	Local WRAPS Watershed Projects			**TOTAL**
	Value of Contributions:	$200,000	$38,422	$33,398	$597,172	$0	$0	**$868,992**

4	Project Budget				
		Grant Share ($ requested)	Applicant	Non-Federal Contributors	TOTAL
			Cash[1]	In-Kind[2]	
	Personnel / Labor:	$117,000	$0	$0	**$117,000**
	Fringe Benefits:	$36,855	$0	$0	**$36,855**
	Travel:	$20,000	$0	$0	**$20,000**
	Equipment:	$0	$0	$0	**$ 0**
	Supplies:	$13,867	$0	$0	**$13,867**
	Contractual:	$50,000	$0	$0	**$50,000**
	Construction:	$0	$0	$0	**$ 0**
	Other:	$700	$0	$139,477	**$140,177**
	Indirect Costs:	$0	$98,945	$0	**$98,945**
	TOTAL:	**$238,422**	**$98,945**	**$139,477**	**$476,844**

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

6	National Relevance
	Conserve Working Forest Landscapes ☒ **Protect Forests From Harm** ☒
	Enhance Public Benefits From Trees and Forests ☒

7	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.
	There is currently no baseline information on the size, condition and ecosystem services provided by the riparian forests of Kansas. The majority of these forests do not meet FIA definitions of forestland and are discounted. And yet, riparian forests provide important public benefits to the people of Kansas. For example, research suggests that riparian forests are more effective than other land cover at stablizing streambanks during high water events by slowing flood waters, causing sediment deposition within riparian areas instead of reservoirs(Geyer, KSU, et al., 2003). In Kansas federal reservoirs are the source of municpal and industrial water for two-thirds of the state's population and yet sedimentation of these reservoirs has reduced water storage capacity to the extent that a multi-year drought could create water supply shortages. Sediment is also a pollutant carrying pesticides, phosphorus, and bacteria. Compared to annual dredging costs protecting and establishing riparian forests provides public dollar benefits by reducing sediment entry and eutrophication, the main water quality issue in Kansas reservoirs. The goal of this project is to assess the size and condition of riparian forests in high priority TMDL watersheds identified by the Kansas Watershed Restoration and Protection Strategy (WRAPS) State Working Group (http://www.kswraps.org/). The assessments will then be provided to local WRAPS groups (stakeholders) to help them target protection, management and establishment practices based on their plans. Targeted HUC 8 watersheds

[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.

include the Lower Kansas, Middle Kansas, Tuttle Creek Lake, and Upper Wakarusa. In these watersheds the Kansas Forest Service will conduct a GIS riparian assessment that classifies riparian forest into 3 functioning condition classes: 1) Riparian Forests In Need of Protection/Properly Functioning, 2) Riparian Forests in Need of Management/Functioning at Risk, and 3) Riparian Forests in Need of Establishment/Nonfunctional. Criteria used to classify will include 1) Forest width ratio compared to active channel width (USDA NRCS National Water and Climate Cover, Technical Note 99-1, Stream Visual Assessment Protocol, page 9, Riparian Zone); 2) Forest density based on LANDFIRE, http://www.landfire.gov/); 3) Flood Frequency Prediction Area and 4) NRCS Tree & Shrub Suitability Groups 1 & 2. In addition the USDA FS, Northern Research Station, National Inventory and Monitoring Applications Center, will create an on-the-ground survey proceedure that will collect information on species (including invasives), volume , age, stocking, width of riparian forest & active channel, functioning condition, landuse, and canopy cover. Total size and condition of riparian forest in acres and stream miles will be provided along with sediment yields, biomass, carbon and other ecosytem service estimates. Grant funds will be used to hire a project coordinator, inventory crews, NIMAC services, and necessary equipment and supplies. A final assessment report will be prepared for each watershed.

8 Program Integration

Maximum 1250 Characters Including Spaces

Assessment data, SAP and the State-wide Forest Resource Assessment will: 1) target landowners to prepare Forest Stewardship Program Management plans; 2) identify Forest Health Program issues (invasives, black walnut and ash susceptibility to Thousand Cankers and EAB); and 3) identify potential wildfire threats associated with overstocking and species composition (Fire Management Program). The KS WRAPS program has prioritized the watersheds and local WRAPS groups for assessments. Data will be integrated into WRAPS plans created by local stakeholders in each watershed. Assessment data will be provided to the KS Nongame Wildlife and Advisory Council to implement the KS Comprehensive Wildlife Conservation Plan targeting riparian forests that support "Species of Greater Conservation Need". This project builds off the FY2009 Competitive grant "Assessment of Riparian Forests to Reduce Sedimentation of Federal Reservoirs" which is focused exclusively on the Delaware River Watershed. KFS foresters are already providing technical services to WRAPS groups through Section 319 CWA funding and data from this assessment will guide their efforts. Assessment data will also be used to implement KS Water Authority & KS Water Plan policy.

9 Collaboration

Maximum 1250 Characters Including Spaces

This project proposal was developed through meetings and discussions with KDWP, KDHE, State WRAPS Working Group and local WRAPS groups based upon common missions and interests of each. This proposal provides KDWP a way to be more actively engaged in addressing water quality and quantity issues with a focus on the effect protection, management and re-establishment of riparian forests has upon "Species of Greater Conservation Need" as identified in the KS Comprehensive Wildlife Conservation Plan. Additionally KDHE's Watershed Management Section's WRAPS program also benefits from the creation of an assessment tool that can potentially guide local WRAPS groups implementation of plans. Conversely the KFS benefits from KDHE's efforts by having prioritized watersheds to focus assessments and stakeholders in place through local WRAPS groups to implement BMPs. The Kansas Water Office also supports this proposal which assists with the implementation of policy developed in the State Water Plan. Commitment to mutual outcomes is evident in the $238,422 of hard state dollar match provided by KDWP and KDHE.

10 Leverage

Maximum 1250 Characters Including Spaces

KDWP is committed to providing $200,000 of state funding for the assessment, sharing in the common mission/outcome of protection, management and establishment of riparian forests in specified regions identified in the Comprehensive Wildlife Protection plan. $38,422 of State Water Plan funds through KDHE's WRAPS program will be used to assist in the implementation of BMPs through Kansas Forest Service foresters once the assessments are complete. This project leverages an additional $597,172 from the Upper Wakarusa, Tuttle Creek, Middle & Lower KS WRAPS groups who are assessing additional natural resources and factors relating to sedimentation and water quality issues and the implementation of best management practices. The USDA FS Northern Research Station's National Inventory and Monitoring Center will create the inventory and analysis program similar to the protocol used in the Great Plains Tree and Forest Invasives Initiative. The CWA Section 319 grant will provide an additional $33,398 toward implementing BMPs once the assessment is complete.

11 Meaningful Scale

Maximum 1250 Characters Including Spaces

Based on conversations with NIMAC, the geographic scale of the project (5 targeted watersheds) is of appropriate and meaningful scale to the proposed outcomes including GIS and on-the-ground inventory of size and condition of riparian forests into 1) Riparian Forests In Need of Protection/Properly Functioning, 2) Riparian Forests in Need of Management/Functioning at Risk, and 3) Riparian Forests in Need of Establishment/Nonfunctional. Criteria used to classify will include 1) Forest width ratio compared to active channel width; 2) Forest density based on LANDFIRE; 3) Flood Frequency Prediction Area and 4) NRCS Tree & Shrub Suitability Groups 1 & 2. Also included in the outcomes are data on species composition (including invasives), volume , age, stocking, width of riparian forest & active channel, functioning condition, landuse, and canopy cover. Based on this information, ecosystem services such as sediment yield, carbon storage and other water quality benefits associated with riparian forests will be estimated using a variety of models. Because of the stakeholders already in place through local WRAPS groups, project outcomes are clearly deliverable within 3 years.

12 Sphere of Influence

Maximum 1250 Characters Including Spaces

According to the National Academy of Sciences/Science Debate 2008, 39 states including Kansas will experience water shortages within the next 10 years. More than half of the US population receives it's drinking water from reservoirs. A 2009 national conference on sedimentation of reservoirs "From Dust Bowl to Mud Bowl-Sedimentation, Conservation Measures and the Future of Reservoirs", suggests loss of water supply due to sedimentation is a national issue. Research substantiates the important role that riparian forests offer in reducing sediment entry into reservoirs during flood events when most deposition occurs. This project will create a methodology that can be used state-wide, regionally and nationally to assess the functioning condition of riparian forests enabling local stakeholder groups to focus protection, management and restoration efforts within a watershed. This methodology will also create a process within Forest Inventory and Analysis, to place size, condition, and ecosystem service values on ecologically important riparian forests that have previously not been included in FIA. This methodology is especially applicable to Missouri, Arkansas, Oklahoma and Texas where the greatest number of reservoirs occur.

13 Sustainability of Outcomes

	Maximum 1250 Characters Including Spaces The skills and capabilities required to create the GIS layers and the methodology for on-the-ground inventory (NIMAC) to classify condition, size and ecosystem service values of riparian forests clearly extends beyond the 3 year life of this proposal and has potential application to any watershed where riparian forests naturally occur. The GIS layers can become an important component for State-wide Resource Assessments required in the 2008 Forestry Title of the Farm Bill. The outcomes of this project are also sustainable because of an on-going need for private owners of riparian forests and policy makers to understand the public benefits associated with riparian forests which ineffectively compete with the landuse of high-value agricultural crops such as corn and soybeans. The skills and capabilities developed by local WRAPS groups to focus resources and efforts based on the findings of this project will be used for years as local plans are implemented.