

REDWOOD COTTONWOOD RIVERS CONTROL AREA (RCRCA) JPO



FY2013-Clean Water Funds: Redwood and Cottonwood Rivers Accelerated Implementation Grant Project

Waters of Concern
Minnesota River
Cottonwood River
Redwood River

CWF Grant Awarded:
\$52,600

Leveraged Funds:
\$18,000

Grant Period: 1/1/2013—12/31/2015

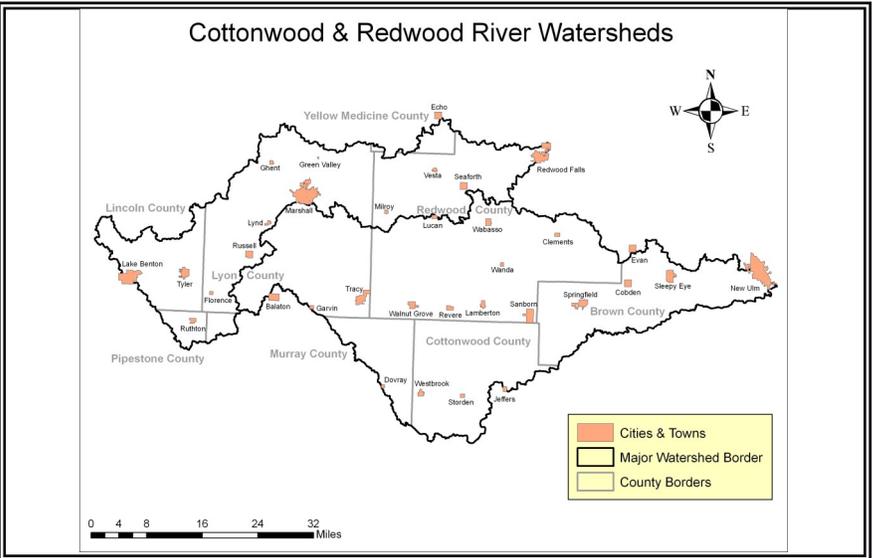
CWF Fund Categories

**Administrative, Project Development, and
Technical/Engineering Assistance Funds**

As of: 12/31/2013	Grant Budget	Expenditures
Administrative	\$1,600.00	
Project Develop.	\$1,000.00	
Technical	\$50,000.00	\$13,212.07
Org. Cash Match	\$18,000.00	\$6,735.78

Implementation Funds

BMP's	\$0.00	
Total CWF Budget	\$70,600.00	\$19,947.85



Overall Description

The Redwood and Cottonwood River Watersheds have been assessed and many reaches have been listed on the EPAs 303(d) list according to Minnesota Pollution Control Area (MPCA) protocol for turbidity, bacteria, and low dissolved oxygen. This project will accelerate conservation efforts to reduce overland runoff sediment, bacteria, and nutrient loadings contributing to water quality impairments through further refinement of already targeted sub-watersheds in the Redwood and Cottonwood rivers as outlined in (TMDL) studies. Activities through this project seek to create a suite of maps showing focus areas based on environmental sensitivity variables through GIS analysis using precision LIDAR DEM data obtained through a Minnesota Legislative edict. Staff technicians have been trained in the methodology of GIS based LIDAR data analysis using variables such as stream gradient, erodibility, land use, soils, and slope and will apply them to create media (maps and datasets) for distribution to partners in an effort to expedite funding to accelerate BMP implementation in the highest priority targeted areas of the Redwood and Cottonwood watersheds. Another goal of the project is to provide a means for organizational partners for prioritizing and targeting areas for future funding and BMP implementation addressing pollutant reduction goals of TMDLs and county water plans.

The project will employ a GIS technician at roughly .5 FTE/yr over two years to procure and analyze Light Detection and Ranging (LIDAR) Digital Elevation Model (DEM) datasets using ESRI's ArcMap 9.3 for Geographic Information Systems (GIS) and Spatial Analyst Extension. LIDAR datasets will have to be hydrologically corrected before analysis to account for culverts and bridges which may require ground truthing in some instances. Staff technicians have been trained in the methodology of GIS based LIDAR data analysis using variables such as stream gradient, erodibility, land use, soils, and slope. Using the LIDAR data in GIS, the elevation data can be spatially analyzed to create new data sets for the sub-sheds within the Redwood and Cottonwood Rivers that have been described as priority areas in TMDL reports and county water plans. LIDAR data provides a precise model of the relief of land surfaces. Methods for using the precision data in GIS systems to create datasets including the (SPI) Stream Powers Index, (CTI) Compound Topographic Index, (SCA) Specific Catchment Areas, (CSA) Critical Source Areas, and the like have been developed and ground tested for effectiveness of determining sediment and pollution movement potential when compared to ground truthing and surveying areas for completeness. These methods have been used for similar water resource planning projects in other watersheds of the state as a much cheaper and nearly as effective alternative to in field surveying to determine areas of highest need for conservation program projects.

PROJECT CONTACTS:

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