

CENTRAL REGION DOI SCIENCE ON THE LANDSCAPES FUNDS
Project Proposal Template

Project Title: Mancos Shale Landscapes: Science and Management of Black Shale Terrains (a Regional Partnership Project) {Note – this request applies to the USGS-BLM cooperative portion of the project}

Principal Investigators: Richard I. Grauch, Paul von Guerard, John G. Elliott, John J. Kosovich, and Geneva W. Chong

Partners/Collaborators and Affiliations: BLM (Scott Davis, Karen Tucker, Dennis Murphy, Jim Ferguson, Amanda Clements, and Heidi Hadley), BOR (John Harb, Julie Fahy), Fish and Wildlife Service, Gunnison Basin Selenium Task Force, Colorado River Basin Salinity Control Forum, and Grand Valley Selenium Task Force **Total Funding Requested:** \$225,000 in FY04

Proposal Submission Date: February 6, 2004

Problem: Why is the project/activity being proposed?

Technical assistance has been requested to develop scientific information that the Gunnison Gorge National Conservation Area (NCA) manager and staff can use to guide and justify the implementation of BLM's land-use plan for the NCA.

Objective: What are the goals of this project/activity?

1. Provide science to guide the development and implementation of the BLM land-use plan for the NCA. USGS scientists will work with BLM NCA staff to develop, implement, and evaluate research that results in technical information, techniques, and recommendations needed to support the ongoing process of adaptive management at the NCA. Equally important, we are developing a procedural model for widespread application that integrates the scientific skills of USGS scientists with resource managers' knowledge to provide scientific information that is usable and relevant to management needs, thus increasing our Science Impact.
2. Continue to develop the process for USGS scientists to work side-by-side with BLM NCA staff to develop a coordinated science strategy to support on the ground management. We propose that science planning become part of the management plan developed for the NCA. The goals of science planning are for a team of USGS scientists to represent science needs to support BLM NCA staff in their land-management activities. Support by USGS scientists would be provided through real-time consulting with BLM staff on science issues related to land management. This would be accomplished by USGS scientists participating in the BLM planning process. In addition, specific scientific research, identified in the science planning process for the NCA, would be done as resources allow. Currently, this research is focusing on problems specific to the NCA that have transferability to other BLM lands.

Scope: What tasks are to be accomplished and what geographic area does the project/activity encompass?

Tasks are listed in the budget table. Please note that the tasks interact at all levels from study design, to geographic scope, to analyses, to interpretation for the advancement of science and science-based management. All tasks will focus on the Gunnison Gorge NCA. Information and tools developed for this project will be transferable to other Mancos Shale landscapes in the western US. As time and funds permit, tools and interpretations will be tested on other Mancos Landscapes in the western US.

Approach: How will the project/activity results be accomplished?

BLM and USGS scientists and managers are working together to define specific study sites with immediate stewardship issues that can be addressed in a phased manner so that information and interpretations can be used to help formulate land use plans. Development of the Big File Cabinet (a data management and analysis concept) will be facilitated by the USGS General Information Office (GIO) and will allow interactive use of multiple data layers to answer management questions. The

research approach is being designed to maximize our science impact from the local, NCA scale to the broader DOI Landscapes Effort.

Benefits: What are the benefits to Federal science interests, partners, stakeholders, and the public? How will the awarded funding support the Director’s goals of integrated science?

This work is an example of how the USGS can provide defensible science for use in land management decisions. Additionally, we are at the cutting edge of our understanding of processes responsible for the physical, chemical, and biological (botanical and microbial) evolution of Mancos Shale landscapes. This research integrates work by all of the USGS’ major disciplines.

Outcome/Products: What products/outcomes will be developed from the project/activity?

The immediate goal is to provide information that can be used in planning by NCA management. The data, methodology, derivative products, information, and interpretations will be reported in a format that can be readily used by land managers. As time permits, data and interpretations will be published in peer-reviewed papers.

Budget: FY 2004 - \$216,309* from DOI Science on the Landscapes (these funds will be augmented by carryover from FY ’03, \$60,000 from BLM and approximately \$500,000 from GD, NMD, and BRD). Support from GIO will be required to facilitate web-based management of data and research activities. **NOTE:** FY 04 is the second year of this 5 year project; first year funding was provided by GD, NMD, BRD, BLM, and Central Region CRISP. We anticipate continued funding from most of the USGS Disciplines and BLM. The final year of the project, FY 2007, will require funding for final field work and lab expenses as well as significant support for writing/programming in collaboration with BLM.

3 YEAR BUDGET FOR DOI SCIENCE ON THE LANDSCAPES FUNDING (these funds are in addition to BLM and USGS Programmatic support)				
Purpose	Funds to	FY 04	FY 05	FY 06
Development of the Big File Cabinet (gathering, generating posting, maintenance of GIS data)	NMD (John Kosovich)	46,023	120,000	120,000
Plant and biological soil crust characterizations in relation to the NCA landscape	BRD (Geneva Chong)	26,847	120,000	120,000
Coordination of Mancos Shale project activities with local, state, and Federal entities	WRD (Paul von Guerard)	11,506	20,000	20,000
Simulated rainfall studies and landscape classification	WRD (John Elliott)	92,046	120,000	120,000
Geologic and geochemical framework, chemical weathering, project coordination	GD (Richard Grauch)	39,887	120,000	120,000
TOTAL	REQUEST	216,309*	500,000	500,000

*Post FY 2004 budget rescission

Timeline: What is the schedule for the major activities?

Office and laboratory work and communication between scientists and NCA managers are on-going. Field investigations were started in FY03, with analysis and synthesis started in the first quarter of

FY04. The initial analyses and compilation of data for the Big File Cabinet (1st and 2nd quarters FY04) will help direct FY04 field work (3rd and 4th quarters) in conjunction with input from NCA staff. This pattern will be followed at least through FY05 and FY06 to maximize the interactions between science and management and thus maximize our science impact.

Return completed proposal to CR Director's Program Planning Officer in electronic format. Please limit response to 2 pages or less.