

## Rocky Mountains CESU Project

### Integrating natural and cultural science at Grant-Kohrs Ranch for grade-school science teachers of Powell County, Montana

#### Summary:

We identified the natural resources underlying the cultural landscape at Grant-Kohrs Ranch National Historic Site (GRKO) and integrated that information for grade-school (5-7) curricula. Our goals were to help educators and students understand the fundamental features of the natural environment and how that contributed to the historic use (and contemporary issues) of the area as a working cattle ranch. While the cultural importance of the ranch is well documented, the reason it was built where it is relates to the underlying natural features of environment. The primary educational group that attended were grade school teachers (6) of the Deer Lodge school district. The workshop was also attended by two NPS staff who interface with the public.

The 3-day workshop, was successfully held July 20-22, 2005- and addressed 3 topics - water, vegetation, and wildlife - integrated with the issues of a working historical agricultural site. For example, water quality was discussed within the context of nutrient management and the implication for eutrophication, the role it played for the early agricultural and mining settlers. The workshop was prepared by a team of educators including Gary Swant (Deer Lodge High School ecology teacher, retired), Julie Croglio (GRKO Ed Specialist), Dr. Leigh Welling, Dr. Sallie Hejl, and Dr. Ben Bobowski. Each day at least three instructors interacted with teachers to develop or adapt a topic specific curriculum. The success of the field course was evident as participant and educator enthusiasm was high despite the very warm temperatures!!

Funding Source: Rocky Mountains CESU Technical Assistance Funding \$2500 via the Crown Of The Continent Learning Center; in-kind contributions from the Crown of the Continent Learning Center approximately \$500 and the Grant-Kohrs Ranch NHS approximately \$1000

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University Partner: University of Montana, Peter Rice

Student Participants: A bio-Aide in the Resources Division studying elementary school education at Montana State University acted as a teacher's aide and assisted with logistics, preparation, and participated in the workshop.

Follow-up of this Project - Enthusiasm was high and there is support for a second workshop to be held in FY06.

Publications, other reports expected/ with dates: No publications are expected.



# Grant-Kohrs Ranch Science-based Teacher Workshop!



**Dates held:** July 20<sup>th</sup> - 22<sup>nd</sup> 2005  
**Location:** Grant-Kohrs Ranch National Historic Site  
Deer Lodge, MT 59722  
**Credit:** 1 graduate credit

This three day workshop provided teachers with an advanced understanding of a variety of natural resource topics and how they relate to Grant-Kohrs Ranch NHS, the state of Montana, and western U.S. ranching heritage. Lesson plans were drafted to enhance science in the classroom, grades 4-8.



## Workshop Topics and Activities Addressed

### Wednesday July 20, 2005 ----- Range Management

8:00 a.m. <b>Welcome and Introduction</b>	everyone
8:15 a.m. <b>Goals of the Workshop</b>	Ben Bobowski
8:30 a.m. <b>The establishment of Grant-Kohrs Ranch</b> within the National Park System	Chris Ford
9:00 a.m. <b>History Hard Winter; changes in ranching</b>	Julie Croglio
<b>Break</b> 10 minutes	
10:30 a.m. <b>Cattle ranching; grazing practices and weed project</b>	Ben Bobowski (wagon ride)
12:00 p.m. <b>Lunch</b> 1 hour	
1:00 p.m. Vegetation Communities of Grant-Kohrs Ranch	Peter Rice, Univ. of Montana
<b>Hands-on Vegetation activities/Lesson Plan Development</b>	Gary Swant & others
5:00 p.m. <b>Depart</b>	

### Thursday July 21, 2005 ----- Water

8:00 a.m. <b>History of Valley &amp; Contemporary Issues</b>	Julie Croglio
9:00 a.m. <b>Flush with Power</b>	Lyndel Meikle
<b>Break</b> 10 minutes	
10:15 a.m. <b>History of Clark Fork Watershed &amp; Contemporary Issues</b>	Julie Croglio
12:00 p.m. <b>Lunch</b> 1 hour	
1:00 p.m. <b>Hands-on activities/Lesson Plan Development</b>	Gary & others
5:00 p.m. <b>Depart</b>	
5:30 p.m. (optional) <b>Cookout at the Ranch – Meet at the Chuckwagon</b>	everyone

### Friday July 22, 2005 ----- Wildlife/habitat

8:00 a.m. <b>Habitats – riparian wetlands grasslands</b>	Sallie Hejl
<b>Principles of wildlife ecology/autecology</b>	
12:00 p.m. <b>Lunch</b> 1 hour	
1:00 p.m. <b>Birding by habitat type/Lesson Plan Development</b>	Gary Swant
3:30 p.m. <b>Course Evaluations</b>	
4:00 p.m. <b>Closing</b>	