

Project Summary

Rocky Mountains Cooperative Ecosystem Studies Unit

Project Title: Using National Agricultural Imaging Program (NAIP) Color-Infrared (CIR) Imagery and Image Analysis Protocols to Monitor Land Cover and Habitat Change at Grand Teton National Park

Discipline: Natural
Type of Project: Technical Assistance
Funding Agency: National Park Service
Other Partners/Cooperators: University of Wyoming
Effective Dates: 3/1/2011 - 12/31/2012
Funding Amount: \$15,000

Investigators and Agency Representative:

NPS Contact: Kathryn Mellander, GIS specialist, Grand Teton National Park, P.O. Drawer 170, Moose, WY 83012; 307-739-3493; 307-739-3490 (fax); Kathryn_mellander@nps.gov

Investigator: Eli Rodemaker, Remote Sensing Scientist, WyGIS, Dept. 4008, University of Wyoming, 1000 E. University Avenue, Laramie, WY 82071, 307-766-2794; eli@uwyo.edu

Project Abstract: Wyoming Geographic Information Science Center's (WyGIS) role will be to design and test remote sensing protocols utilizing NAIP imagery, for time series analysis of habitat change. WyGIS will also provide technical assistance to the park's GIS staff in the use of image processing software (ERDAS and/or IDRISI) to implement the protocols, including quantitative and qualitative time series analysis of habitat change. This assistance will include the following:

- 1) Development of techniques/draft protocols for change analysis/detection as well as habitat characterization, using NAIP imagery and Landsat TM for calibration and/or verification
- 2) Training of in-park staff for use of the protocols developed in 1), including specific software functionality, statistical methodology, and full accuracy assessments of methods and results. This will require several visits to the park by WyGIS staff to work directly with NPS GIS personnel.
- 3) Development of written technical support documentation of appropriate methods utilizing project software to implement the change analysis protocols at Grand Teton National Park

Additional funding (\$3,000) for this project is being provided through a grant from the UW-NPS Research Center, for protocol testing and documentation work. The funding is not in this agreement budget.

Outcomes with Completion Dates:

All products due: October 31, 2011

Keywords: remote sensing, monitoring, land cover, habitat change, Grand Teton National Park, University of Wyoming, Wyoming Geographic Information Science Center's (WyGIS)