

**Award Number: P14AC00740**

**Project Number: NAU-442**

**Park/NPS Unit:** Glen Canyon National Recreation Area and Northern Colorado Plateau Network

**Title of Project:** Glen Canyon Vegetation Mapping Project

**Administered through the:**  Colorado Plateau Cooperative Ecosystem Studies Unit Cooperative Agreement Number H1200-09-0005

**CESU Partner:** Northern Arizona University

**PROJECT CONTACTS:**

**Principal Investigator:** Dr. Tina J. Ayers, Associate Professor, Northern Arizona University, ABOR, Biological Sciences, PO Box 5640, Flagstaff, AZ, 86011-5640, 928-523-9482, Fax - 928-523-7500, tina.ayers@nau.edu

**Partner Administrative Contact*:***Cindy Judge, Office of Grants and Contracts, Northern Arizona University, PO Box 4130, Flagstaff, AZ 86011; 928-523-6719, cindy.judge@nau.edu

**NPS Certified ATR:** Dr. Dustin W. Perkins, Program Manager, National Park Service, Northern Colorado Plateau Network, Environmental Studies Department, Western State Colorado University, 600 N. Adams St., 106 Kelley Hall, Gunnison, CO 81231, 970-589-1474, Fax - 970-943-3380, dustin\_w\_perkins@nps.gov

**NPS Technical Expert:** Dr. Karl Brown, Vegetation Inventory Program Manager, Biological Resources Division, Natural Resource Program Center, 1201 Oak Ridge Drive, Suite 200, Fort Collins, CO 80525; 970-225-3591; 970-225-3585; Karl\_Brown@nps.gov

**FUNDING INFORMATION:**

**Amount Funded: $125,020**

**NPS Account Numbers (amounts in parentheses): PPWONRADI4 PPMRSNR1N.AM0000 ($125,020)**

**Fund Source (e.g., ONPS, FLREA, CRPP, CESU, etc.): I+M**

NPS Funding

Is this funded using a reimbursable account number? If yes, IMR contracting needs a copy of the Interagency Agreement.

**PROJECT DATES:**

**Start Date:** 8/15/2014

**End Date:** 3/30/2016

**NPS Administrative Contacts**

**Interim CESU Coordinator: Todd Chaudhry**, CPCESU Research Coordinator, NAU P.O. Box 5765, Flagstaff, AZ 86011, 928-523-6638, Fax: 928-523-2014, todd\_chaudhry@nps.gov

**Intermountain Region Administrative Contact:** Kelly Adams, Grants and Agreements Specialist, National Park Service, 12795 West Alameda Pkwy, Lakewood, CO 80228 Phone: 303-969-2303 Fax: 303-969-2992 Email: Kelly\_adams@nps.gov

**FEDERAL FINANCIAL REPORTS AND DRAWDOWN SCHEDULE:**

***Federal Financial Reports*** (Check as required for project based on spending plan, period of performance, risk, cooperator history, etc.)

{X } Quarterly { } Semi-annually { } Annually {X} Final

**Project SCHEDULE AND TECHNICAL REPORT DEADLINES:**

List all technical reports and products in sequential order as required in the scope (more lines and milestones can be added as needed):

*Project Start Date* – 8/15/2014

*Technical progress reports –* { } Quarterly { } Semi-annually {X } Annually

*Data entry and checking –* November 1, 2014 to December 1, 2015

*Database and Maps Provided to the NPS ATR –* December 15, 2015

*Collections/Specimens and Archives –* December 31, 2015

*Investigator’s Annual Report (IAR)* – March 30, 2015

*Draft Final Report* – December 1, 2015

*Final Report* – December 31, 2015

*Project End Date* – March 30, 2016

*Final Invoice* – March 30, 2016

*Final SF425 FFR* must be submitted within 90 days of project end date

**CESU REQUIRED PRODUCTS (may be different from those products required by the ATR – See Statement of Work for Products required by the NPS unit):**

The Principal Investigator will prepare a brief report abstract suitable for public distribution and two hard copies and an electronic version (in PDF file format) of the final report and mail all toDr. Judy Bischoff, CPCESU Research Coordinator, NAU P.O. Box 5765, Flagstaff, AZ 86011. Please be sure to include the project number (e.g.; NAU-###, UMT-###, UAZDS-###) and the P number on the cover page of the final report.

**PAYMENTS**

**2 CFR PART 215.22*:*** Cash advance (drawdown) to recipient organization shall be limited to the minimum amounts needed and be timed to be in accordance with the actual immediate cash requirements of the recipient organization in carrying out the purpose of the approved program or project. The timing and amount of cash advances shall be as close as is administratively feasible to the actual disbursements by the recipient organization for direct program or project costs and the proportionate share of any allowable indirect costs.

**2 CFR PART 215.25 (8)(e)(1):** Incur pre-award costs 90 calendar days prior to award or more than 90 calendar days with the prior approval of the Federal awarding agency. All pre-award costs are incurred at the recipient’s risk. (i.e. the Federal awarding agency is under no obligation to reimburse such costs if for any reason the recipient does not receive an award or if the award is less than anticipated and inadequate to cover such costs.)

**PROJECT ABSTRACT:**

Northern Arizona University (NAU) is selected to support the field crew effort for the vegetation sampling to complete a vegetation map for Glen Canyon National Recreation Area (GLCA). This map is being completed in conjunction with GLCA and Northern Colorado Plateau Network (NCPN) staff. This effort will span the 2014 - 2015 field seasons, with hitches between August 2014 and June 2015. Crews will be located in Flagstaff, AZ. All crew member hiring, salaries, training, equipment, per diem, and vehicles are included. Field equipment and herbarium supplies, as well as training materials and printing expenses are included. Data reduction and data checking are included.

**Scope of Work:**

The National Vegetation Mapping Program is a project to inventory, classify, describe, and map vegetation in more than 270 national park units within the United States. Consistent vegetation classification, mapping, and accuracy assessment protocols and standards are applied across projects supported by this program. The National Vegetation Mapping Program is administered by the USGS Center for Biological Informatics in cooperation with the NPS Inventory & Monitoring (I&M) Program. Through implementation of the National Park Service (NPS) Natural Resource Challenge (NPS 1999), significant funding became available for completing important natural resource baseline inventories in park units, including vegetation classification and mapping. This support provided the NPS with the opportunity to move forward with dozens of new park unit vegetation classification and mapping projects, including GLCA.

Graduate students and the PI will benefit through increasing their exposure with central Colorado Plateau botany, and the potential to augment the collections in the Deaver Herbarium at NAU (curated voucher specimens are deposited in the GLCA Herbarium, and duplicates, when available, are deposited at the NAU Deaver Herbarium). Furthermore, the potential for exposing undergraduate botany students to rare and unusual plants and vegetation of the Colorado Plateau will further the mission of the NAU Biology Department. The vegetation layer will be of use by academics, NGO’s and the interested public. This portion of the Colorado Plateau is not well known, and there are likely to be significant scientific discoveries made. This project will describe and map existing plant associations and to provide this information in written, tabular, digital, and spatial formats useful to park resource managers, the I&M Program, and others. The basic project components consist of a classification and description of the park’s vegetation and a spatial database encompassing an interpretation of the vegetation from aerial imagery.

Vegetation mapping work for GLCA, which began in 2011, is currently underway and is being accomplished through a collaborative effort between NCPN, GLCA, and NAU. NCPN provides overall direction and management of these projects and is substantially involved in all project components including data analysis and management and report preparation. NAU provides field researchers with botanical expertise to complete field work, plant identification, and data entry. Dr. Tina Ayers will direct the project as Principal Investigator (PI). The NPS Technical Contact is Dr. Karl Brown. Dr. John Spence is the GLCA technical contact, and Dr. Dusty Perkins, NCPN Program Manager, is the ATR.

This task agreement is for $125,020 for monitoring work in Fiscal Year 2014-2015. This is a continuation of a project initiated with funding from FY2012 ($218,977) and FY2013 ($24,823) funds.

Field Inventory Work – Field plot data collection by NAU cooperators will comply with NPS vegetation mapping standards (http://science.nature.nps.gov/im/inventory/veg/docs/Veg\_Inv\_12step\_Guidance\_v1.1.pdf). Duties of the NAU include:

1. Select and hire 2014-2015 field crews;

2. Conduct field sessions with four field crew members, and provide support and funding for field work, August 2014 to June 2015;

3. Finish data entry, verification, and validation for 2014-2015 data collection;

4. PI programmatic support for agreement oversight.

The planned budget for Phase 1 of the combined 2014-2015 effort is $125,020 (spreadsheet is attached).

Documentation and Data Management - At the conclusion of each field season, after data have been entered, verified and validated by NAU, all records entered to date for survey locations within NCPN park units will be provided to NCPN in an MS Access database.

**COOPERATIVE AGREEMENTS OR TASK AGREEMENTS INVOLVING COOPERATORS WORKING ON-SITE**

**Background**

In cooperative agreements or task agreements with universities where the university utilizes interns, student employees, research associates (RAs) or cooperators on-site (hereafter called “cooperator personnel”), these cooperator personnel sometimes work on government sites in close proximity to federal employees. It is illegal (without specific statutory authority) for federal employees to directly supervise the cooperator personnel or any university employees or for the students or other university employees to supervise federal employees. When cooperator personnel are working on an NPS site, it is important that there is a clear distinction between students and federal employees.

**Office Environment and Vehicles**

* The office space of the cooperator personnel and NPS personnel should be clearly labeled (Name and NPS or University affiliation on office or cubicle space).
* Cooperator personnel should be listed separately from NPS personnel in telephone lists, other identification or organizational rosters, and publication credits.
* Cooperator personnel should not receive “all-employee” e-mail or other communications intended for NPS personnel (unless it relates directly to the work the cooperator is doing for the NPS). When the e-mail does relate to the work being done, a copy of the same e-mail message should be sent to the University or cooperator’s supervisor.
* Cooperator personnel may use NPS e-mail systems when the communication relates directly to the work the cooperator is doing for the NPS. The e-mail addresses of the cooperator personnel must include a label associated with their NPS e-mail address that identifies the cooperator’s status (i.e., “Linda Webb, Cooperator” would be the label associated with the e-mail address, [linda\_webb@contractor.nps.gov](mailto:linda_webb@contractor.nps.gov)). Doing so clearly identifies this individual each time they send an e-mail message using the NPS system, and it identifies their status as a research associate, student intern or student employee in the e-mail directory.
* Unless stipulated in the agreement, cooperator personnel should not drive government vehicles.
* Unless stipulated in the agreement, cooperator personnel should not ride as a passenger in a government vehicle. When this is planned as part of the agreement, an appropriate amount of liability insurance should be negotiated.
* Prior written approval by the Park Superintendent or Center Manager must be obtained in order for a task to allow cooperator personnel to drive or ride in government vehicles.

**Supervision and Scheduling**

* Each task must specify the university’s/cooperator’s supervisor for the cooperator personnel.
* Unless stipulated in the agreement, NPS staff should not set hours for cooperator personnel, specify where the work should be done, or conduct performance appraisals. National Park Service staff may give performance feedback to the cooperator personnel supervisor.
* Cooperator personnel should report leave, scheduling, and other related issues to the university or cooperator’s supervisor, not to NPS employees. The supervisor of the cooperator personnel should then communicate with the NPS. National Park Service employees cannot directly supervise cooperator personnel on a day-to-day basis. Work should be given to the cooperator personnel (via the cooperator’s supervisor) on a “task basis.” Cooperators should work without NPS supervision to accomplish each task, although technical consultations and cooperation is permissible.
* The Cooperator will be responsible for any disciplinary action needed to correct student employee conduct or performance problems. The NPS agreements technical representative will inform the university/cooperator’s supervisor of any conduct or performance problems.
* The Cooperator will remove student employees from their positions if they fail to improve performance or address conduct issues.
* The NPS will review and provide feedback to students or interns regarding work assignments.
* The NPS will inform the cooperator of conduct or performance problems with cooperator personnel so that the university can counsel employees and correct the performance problems.
* The NPS will recommend to the cooperator dismissal of cooperator personnel based on conduct or performance issues.
* The Cooperator will hire students, interns or RAs to work on NPS tasks identified in the agreement. Hiring will be conducted in consultation with the NPS Agreements Technical Representative (ATR).
* The Cooperator will: pay students, interns or RAs for hours they have worked in support of the agreement.

**Representation and Communication**

* Cooperator personnel cannot in any way represent themselves to the public as NPS employees.
* Cooperator personnel are required to wear visible identification at all times.

**Other Issues**

* Cooperator personnel should not list an NPS affiliation on publications, but rather should list the cooperative agreement under which the work was performed.
* Cooperator personnel should not be invited to official NPS “social” events.
* Cooperator personnel are not authorized to purchase property and supplies with government funds.
* Cooperator personnel will follow the local policy of the facility when federal facilities are closed due to early release for holidays, snow days, etc.

**PRODUCTS:**

1)Sampling of points with description of vegetation, spatial locations, and physical characteristics. 2) A final database of the field data to be used by contractors to prepare GIS mapping layer. 3) Quality checking and quality assurance on the field data and final database. 4) Additions to the flora of Glen Canyon NRA as they are discovered during field sampling, as herbarium-ready specimens. 5) Final report including the above products.