

## Proposal for Internship Approval

NAU ID

### Learning Objectives

This Resource Management Internship will be located at Pipe Spring National Monument near Moccasin, AZ on the Paiute Indian reservation. The National Park Service will be hosting and supervising my internship however Southern Utah University will be sponsoring my employment via the Intergovernmental Internship Cooperative (IIC).

Pipe Spring National Monument provides interpretation and preservation of a site which includes several historic sandstone structures, multiple natural springs, and the associated cultural and natural landscape. While the primary goal of the park is to provide insight for the public into this National Monument, the park also has a responsibility to conserve the environmental integrity and preserve flora and fauna indigenous to the area. The Resource Management division of Pipe Spring NM is responsible for this and other related tasks.

Direct supervision and mentoring for this internship will be given by Brian Black who is the Resource Management Technician at Pipe Spring NM. Some learning objectives set out by Mr. Black for myself during my employment will include *vegetation management and restoration, GPS data collection and data management and historic preservation and documentation as well as an independent project of my choosing to be completed or established before the end of my employment at the monument.*

### Tasks

In order to accomplish these learning objectives Mr. Black has outlined several tasks to allow me to gain these skills.

- **Vegetation management:** Intern will learn to identify both native and non-native plants within the monument. With the aid of the mentor, management plans will be determined for multiple areas on the monument (historic district; visitor use areas; park housing/administrative areas; and natural shrubland, grassland, and wetland areas) and actions will be taken to manage both native and non-native plants in order to support the park's goals.
- **GPS data collection and data management:** Intern will learn how to use a handheld GPS unit to track and document any resource management efforts within the monument. This data will then be managed using ArcGIS to develop project maps and document management activities.

- **Historic preservation and documentation:** Intern will aid in the management of the park's historic district and associated structures. Restoration and maintenance activities will occur in cooperation with park maintenance/historic preservation personnel and will be documented to NPS standards.
- **Independent project:** Intern will complete an individual project and report related to an aspect of resource management at Pipe Spring National Monument.

Mr. Black and the onsite field biologist and archaeologist will be teaching me the skills necessary to complete these tasks giving me direct supervision and guidance when needed or requested.

### **Planned Accomplishments**

Upon completion of this internship I will have gained experience in plant identification, GPS use, data management, vegetative restoration, integrated pest management, irrigation systems, plant propagation and management, water monitoring, historic preservation techniques/ documentation, presentation of data and observations, and other skills directly or indirectly related to resource management and environmental sciences. I will also be required to complete agency training including: CPR/First Aid, defensive driving, Integrated Pest Management, pesticide use, and respirator training.

Specific accomplishments include:

1. Removing invasive grasses and plants on the monument that threaten native species and alter ecosystem functions.
2. Expand existing native grass restoration area and monitor inclosure for non-native plants and overall health..
3. Create and monitor restoration plots of native grasses utilizing differing treatments and species in each plot.
4. Aid in the completion of plaster rehabilitation efforts in a historic building and associated documentation.
5. GPS map irrigation systems currently in place, fruiting trees in historic orchard, invasive species removal sites, sites where vegetative restoration has occurred, etc. and manage this data in ArcGIS.
6. Document all research, observations, management options/plans, and actions that may be taken in regards to any resource management or archeological field work as well as document day to day tasks.
7. Identify, propose, and begin research for independent project which can be used by the park and possibly for my capstone at NAU.

**Signature of Mentor**

**Date**

---

**Signature of Intern**

**Date**

---