



MOSAICS IN SCIENCE

Diversity Internship Program

2021 Project Descriptions

NPS UNIT: HOMESTEAD NATIONAL MONUMENT OF AMERICA	PD #: 2021507
<p>Project Title: Resource and Interpretation Intern - Monitoring Freshwater Mussels Position Type: Mosaics PLC Primary natural resource discipline: Biological Sciences Project keywords: Mussel, Research, Water Quality, Stream, Education Location: Beatrice, Nebraska</p>	
COVID-19 NOTICE	
<p>As the COVID-19 pandemic continues to change and evolve, project timelines and structure remain flexible and it may be necessary to postpone start dates, begin work remotely, or reformulate the project's description. Should any development in the COVID-19 outbreak impair a project's timeline or results, the SIP Team will work with the park and project mentors to assess the situation and determine the best course of action at that time.</p>	
PROJECT DESCRIPTION AND WORK PRODUCTS	

Position Description: Homestead National Monument of America is a National Park Service site in southeast Nebraska. The Park contains about 110-acres of restored tallgrass prairie, 60 acres of oak riparian woodland and just over a mile of stream. This intern will work under the Natural Resource Specialist who serves under the Chief of Interpretation and Resource Management. The intern will be involved with the day to day operation of the Division of Interpretation and Resource Management. The main project for the intern will be determining the success of the 2020 stocking of the Fatmucket and Plain Pocketbook mussels into Cub Creek.

In July of 2020 Fatmucket and Plain Pocketbook mussels were reintroduced into Cub Creek by the Nebraska Game and Parks Fisheries Division. Two-hundred fifty of each species were stocked at each of the two sites for a total stocking of 1000 mussels. One hundred of each species were fitted with passive integrated transmitters (a reader was purchased with FY2020 end of year funds). Those 200 mussels were spread evenly over the stretches that were stocked. All the mussels that were stocked were marked with glue dots, Fatmucket with black dots and Plain Pocketbook with white dots.

The study will be conducted with input from Nebraska Game and Parks and will involve extensive searching of the reintroduction sites locating and measuring all the mussels that are encountered. The data will be then analyzed with the Nebraska Game and Parks data that was collected at the time of introduction to determine success and growth rate.

When the intern is not working with the mussel project they will assist the resource manager with their normal job duties including: water quality monitoring, mosquito monitoring, vegetation monitoring through repeat photography, exotic and invasive vegetation control, assisting with education programs and assisting with visitor services.

Pending the pandemic, one of the education projects that the intern will be heavily involved with is a water quality monitoring project with local schools. Rangers, interns and volunteers guide students as they monitor physical and chemical parameters of the creek including pH, conductivity, dissolved oxygen, turbidity, nitrates, phosphates and alkalinity. If the students are unable to assist, the intern will complete the testing on their own.

Interns are encouraged and given opportunities to interact with all divisions and see how the team works together to achieve the common goals of serving the park users and ensuring that the natural resources are maintained in an unimpaired fashion for future generations.

This project will provide "real world" field experience which will complement their classroom or lab work greatly enhancing their resumes. It demonstrates how what they are learning in the classroom is used in the field. It also will introduce them to a variety of career options with the NPS they may not have considered, especially in the field of resource management.

The project is necessary to ensure that the 2020 mussel reintroduction is properly monitored and documented. Without this position limited staffing will limit what monitoring can be accomplished in 2021. There is still a lot to be learned about mussels. Only one survey has been completed within the park and limited research has been conducted by the Nebraska Game and Parks and other entities in the state of Nebraska. The research and monitoring that Homestead can complete will be of state importance and possibly National significance.

The impact of the project on the intern is hard to estimate, however, during the summer of 2020 four high school aged Youth Conservation Corps members assisted with the initial survey. The genuine

NATURAL & PHYSICAL WORK ENVIRONMENT

Homestead NM of America is located 4 miles west of the town of Beatrice, Nebraska, population 12,000. The 212 acre monument is surrounded by agriculture, mainly corn and soybeans. The average highs are: May 75, June 83 and July 89. Southeast Nebraska is known for its humidity. A good percentage of this project will be spent working in the field.

QUALIFICATIONS

The applicant should have enthusiasm for field work and data analysis. A degree in biological sciences is preferred but not necessary. The applicant must have the physical ability to work in a flowing creek and able to climb up and down the steep creek banks.

The applicant must be a U.S. citizen or U.S. permanent legal resident (“green-card-holder”) between the ages of 18 and 30 years old, inclusive, or veterans up to age 35. Prior to starting this position, a government security background clearance will be required.

VEHICLE AND DRIVER LICENSE REQUIREMENTS

Applicant must have a valid drivers license and a good driving record.

A personal vehicle is REQUIRED for this position.

HOUSING

Park housing is available and will be provided at no cost to the participant. You will share a furnished 3 bedroom, 2 bathroom house. The park provides wi-fi, television, telephone, washer, and dryer. The kitchen is a shared area. Pots, pans, dishes, utensils, etc. are provided. Personal transportation required. Each intern gets their own bedroom. Interns will need to provide your own linens.

INTERNSHIP START/END DATES

Start Date: 5/17/2021

End Date: 7/30/2021

Eleven weeks of the internship will be in the park. A mandatory Career and Leadership Workshop will be held in Washington, D.C. from August 1 – 5, 2020.

PLEASE DIRECT ANY QUESTIONS TO ENVIRONMENT FOR THE AMERICAS

Email: mosaics@environmentamericas.org