



Latino Heritage Internship Program

LATINO HERITAGE INTERNSHIP PROGRAM

Diversity Internship Program



NPS UNIT: GRAND CANYON NATIONAL PARK	PD#: 74
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Position Title: Advancing Monarch Butterfly Conservation Efforts through Resource Stewardship, Citizen Science, and Education and Outreach
Position Type: LHIP Traditional Internship (Public Land Corps)
Primary natural resource discipline: Resource Management
Location: Grand Canyon National Park, 17 South Entrance Road, Grand Canyon, AZ 86023

PROJECT DESCRIPTION

Position Description: Since the 1980s, Monarch butterflies (*Danaus plexippus*) have suffered grave declines as population size has plummeted from 4.5 million in the 1980s to fewer than 30,000 individuals in 2019. In 2014, these drastic declines prompted a petition to the USFWS to list monarch butterflies under the Endangered Species Act, and a decision on federal protection will be released on 12/15/2020.

Grand Canyon National Park (GRCA) and the Colorado River occur along a critical monarch butterfly (hereafter referred to as ‘monarchs’) migration flyway and offer host plants (i.e. Milkweed) that are essential for monarch survival. Unfortunately, this once common and widespread butterfly species is suffering severe population declines, and immediate action is needed to prevent species extinction.

This project will enable a LHIP intern to advance monarch butterfly conservation efforts by converting degraded land (e.g., roadside and trail corridors) into favorable monarch habitat by establishing milkweed and other nectar-rich plant species. The intern will engage the public in monarch conservation efforts through citizen science, resource stewardship, and by sharing information at a 1/2 day pollinator festival. The intern and mentor will share project results by developing and publishing a manuscript.

PROJECT GOALS

- 1) Improve park and public understanding of the distribution and phenology of monarchs and milkweeds in GRCA by entering milkweed locations and monarch sightings into the Western Monarch Milkweed Mapper (<https://www.monarchmilkweedmapper.org/>).
- 2) Advance monarch conservation efforts by establishing milkweed and other nectar-rich plant species at two high visitor use locations on the South Rim. Habitat creation tasks will include native seed collection, plant propagation, out-planting, and irrigation.
- 3) Increase public awareness and engagement in monarch conservation by partnering with the park Volunteer Coordinator to engage the public in citizen science (i.e. Western Milkweed Monarch Milkweed Mapper), resource stewardship (i.e. seed collection, plant propagation, out-planting), and natural history.
- 4) Increase public awareness and engagement in monarch conservation by assisting park staff hosting a ½ day pollinator festival during National Pollinator Week.

5) Increase monarch conservation awareness amongst the National Park Service and public by developing and submitting a manuscript for potential publication in NPS IMR Crossroads in Science.

PARK/PROGRAM NEEDS THAT WILL BE MET

This project will enable the intern and park to contribute to GRCA Strategic Plan (2021 – 2025) Goal 1: Hire and Develop our Workforce: I.2.c; and GRCA Strategic Plan Goal 2: Expand Science and Data Gathering, Strategic Plan Link: III.2.a. This project will enable the intern and park to complete critical monarch conservation actions described in the WAFWA Western Monarch Butterfly Conservation Plan (2019).

DUTIES/TASKS/DELIVERABLES

- 1) Collaborate with the Internship Supervisor/Mentor and Volunteer Coordinator to engage volunteers citizen science data collections (i.e. Western Monarch Milkweed Mapper) and resource stewardship (i.e. seed collection, plant propagation, and out-planting).
- 2) Assist park staff with planning and conducting a ½ pollinator festival during National Pollinator Week. Research and share information on how Mexican traditions are connected to the monarchs' fall arrival in Mexico.
- 3) Share project results (i.e. oral presentation) and recommended management actions with park decision-makers at a GRCA SRM Program Managers meeting.
- 4) Co-author an article highlighting this project for potential publication in NPS IMR Crossroads in Science.

RESPONSIBILITIES

- 1) Collaborate with identified park staff to complete the tasks described above.
- 2) Meet weekly with the internship supervisor/mentor to develop leadership and critical thinking skills.
- 3) Be safe, learn new skills, and have fun!

This position is offered through the National Park Service's Latino Heritage Internship Program in partnership with Environment for the Americas.

COVID ACCOMMODATIONS

No

LEARNING GOALS

New Skills – Work with the intern supervisor/mentor to learn and develop leadership, critical thinking, oral and written communication, scientific research skills. Training – DOI Talent Leadership Development courses, DOI Talent Scientific Integrity, NSC Defensive Driving Course 10th Edition. Personal and Professional Development - Outdoor living skills (i.e. hiking, camping, cooking).

MENTORING

Lonnie Pilkington will serve as the intern supervisor and mentor. Mr. Pilkington has worked for the NPS for 20 years and has extensive experience working with students from under-represented groups. Mr. Pilkington will

meet with the intern weekly to ensure the intern has the necessary tools to be successful. To guide this mentorship, Mr. Pilkington and the intern will utilize mentoring resources (i.e. The Mentor's Guide and The Mentee's Guide) found on the Mentor, Mentorship, and Mentoring Resources in the NPS webpage (<https://mylearning.nps.gov/library-resources/mentor-mentorship-and-mentoring-resources-in-the-nps/>). Mr. Pilkington will pair the intern with a permanent GRCA staffer who will assist the intern in developing a lasting relationship with the NPS. The intern will develop written and oral communication skills through preparing a research poster and manuscript, attending a professional meeting, and presenting to GRCA SRM Program Managers. The intern will attend New Employee Orientation and Meet and Greet with the Superintendent. During weekly meetings, Mr. Pilkington and the intern will discuss vegetation management project development, available fund sources, agreements, contracts, personnel management, problem solving, and partnerships. The intern will have the opportunity to network with rare species conservationists from the USFWS.

PROJECT RESULTS

Late June - Share monarch conservation information with the general public at a 1/2 day pollinator festival. Late July - Share project results (i.e. oral presentation) and recommended management actions with park decision-makers at a GRCA SRM Program Managers meeting. Late July – Share project results with the general public and scientific community by developing and submitting a manuscript for potential publication in NPS IMR Crossroads in Science.

LEADERSHIP

The intern and mentor will simultaneously complete and discuss the following three DOI Talent leadership development courses: Building a Leadership Development Plan, Influencing through Positive Leadership, and Gauging Your Leadership Performance. The mentor and intern will work together to create a leadership development plan for the intern. The intern and mentor will utilize tools learned in the Gauging Your Leadership Performance course to evaluate and increase leadership development. The intern and mentor will work together to develop critical thinking skills based on Strategies to Increase Critical Thinking Skills in Students (<https://www.teachbetter.com/blog/strategies-to-increase-critical-thinking-skills-in-students/>). During weekly meetings, Mr. Pilkington and the intern will discuss vegetation management project development, available fund sources, agreements, contracts, personnel management, problem solving, and partnerships.

DHA-RAI OUTCOMES

The experiences obtained through this internship will result in a well-versed, diverse NPS ambassador.

NATURAL & PHYSICAL WORK ENVIRONMENT

Physical Work Environment: The South Rim of Grand Canyon National Park is located in Northwest Arizona, approximately 60 miles north of Williams and 85 miles Northwest of Flagstaff at an elevation of 7,000 feet. The Science and Resource Management building is located within Grand Canyon Village at 17 South Entrance Road. Temperatures range from approximately 85 degrees in the summer to 17 degrees in the winter. Grand Canyon Village has schools K-12, a daycare center, post office, general store, banking facilities, churches, a recreation center, a clinic with resident physicians and several restaurants. The park provides a wealth of recreational opportunities which include hiking, river rafting, rock climbing, wildlife viewing and photography, and fishing. The park community consists of some 2,000 people, including employees of the NPS and concessionaires and their family members. The park community is small enough that many employees choose to walk or bike from their homes to work and other amenities (≈ 1 mile). Complete shopping, educational, medical and professional services are available in Williams and Flagstaff. Grand Canyon Village and nearby Tusayan offer small Latino communities and larger Latino communities occur in Williams and Flagstaff. k housing is available.

Work Environment: Work Environment: This internship will provide a variety of field (50%) and office (50%) work. The intern may be required to travel to remote locations within GRCA and overnight back-country camp. GRCA will provide an office work space with necessary equipment. Field based tasks will involve working in a desert environment in rugged terrain with exposure to extreme temperatures (100+° F). Field based tasks will involve hiking with a heavy pack for prolonged periods of time (up to 6 miles per day). GRCA will provide all the necessary safety training to ensure a safe work environment.

VEHICLE AND DRIVER LICENSE REQUIREMENTS

Applicant must have a valid driver's license and a good driving record. The park will provide a work vehicle for completing work tasks. For off-duty hours, a personal vehicle is recommended but not required. The park offers a free bike share program and a bike is an effective form of transportation on the South Rim. In addition, a free bus shuttle (<https://www.nps.gov/grca/planyourvisit/shuttle-buses.htm>) provides transportation to many popular locations on the South Rim.