



SCIENTISTS IN PARKS

PROJECT DESCRIPTION SUMMER 2021

NPS UNIT: CHIRICAHUA NATIONAL MONUMENT	PD #: 2021154
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Project Title: Natural Resource Management Assistant for Acoustic Wildlife Monitoring of Bats and Birds (1)

Primary natural resource discipline: Biological Sciences

Project keywords: Biology, Wildlife, Bat, Bird, Acoustic, Monitoring, Soundscape

Location: Willcox, Arizona

COVID-19 NOTICE

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.

PROJECT DESCRIPTION AND WORK PRODUCTS

Position Description: The intern selected for this position will be part of the natural resource management team, helping to achieve resource management goals by monitoring threatened and endangered (T&E) species in all three parks within the Southeast Arizona Group: including Chiricahua National Monument, Coronado National Memorial and Fort Bowie National Historic Site. The trio of parks are located near the International Border which separates the United States and Mexico. Coronado National Memorial in particular is facing major changes in the near future from the development pressures of a new 30 ft. tall barrier fence that is currently under construction and will have impacts to wildlife in the park. The goal of this project is to collect a comprehensive set of acoustic data and wildlife camera trapping data for each of the three park units to monitor T & E species, study how changes in the environment impact park soundscapes over time, and for park interpretive use.

The intern’s primary responsibilities will be to collect datasets that document, acoustically and photographically, the current state of the parks wildlife. The work will include maintaining, deploying and retrieving acoustic monitors and wildlife cameras throughout the park including the backcountry, downloading the data, analyzing and identifying wildlife species from the data , maintaining a digital database of identified species by date, time, and location, and recording information about the physical location of the deployment sites (GPS location, Photo Point documentation etc.). The parks have both active and planned research and monitoring for bat communities, lesser long-nosed bats, yellow-billed cuckoos, and Mexican Spotted Owls. The intern will work with cooperating researchers to set up bat monitoring equipment and participate in bat exit counts. In addition, the intern will assist the Park Biologist in writing reports to inform park management decisions and expand visitor understanding and satisfaction.

Secondary duties will include assistance with other natural resource management projects including invasive vegetation monitoring and treatment, native vegetation restoration, and integrated pest management duties.

The datasets and reports that are created through this internship will provide park managers with critical information that can be used to evaluate changes in the soundscape of wildlife species at Coronado National Memorial over time due to the construction of the 30 ft. tall barrier fence on the international

border between the United States and Mexico. In addition they will form a solid baseline of data of species presence/absence for all three Southeast Arizona Group parks that can be compared to data in the future to determine changes in species composition in bat species due to White-nose Syndrome in bats which has been detected in nearby states. The bat acoustic monitoring data will follow the North American Bat Monitoring Program which is a continent-wide program designed to to monitoring bats at a variety of spatial scales from local to range-wide that will provide reliable data to promote effective conservation and long-term viability of bat populations across the continent. Bat data will be uploaded to the North American Bat Monitoring Program for use on a national level as well as a park level. The bird monitoring data will provide much needed Threatened and Endangered species information about bird occupancy and habitat use in the three parks. The final reports of T&E species will be provided to the US Fish and Wildlife Service as required under the Endangered Species Act. Finally this baseline data will help us to be able to reliably document changes in the soundscape of bat and bird species over time due to climate change.

This position is offered through the National Park Service's Scientists in Parks (SIP) Program in partnership with Stewards Individual Placement Program (Stewards) and The Geological Society of America (GSA).

Work Products: Acoustic digital datasets will be created for multiple locations in each of the three parks in the Southeast Arizona Group. The acoustic and photographic databases will include identified species by date, time, and location, and recording information about the physical location of the deployment sites (GPS location, Photo point documentation etc.) developed following specific protocols. The intern will assist the Park Biologist in writing reports to inform park management decisions and expand visitor understanding and satisfaction. Bat data will be uploaded to the North American Bat Monitoring Program for use on a national level as well as a park level. The final reports for T&E species will be provided to the US Fish and Wildlife Service as required under the Endangered Species Act.

QUALIFICATIONS

Applicants must have completed at least 3 years toward a bachelor's degree in the life sciences (biology, wildlife ecology, natural resource management, etc.) or a closely related field from an accredited institution. Courses in mammalogy, wildlife management techniques, and GIS are desired. Experience with ArcGIS, acoustic monitoring equipment and software, radio tracking devices and techniques, Microsoft database management, is preferred. Applicants should also have strong communication skills, both verbally and in writing.

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.

If the SIP is required to drive a park vehicle for their position, Stewards will perform a driving records search, and the SIP's ability to drive a park vehicle during work hours will be contingent upon the results. SIPs will have to have had their license for 3 years or be over the age of 21 to be insured as drivers under Stewards insurance policy. Examples of things that will preclude a SIP from driving a park vehicle include: SIP under the age of 21 years old that has been licensed less than three years, DUIs, multiple moving vehicle violations, suspended or revoked license, or three or more accidents (regardless of fault) in the last 3 years. If the driver's search is favorable, Stewards will provide driver's liability insurance while the intern is driving a NPS vehicle for their SIP position. If the SIP is denied coverage by Stewards, they will not be permitted to drive during work hours.

HOUSING

Park housing is available and will be provided at no cost to the participant. Chiricahua National Monument has a house that is shared by up to 3 interns or seasonal employees. The kitchen, living room and bathrooms are shared, and each person has their own bedroom. Bedrooms are furnished with a queen size bed, nightstand, chest of drawers, desk and closet. The house has a shared washer and dryer. The kitchen is furnished with an assortment of dishes pots pans and utensils, 1 stove, 2 refrigerators with freezers, and 1 microwave. There is a shared phone with local service only including 911 and incoming calls are not limited. There is a 32 inch flatscreen TV in the living room, and internet service provided. Cell phone service in the area is limited but WiFi calling is available in the residence. The intern will need to provide their own bedding, towels, clothing, toiletries and personal recreational equipment. A bicycle is nice but not required.

NATURAL AND PHYSICAL WORK ENVIRONMENT

Chiricahua National Monument is located in the Chiricahua Mountains, the largest of Arizona’s “Sky Islands”, which are mountain islands separated by basins of grassland and desert vegetation. All three parks possess exceptional biodiversity due to their location at the rare intersection of four major biomes (Sierra Madre, Rocky Mountain Chihuahuan Desert, and Sonoran Desert). Chiricahua National Monument is off the beaten path. It is 120 miles SE of Tucson (2 hour drive), and 37 miles from Willcox, Arizona (45 minute drive). Willcox is a small town of about 4000 people and has a hospital and one grocery store, a historic movie theatre, a few restaurants and gas stations. The park was created to protect the unique rhyolite rock formations of pinnacles and columns that are volcanic in origin. The landscape is park a mixture of grasslands with pine and oak woodlands at has 8 miles of paved scenic roads and 17-miles of day-use hiking trails, and ranges from 5124 ft. to 7310 ft. in elevation. In the summer temperatures reach a high of 90 to 100 degrees Fahrenheit, and in the winter it is not uncommon to get snow for a few days at a time at lower elevations, and longer at higher elevations. During the summer monsoon season, thunderstorms are frequent occurrences. Rattlesnakes, scorpions, centipedes, and spiders are all part of the park fauna. This position requires someone who is comfortable living and working near the international border between the US and Mexico, and will adhere to the NPS border safety policy. The intern will work in an office located in the Chiricahua National Monument Park Headquarters Building about 50% of the time in shared office space with other interns. The other 50% of the time will be spent in the field. Interns must be physically able to hike up to 10 miles with a 30 pound backpack in the backcountry in hot or cold weather, in mountainous terrain.

INTERNSHIP DATES

Start Date: 5/2/2021
Number of Weeks: 52 Weeks
Flexible Start Date: Yes

LIVING ALLOWANCE

52 Weeks (\$400/week =\$20800)

RELOCATION ALLOWANCE

\$350

AMERICORPS PROGRAM



AmeriCorps is a program that engages individuals in intensive community service work with the goal of “helping others and meeting critical needs in the community”. The SIP Program is supported through AmeriCorps by providing a Segal Education Award in addition to the SIP’s living stipend and relocation allowance.

Upon successful completion of the SIP position, the SIPs (AmeriCorps members) are eligible for a \$1,638 - \$6,195 pre-tax education award that can be used for paying back student loans or for continuing their education. The amount of the education award is based on the length of the position.

AmeriCorps limits the number of terms an individual can serve to 4 terms. If an applicant has previously completed 4 SIP or other AmeriCorps positions, they will not be eligible to apply for an additional SIP position.

SUPERVISORS/MENTORS

Primary:

Helen Fitting
helen_fitting@nps.gov
(520) 824-3560 X9203

Secondary:

JoAnn Blalack
joann_blalack@nps.gov
(520) 824-3560 X9204