

POSITION ANNOUNCEMENT:

GEORGE MELENDEZ WRIGHT INITIATIVE FOR YOUNG LEADERS IN CLIMATE CHANGE

The National Park Service (NPS) is pleased to announce the *George Melendez Wright Initiative for Young Leaders in Climate Change* (YLCC) to provide a pathway for exemplary students in higher education (graduate students and advanced undergraduate students) to apply their skills and ideas to park-based challenges and solutions. The Initiative offers 12-week paid internships which allow students to gain valuable work experience, explore career options, and develop leadership skills through mentorship and guidance while helping to advance the NPS response to climate change. Successful students may be eligible for non-competitive hire into federal positions for which they qualify following completion of all academic requirements.

Climate Change Vulnerability Index for Rare and Endemic Alpine Plants

Olympic National Park/Division of Resources Management/Vegetation Branch
Port Angeles, Washington

INTERNSHIP PROJECT BACKGROUND

Projected 21st century climate changes will significantly alter the high elevation landscapes in the National Parks of the Pacific Northwest. Of the 1,200 plant taxa known from Olympic National Park, 32 are rare or endemic and occur only in subalpine or alpine environments within the park. Many climate change models for the region predict a shift in winter precipitation from snow to rain and a shortened period of snow cover at high elevations. How vulnerable rare taxa would be to these conditions is unknown; acquiring this information is critical so that the park can make management decisions that are informed by science rather than guesswork or external political pressures.

The park will be able to improve its management of subalpine and alpine resources by understanding better how vulnerable they are to warmer temperatures and a decreased snowpack. This information can influence decisions related to:

- Management of endemic animal species that depend in part on these plants (e.g., Olympic marmot)
- Management of exotic ungulate species (e.g., mountain goat)
- Management of wildfire in the subalpine/alpine zone
- Management of recreation in the subalpine/alpine zone, especially the location and design of trails and camp sites.

INTERNSHIP PROJECT DESCRIPTION

The goals of this project are (1) to gather and synthesize existing biological and ecological information for the park's 32 endemic or rare subalpine/alpine plant species, and (2) from this data set, determine

an index of vulnerability to climate change for each species using analytic tools developed by NatureServe and the EPA.

The primary products will be vulnerability assessments for up to 32 rare or endemic subalpine/alpine plant species, supported by a narrative that describes the rationale for reaching the final index value and the confidence with which each value was determined. Secondary products will include a bibliography of sources used and a paper identifying the major data gaps that limited the confidence with which vulnerability index values were assigned.

The intern will work closely with Natural Resource Management staff, the park archivist, and external stakeholders (Washington Natural Heritage Program, University of Washington Rare Care program) to obtain and analyze botanical and ecological data.

QUALIFICATIONS

The intern will be an upper-level undergraduate or graduate student interested in a career as a conservation ecologist, research biologist, or natural resource manager. They will have experience in conducting independent research and synthesizing complex information into a coherent narrative, such as for a senior project or master's thesis.

Required skills include:

- A basic understanding of rare plant biology and ecology
- Coursework or experience in ecology, conservation biology, or botany (completion of an undergraduate degree or field work studying rare plants preferred)
- Demonstrable skills in locating, extracting, and organizing information from digital and non-digital sources
- Facility with MS-Excel, MS-Access, ArcGIS, and word processing software
- Above average technical and non-technical writing skills

Desired skills include:

- Detailed knowledge of the biological and ecological causes of rarity in plants
- Experience with archives research
- Demonstrated ability to work through complex issues to achieve meaningful results

LEADERSHIP DEVELOPMENT

The intern will work directly with the mentor and other NPS staff to accomplish this project, but will take the lead in carrying out the tasks outlined above. Successful completion of this project will require problem-solving, persistence, critical thinking, and the ability to apply scientific thinking to real-world situations. The intern will initiate contact with potential information sources, negotiate delivery of requested information, and synthesize information in a variety of formats to create coherent measures of each species' vulnerability to climate change. The Climate Change Vulnerability Assessment tool

requires judgment and interpretation of often fragmentary and incomplete information. The intern will hone verbal and written communication skills for both scientific and non-scientific audiences.

DATES OF POSITION

Dates for this internship are flexible. Because park-provided temporary housing is in extremely high demand between June and September, ideally the bulk of the internship should occur in either the spring or fall of 2016. Suggested dates include March 14-June 3, 2016 or August 29-November 18, 2016. However, please don't let these dates constrain who applies; if a highly qualified candidate needs to work June through August, we will find a way to get them housed.

COMPENSATION

This initiative supports one student at \$15/hour for 12 weeks, or 480 hours.

HOUSING

Depending on timing of the internship, housing provided by the park in the Port Angeles-Elwha-Heart of the Hills area may be available. Rooms may be single or shared with another park employee; kitchen and living areas are always shared. If park housing is not available, numerous affordable rental options are available in Port Angeles. "PA", as it is known, is a bustling town of 20,000 inhabitants in a breathtaking setting between glacier-capped mountains and the Strait of Juan de Fuca. The city is walkable and bikable, has numerous restaurants, music, theater, farmers markets, and an award-winning library. A bus system connects PA with other towns on the Olympic Peninsula, and ferries link to points in Puget Sound and Victoria, Canada. Numerous opportunities exist within an hour's drive to hike, fish, backpack, sail, kayak and ski.

WORK ENVIRONMENT

This project will take place primarily in an office setting in the park's headquarters in Port Angeles, WA. If time allows, there will be opportunities for field trips to rare plant localities within the park. These trips will require hiking 3-6 miles on trails and 1-3 miles over rough, alpine and subalpine terrain with a day pack. Summer weather tends to be cool and dry; spring and fall weather cool and very wet. Mountain storms are violent and can occur at any time; sturdy boots and raingear are a must.

CONTACT INFORMATION

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