# PROJECT DESCRIPTION
## 2020 FALL/WINTER

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<tr>
<th>NPS UNIT: ISLE ROYALE NATIONAL PARK</th>
<th>PD #: 2020456</th>
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<tbody>
<tr>
<td><strong>Position Title:</strong> GIS Assistant (1)</td>
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<td><strong>Position Type:</strong> Guest Scientist</td>
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<td><strong>Primary natural resource discipline:</strong> Biological resources</td>
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<tr>
<td><strong>Project keywords:</strong> Data Manager, data management, GIS, relational databases, wolf introduction, Isle Royale National Park</td>
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<td><strong>Location:</strong> Houghton, Michigan</td>
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## COVID-19 NOTICE
This project description was developed prior to the onset of the COVID-19 outbreak. Therefore, 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 GIP 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 National Park Service’s efforts to restore predation to the Isle Royale National Park (IRNP) ecosystem through the translocation of wolves is an unprecedented opportunity to better understand ecosystem processes and dynamics. While world renowned for ecological research and a recognized International Biosphere Reserve, studies at IRNP have been conducted largely in isolation (i.e., a single study with one or few objectives). As such, a group of agency practitioners and external scientists coalesced around the need for synthetic and ecosystem-level evidence concerning the Isle Royale ecosystem and about the effectiveness of potential reforms aimed at enhancing the integration of past, current, and future research.

To understand the micro and macroscale ecological dynamics that IRNP management decisions and actions need to account for, this group has agreed to work toward conducting integrated biological and geophysical studies within the framework of ecosystem ecology. Within this framework, a diverse cohort of scientists will generate valuable data and understanding on topics ranging from wolf ecology to plant diversity to water and air quality, nutrient cycling, climate change, and more. While this work will directly benefit IRNP, we anticipate that the integration of the fundamental research conducted at IRNP with research conducted elsewhere around the world will lead to generalized synthetic understanding that can be transferred to other regions where reintroduction of predators may provide a management solution. Data management is essential for ensuring the long-term availability of these data to managers and for ensuring their availability to future integrative efforts seeking to achieve broad societal benefits.

The broad goals of this position are to: 1) To bring an ecosystem level perspective to managing data derived from independent ecological research projects. 2) Identify overlaps and complementary in data from independent ecological research projects. 3) Contribute to the development and implementation of a flexible and sustainable data management process that integrates the data outputs from multiple independent research projects towards ecosystem-level IRNP management goals.
To achieve these goals this position will:

- In collaboration with the NPS and its research partners, complete (with peer review) a data management plan, associated SOPs (Standard Operating Procedures), and QAP (Quality Assurance Plan) to preserve and protect data associated with the wolf translocation project and the park’s island ecosystem.
- Construct a web-enabled relational database for partner scientists to upload data
- Perform quality assurance, quality control, and quality review procedures on NPS and partner data
- Complete and ensure metadata for NPS and partner data are to FGDC (Federal Geographic Data Committee) standards

National Park managers increasingly seek to make science-based management decisions to support the NPS mission of preserving the natural resources of the National Park System for this and future generations. The data produced by NPS and partner scientists is not simply data on resources, it is itself a resource that must be preserved for this and future generations. As such, we envision that our project will serve as a template for how NPS and partner scientists can collaboratively integrate their research and the data it produces to translate fundamental science to management solutions. The GIP will serve a key role in ensuring the preservation and fidelity of the data for present and future use.

This position is offered through the National Park Service’s Geoscientists-in-the-Parks (GIP) Internship Program in partnership with Stewards Individual Placement Program (Stewards) and The Geological Society of America (GSA).

**Work Products:** The anticipated deliverables for this position include:

- Data Management Plan and associated tiered planning products (SOPs, QAP, etc.)
- Relational Database
- Metadata Documentation
- Initiate development of a web-based platform for partner scientists to upload data

**QUALIFICATIONS**

The best qualified applicants will have an undergraduate or be pursuing a graduate degree in data sciences. The candidate should have demonstrated experience in data management planning, relational database development, programming and coding for data automation processes, and managing interdisciplinary natural resources data and associated analyses. This project will require fluency with Geographic Information Systems (GIS). The park is currently running ArcGIS.

The ability to work as part of a team is a must. Strong oral and written communication skills are also desired. The best qualified applicants will have a proven ability to work on a project with minimal supervision, be self-motivated, and results driven.

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 veteran 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 driver license and a good driving record.** Driver’s license and a good driving record is required (or if a reasonable accommodation is requested if no driver’s license, please inquire) for travel to NPS offices in Ashland, WI, and elsewhere for meetings and training using a government vehicle.

If the GIP is required to drive a park vehicle for their position, Stewards will perform a driving records search, and the GIP’s ability to drive a park vehicle during work hours will be contingent upon the results. GIPs 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 GIP from driving a park vehicle include: GIP 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 GIP position. If the GIP is denied coverage by Stewards, they will not be permitted to drive during work hours.

A personal vehicle is REQUIRED for this position. Local travel to and from residence to work if applicable.

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HOUSING

Park housing is NOT available and the intern will be responsible for finding housing in the nearby area. Park housing is NOT available for this position. Rental homes are available in Houghton and smaller nearby towns and rents can range from $500 to $1200 per month. The position is duty stationed in Houghton, Michigan, which has a population of approximately 10,000 and is a full-service community with schools, churches, medical services, and shopping. Higher education facilities are available at Michigan Technological University with a student population of around 7,000 in Houghton and Finlandia College, a private Lutheran college in Hancock which is across the Portage Canal from Houghton. Homes are available to purchase for a wide range of prices ($50,000 to $350,000). Several smaller towns and villages that offer additional schools, housing, and shopping are located within a 30-mile radius. Summers are mild with day-time temperatures ranging from 70 to 90 degrees, and boating, camping, and hiking are popular summer activities. Winter temperatures range from highs of 25-30 degrees to lows of minus 10 degrees. Winter snowfall is abundant, averaging between 150 and 200 inches per year, with greater amounts falling in the more northerly parts of the area. Winter recreational activities include down-hill and cross-country skiing, snowmobiling, and snowshoeing. There will be periods of time spent on Isle Royale, 1-2 weeks intermittently, where the incumbent will be required to stay in park housing. During these periods the NPS will provide housing. Typically, housing is dormitory style with shared kitchen and bathroom facilities; kitchen utensils and pots and pans are provided. Bedding and towels are the responsibility of the intern.

INTERNSHIP DATES

Start Date: 8/10/2020
Number of weeks: 52 weeks
Flexibility of dates: Yes

LIVING ALLOWANCE

52 weeks ($525/week = $27,300)

RELOCATION ALLOWANCE

$250

PROFESSIONAL DEVELOPMENT ALLOWANCE
**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 GIP Program is supported through AmeriCorps by providing a Segal Education Award in addition to the GIP’s living stipend and relocation allowance.

Upon successful completion of the GIP position, the GIPs (AmeriCorps members) are eligible for a $1,612 - $6,095 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 GIP or other AmeriCorps positions, they will not be eligible to apply for an additional GIP position.

**NATURAL AND PHYSICAL WORK ENVIRONMENT**

**Natural Environment:** Isle Royale National Park is a large, remote and isolated island in northwestern Lake Superior. The park offers a superb setting for recreational opportunities such as boating, kayaking, canoeing, backpacking, camping, fishing, hiking and more. The incumbent will be stationed on the island intermittently through the work period. Housing may be dormitory style with shared room. Isle Royale is 99% federally designated Wilderness with no roads, few telephones, no cellular phone coverage, limited amenities and limited opportunity to travel to the mainland. Internet access for personal business on government computers is permitted during non-business hours. Groceries & other supplies are delivered weekly or bi-weekly depending on the incumbent’s specific duty station on the island. Weather on the island can change quickly. Field sites are accessed via hiking in often wilderness, rocky and/or forested terrain.

**Physical Work Environment:** This position will be located at the park headquarters in Houghton, MI. The work environment will be that of a typical office setting. Infrequently the incumbent will need to travel to the park for the purposes of working with scientists and familiarization with the natural environment. While located on the island, work could require standing for long periods of time, up to 8 hours/day, both inside and outside, and is subject to adverse weather conditions including high temperatures and humidity. The position requires hiking, both on and off trails, up to 12 miles/day, up and down the varied terrain. Heavy items (e.g., packs and equipment up to 50 pounds) could be lifted and carried when participating in research activities.

Work on Isle Royale is performed both indoors and outdoors in all types of weather. Assignments may be performed in potentially hazardous areas including steep rocky terrain, forests, cave environments, and extreme heat and humidity. Field work includes exposure to extreme weather conditions and terrain, pesticides, poisonous plants, biting insects, and wild animals. Laboratory work may involve exposure to hazardous chemicals.

**MENTORING AND LEARNING GOALS**

**Mentoring:** The park staff as well as Great Lakes Inventory & Monitoring Network (GLKN) staff will work closely with the Guest Scientist on orientation, project oversight and ensuring the data management planning effort aligns with overall NPS policies, goals and standards. Additionally, partner scientists will engage the Guest Scientist to discuss and plan for their research providing the opportunity to work with academic scholars.

**Learning Goals:** The intern will acquire skills in managing large complex datasets, working with data management software, and coordinating a dynamic team of researchers. Training will be provided by GLKN data management staff, Isle Royale park staff, and through webinars or other training venues as needed.
The intern will work closely with university scientists, NPS staff, and other agency personnel in acquiring data, providing broad networking opportunities. If desired, the intern could also lead or serve as a co-author on a technical report focused on the data management of the wolf translocation project.

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<td><strong>Primary:</strong></td>
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<td>Mark C. Romanski</td>
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<td>Division Chief - Natural Resources</td>
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<td>Isle Royale National Park</td>
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<td><strong>Secondary:</strong></td>
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<td>Mark Hart</td>
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<td>Data Manager</td>
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<td>Great Lakes Inventory and Monitoring Network, 2800 Lakeshore Drive East</td>
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