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Great Lakes Research and Education Center, Indiana Dunes National Lakeshore: Connecting Research, Education, and Outreach through Research Internships

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Introduction

The National Park Service (NPS) initiated the Natural Resources Challenge in 1999. The Challenge resulted in the development of research learning centers (RLCs) throughout the country. The RLCs increase the effectiveness and communication of scientific research in national parks by (1) facilitating use of parks for scientific inquiry; (2) supporting science-based decision-making; (3) communicating current research information; and (4) promoting resource stewardship through partnerships. RLCs initiate, support, and implement a wide variety of research projects and provide opportunities for university students to work with researchers and park managers. The Great Lakes Research and Education Center initiated a university student research internship program in 2005 to provide support for researchers and managers in the Great Lakes Network parks (Figure 1). Among the network parks, eight participated in the program.

Internship funding

The Great Lakes Research and Education Center allocated $25,000 of its FY2005–2006 budget for development of the internship program. Since eight parks participated, a total of $3,125 was earmarked for each park. Indiana Dunes National Lakeshore administered fund distribution to each park. In February 2006 an announcement was developed for

Figure 1. Great Lakes Research and Education Center Network parks.

summer student internships according to the research needs of the responses received from eight park managers. The schedule for the interns' duty time varied by park needs. The announcement was advertised in the Great Lakes–Northern Forest Cooperative Ecosystem Studies Unit (CESU), RLCs, and NPS websites. It was also placed in the jobs announcement section of the Society of Wetland Scientists. Applicants sent materials, including their resume, preferred primary and secondary park sites, and references, to the Great Lakes Research and Education Center research coordinator. The research coordinator sorted the applicant materials by applicants' preferred parks, and sent applicant materials to each park. The resource management staff at each park then selected the most qualified applicant for their park.

There were 49 applicants from several universities in the Midwest region. Apostle Islands National Lakeshore selected an applicant internally. The number received and reviewed for each of the other parks were: Indiana Dunes National Lakeshore (10), Isle Royale National Park (9), Keweenaw National Historical Park (3), Pictured Rocks National Lakeshore (5), St. Croix National Scenic Riverway (8), Sleeping Bear Dunes National Lakeshore (7), and Voyageurs National Park (9).

Products

Each park produced a report on the research and monitoring projects that interns were assigned. Products that interns produced included development of research equipment, reports, and oral presentations using PowerPoint to park staff and at conferences. Reports and PowerPoint presentations will be uploaded to NPS websites for managers and the public to view. Table 1 summarizes student background, projects, and products obtained through the internship.

Following project completion, a survey questionnaire was emailed to both the resource managers and the interns to evaluate the success of the program. The responses were summarized as follows:

Results of resource manager survey (8 parks)

- Rank according to: highest approval (5), OK (4), no opinion (3), somewhat dissatisfied (2), highly dissatisfied (1).
- Please comment on each question and make recommendations.

1. Ease of obtaining funding from the Great Lakes Research and Education Center (explain how you used the funding: biotechnician, Student Conservation Association, etc.). Average rating was 4.25. The ranking indicates that resource managers were satisfied with the funding procedures through the Great Lakes Research and Education program.

2. Timeliness (i.e., did you get the internship started in time for your field work assignments?). Average rating was 4.20. One park resource manager found much difficulty in getting the internship underway, due to funding transfer problems.

3. Experience and qualifications of the intern. Average rating was 5.0. Resource managers were very pleased with the interns' qualifications and results that they produced.

4. Recommendation for future internships. Average rating was 4.6. All parks highly recommended continuation of the program in the future, with recommended improvements

Degree Sought	Location	Fields of Research	Research Topics	Types of Products
Post-Master's	Sleeping Bear Dunes NL	Biology (Avian Ecology)	Piping Plover Recovery Efforts at Sleeping Bear Dunes National Lakeshore	2006 Year in Review Article, Presentation at Great Lakes Piping Plover Recovery Group Meeting
Master's	Pictured Rocks NL	Biology (Mammalogy)	Hair Sampling of Black Bear and White-tailed Deer for DNA Population Characterization	Data and report
Bachelor's capstone	VoyageursNP	Biology (Avian Ecology)	Synthesis of Great Blue Heron Monitoring Data: 1974-2006	Senior B.S. thesis
Bachelor's	Apostle Islands NL	Anthropology/Biology	Woody Debris Availability to Campers for Firewood	Report and park presentation
	Indiana Dunes NL	Chemistry, Biology	Methyl Mercury Sampling Methods, Endangered Butterfly	Methyl mercury probe, presentation
	Isle Royale NP	Biology (Mammalogy)	Mustelid Survey/Marten Tracking via Radio-collar	Data and report
	Keweenaw NHP	Cultural History	Timeline of Michigan Copper Mining	Brochure, poster
	St. Croix NSR	Biology	Grassland Butterfly and Bird Population Monitoring	Two reports, presentation

Table 1. Examples of student educational levels and products from participating parks.

in funding transfer and more participation of CESU researchers.

5. Recommend increase in number of internships? Most resource managers were satisfied with having one intern. One park suggested having two interns working together in the field for safety reasons. Basically, having one intern is good, two would be better.

Other comments: Resource managers highly recommended that the program be continued in the future.

Results of student intern survey

- Rank your experience with the internship program. Please respond objectively. Rating 1–5: 5= highest, 1= lowest.

1. How would you rate your research learning experience during the internship? Average ranking was 4.5. The interns gained new knowledge about natural resources in the Great Lakes national parks.

2. What suggestions would you recommend to improve the learning experience? Interns suggested that they receive more detailed background about their assigned projects, prior to starting their employment. They also suggested that work should focus on only one or two projects.

3. How would you rate the housing facilities? Average ranking was 4.25 for those interns who were provided park housing. One intern noted that the housing shared with other temporary staff was not always kept clean in a cooperative manner.

4. What suggestions do you have for the housing? No major suggestions were made.

5. Would you recommend this program to other students? Average ranking was 5.0. The interns thought the program provided a very good work experience to students.

6. Would you like more direction in a defined research project? In what way? See number 2 above. Interns valued the experience because it did provide them with a major project in most cases. The projects provided them opportunities to collaborate with resource

managers, develop independent thinking, and develop field research skills.

7. Any other suggestions? Interns suggested that the paperwork and logistics be worked out in advance before their work assignments began.

Future planning for Great Lakes Research and Education research internships

The Great Lakes Research and Education Center played an important role in promoting student research opportunities in the Great Lakes Network parks. This effort benefited resource managers in providing needed field assistance, and provided students with a hands-on research and monitoring experience in the eight parks.

A RLC research internship program can provide a strategic link for conducting park science and meeting public education needs. The program can provide hands-on training for undergraduate and graduate students, toward future natural resource manager positions, in a real-world situation. Parks are "living laboratories" in which concepts can be tested in the field for improving park management. For example, a student could conduct experimental seed germination and propagation studies of various native plant species in order to develop better restoration techniques. Interns who are paid by the National Park Service can be trained by scientists and managers to help conduct research projects in the parks. Several of the projects focused on monitoring activities rather than actual research. Resource managers in the participating parks recommended continuation of the program; however, future efforts should be more focused on actual research projects by teaming the student intern with a university or U.S. Geological Survey researcher. The Great Lakes–Northern Forest CESU could be a point of contact to promote the research elements of the program.

References

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