



MICHIGAN SEA GRANT UNIVERSITY OF MICHIGAN + MICHIGAN STATE UNIVERSITY

2023 Michigan Sea Grant Undergraduate Environmental Internship Program

Application Deadline: Monday, January 31, 2023

Michigan Sea Grant hosts a summer internship program that coordinates and funds undergraduate students from any accredited community college, college, or university in Michigan to work with private businesses, state and federal agencies, environmental non-profit organizations, or university faculty to plan or implement environmental stewardship, research, outreach, and education projects in the Great Lakes.

Students may work with one of our pre-identified sponsoring organizations (see Sponsoring Organizations section below) or may contact and work with an organization of their choosing to develop a project proposal.

Sponsoring organizations:

- Thunder Bay National Marine Sanctuary
- Michigan Department of Natural Resources
- Detroit Zoological Society
- Herpetological Resources and Management

Some other examples of potential partner organizations include:

- State agencies, such as Michigan Department of Environment, Great Lakes, and Energy (EGLE)
- Campus sustainability offices
- Parks and recreation departments
- Watershed or river protection groups
- Tribal natural resources departments
- Museums, libraries, or nature centers
- Environmental news outlets
- Academic departments focusing on urban planning, communications, education, biology, chemistry, geography, social science, economics, etc.

Michigan Sea Grant encourages applicants from underrepresented racial and ethnic groups, individuals with disabilities, and individuals from economically disadvantaged backgrounds. Michigan Sea Grant is committed to diversity and multiculturalism through staff training and organizational development for fellows, interns, and employees to help them provide effective and inclusive programs for the diverse residents of Michigan's communities.

Michigan Sea Grant also participates in the [National Sea Grant's Community Engaged Internship \(CEI\) program](#), which aims to broaden participation in coastal, ocean, and marine sciences to college students from under-resourced, underrepresented, and/or indigenous and tribal populations. These communities



MICHIGAN SEA GRANT UNIVERSITY OF MICHIGAN + MICHIGAN STATE UNIVERSITY

include groups that are historically marginalized in the sciences, including Black or African-American, American Indian or Alaska Native, Hispanic or Latino, female, first-generation college students, veterans, LGBTQ+, students with disabilities, and others who have overcome educational or economic disadvantages or other hardships.

Eligible Michigan Sea Grant interns who identify as being from an underrepresented group or are working on a project that helps an underserved community, can participate in the CEI program alongside their internship project. The CEI program includes online professional development workshops in which students can develop skills such as presenting and academic writing, learn about other programs from Sea Grant and NOAA, and meet interns from other state Sea Grant programs.

Eligible students may indicate their interest in the CEI program in the career goals statement of their internship application, by providing details about how the Michigan Sea Grant internship would help them achieve their goals and increase diversity in the environmental world.

Award Information

Students will be compensated \$10,000 for three months during the Summer of 2023 for full-time work of up to 40 hours per week; up to two days per month of excused time is allowed. An award will be provided to the student as a stipend paid out on June 1, July 1, and August 1. A non-Federal match of \$5,000 per award is required from the partner organization. “Match” is a way for an organization to contribute their own resources alongside the funding coming from Michigan Sea Grant. This match may be in the form of selected in-kind services, such as office space, mentorship, or additional funds from a specified institution, agency, industry, or non-federal program. The in-kind services could include travel and poster printing for interns to present research at a Michigan Sea Grant symposium in August 2023. Students and/or their partner organization are encouraged to work with their institution’s business office and Michigan Sea Grant (msgfellowships@umich.edu) to identify sources of matching funds and to ensure that they follow the federal cost policy for eligible match prior to submitting an application.

In addition, interns may apply for up to \$1,000 in additional funding for supplies or travel needed to execute their project. These additional funds would also require the 50% match. A justification for requested supplies/travel funds should be included within the application project narrative (see below). Requests will be reviewed and approved by Michigan Sea Grant and will be distributed as a reimbursement for itemized, approved expenses.

Eligible Applicants

Applicants should be enrolled undergraduate students at any level of study or recent graduates (May 2023) from any accredited university or college in Michigan. Preference will be given to students who plan to pursue a career in an environmental field.

Application Guidelines



MICHIGAN SEA GRANT UNIVERSITY OF MICHIGAN + MICHIGAN STATE UNIVERSITY

A complete set of application materials must include the following:

- 1) Project narrative written by the student: 1-2 pages describing the background, goals, methods, and expected outcomes of the project; and, for sponsored projects, how this project would help the partner organization
- 2) Statement about student's career goals: 1 page maximum describing the student's career goals and how the proposed project would help reach them
- 3) One endorsement letter from either a professor or mentor of the student who is familiar with the student's qualifications. For students applying to work with one of our sponsoring organizations, the letter may come from the person whom the student would work with at the sponsoring organization. The letter of endorsement should include the following:
 - Name of professor or mentor
 - Description of how the professor/mentor knows the student
 - A statement about the student's skills and leadership that would be relevant to the project
 - A statement about how the student would benefit from the internship
- 4) Undergraduate transcripts – unofficial are acceptable
- 5) A current resume or CV

The following forms will be needed for internships that are selected for funding. The forms do not need to be submitted with the application, but will need to be completed and approved before the start of the internship:

- 6) Data Management Plan: Some interns do research projects that generate new data, such as measurements, surveys, or model outputs. MISG's host organization, the National Oceanic and Atmospheric Administration (NOAA), requires new data to be made available to the public and other researchers. If a student's proposed project will generate new data, the applicant will need to submit a data management plan as part of the application package. For help preparing this plan, please contact Michigan Sea Grant (msgfellowships@umich.edu). The MISG data management plan can be found [here](#).
- 7) NEPA Questionnaire: Some projects might involve activities that affect the outside world, such as sampling a stream or planting a rain garden. The National Environmental Protection Act (NEPA) requires all projects connected to NOAA to submit an Environmental Compliance Questionnaire. This form is meant to make sure that any changes to the environment are done carefully and without causing unnecessary harm to habitats or nearby communities. The form can be found [here](#), and MISG research staff (msgfellowships@umich.edu) are available to assist with filling out the form.



MICHIGAN SEA GRANT UNIVERSITY OF MICHIGAN + MICHIGAN STATE UNIVERSITY

Submission Dates and Times

Applicants must submit materials by 5:00 p.m. (EST) January 31, 2023, to the [MISG Undergraduate Internship submission portal](#). Applications received after the deadline will be rejected without further consideration. No e-mailed applications will be accepted.

Questions

Questions about the application and submission requirements may be sent to msgfellowships@umich.edu. Please also check the [Internship FAQ](#) for answers to some common questions.

Application Review Information

After applications are submitted, Michigan Sea Grant will review all materials using the evaluation criteria below. The Michigan Sea Grant Management Team will then choose the 2023 interns based on this review, with consideration for availability of funding, balance across institutions, focus areas, and applicant diversity, as well as programmatic needs, objectives, and priorities.

Evaluation Criteria - The evaluation criteria and weighting of the criteria are as follows:

- Project narrative is clear and shows that student understands and is helping to lead the project; project is feasible and addresses relevant environmental issue (40% total)
- Career goal statement clearly describes student's interest in internship and how experience will be meaningful (40% total)
- Letter of support or endorsement clearly describes how student will benefit from internship (10% total)
- Undergraduate transcript, resume/CV, and letter of support show that student has taken relevant courses and has other relevant experience (10% total)

Anticipated Announcement and Award Dates

The Michigan Sea Grant Environmental Internship Program selection process will be completed and decisions announced by March 1, 2023. The funding will cover three months during the Summer of 2023 and cannot be extended or renewed. The internship will likely begin during mid-May and end by mid-August, although the exact start and end dates can be chosen by the applicant and their partner organization.

Reporting

1) After the internship is complete, interns will need to submit final reports to MISG by August 31, 2023. A link will be sent out to each intern upon accepting the internship. This report must include project location, project goal and objectives, and information regarding project outcomes, contributions to the partners, and overall internship experience. Advisors will also be sent a final report to complete.



MICHIGAN SEA GRANT UNIVERSITY OF MICHIGAN + MICHIGAN STATE UNIVERSITY

2) Interns will be expected to attend and deliver a short presentation about their summer work at the MISG Internship Symposium in mid-August 2023 on the University of Michigan's Ann Arbor campus. Depending on the circumstances, virtual attendance may also be acceptable.

Sponsoring organizations

Students interested in working with one of our sponsoring organizations should email the organization's contact below to discuss possible project areas. Please make this contact as soon as possible because opportunities with the sponsoring organizations may be limited. Students will then need to submit the application materials described above (project narrative, etc.). Note that students should work with a sponsoring organization to identify possible project areas and learn about available facilities, equipment, etc., but it is important that the student writes the project narrative. If the student is awarded an internship, the sponsoring organization will provide the needed 50% non-federal match.

- **NOAA Thunder Bay National Marine Sanctuary**

Stephanie Gandulla, Resource Protection Coordinator: steph.gandulla@noaa.gov

Organization Description: TBNMS encompasses 4,300 square miles of northwestern Lake Huron and was designated in 2000 to protect a collection of historically-significant, well-preserved, accessible shipwrecks. TBNMS headquarters, located in Alpena, Michigan, encompass 20,000 square feet of interactive public exhibits, office and lab space, and marine research and technology accommodations. This facility is a central part of the community and offers a multitude of opportunities to become involved in protecting the Great Lakes and its rich history. In addition to discovering, monitoring, and documenting cultural resources, TBNMS is charged with developing partnerships with multi-disciplinary researchers and organizations to study Great Lakes ecology, including the effects of climate change. While also providing much-needed and timely physical data, this project aligns well with such management efforts and contributes to the continued development of a comprehensive sanctuary research program.

Project Description:



MICHIGAN SEA GRANT UNIVERSITY OF MICHIGAN + MICHIGAN STATE UNIVERSITY

Freshwater Acidification Monitoring and Environmental Stewardship in Great Lakes National Marine Sanctuaries

An intern working on this project would collaborate with TBNMS and NOAA Great Lakes Environmental Research Lab (GLERL) researchers to support a dedicated study of freshwater acidification within TBNMS. The selected intern will facilitate water sample collections from research vessels and the outreach vessel, *Lady Michigan*. They will also be responsible for the development, production, and dissemination of resulting outreach products, including live, public interpretation aboard the *Lady Michigan* and in the sanctuary visitor center.

This project will establish a baseline data set in Lake Huron related to acidification, providing key high frequency data to improve the scientific understanding of the system. In addition, we will be able to provide essential data and interpretation to stakeholders and inform the public of on-going threats to the Great Lakes ecosystem. Building upon a monitoring network launched in 2022, researchers will sample at dedicated cultural heritage (shipwreck) sites to record information relevant to tracking freshwater acidification and climate impacts. The monitoring network will include sensor deployment with the capability of detecting fine scale changes in freshwater $p\text{CO}_2$ and pH, as well as targeted water sampling and analysis (measurements for pH, dissolved inorganic carbon, and total alkalinity) from select locations coinciding with TBNMS resource sites to validate sensor accuracy and establish spatial variability within the region. This project will establish the basis of a long-term, intra-agency monitoring program to measure pH, dissolved inorganic carbon (DIC), and total alkalinity levels within the TBNMS marine protected area (MPA). The project will address the critical lack of data concerning acidification in the Great Lakes, and the results gained will inform follow-up studies into climate-related impacts to sanctuary resources. It will improve our understanding of lake acidification and its potential impacts to natural and maritime heritage resources within the sanctuary and could be a model for management-focused monitoring of acidification throughout the Great Lakes. Procedures developed during project implementation will provide a framework for expanding climate monitoring to additional MPAs in the Great Lakes Region.

- **Michigan Department of Natural Resources**

David Clapp, Research Station Manager, MDNR – Fisheries Division: clappd@michigan.gov

Undergraduate interns could help with several active projects at MDNR, including

- Role of smallmouth bass in Lake Michigan reef communities (see below)
- Native fish and reef restoration (in collaboration with lots of other agencies and non-profits)
- Coregonid life history (could include everything from looking at lake whitefish diets to working on cisco acoustic telemetry data)
- Lake Michigan salmonid management (ecology, modeling, regulations, etc.)
- Recreational fisheries (MDNR charter boat and creel programs)
- Commercial / tribal fisheries (in collaboration with our Tribal Coordination Unit)



MICHIGAN SEA GRANT UNIVERSITY OF MICHIGAN + MICHIGAN STATE UNIVERSITY

Interested students should contact David Clapp (clappd@michigan.gov) for more details and to discuss which project would best fit their interests. The intern would have the option to stay at the Charlevoix Fisheries Research Station. In addition to field work, an intern would collaborate with project partners in laboratory studies, data analysis, presentations, and publications.

- **Detroit Zoological Society**

Mike Reed, Curator of Education – Informal Programs: mreed@dzs.org

Intern(s) working on this project would have the opportunity to develop educational programming opportunities for students and visitors to the Detroit Zoo and partner locations. The Detroit Zoo's Education Program aims to create good stewards for the environment at an early age, therefore interns will be directly involved with assisting in the creation of programming and outreach materials that will help foster a lifelong appreciation for the environment. This experience would involve hands-on curricula development, production of promotional and learning materials, and direct outreach in the parks. While most of this activity will take place within the Detroit Zoo, Belle Isle, and the surrounding park system, there may be an opportunity for some travel to other urban areas to work with partners and collaborators. The ultimate goal of this project is to demonstrate the environmental impacts our actions have, foster a sense of stewardship in our youth, and help develop an appreciation, value for, and understanding of nature.

- **Herpetological Resources and Management**

See attached project description



P.O. BOX 110
CHELSEA MI 48118
(517) 522-3524 OFFICE
(313) 268-6189 MOBILE
WWW.HERPRMAN.COM

Wildlife Inventory Internship

HRM is looking for dedicated, motivated, and knowledgeable individuals to join our team. Currently we are seeking one-two interns to help conduct inventories and wildlife clearance of amphibians and reptiles and other wildlife. Some inventories may require overnight stays and long days. Additional opportunities to assist with implementation and testing of newly developed Herpetological Habitat Assessment Tool (HerpHAT) and assist with a riverine turtle project. Preferably, the selected candidate will have experience conducting field surveys. Although the majority of work will take place in the field, some work will occur in an office environment. Interns will also assist in the care and husbandry of native and rare chelonian species associated with assurance colonies and a headstarting project. The start and end dates for these positions are somewhat flexible, with an anticipated start as early as beginning of April and continuing through the end of August or early September as workload and project dictates.

Successful applicants will have the rare opportunity to work with Threatened, Endangered, and imperiled species in a variety of habitats and have the opportunity to build a network of university, federal, state, and local government officials and private sector partners. This position is not being made available for remote work. The office is conveniently located between Lansing and Ann Arbor .

Required Qualifications

- At least 2 years of academic experience leading to a degree in biology, zoology, wildlife ecology, natural resource conservation, or a related field, or have graduated with such a degree.
- Experience and passion for working with wildlife.
- Excellent listening, written, and verbal communication skills.
- Strong organizational and time management skills and attention to detail.
- Possess a driver's license and have a reliable means of transportation to and from the office.
- Strong work ethic and a passion for learning.
- Ability and desire to work effectively individually and as part of a team.
- Ability to work outdoors for long hours under adverse weather conditions and extreme temperatures and collect accurate data in the field.
- Willingness to conduct out of town work.

Application Guidelines

To apply, submit a resume, cover letter referencing your availability, and three academic or professional references with contact information. Applications must be submitted by March 1, 2019 for consideration.

Send application materials via email to **both**:

David A. Mifsud,
Herpetological Resource and Management, LLC
DMifsud@HerpRMan.com

Staff
Herpetological Resource and Management, LLC
Staff@HerpRMan.com

Please write "HRM Intern Application" in the subject line. We will review your qualifications and those selected for interviews will be notified.