

# Georgia Aquarium

## Guidelines for Research Activities

Updated: June 16, 2023



GEORGIA AQUARIUM

### Summary

Georgia Aquarium recognizes the value of excellent science as the basis of an understanding of all marine life, as well as a vehicle to better husbandry, education, exhibitry, and conservation practices. This will be achieved primarily through collaborative research that will keep Aquarium staff actively and intellectually engaged in the subject matter and the scientific community, and which will be integrated into the Education and Guest Programs goals such that non-research staff, students and aquarium guests will all benefit from our research efforts. Research and Conservation efforts will be focused in areas that have tangible conservation-based outcomes, inform our collection, and maximize benefits from the expertise of our staff. This approach will strengthen ties with researchers and institutes that share our institutional passion for understanding marine life, as well as promoting the aquarium and its broader mission to the general public.

### Key information:

- The Research and Conservation Department will evaluate and provide feedback on the scientific merit of internal and external collaborative research proposals.
- As an IUCN Center for Species Survival, proposals to Georgia Aquarium should have a tangible conservation-based outcome within the framework of threatened species assessment, conservation planning, and/or conservation action. Proposals that focus on species and/or questions relevant to the GAI collection will receive preferential consideration.
- Each project is required to have at least one GAI staff member as an associated investigator.
- GAI staff members are expected to have authorship on conference presentations and papers arising from the work.
- If applicable, acknowledgement of GAI funding support is expected in peer-reviewed papers and conference presentations arising from the work.
- As a condition of partnership, investigators will agree to submit regular progress reports when requested by the Director of Research and Conservation
- Within 60 days of completing a project, investigators will submit a more detailed final report.
- Drafts of publications will be reviewed by the Director of Research and Conservation and/or Vice President of Science and Education before submission.

# Georgia Aquarium

## Guidelines for Research Activities

Updated: June 16, 2023



GEORGIA AQUARIUM

### 1.0 Goal

To have Georgia Aquarium be rightly considered by the scientific community, our guests, and the public as the leader in research and conservation of marine species by building new knowledge about the biology, health, and husbandry of aquatic organisms, and taking action on conservation solutions for imperiled species.

### 2.0 Imperatives

To preserve focus and achieve the mission and goal, research needs to meet the following imperatives:

1. Solve problems for, provide conservation planning and action for, or serve the knowledge needs of threatened and endangered marine species
2. Promote the Aquarium in the science community and to the public
3. Be consistent with the goals of the Aquarium's Center for Species Survival (section 3.3)
4. Be safe and ethical for staff and any animals involved in the research
5. Enhance the professional development of our staff
6. Inform our guests through integration with Education and Guest Programs
7. Enhance partnerships with other facilities, institutes, and universities

These imperatives should be considered the driving forces that shape research activities of Georgia Aquarium (hereafter "the Aquarium") and the main criteria by which proposals are evaluated.

### 3.0 Definitions

#### 3.1 Research

*Research is a process of systematic inquiry to gather evidence or establish facts with respect to a given topic or question.* Research usually applies the scientific method, an iterative process wherein a hypothesis is raised by observation, then tested using appropriate methods, and finally the hypothesis is accepted, rejected, or a new hypothesis is generated. *Exploratory research* is systematic inquiry without hypothesis-testing; this category would include activities like faunal and other surveys. Research at the Aquarium may be either hypothesis-driven or exploratory. The majority of research (but not all) relates to natural phenomena. Market research is excluded from the definition of research used here.

#### 3.2 Research Strategy

The preferred model by which research takes place at the Aquarium is through **collaborative partnerships**. Under this model, research takes place in cooperation with staff of other facilities, institutes, or universities (= *outside investigators*), but in all cases staff of the Aquarium participate actively (= *inside investigators*). Aquarium staff may be principal investigators, or they may be associate investigators with a principal outside investigator. Projects without inside investigators are discouraged because they do not further the professional development of our staff, the Aquarium has less control over the direction of the research activity, and it is harder to integrate the research activity with the education and guest programs, thus making it hard to achieve the goal and mission of research at the Aquarium.

In exceptional instances, research may be carried out with financial or in-kind support from the Aquarium but without direct involvement of GAI staff. Such instances might include those where there is no appropriate staff expertise in-house, but the project is still considered to be of pressing need or high priority by the Research and Conservation Department (see Research Process).

# Georgia Aquarium

## Guidelines for Research Activities

Updated: June 16, 2023



GEORGIA AQUARIUM

### 3.3 Georgia Aquarium's Center for Species Survival

Georgia Aquarium has been designed a Center for Species Survival (CSS) to support strategic species conservation efforts in partnership with the IUCN's Species Survival Commission (SSC). As a CSS, we collaborate with research and conservation specialist groups to build capacity for species conservation through the Assess-Plan-Act cycle where we will focus on species-level extinction risk assessments, filling data knowledge gaps for assessment, conservation planning and action at both the species and landscape scales. Proposed project collaborations should align with our goals within the CSS and broadly consider how this joint work could "move the needle" for the conservation of threatened and endangered marine species. To that end, the following topics may be favored for support:

- Projects involving threatened or endangered flagship species of the GAI collection (e.g., whale sharks, manta rays, beluga whales, elasmobranchs, penguins, corals)
- Projects aiming to develop or enhance aquaculture skills within the context of sustainability and animal conservation
- Workshops that advance conservation planning actions plans for threatened and endangered marine species
- Projects aiming to understand the impacts of our exhibits on guests, especially with respect to conservation and education aims
- Projects that explore *ex situ* breeding for conservation outcomes

### 3.4 Research Products

Research productivity can be measured in many ways; the following will be considered tangible products:

- Publications in refereed journals
- Presentations at national and international conferences
- Species conservation action plans
- Presentations to Aquarium staff and guests
- Fact sheets or research summaries
- Media coverage generated by research and conservation activities
- Students gaining qualifications as a result of work on approved Aquarium research projects

## 4.0 Research Process

### 4.1 Research Approval

All research and conservation conducted under the auspices of Georgia Aquarium must be considered and approved by the Director of Research and Conservation and Vice-President of Science and Education who will evaluate proposals to determine whether they meet the research imperatives and are consistent with the Aquarium's research goals and ethical standards. Consultation with Zoological Operations and/or Veterinary senior management on aspects of research related to the animal collection will occur as warranted.

Tangible research productivity on all approved projects will be tracked by the Director of Research and Conservation and reported annually to the Vice President of Science and Education, along with and interpretation of the intangible benefits of the Aquarium's research and conservation activities.

# Georgia Aquarium

## Guidelines for Research Activities

Updated: June 16, 2023



GEORGIA AQUARIUM

### 4.2 Application Process

Enquiries and subsequent proposals for collaborative research must be submitted to Director of Research and Conservation, regardless of whether it is internally or externally generated.

**Project investigators are encouraged to initiate discussions with the Director of Research and Conservation on whether the proposed work aligns with the mission of the Aquarium and the CSS before submitting project proposals and other documents.**

Electronic submission as an email attachment is preferred, in order to reduce paperwork.

Application packages should consist of the following:

1. *Proposal narrative* – Outlines the phenomenon under investigation, the motivation for its study and states any hypotheses, as well as listing the expected research and conservation outcomes. Most importantly, the narrative should explicitly state how the project will meet the research imperatives listed in section 2.0. Narratives should be kept to 3 letter-sized single-spaced pages with 1-inch margins and a font size no smaller than 11pt.
2. *Research products* – Proposals should clearly identify tangible research products to be produced (section 3.4) in the “outcomes” section of the narrative **and** on the timeline. Intangible products should also be discussed in the narrative.
3. *Timeline* – a timeline of the proposed work, indicating key dates, activities and milestones
4. *Budget* – include sources of funding and total project costs.

Proposals are evaluated against the Research Imperatives (section 2.0), the research products to be produced and whether the work is consistent with the mission and public image of the Aquarium. Scientific merit is a primary consideration, but whether the project addresses a specific husbandry issue, along with the value of the project to our Education programs, Guest Programs activities or Public Relations department, are all important factors.

Investigators should expect to hear back on the fate of their application within 2 weeks.

At that time a proposal may be:

1. approved “as is”,
2. approved with minor changes (resubmission not required),
3. returned to the investigator for major modification and future resubmission, or
4. rejected outright.

### 4.3 Animal Use

Georgia Aquarium holds a Class R research license from the United States Department of Agriculture (USDA) and all research activities involving animals and/or where Aquarium staff are listed as co-collaborators (section 3.2) are subject to evaluation for welfare and ethics through the Aquarium’s Institutional Animal Care and Use Committee (IACUC). Additionally, welfare and ethics training are required for all research participants. Application materials to submit research activities to the IACUC can be found here: <https://www.georgiaaquarium.org/institutional-animal-care-and-use-committee-iacuc>. Proposals should not be submitted through the IACUC process without the knowledge of the Director of Research and Conservation, and it is *highly* recommended that researchers consult with the Director of Research and Conservation during drafting of the IACUC documents should questions arise. Georgia Aquarium uses the online platform CITI Programs for access to welfare and ethics training courses and this platform recognizes courses taken on behalf of other universities and institutions. Reciprocity may be granted by the IACUC for welfare and ethics training taken on other platforms. Questions on

# Georgia Aquarium

## Guidelines for Research Activities

Updated: June 16, 2023



GEORGIA AQUARIUM

training requirements and accessing the CITI Program platform can be asked by emailing [iacuc@georgiaaquarium.org](mailto:iacuc@georgiaaquarium.org).

Research projects that do not involve live animals and which are solely requesting Aquarium data records, water samples, non-living food samples, archived photos and videos, necropsy tissues, and/or archived tissue samples may not require a full IACUC submission. Submitters will be referred to GAI IACUC Section M form after discussion with the Director of Research and Conservation. Requests for studies utilizing human subjects (e.g., staff and guest surveys) will require Institutional Review Board (IRB) approval from the requestor's institution before the Aquarium will grant site authorization and these requests should be directed to the Director of Research and Conservation. All research inquiries can be submitted to [GAIresearch@georgiaaquarium.org](mailto:GAIresearch@georgiaaquarium.org).

#### *4.4 Progress reports*

A progress report may be requested by the Director of Research and Conservation. They should clearly identify any tangible research products since the last report and copies of these products should be attached. Progress reports should be short and punchy.

A final report is required at the completion of the project, which should be a more detailed document describing the progress of the project and its final conclusions. The final report should clearly state whether the project objectives were achieved and whether hypotheses were accepted or rejected, along with any new hypotheses generated. Final tangible research products should be identified with a timeline to completion/submission.

#### *4.5 Research stipulations*

Several stipulations accompany collaborative research with the Aquarium, regardless of whether funding support is provided. These include the following:

**4.5.1 Accountability** – The Aquarium reserves the right to withdraw approval from any project that is found by the Director of Research and Conservation to not be meeting its stated goals or the research imperatives of the Aquarium, or to be otherwise contrary to the missions and public image of the Aquarium. The Aquarium will expect unrestricted access to data and research products generated as a result of collaborative research efforts.

**4.5.2 Publications** – Publications are expected to be a major tangible research product of collaborative partnership with the Aquarium. As a general rule, Aquarium staff members that are investigators on collaborative research projects should be authors on publications arising from such work. It is a condition of participation in approved projects that the Director of Research and Conservation and/or Vice President of Science and Education review manuscripts arising from approved projects before they are submitted for publication. This review is not for the purposes of censoring the scientific subject matter, but to allow the reviewers a chance to recognize any potential Public Relations opportunities or pitfalls inherent in the work. In the event that the reviewer feels that publication would be contrary to the best interests of the Aquarium, they may ask that the investigator consider not publishing the work or revising it in such a way as to not be damaging to the public image of the Aquarium.

**4.5.3 Presentations** – From time to time, the Aquarium may request that an outside investigator visit the aquarium to make a presentation to staff or guests on the progress of their research. Similarly, if the Aquarium's Public Relations staff wishes to highlight the research for internal or external communications, they may wish to speak with an investigator about such

# Georgia Aquarium

## Guidelines for Research Activities

Updated: June 16, 2023



GEORGIA AQUARIUM

engagements. Investigators are expected to comply with these requests as a condition of participation in approved projects.

**4.5.4 Conferences** – Notification of abstract submissions for professional conference presentations should be provided to the Director of Research and Conservation for tracking purposes. In general, conference presentations will not need to be reviewed for public relations value, but the Director of Research and Conservation reserves the right of review at their discretion. Aquarium staff members that are investigators on collaborative research projects should be authors on conference presentations or abstracts arising from such work. If the work being presented was conducted under an approved IACUC or other permitting, this information should be listed in the presentation. Similarly, Georgia Aquarium contributions (funding, staff) should also be acknowledged in presentations. Approved *G-fish* logo branding should be used in PowerPoint presentations (both oral and poster) on either the title slide or an Acknowledgements slide; an approved electronic copy of this logo is available from the Director of Research and Conservation. The use of images and/or videos for conference presentations should be cleared through the Aquarium's Research and Conservation department as they may be considered proprietary or may require watermarks listing appropriate federal permits and/or other regulatory information.

**4.5.5 Integration** – Research Imperative 6 seeks to integrate research with other branches of the Aquarium's operation, to take maximum advantage of the public outreach power of the institution to reach the minds and hearts of the public. To that end, investigators on all approved projects are expected to participate actively in the integration process, and proposals with well-described integration activities are likely to be favored. Integration may be through the production of written or rich content products (fact sheets, lesson plans) for use in the Education or Guest Programs departments, or the production of displays, interpretive graphics or footage that explain research activities to education groups and the general guest population. Investigators may wish to discuss ideas for integration activities with the Director of Research and Conservation prior to submitting a proposal. Failure to participate in integration activities is grounds for withdrawal of support and project approval by the Aquarium.

### **5.0 Research Funding**

As a non-profit entity with entertainment, education, and conservation missions, the Aquarium has a limited research budget, which primarily supports research and conservations efforts internally. The Aquarium does not fund unsolicited external research proposals and does not put out a public Request for Proposals (RFP).

Projects carried out as a collaborative partnership may be sponsored either wholly by the Aquarium or wholly by the collaborating partner, but preferably through shared contributions. The details of such arrangements must be clearly spelled out in the budget rationale for the proposal, along with any other funding sources that will be applied to the project. This information is necessary for the Director of Research and Conservation to properly evaluate the Aquarium's role in multi-institutional research or work supported from multiple sources. Failure to fully disclose other funding sources is grounds for withdrawal of Aquarium financial sponsorship and project approval.

#### **5.1 Legitimate expenses**

Funding may be requested to cover legitimate research expenses such as personnel expenses (but see Section 5.3), travel to field locations, accommodations, bench fees, equipment

# Georgia Aquarium

## Guidelines for Research Activities

Updated: June 16, 2023



GEORGIA AQUARIUM

purchase or rental costs, boat fees, consumables costs, software licenses, diagnostic testing costs, instrument time at service laboratories, *per diem* meals and incidental expenses, conference registration fees and publication costs. When budgeting for Meals and Incidental Expenses on field work, investigators should use the M&IE rates of the General Services Administration of the US Government (<https://www.gsa.gov/travel/plan-book/per-diem-rates/mie-breakdown>). Funding may not be requested for purchasing alcoholic beverages or entertainment expenses, nor for travel expenses of accompanying persons not participating in research or not identified in the research proposal. Travel insurance is the responsibility of each investigator's employer.

### 5.2 Personnel expenses

Personnel expenses radically increase the total direct costs of a project. When considering a request for salary support or student stipend, investigators should consider the limited research budget of the Aquarium, the restriction a salary request will put on other requested funds and the effects of such requests on the likelihood of a project's being approved. The Aquarium should not be considered a primary source for salary support, which always remains the principal responsibility of an outside investigator's institution.

**5.2.1 Salary** – Outside investigators may seek partial salary support from the Aquarium as part of a project proposal, with strict limitations. Barring certain exceptional circumstances, it is unlikely that the Aquarium will support 100% of a salary line. Typically, support would be limited to a maximum equivalent of 3 months annual salary. The investigator must demonstrate in the proposal submission process stage that they are able to commit that time to the project. Proposals that are salary heavy will have a low likelihood of being approved.

**5.2.2 Fringe benefits** – The Aquarium will generally honor the fringe benefits rates of institutions submitting proposals to the Aquarium. A statement of institutional fringe benefits policy should be submitted along with the application package for any proposal requesting salary support. Fringe benefits are included in direct costs.

**5.2.3 Student stipends** – The Aquarium will consider requests for stipends to support undergraduate or graduate student research assistants engaged in approved project research.

### 5.3 Indirect Costs

The amount of Indirect Costs (a.k.a. "Overhead") that may be requested is limited to the requesting investigators institutional rate, or 25% of the Direct Costs total, **whichever is lower**. For a proposal requesting \$10,000 direct costs, for example, the maximum indirect costs that may be accommodated is \$2,500. This rate scheme parallels that of the National Sea Grant College system. For institutions that have two-tiered IDC rates for on-campus/off-campus research, investigators should provide an approximation of how much work will be done in each location and apply the different rates to the total direct costs in the appropriate proportion.

## 6.0 Publications Policy

Publications produced as a result of approved projects become part of a numbered sequence of publications tracked at the Aquarium and held in its library. The Aquarium may pay for publication expenses on primary scientific literature (i.e. journal "page charges"); if these are anticipated, then they should be included within the department budget of the GAI staff member involved in the project or requested by the outside investigator.

# Georgia Aquarium

## Guidelines for Research Activities

Updated: June 16, 2023



GEORGIA AQUARIUM

Investigators are asked to supply a PDF copy of the final manuscript file. Other publication types (e.g. books, Fact Sheets) should be discussed ahead of time with the Director of Research and Conservation; in-house support of such activities may be possible through the Aquarium's Graphics department.

The Director of Research and Conservation and/or Vice President Science and Education will review manuscripts as described in section 4.4.

### **7.0 Intellectual property**

Outside investigators (or their institutions) retain intellectual property in research ideas and inventions derived from collaborative research with Aquarium staff *only* if they are principal investigators. When an Aquarium staff member serves as a principal investigator, intellectual property in the research transfers to the Aquarium, as with any work product.

### **8.0 Withdrawal**

The Aquarium reserves the right to withdraw approval for collaborative research in the event that the Director of Research and Conservation and/or Vice-President of Science and Education feels that continuing to support the work fails to satisfy the research imperatives.

### **9.0 Memorandum of Understanding**

A memorandum of understanding (MOU) is a nonbinding agreement between two or more parties outlining the terms and details of an understanding, including parties' requirements and responsibilities. This can be a useful tool for advancing and formalizing research, conservation, and education partnerships, especially when it defines leadership roles, project direction, data collection and ownership, funding contributions, and/or the dissemination of partnership findings. The contents of an MOU can vary depending on the needs of the parties involved and research partners interested in drafting a MOU should contact the Director of Research and Conservation.