

Research Proposal Requirements (Modified from National Park Service requirements)

I. INTRODUCTION

- A. **Title**
- B. **Date proposal submitted**
- C. **Investigators/Cooperators** - Provide name, title, address, telephone number, FAX number, email address, and institutional affiliation for the principal investigator and the name and affiliation of all additional investigators, staff or students assisting on the project.
- D. **Abstract** - Provide a brief description (less than 300 words) of the project.

II. OVERVIEW - Describe the problem or issue being investigated as well as any previous pertinent research.

- A. **Statement of problem/issue** – What is the issue to be investigated and its importance and relevance to science and to Cleveland Metroparks? Provide background information that clarifies the need for the project and why it is important for the research and/or collecting to be conducted in the reservations.
- B. **Literature review** – Include a brief summary of relevant literature regarding the issue, problem, or questions that will be investigated.
- C. **Intended use of results** - Describe how the data and results will be used.

III. OBJECTIVES/HYPOTHESES TO BE TESTED or QUESTIONS TO BE ANSWERED - State the specific objectives of the proposed project and state specific hypotheses to be tested or questions that will be answered.

IV. METHODS – As outlined below, provide a concise, accurate description of the proposed methods, study design and analytical techniques that will achieve the study objectives or test the stated hypothesis/question. Provide pertinent literature citations.

- A. **Description of study area** – Clearly describe the study area in terms of reservation name(s), geographic location(s), and place names. Provide maps and geographic coordinates. Describe the frequency of travel to and within the study site(s). Describe duration, location, and number of participants.
- B. **Procedures** - Describe the study design including samples and data that will be collected. Explain the methods and protocols including:
 - Descriptions of any known potentially hazardous activities including access to remote areas, wildlife capture, handling or immobilization, etc.
 - Descriptions of field equipment and markers (e.g., flagging). Explain how long materials are to be left in the field if at all. Explain the need to use these materials and the alternatives that were considered.
 - Any chemicals that you propose using within the park. Indicate the purpose, method of application, and amount to be used. Describe plans for storage, transfer, and disposal of these materials and describe steps to remediate accidental releases into the environment. Attach copies of Material Safety Data Sheets.

- The type, location, area, depth, number, and distribution of expected ground-disturbing activities, such as soil pits, cores, or flags/stakes. Describe plans for site restoration of significantly affected areas.
 - If review by an Institutional Animal Care and Use Committee (IACUC) is required according to the Animal Welfare Act, please include a photocopy of the study protocol, and IACUC review form and approval.
 - For vertebrate species not requiring IACUC review, describe complete protocols for any capture, holding, marking, tagging, tissue sampling, or other handling of these animals (including the training and qualifications of personnel relevant to animal handling and care). Please discuss alternative techniques considered and outline any procedures to alleviate pain or distress. Include contingency plans to be implemented in the event of accidental injury to or death of the animal.
- C. **Collections** - Describe the type and quantity of materials to be collected, sampled, or captured, and your subsequent plans for these materials. If you are aware specimens of the proposed types already exist in a repository, explain why additional collecting is necessary. Provide information on all other applicable federal or state permits where required.
- D. **Analysis** - Explain how data will be analyzed and reported. Include statistical techniques or mathematical models necessary to understand the analysis.
- E. **Schedule – Important!** Provide a schedule or time line that includes project start date, approximate dates or seasons of fieldwork, reporting, and completion dates.

V. **PRODUCTS**

- A. **Publications and reports** - Describe the expected publications or reports that you will generate as part of this study. Remember that annual reports and a final report are requirements of Cleveland Metroparks research and education permits.
- B. **Collections** – Describe the proposed disposition, including destruction, of collected specimens or materials. If samples will be archived for long-term storage, identify the receiving institution and give a brief justification.
- C. **Data and other materials** - Describe other products that may be generated as part of the project, such as photographs, maps, models, handouts, exhibits, software presentations, raw data, GIS layers, or videos, and the proposed disposition of these materials. If data are to be collected from the public as part of this study, provide a copy of the data collection instrument (survey, questionnaire, interview protocol, etc.). Cleveland Metroparks reserves the right to acquire copies of all data including but not limited to photographs, maps, models, raw data, GIS layers and videos.

VI. **LITERATURE CITED** - Include full citations for all literature referenced in the proposal.

VII. **QUALIFICATIONS** - Provide a summary or curriculum vitae for the principal investigator and other investigators listed in the proposal. Identify their training and qualifications relevant to the proposed project and their ability to conduct field activities in the environment of the proposed study area. Describe previous research and collecting experience if available.

VIII. **SUPPORTING DOCUMENTATION AND SPECIAL CONCERNS** - Provide copies of any supporting documentation that will facilitate processing of your application, such as other required federal and state permits, copies of peer reviews, letters of support and funding commitments, and certifications.