## Research Grant Proposal Description with Due Dates

**For documents 1-3, you should follow the Proposal Margin and Spacing Requirements and Page Formatting in the** [NSF Proposal Guide](http://www.nsf.gov/pubs/policydocs/pappguide/nsf13001/gpg_index.jsp)

**Document 1—Background (DUE Nov 10th):** Based on a minimum of **five** current papers, you will write an introduction for your proposal describing current research in the field you wish to study. This will explore both the organismal group you wish to study as well as the methodology you wish to employ. Within your text, you will identify the main questions and conclusions for your five citations, using key evidence from the paper to support the claims, and you will critically identify any weaknesses. The goal of this section is to both educate your researcher on your field of interest and convince your reader that you are familiar enough with the field to propose a further study.

Do not describe your project at this point. Focus simply on providing the necessary background on the previous research that has led to your proposal. You can and probably should try to make supported statements about the broad types of research that has been conducted so far, and where the gaps are. As in papers we have been reading, you might say, for example, that previous work has evaluated the range shifts associated with climate change for small mammals in Midwestern and western locations in the U.S., but has not evaluated range shifts for the specific species or organismal group or eastern sites you are interested in.

2 pages max, 1.5 spaced

**Peer Editing Questions for Consideration**

Author, rank in order of importance the following:

* I want help with punctuation/grammar
* I want help with organization and flow
* I want help with clarity (i.e. did I answer all the questions below?

What previous research has been done?

What are the gaps in knowledge around this topic? (this could be represented as shortcomings of the cited studies)

What organismal group will this project likely study? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

What type of methodology will this project likely employ? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Does this background convince me that the author is familiar with the field? Or, are there questions that I think should be addressed to make it more convincing—write these questions below!

Is this written in an engaging way that makes me wonder and want to read more?

**Document 2--Project Description and Broader Impacts (Due Nov 17th):** You will identify an unanswered question that is raised by the current papers (from your background) and you will develop a project proposal to answer the question using museum specimens. This can be a small project you could accomplish, or a larger project beyond your current capacity. It must be something that has not previously been completed and published by another group. I strongly suggest you re-read the Grading handout for this project, as it addresses intellectual merit and broader impacts for this project in additional detail.

Your project description should address [paragraph #2](http://www.nsf.gov/pubs/policydocs/pappguide/nsf13001/gpg_2.jsp#IIC2d) of the NSF Grant Proposal Guide’s content section in the requirements for project descriptions (copied here):

*The Project Description should outline the general plan of work, including the broad design of activities to be undertaken, and, where appropriate, provide a clear description of experimental methods and procedures. Proposers should address what they want to do, why they want to do it, how they plan to do it, how they will know if they succeed, and what benefits could accrue if the project is successful. The project activities may be based on previously established and/or innovative methods and approaches, but in either case must be well justified. These issues apply to both the technical aspects of the proposal and the way in which the project may make broader contributions.*

You will also address the broader impacts of your project (as described by NSF and copied here):

*The broader impacts section encompasses the potential of the project to benefit society and contribute to the achievement of specific, desired societal outcomes. These "Broader Impacts" may be accomplished through the research itself, through activities that are directly related to specific research projects, or through activities that are supported by, but are complementary to, the project. The project activities may be based on previously established and/or innovative methods and approaches, but in either case must be well justified.*

Again, **you should follow the Proposal Margin and Spacing Requirements and Page Formatting in the** [NSF Proposal Guide](http://www.nsf.gov/pubs/policydocs/pappguide/nsf13001/gpg_index.jsp). You should use 2-3 pages for this portion of your proposal, not including your works cited section. You must cite all work/ideas that are not your own in this document and include a works cited section. The format for citation is described at great length in the “Using Scientific Literature in Biology Courses” handout posted on Moodle and at Wildman Science Library.

**Learning Goals for the Research Grant Proposal** synergize with the course learning goals and are as follows:

* Connect current research to prior research.
* Demonstrate the ability to read a primary research article and distill the important points.
* Practice asking “What Next” questions and propose experiments to test a hypothesis (demonstrate familiarity with techniques and experimental design).