

WR 150 Final Scientific Paper: Observing the Diversity of Life

General Assignment: Write a paper of 1800 to 2200 words in which you analyze data from your own observations of animal behavior to respond to text-based research by making a claim-driven argument. Provide an annotated bibliography, an abstract at the start of the paper that summarizes your argument, and several keywords that reveal the central focus of your study.

Requirements for Observations

- You will conduct observations at local Boston sites.
- You will gather most of your data from your own observations. Your data can come partly from your trip to the Aquarium and observations during class, but much of your data must come from solo observations done outside of class time.
- Data you include must be detailed and come from notes taken **at the time** you were observing. When you observe, it will be essential to make note of when and where you observe and the sequence of events. You may perform a particular experiment in the field as part of your research, but this is not required.
- You will link your observations to previous peer-reviewed studies you include and the larger issues you are exploring in the paper through a central claim.

Textual Research Strategies

When looking for scholarly sources, you do **NOT** need to find articles that make the exact argument you want to make. The goal is to find scholarly debates you can join through the analysis of animal behavior or animal-human interactions at your specific sites. Your data from specific sites should fill some gap in existing research. In class will be talking more about how you find your niche in existing debates, but here is an example of how it works – let's say you observe a specific species and become interested in a particular type of behavior that happens at a specific type of site. You would then seek sources that focus on that species, but also sources that analyze behavior of that kind in other species, and related issues about the type of site you are analyzing (types of sites include urban parks, sanctuaries, aquariums, zoos, etc.)

Annotated Bibliography: Organizational Strategies

You should briefly summarize each source in an annotation but also use annotations to brainstorm how you will use that source in your paper. If you divide your annotated bibliography into sections, it can help you to categorize your sources based on their potential roles in your paper. You can put sources you will use for background data in one section and create another for sources with arguments to challenge, expand, or refine. Or you can sort sources based on their links to different parts of your argument. Sorting can help you avoid depending on a single source. Letting one source dominate the conversation makes it difficult to keep up the momentum of your own analysis.

Although everyone will write papers of the same length and incorporate observation and text-based research, you will choose between several different options.

OPTION 1: Scholarly Scientific Paper

Structure of Paper: This type of paper will give you the opportunity to complete a paper in the IMRAD structure similar to the type you might publish as a research scientist. IMRAD stands for Introduction, Methods, Results, and Discussion. With variants in specific articles, it is a structure used in many papers in the sciences. The introduction outlines the central focus of the study, the methods section describes the procedures the researcher followed (the section is sometimes called Procedures or Procedures is sometimes a mini-section within Methods), Results reproduces the raw data found in the study (often in a combination of text and tables), and Discussion analyzes that data. After these sections, there is a Conclusion that summarizes the study, outlines its limitations, and suggests directions for future research.

Approach: This paper option will rely most on your field observations. You will **use** at least five peer-reviewed sources and develop a bibliography with at least ten peer-reviewed sources.

1. Develop a research question about a specific local species at a particular site – Eastern gray squirrels, House sparrows, Rock doves, Wild turkeys, Mallard ducks, and Canada geese are a few possibilities.
2. Develop a research question that compares behavior of a specific local species at two different sites.
3. Develop a research question about a specific species from the New England Aquarium. A specific species of penguin or one of the marine mammals are obvious choices, but other animals such as sea turtles, octopus, sting rays, or particular species of fish offer exciting possibilities as well.
4. Develop a research question that compares two specific urban species. You need a basis for comparison, but you do not have to compare species that are closely related genetically. Similar behaviors of distantly related species can be compared. For example, compare the caching behavior of two species such as Eastern gray squirrel and Blue Jay. (caching is hiding food for consumption later)
5. Develop a research question that compares two specific species from the New England Aquarium. Possible bases for comparison include close genetic relations (two penguin species), direct interactions between two species in the same tank (sea turtles and a fish species from the Giant Ocean Tank), or two species who live in enclosures with large groups of their own kind (rays and a specific penguin species).
6. Develop a research question that compares the behavior of multiple species at a specific site. With this topic, particular environmental features of that location will play a role in your argument. For example, you can analyze how the status of Hall's Pond as a sanctuary shape anti-predatory behavior of or how the natural/built landscapes of Boston Common affect foraging.
7. Develop a research question focused on a single species from Franklin Park Zoo or make a specific comparison between the behavior of two particular species from the Zoo.

OPTION 2: Practical Argument on Ecology or Enrichment

Structure of Paper: Use IMRAD or a similar structure.

Approach: You will use data from your observations, though not as much as for the other paper options. You will also incorporate data about public policy and animal welfare. Your focus will be animal behavior and environmental impacts of human choices on specific species or sites OR how humans can make specific choices to design exhibits and enrichment for a species in a captive environment. For this option, you will **use** at least six sources in the paper and develop an annotated bibliography with at least twelve sources, nine of which must be peer-reviewed.

1. Develop a research question about how BU can make specific areas of campus a better habitat for a particular species or species.
2. Develop a research question about how the Friends of Hall's Pond can improve the habitat at Hall's Pond for a particular species or two related species.
3. Develop a research question about how the New England Aquarium could improve enrichment and/or revise the design of an exhibit for one specific species.
4. Develop a research question about how the Franklin Park Zoo could improve enrichment and/or revise the design of an exhibit for one specific species.
5. Develop a research question about how another local site could improve habitat for a specific species.

OPTION 3: Social Scientific Case Study on Human-Animal Relationships

Structure of Paper: This paper should contain the following sections: Introduction, Literature Review, Method, Discussion, and Conclusion. The **introduction** concisely explains relevant background, why this area is important to investigate and how the study will contribute to understanding of a specific issue or issues. The **literature review** should briefly summarize some previous research that is relevant to the focus of the paper and place your research in the context of this previous conversation. The **method** section should explain why you chose the particular subject for your case study, how it will help to advance the understanding of the research question you are addressing, and the approaches you used to conduct the case study. In the **discussion** section, state the major findings of your case study, interpret their meaning, consider alternate interpretations of your findings, and acknowledge limitations of your study. In the **conclusion** section, you should discuss areas for further research.

Approach: For this option, you will figure out a specific type of behavioral interaction between a particular species and human beings that you think is pertinent to explore and that you have and can observe at a local Boston area site. Your analysis will address the animal behavior, but will focus just as much on the human response by using psychological, sociological, or anthropological studies or theories. If you choose this option, you will **use** at least five peer-reviewed sources and develop a bibliography with at least ten peer-reviewed sources.

1. Develop a research question about how the habitual feeding of a particular species at a specific local site impacts the interactions between human beings and that species at that site.
2. Develop a research question about how the different behavior of human visitors toward the same species at two different sites affects the behavior of that species.
3. Develop a research question about how dog-walkers and dogs at one or more local sites impact the behavior of a particular local wild species.
4. Develop a research question about how adults at the Aquarium **OR** Franklin Park Zoo use interpretations of 1-2 particular species' behavior to convince children to interact with those species.
5. Develop a research question about how Aquarium visitors react or interact to two particular species.
6. Develop a research question about how visitors to the Franklin Park Zoo react to or interact with two different particular species.