

Writing a Review Paper

Most graduate students will need and benefit by writing a review paper on their subject matter central to their thesis topic. Doing so will benefit you in writing introduction and discussion sections of papers, help you ace your comprehensive exams, and most importantly, give you a solid understanding of how your proposed research fits in to what the scientific community has already done.

When writing the review paper, keep these objectives in mind:

1. refine your skills at critically evaluating scientific papers in a historical context
2. become familiar with using reference databases in libraries
3. develop scientific writing skills
4. gain expertise in an area of freshwater ecology

Writing a review is a big job and requires some breakdown of the tasks. Below are 4 components to writing a review.

1. Your topic: Keeps you on track. Prepare a 1-2 sentence objective/description.

2. Annotated bibliography: An annotated bibliography is a list of peer-reviewed scientific papers that you are considering reviewing in your paper and a short summary (like an abstract) of findings relative to review.

3. Outline: The outline will help me provide constructive feedback on your review and will hopefully make writing the final version of the term paper easier. The outline of your paper is meant to help organize your thoughts about your review. Consider the outline as a skeleton of your paper. An outline should include a bulleted list of topics. These topics should be ordered logically and hierarchically. Each of topic should contain your claim (the major headers). Do not go into great detail for any of your major headers, just write one sentence per idea. More importantly you and I must understand the intent of the section/paragraph breakdown. What point do you want to make? A description of what you will support those claims. Some techniques to achieve this include figures, tables, and verbal descriptions of data (no need to include actual figures)

4. Review paper--The paper should discuss a topic related to freshwater ecology drawn from the scientific literature. This is your opportunity to learn more about an aspect of river and stream ecology. Essentially, a review summarizes the scientific understanding of a general subject. You want to provide an interesting **synthesis**. The best reviews will use a combination of older literature to provide a historical perspective on the topic and will also provide information from recent papers to illustrate advances on this topic.

Your paper should include: A title and four general sections: 1. introduction, 2. body of paper, 3. conclusion and future directions, and 4. literature cited. Examples of data that support your claims accompanied by the citations that you read to come up with the data. These data can take

the form of tables, graphs, or verbal descriptions. The literature cited should list all of the papers you cite in your project. See the Canadian journal of Fisheries and Aquatic Sciences.

What historical research inspired this work? Find some papers that inspired the research of the focal paper.

What new research has been done that refines or refutes the discoveries of your topic?

These papers may refine or refute the discovery presented in your focal paper.

What research might be done now? Based on your review, provide suggestions for what research might be done next to further develop the progression of ideas you have summarized.

Consult the following website for helpful hints on how to write a review paper:

<http://www.uwlax.edu/biology/communication/ReviewPapers.html>