

# STREAMWATCH ECOLOGICAL STUDY

## Abstract

The abstract, although it comes first logistically, always should be written last. It needs to be written last because it is the essence of your report, drawing information from all of the other sections of the report. It explains why the experiment was performed and what conclusions were drawn from the results obtained. A general guideline for an abstract has five sections or areas of focus: why the experiment was conducted; the problem being addressed; what methods were used to solve the problem; the major results obtained; and the overall conclusions from the experiment as a whole. It should only be one page. Do not restate specific methodology.

## Introduction

One very important part of the introduction section is outlining the purpose of the experiment as concisely as possible. Stating the question or questions that are to be answered by the experiment can easily be introduced with the phrase "In this experiment" or "In this study" and then explaining from there. These statements should be as specific as possible to demonstrate a clear understanding of the experiment. The purpose of these statements is to explain what the experiment does and how the results will be interpreted. Once the question that the experiment attempts to answer has been stated, the background information needs to be given to show why the question was asked. Background information should include, but is not limited to, the importance of wetlands, the history of the Green Hope wetlands, importance of your independent and dependent variables, and any other pertinent information.

## Materials and Methods

The Materials and Methods section is a vital component of any formal lab report. This section of the report gives a detailed account of the procedure that was followed in completing the experiment(s) discussed in the report. Such an account is very important, not only so that the reader has a clear understanding of the experiment, but a well-written Materials and Methods section also serves as a set of instructions for anyone desiring to replicate the study in the future. Considering the importance of "reproducible results" in science, it is quite obvious why this second application is so vital. This section may be copied verbatim from the Streamwatch clipboards.

## Results

The Results section should include all of the experimental data collected that was necessary in reaching the ultimate conclusions drawn. This includes tables, graphs, etc... Each set of data requires a logically selected label (e.g. Figure 1 or Table 1) and a descriptive title referring to the nature of the experiment. A brief paragraph of explanation (2-3 sentence minimum) should be included as a caption for each table or figure as well so that the reader knows exactly what he or she is looking at. You must include all data from all years for your focus within the Streamwatch study.

## Discussion

The Discussion should be written after the Results section so that you have a good idea of what the experiment has demonstrated. The discussion section should definitely have a statement of your expected findings. This should include your hypothesis and a brief statement about why these types of results are expected. There should also be a comparison of how your actual results related to your expected findings. Here, you should state whether or not your results supported or didn't support your hypothesis. In addition, the degree to which the evidence supported your hypothesis should be stated. For example, were the results completely supportive, or were there variances? Refer to each specific data table and graph within the results section and explain trends and meanings by using specific examples within the results. Also include sources of error and prognosis for the future.

## Works Cited

The literature cited portion of your paper is very important because it enables either you or another reader to go back and obtain the sources that you used in preparing your report. It also allows the reader to obtain additional information if he or she wants to find out about a certain topic you addressed. Another important reason for having a literature cited page is that it allows anyone who is unsure of your data to go back and verify that you reported everything correctly, thus eliminating any uncertainty. Be sure to cite in MLA format.

## **The Cliff Notes Version**

Reports should include a cover sheet and be double spaced, 10 or 12 pt font, 1 inch margins – no report covers or binders please. No portion of the report should be written in first person. *All the details of this report cannot possibly be covered in one page. Please pay careful attention to the discussions in class – both on the day of assignment and each following day until the assignment is due. Additional instructions and clarifications will be given in class and written on the front board. Please remember to use the “free proofreading” that is offered to ensure success.*

**Abstract (10 pts)**-summary of entire lab report, do not restate methodology, concentrate on purpose, hypothesis, and discussion of results (should be about one page – no longer)

**Introduction (20 pts)**-background information on the study, including importance of wetlands, the variables, history of the area, purpose of the study, and hypothesis (should be three to five pages)

**Methods and Materials (20 pts)**-a list of materials accompanied by a specific, numbered sequence of methods that someone unfamiliar with the study could easily follow - you may use streamwatch procedures verbatim (length varies with study)

**Results (20 pts)**-data only, no analysis. Must include all data from study focus and pertinent data from other stations; all data included should be in table format with pertinent data also included in graph format; at least four graphs should be included; all tables and graphs must have a title and a two to three sentence caption (length varies with study)

**Discussion (20 pts)**-analysis of data, what do the results mean? was the hypothesis correct? sources of error? prognosis for the future? (should be five to seven pages)

**Works Cited (10 pts)**-mla format, minimum eight (8) sources – NO WIKIPEDIA!

In addition to submitting the entire report as a hard copy, you must submit the abstract, introduction, and discussion to [www.turnitin.com](http://www.turnitin.com). TurnItIn is an internet-based program that automatically checks for plagiarism against internet and print sources along with previously submitted papers (ie. papers from previous years). Any papers with a plagiarism score above 20% will receive a 0% F (about 10% is common due to quotations, methodology, etc.). Drafts are optional, and may be submitted prior to the due date (it may take up to 24 hours for results).

Final papers (hard copy) are **due by 3:00 PM on Monday, December 15<sup>th</sup>**, with the electronic versions (abstract, intro, & discussion only) due by 3:00 PM.  
If you are absent from class on the due date, electronic submissions are still due!

**[WWW.TURNITIN.COM](http://WWW.TURNITIN.COM)**

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