UPC Report Structure and Feedback

This is not new information, but reinforces the writing tips you were given in class!

TITLE:
Should be clear and concise and introduce subject of your study (niche diversification or species-habitat associations) the study system (kelp forest) and the location (Hopkins Marine Station, Monterey, California)

INTRODUCTION
1. Begin with the big ecological question, in this case how diversity is maintained in the face of interspecific competition, and use the scientific literature to create the context for this question (AT LEAST 4 citations, not all of them from readings and lectures!)
2. Identify how your study addresses the big ecological question, in this case questions about niche diversification and resource partitioning
3. Introduce the clear and specific questions this study was designed to address and their associated hypotheses (in paragraph format)
4. Explain why the kelp forest is a good study system to address these questions
5. Address why your study is novel and adds to the field of ecology.

METHODS:
1. General Approach (subheading) - begin by briefly describing the general approach, in this case an observational field study using the UPC method to characterize primary substrate holders, substrate type, and relief.
2. System Description (subheading) – briefly describe the system (kelp forest) and study site (Hopkins) and expand on the information you provided in the introduction about why this is a good study system to address these questions. In this case, the diversity of sessile benthic species, substrate types, and relief categories allow you to detect species-habitat associations
3. Study Design (subheading) - identify each specific hypothesis (in outline form) and explain how your data collection methods will allow you to test it, including how you would analyze the data and interpret the results. This should include only the details that are pertinent to the hypothesis. A figure can be useful to show the spatial design of your study as it relates to testing hypotheses.
4. Data Collection (subheading) - Finally, after you’ve explained WHY you did things the way you did, you want to provide a detailed description of methods so that someone else could repeat your study. This does not have to include details about how you coordinated your buddy pairs, other than the fact that you each sampled 30 different points on the same 30 meter transect. You should include the total number of data points that you had for analysis!
RESULTS
1. General Results (subheading) – describe some of the general results of the study, in this case the general characteristics of the habitats sampled (first 2 pages of graphs from Pete) including any relationships between substrate type and relief. You do not need to put ALL the details into the text, but call out some of the most notable results and refer to the figures for more details.

2. Results by hypothesis (use each hypothesis as a subheading) – describe some of the most notable results for each hypothesis, but refer to the figures for the rest of the details. In this case, make sure you mention whether the association between species and habitat is positive or negative. DO NOT interpret the results in this section.

3. Include figures with:
   a. correctly labeled units and axes
   b. legends/captions that stand alone and i) summarize what the table or figure is depicting, ii) explain the variables that are graphed, and iii) summarize the results of statistical analyses (what results are significant?). BUT, figure captions are not a place for detailed discussion of the results, that goes in the text!

DISCUSSION
1. Briefly summarize AND INTERPRET the key results (not ALL the results, only the important ones). You may choose to do this separately for each hypothesis (using each as a subheading), or across all hypotheses.
   a. Speculate on why results supported or did not support your hypotheses, including problems with your study design that may have influenced your results
   b. Suggest mechanisms for the results, in this case, WHY might certain species-habitat associations exist and HOW might they be maintained. The scientific literature can provide support for these mechanisms (include AT LEAST 2-4 citations in the discussion, not all of them from readings and lectures!)
   c. Describe your results in the context of the scientific literature by comparing your results to those from similar studies (include AT LEAST 2-4 citations in the discussion, not all of them from readings and lectures!)

2. State overall conclusions and their implications for our ecological understanding and for informing management.

LITERATURE CITED
1. Use AT LEAST six citations in your paper, and preferably more. Follow the guidelines for citing literature that Mark provided.

GENERAL NOTES ON CLARITY
1. Don’t use jargon, where a simpler word would achieve the same thing, and definitely don’t use any words if you don’t understand what they mean!
2. Be sparing in your use of dramatic and flowery language and beware of superlatives (e.g. the most, best, largest etc.) because these are rarely accurate or truly meaningful.
3. Make sure each sentence has a clear subject and a verb (i.e. a PERSON/THING that is DOING something) to avoid passive voice and make your writing easy to understand.
4. Carefully review rules of punctuation and learn how to use commas, colons, and semi-colons correctly.
5. Carefully choose your connecting words (e.g. whereas, while [refers to time], however, in contrast, thus) so that they are appropriate to the sentence, because each of these words means something slightly different.
6. Make sure you understand the difference between “varying,” which means changing, and “variety,” which means a number of different types of things that probably don’t change.
7. Read your sentences out loud to yourself (you’ll only look a little crazy) to make sure that they flow naturally and are not broken into too many unnecessary clauses; if they don’t flow naturally try reordering the clauses/ideas.
8. Try varying sentence length for a mixture of longer sentences that connect multiple concepts and short sentences that make a single clear point.
9. Don’t forget to connect the dots between ideas, just because you understand how two ideas presented in adjacent sentences are related, does not mean it’s clear to your reader.
10. Call on your classmates to proof read for you! They can help identify where your writing is unclear so that you can fix it BEFORE you turn your paper in!