This assignment is worth 75 points toward the final course grade.
The purpose of this assignment is for you to practice your ability to convey your thoughts and ideas about a particular aspect of animal biology and scientific thought in a non-traditional (non-paper) medium. Given the important role the Internet/Web plays in our everyday lives this has become a most critical skill. Additionally, proficiency in computer skills is a requirement both for the SBCC Student Learning Outcomes and to be a productive scientist in the modern world.

You will present your topic orally during one of our laboratories to other students in your lab section in the laboratory classroom. In addition to your digital presentation, you may utilize other resources that you bring or build including models, posters, artwork and the chalkboard. Remember this is a very short presentation!

PRESENTATION TOPIC:
This assignment must involve or be about A RECOGNIZED DECREASE IN THE BIODIVERSITY OF A GROUP OF INVERTEBRATES. Your presentation should focus on a threatened or endangered invertebrate species or group of species that has the potential to go extinct.
DO NOT create a presentation that is about an endangered VERTEBRATE animal.
Your presentation may NOT be a simple review discussion of a specific invertebrate. You have much flexibility about what you present and how you present it, but your subject must adhere to the guidelines indicated here:

- **The presentation is on an example of a recent decrease (within the last 1000 years) in the biodiversity of an invertebrate animal species or group. Basically the presentation is on the link between human impacts and an endangered or threatened invertebrate species or related group of species.**

- **What specific species or group of related species are involved? Provide the taxonomy of the species.**

- **Provide a VERY BRIEF general description of the species (30 to 60 seconds max).**

- **What scientific evidence is there for the exact cause(s) of the decrease in the population? You must explain and cite some specific data from the primary journal literature you find.**

- **What precise human impacts might be involved? What specific evidence is there that humans contribute to the problem? Be as detailed as possible. Try to link specific human actions to particular effects on the species as they are known. Do not just cite "pollution", describe what specific pollutants might be involved (eg. heavy metals, PCBs, greenhouse gases, etc). Do not just cite "habitat destruction", give specific examples of what humans are doing in the area to cause the habitat loss.**

- **Propose potential solutions to decrease the threats to this species or group of species. How might your solutions help preserve the species? Be detailed in your response. Do not simply say "decrease pollution", cite a definite mechanism to help prevent pollution. Be creative, innovative and resourceful. You may include your own ideas in addition to solutions proposed by researchers or others.**

- **Often the solutions we develop to fix environmental problems often create new problems. You must include at least one hypothesis on further environmental, ecological, biodiversity or other biological problems that your solution might intentionally or unintentionally create.**

You must submit at least an initial topic for your presentation to me no later than the date indicated in lecture and on the course website.

With your permission (which I will request), I may post some of the best presentations (or all of them) **on a password protected portion** of the course website after the end of the semester. In this case your presentation may become part of a large database of knowledge and information accessible to future students.

1. Preparing a project takes time. Start early!

- Write a clear statement of the subject topic and its importance.
- Perform sufficient research to make an interesting, accurate and information/data driven presentation. This may come from any reasonable resource such as books, journal articles and/or the internet.
- Try to tell a story in a logical sequence.
- Stick to the key concepts and provide enough detail to explain your ideas.
- If you are making a series of points, organize them from the most to the least important or a similar fashion that makes sense depending on your topic.

2. Specifics for Preparing Your Project:

- You must **use at least 2 peer-reviewed journal articles (does not matter how/where you obtain them)**. You can use the SBCC library website as you will for the paper. **You must use at least 3 additional other sources for a total of 5 different sources.** These non-journal sources may be books, websites or similar references.

- **Create a *working outline*** – meaning that you do not have to present your project exactly as you originally think it up, the outline provides you with a direction that you are working. Then build the digital presentation and add or remove material as you develop it to make the final complete presentation.

- This should be a presentation that **takes about 4 minutes. The presentation must be a minimum of 3 minutes with a maximum of 5 minutes.** Depending on the amount of information on each slide/page you may have more or fewer slides/pages. **It is better NOT to put too much information and text on one slide. You MUST PRACTICE your presentation multiple times before the presentation due date to ensure that you meet the time requirements and that you are well prepared.**

- Video clips may be used but are NOT required. If you use any videos keep them short and less than 15 seconds maximum. You will receive a point deduction for lengthy videos that prevent you from personally telling most of the story of your presentation.

- **Aim to use at least 5 figures or photos** (a graph or map or diagram, hopefully from the article) or similar figures or photos in your presentation. **You may obtain these from any source and they MUST be cited on pages/slides where used. You may use more than 5 figures or photos and many of you will.**

- **You must cite ALL of your specific sources at the end of your presentation** on a slide/page or series of slides/pages as you will for the paper. **You do not need to cite within the text or on every slide/page, only at the end of the complete presentation.**

- **You may use any format or software program you choose as long as I can open it and review it** (MS Powerpoint or similar presentation software, Dreamweaver and build your own website if you know how to, etc). Talk to or email me if you have an idea

about using a special type of software or have some other idea about presenting the requisite information (there is some flexibility here for you). **Most of you will probably use MS Powerpoint which is available in the computer lab on the second floor.**

- **Following are some tips for using PowerPoint.**

Preparing Your Slides or Webpages:

Presentation Design

- Do not overload your slides with too much text or data.
- FOCUS. In general, using a few powerful well designed slides can more effective than many more superficial slides.
- Read through your presentation as you develop it to figure out how long it takes to work through it, read and understand it.
- Pictures tell a thousand words – use pictures or graphs to make a point rather than cluttering a slide with too many words. Use the words effectively though and be sure that your slides have title and labels.
- You can type notes in PowerPoint under each slide & print these out to help you work up the presentation, but notes that are not actually part of the slide are not required for each slide.
- Proof read everything, including visuals and numbers. Grammar, spelling, punctuation and style will account for a portion of your final score.

Visual elements

- Use clear, simple visuals. Don't confuse the audience.
- Graphics and photos should make a key concept clearer.

Text

- A font size of 26 to 34 with a bold font is recommended.
- Use a font that is easy to read on a computer screen or when digitally projected.
- Generally, it is best to stick to one single font type throughout the presentation.
- Colored text can be used to highlight specific terms or ideas, but do not overdo this.
- Use contrast: light on dark or dark on light.
- Overuse of text on a single slide is a common mistake. Parse the text out over multiple slides and use bullet points as they are easier to remember and often make your point more effectively in this type of presentation.

Charts/Graphs

- Charts need to be clearly labeled.
- Numbers in tables are both hard to see and to understand. Get creative with better ways to present them or be sure the numbers are easy to read.

Backgrounds

- Backgrounds should never distract from the presentation.
- Using the default white background is hard on the viewer's eyes. You can easily add a design style or a color to the background.
- Backgrounds that are light colored with dark text, or vice versa, look good. A somewhat darker background with white font reduces glare.
- Do not use black for a background as there will be too much contrast with text and it will be hard to read.

Visual Effects

- Sounds and transition effects can be annoying. Use sparingly.
- Animation effects can be interesting, but too much is distracting. Use in moderation.

Your last slide/page MUST be a References Cited slide/page(s)

For each reference you must include (so make sure you copy them or write them down and keep them together as you do your research):
♦ The complete title of each article, book or reference
♦ The name of the author(s) of each article, book or reference
♦ The name of the book or journal/magazine, date, volume number, and page numbers of the article or book cited
♦ The specific internet address, name of organization and date which you accessed the site if it is a resource from the World Wide Web.
♦ References must be listed on the **References Cited slide/page** according to the following guidelines.

Your list of References Cited should include all of the references you cited in your presentation, and no more! All reference you use for the presentation must be cited on this slide/page. **It should be arranged in alphabetical order by the last name of the first (primary) author**. If you have more than one entry by the same author, they should be further ordered by increasing publication date (more recent papers last). I f you have multiple sources from a single author published in the same year, distinguish them in the reference list, by appending the letters a, b, c... to the year, in the order in which the different references appear in your paper. (For example: Allen 1996a, 1996b.) You should include enough information that your readers will be able to find these sources on their own.

Reference lists are generally reverse-indented--this just helps the reader to find references to specific authors that much faster. Follow the examples given below.

For an Article from a Journal or Magazine
List the author(s) of the article using the same format given above for books, then give the year, the title of the article or chapter (no quotes, italics or underlines), then the title of the journal or magazine (in italics if possible), the volume number of the journal (do not use the publication date), and page numbers where the article can be found:

One author:

Maddox, J., 1987, The great ozone controversy, *Nature,* v. 329, p. 101.

Two or more authors:

Vink, G. E., Morgan, W. J., and Vogt, P. R., 1985, The Earth's hot spots, *Scientific American,* v. 252, p. 50- 57.

For Books
List all authors by last name and initials, separated by commas if there are more than two authors. Put an "and" before the last author in the list. Then put the year of publication, the title of the book (in italics if possible), the publisher, the city, and the number of pages in the book.

One author:

Gould, S. J., 1983, *Hen's Teeth and Horse's Toes,* W. W. Norton, New York City, 413 p.

Two or more authors:

Ingmanson, D. E. and Wallace, W. J., 1985, *Oceanography: An Introduction,* Wadsworth, Belmont, CA, 530 p.

For Articles or Chapters with separate authors from a Book or Compilation
List the author(s) of the article using the same format given above for books, then give the year, the title of the article or chapter (no quotes, italics or underlines), then the name(s) of the editor(s) of the book or compilation, followed by "ed." or "eds.". Then put the title of the book (in italics if possible), the publisher, the city, and the page numbers where the article can be found:

Rodgers, J., 1983, The life history of a mountain range-- Appalachians, in Hsu, K. J., ed., *Mountain Building Processes,* Academic Press, Orlando, p. 229-243.

For Internet sources
Give the author's last name and initials (if known) and the date of publication (or last modification if known). Next, list the full title of the work (e.g. the specific web page), and then the title of the complete work or site (if applicable) in italics. Include any version or file numbers, enclosed in parentheses. Most important, provide the full URL to the resource, including the protocol, host address, and the complete path or directories necessary to access the document. Be sure to spell this out exactly! (best to use an electronic "copy" from the "location" box of your browser and "paste" into your word processor). Finally specify the date that *you* last accessed the site, enclosed in parentheses.

Focazio, M.J., Welch, A.H., Watkins, S.A., Helsel, D.R., and Horn, M.A., 1999, A retrospective analysis on the occurrence of arsenic in ground-water resources of the United States and limitations in drinking-water-supply characterizations, *U.S. Geological Survey Water-Resources Investigation Report* 99-4279, http://co.water.usgs.gov/trace/pubs/wrir-99-4279/ (August 1, 2000)

Adapt these formats as necessary for other types of sources, including unpublished reports or manuscripts -- just be sure to include sufficient information that your reader could find or obtain these sources themselves, if need be.

3. On the day the presentation is due you MUST provide all of the following:

1. **A digital copy of the presentation by one of the following media** that can be used or uploaded onto the computer in the lab classroom.

- **YOU MUST SAVE YOUR FILE ON YOUR MEDIA WITH THE FOLLOWING FILENAME FORMAT (SO I CAN FIND IT):**

  barronblakebio102

  (your last name then first name then bio 102 all lowercase, no spaces)

- **Be sure the FILENAME INCLUDES BIO 102 AND YOUR NAME IN THE TITLE AS ABOVE SO I KNOW WHICH FILE IS YOUR PRESENTATION ON THE MEDIA YOU GIVE ME!**
- **BE SURE THAT YOUR NAME IS ON THE FIRST PAGE OF THE PRESENTATION AND ON THE DIGITAL MEDIUM ITSELF THAT YOU GIVE ME SO I KNOW IT IS YOURS AND CAN RETURN IT TO YOU!**
- **THE BEST THING TO DO IS TO PUT THE DIGITAL MEDIUM IN AN ENVELOPE WITH YOUR NAME ON BOTH THE MEDIUM AND THE ENVELOPE.**
- **Posted on the Internet/Web somewhere on a website or sim**
- **Posted on the Internet/Web somewhere on a website or similar resource to which both you and I have access.**
- **A CD or DVD with your presentation burned on to it.**
- **A jump/thumb or similar common drive**

- **Another software delivery mechanism – talk to me about what you will use first.**
- **YOU MAY NOT EMAIL ME YOUR PRESENTATION. MOST OF YOUR PRESENTATIONS WILL BE TOO LARGE TO TRANSMIT VIA EMAIL.**
- **DO NOT PLAN TO EMAIL ME YOUR PRESENTATION TO MEET THE DEADLINE. IT WILL NOT BE ACCEPTED AND ANY SUCH EMAILS WILL BE AUTOMATICALLY DELETED WITH NO ATTEMPT ON MY PART TO OPEN THEM. I DO NOT HAVE TIME TO WAIT FOR DOZENS OF VERY LARGE FILES TO DOWNLOAD!**

2. **A brief 2 to 3 page written synopsis** of your digital presentation including the key points and issues presented in the presentation. **Be sure your name is on it** and it indicates it is the digital presentation for Biology 102.

3. **A printed hardcopy references cited/bibliography page.** You must write out full citations as on the your last Reference Cited slide/page.

- **DO NOT PLAN TO EMAIL ME YOUR PRESENTATION TO MEET THE DEADLINE. IT WILL NOT BE ACCEPTED AND ANY SUCH EMAILS WILL BE AUTOMATICALLY DELETED WITH NO ATTEMPT ON MY PART TO OPEN THEM. I DO NOT HAVE TIME TO WAIT FOR DOZENS OF VERY LARGE FILES TO DOWNLOAD!**

Most importantly, practice, practice, practice! It is best to practice in front of other people as they can most accurately assist you in developing the best possible presentation. This will also help ease any nervousness you may experience.

Both the information you present and the manner in which you present it are important.