

## Annotated Bibliography Assignment

**Due Date:** \_\_\_\_\_

For this assignment, you are required to assemble an annotated bibliography on a topic of your choice of no less than **20** sources from the **primary literature** and **5** sources from the **secondary literature**.. At least **15** of these sources must be from journals located in the **Dawes Library or through such sources as the EJC or J-Stor**. You must read **5** of the primary source papers and demonstrate that you understand the article by writing a summary describing each of the 5 papers and answering particular questions (see below).

**Choosing a topic:** You are free to choose any topic that has to do with ecology, **as long as it does not focus on anthropogenic effects**. Since 15 of the sources must come from the Dawes Library, you might want to acquaint yourself with the holdings before selecting a topic. All topics must be approved in advance; no two students may choose the same topic, so it would be wise to get your topic cleared early on.

**The sources:** You must locate 20 sources from the primary literature. The primary literature is defined here as original work reported by the scientists who did the work in a peer-reviewed scientific journal. You must have at least 5 sources from the secondary literature. The secondary literature is defined here as a compendium or critique of primary and secondary literature made by a professional scientist in a peer-reviewed journal or compendium.

**The bibliography:** The bibliography will be split into two sections, one for the primary literature followed by a section for the secondary literature; both sections will be clearly labeled. The individual records will follow the instructions to authors given in the most recent *Ohio Journal of Science*. The entries should be single-spaced, with a blank line separating individual entries.

**The annotations:** For 5 of the primary sources, you must read the entire paper, and write a summary (one for each paper) answering the following questions:

1. What hypothesis was being tested (or what observations are being reported)?
2. How does this work relate to other work in the field?
3. What methods were used?
4. Did the results support the hypothesis? (Explain, don't just answer yes or no.)
5. What questions does this research raise? (In your mind, if not the author(s).)

The summary can be up to one page in length.

**Assembly:** The assignment should be assembled as follows:

1. First page - Your name, the class, the assignment, the topic, and the date (on separate lines at top of page)
2. Skip two lines and go immediately to the bibliography.
3. After the bibliography, start the 1st summary on its own page. Each of the remaining summaries should be on their own page, and the page should be headed by the citation for that paper.
4. Staple all of the material to this point together.
5. Photocopy each of the 5 articles that you have summarized. Staple each of the articles separately. Place the articles (in order) after the bibliography/summaries section. Use a paper clip or binder clip to assemble the package.
6. When complete, I should have the assignment (bibliography and summaries) stapled as one unit, followed by the 5 individually stapled sources, all held together by a paper clip or binder clip.

## Cretaceous Park Assignment:

You are an ecologist working for a small but prestigious think-tank, EcoThink. Your company has been contracted by the Biosyn Corporation of Cupertino, California, to evaluate, independently, a proposal by their biologists to create a "theme park" centered on bioengineered dinosaurs.

Biosyn has basically made a number of changes in the actual concept constructed by their rival, InGen Inc. of Palo Alto California at Isla Nubar in Costa Rica. The events which occurred at Isla Nubar were chronicled by Michael Crichton in his 'novel' *Jurassic Park*.

The changes made include:

1. A new method of reconstructing dinosaur DNA that should eliminate cross-contamination with the DNA of other species (specifically *Rana*).
2. A new method of confinement for the dinosaurs. Rather than being penned by individual species, all species will be in a common enclosure. Emphasis will be placed on the outer perimeter, and "fail-safe" measures will insure that no dinosaurs escape.
3. Humans will not be lodged within the confines of the park. Rather, they will ride on underground subways to reinforced glass enclosed viewing sites within the park. The subway system and viewing sites will be constructed so as to be inaccessible to larger dinosaurs and proof against smaller species.
4. Within the enclosures, 'natural' conditions will prevail. There will be no feeding or care of the animals, which will feed on the native (planted) vegetation, on small native animals (including insects) or on each other. There will be no veterinary care, and no humans will enter the enclosure once it is constructed.
5. While some laboratory breeding will continue, populations will have to be essentially self-regulating.
6. Insofar as is possible, a 'natural' community of dinosaurs from the Cretaceous of Wyoming will be assembled.

It is hoped that these changes will avoid the problems that occurred at InGen's facility. In particular, the passive design, requiring minimal human action, is anticipated to be more robust than the elaborate (and delicate) monitoring and care systems which failed at InGen.

Your task is to evaluate the feasibility of the project, specifically items 4, 5, and 6. Engineers from your firm are examining items 2 and 3, and a team of genetic engineers, led by one of your colleagues, and including top scientists from university and government labs, is examining the first item. Because the company is worried about industrial espionage, no one at your company is privy to all of the data, and in particular, your team will not receive any additional data on the enclosures or design of the park. You are free to comment on any special considerations that you think the engineers should be aware of.

You will use the DinoWin program developed independently for Biosyn at a private college. Biosyn feels that this model will do the best job of modeling the population sizes. You are free to disagree and list any shortcomings of the model in your report.

Biosyn will not disclose the site(s) of the theme park(s), but you are told to make evaluations for both a moist tropical site and a site with a climate like 'that of the Midwest U.S.'. You have heard rumors that two sites, both islands, are under consideration. Biosyn will not disclose the types of vegetation (a team of paleobotanists is still working on that), but Biosyn's exhibit specialists want a combination of swamp and savanna, both of which have low vegetation and will thus enhance viewing. A Biosyn ecologist

you have met with privately concedes that a substantial amount of forest will be needed as a food source and refuge. In concert with your boss, you decide to override the wishes of the exhibit specialists and examine an enclosure with all three habitats in equal area. The exhibit specialists want to display at least 5 *Tyrannosaurus rex* adults (assuming *T. rex* is in fact the largest carnivore). Biosyn ecologists estimate this will mean a population of at least 20.

Working with your boss, you compose the following memorandum of understanding, which has been approved by the Biosyn contract officer:

**This Space Intentionally Blank**

## Ecology Working Group Paper

The ecology working group of EcoThink Inc. will produce a paper examining the ecological soundness of the Cretaceous Park proposal as submitted to EcoThink by Biosyn Corporation. Specifically, the paper will examine the plausibility of creating a self-sustaining, closed community of dinosaurs under the following criteria:

**Climate:** Both moist tropical and similar to that of the midwestern U.S. (evaluate separately).

**Community:** self-sustaining community representative of the Cretaceous as known from Wyoming fossil finds. Small native birds, reptiles, amphibians, and mammals will not be excluded. Native insects will be present; some exotic species may be introduced to control dung. Native extant plants, exotic plants, and paleobotanic plant species will be planted.

**Community size:** at least 20 specimens of large carnivores such as *Tyrannosaurus rex*.

**Enclosure size:** minimum required to support above community.

**Vegetation:** an equal mix of savanna, forest, and swamp.

**Water:** Streams and rivers present, some impoundments.

Analysis will be carried out using DinoWin software.

The paper itself will be written in a style understandable to business and legal personnel working on the project, as well as specialists in areas other than ecology. It will be referenced throughout in standard scientific style.

The paper will consist of the following sections:

1. Introduction - background information and explanation of ecological principles underlying the model.
2. Parameters used in the model, with rationale and references for each choice.
3. Results for both climates.
4. Summary and recommendations (including any critique of the model).
5. References.
6. Appendices:
  - a) Listing of dinosaur species in the community.
  - b) Listing of model parameters for both climates.
  - c) Listing of community summaries for both climates.

The paper will not exceed 15 double-spaced pages exclusive of the appendices, and will be completed by \_\_\_\_\_.

In addition to the paper, your boss wants to take initiative and provide a working model of Cretaceous Park. She asks your team to prepare a presentation on how you would implement the park. This may either be using Biosyn's concepts or your own, if Biosyn's prove unworkable. An internal run-through of your \_\_\_\_ minute presentation, showing your proposed layout, community ecology, viewing arrangements, concessions, etc. is scheduled for\_\_\_\_\_.

**Service Learning Project Approval Form:**

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Title of proposed project: \_\_\_\_\_

\_\_\_\_\_

Date(s) of proposed project: \_\_\_\_\_

Description of proposed activity:

Sponsoring Organization: \_\_\_\_\_

Contact Person (name and phone #):

Approved: \_\_\_\_\_

Date