EUTROPHICATION HISTORY OF DOBBS PARK POND, INDIANA

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Introduction
The objective of this study is to analyze the diatoms present in the core taken from Dobbs Park Pond to determine the eutrophication history of the pond. Information given to us suggested that nutrient flux to the pond has increased through time.

Methods
Dobbs Park was chosen because we are doing a study of lakes around the city of Terre Haute. Two cores were taken from the deepest parts of the pond. The core was extruded in 5 mm increments in the field. Subsamples were dried and weighed, then immersed in hydrogen peroxide to remove organic material, leaving just silica. The samples were rinsed four times and then the diatoms were extracted and made into microscope slides. Microspheres were added to the samples so that diatom concentration changes could be measured. At least 300 diatoms per slide were identified.

Results
The top 5 cm of sediment contained a diverse assemblage of diatoms. As the core depth increased the diatom assemblage changed. *Stephanodiscus* increased until about 5.5 cm core depth. This could indicate that the pond may have been more eutrophic in the recent past. After this, *Stephanodiscus* decreased considerably. Throughout the core *Fragilaria* and *Aulacoseira* dominated each slide. They were the most abundant on each slide until *Navicula* became dominant after the 10 cm mark. Below 14 cm, there were little to no diatoms present in the slides.

Conclusion
Two short cores were taken from Dobbs Park Pond for diatom analysis to determine the eutrophication history of the pond. Through the data collected we can see that the pond depth has changed over time. This is determined from planktic and benthic diatom genera. We can also see an increase of nutrients in the recent past. These indicators include an increase in the population of *Stephanodiscus* and an increase in the diatom concentration through time.

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