

# Photodegradation of dissolved organic matter in the Jordan River

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## Objectives

- Measure whether or not light affects the quantity and quality of dissolved organic matter (DOM) in the Jordan River, UT.
- Evaluate if DOM in samples collected at sites below waste water treatment plant inputs responds uniquely to photoexposure.

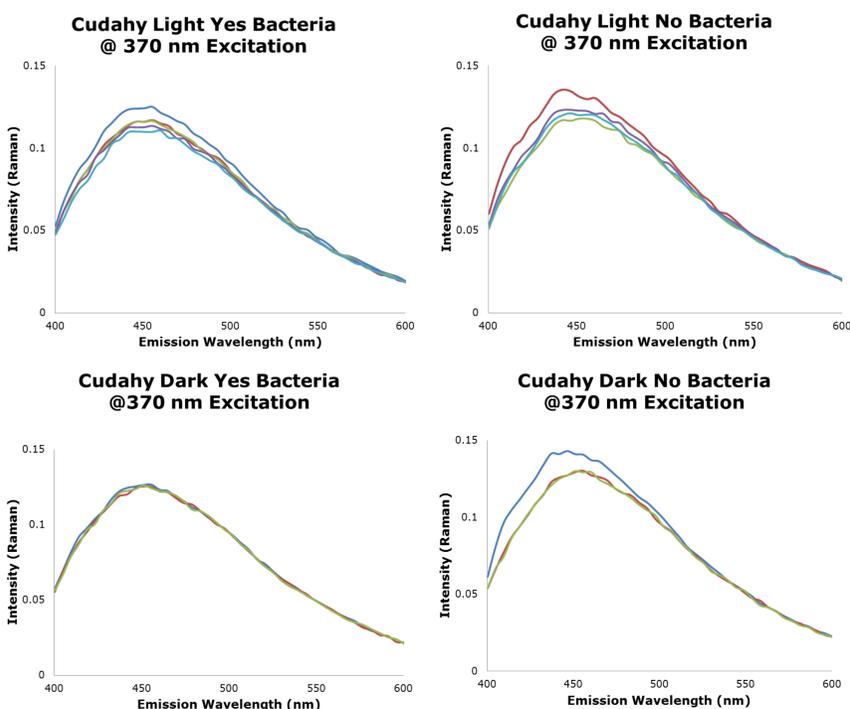


Figure 1. Comparison of fluorescence emission wavelengths vs. emission intensities from each treatment for longest incubation period (54 hrs.)

## Research Methods

- Incubate water collected from the source of the Jordan River (Utah Lake) at six locations for six different travel times to emulate natural exposure and degradation.
- Analyze samples for DOM concentration (as carbon), absorption, and fluorescence.



Figure 2. Sample treatments to be incubated in the Jordan River

## Impact

- DOM is an important indicator of aquatic ecosystem health because it is an energy source to the microbial community, regulates UV exposure for in-stream organisms, and is involved in metal chelation and transport and mercury methylation.
- Understanding how light affects DOM fluorescence can help us interpret DOM changes measured by in situ sensors along the Jordan River and GAMUT network.

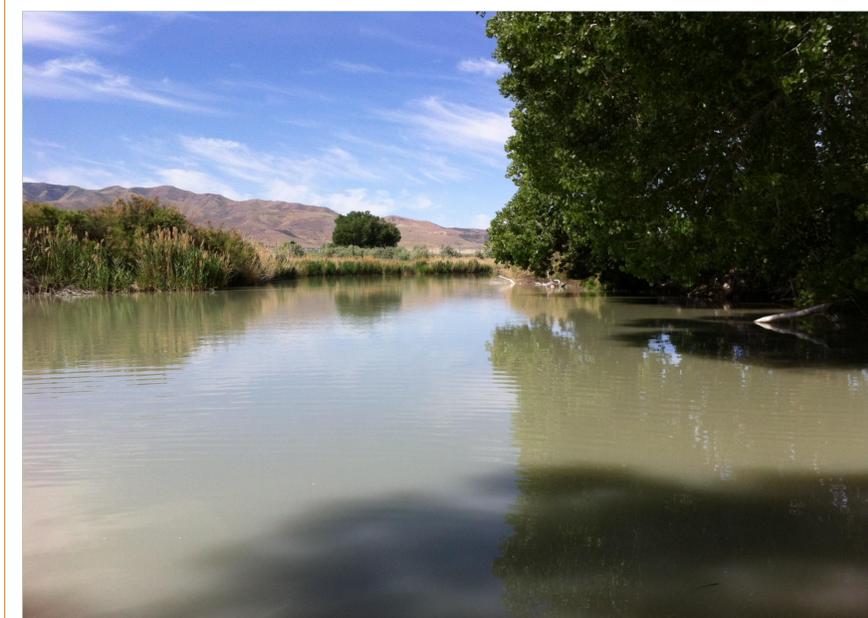


Figure 3. Cudahy site of the Jordan River



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