Monitoring actinomycetes in the Dan and Smith Rivers

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Abstract content goes here

# Introduction

\*Actinomycetes

\*T/O events

# Methods

Given that T/O events had occurred during each of the winters in 2015 and 2016, the original intent of the project was to conduct regular sampling before, during, and after the winter of 2017 to identify chemical and biological changes that took place during any recurring T/O events during that time. Twelve sites along the Smith (Sites 1-5) and Dan (Sites 6-12) Rivers were selected where 1 L of water and 100 g of superficial sediment were collected from August 2016 to September 2017. Approximately 500 mL of composite periphyton samples were also taken where boat access was not restricted (Sites 4-9, 11, and 12). Samples were immediately homogenized after collection and transported back to Virginia Tech on ice for analysis.

In the lab, standard APHA method 9520 was used to quantify actinomycetes within 24 hours of collection (Rice et al, 2017). Samples were serially diluted in deionized water and 100 uL of each dilution step was spread on Actinomycete Isolation agar plates. The plates were then incubated for five days at 28 C and colony forming units (CFUs) were counted and recorded as CFU/100 mL water, CFU/g sediment, and CFU/cm2 periphyton.

# Results

# Discussion

# References

Rice, E.W., Baird, R.B., Eaton, A. D. (Eds.), 2017. Standard Methods for the Examination of Water and Wastewater, 23rd ed. Water Environment Federation, Alexandria, VA, USA.