

Introduction and Methods

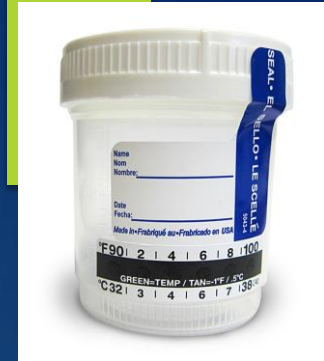
▶ Microplastics

- ▶ Small pieces of plastic debris <5 mm
- ▶ One common route into wastewater is through washing synthetic fabrics
- ▶ Due to high surface area to volume, microplastics are an ideal site for biofilm development

▶ Triclosan

- ▶ Common antimicrobial added to personal care products
- ▶ Could impact microbial community growth, and possibly spread antibiotic resistance.
- ▶ Can adsorb onto microplastics

▶ How do microbial communities compare on triclosan absorbed microplastic vs. control plastic?

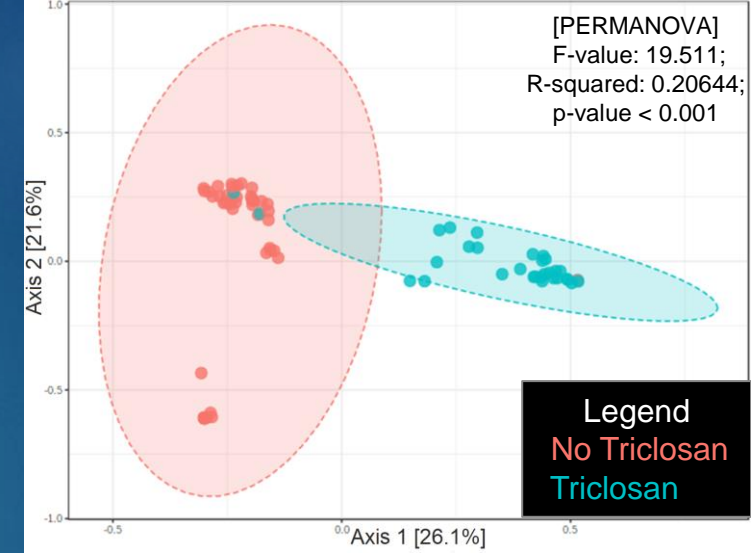


- ▶ Acrylic, Nylon, Polyester yarn cut to < 5 mm fibers
- ▶ Water collected from North Branch Chicago River
- ▶ Plastic either exposed to triclosan or treated as a control (5 replicates each)
- ▶ Plastic fibers put into microcosms and set in a shaker for 30 days
- ▶ Microbial 16S rRNA genes extracted, amplified, and sequenced

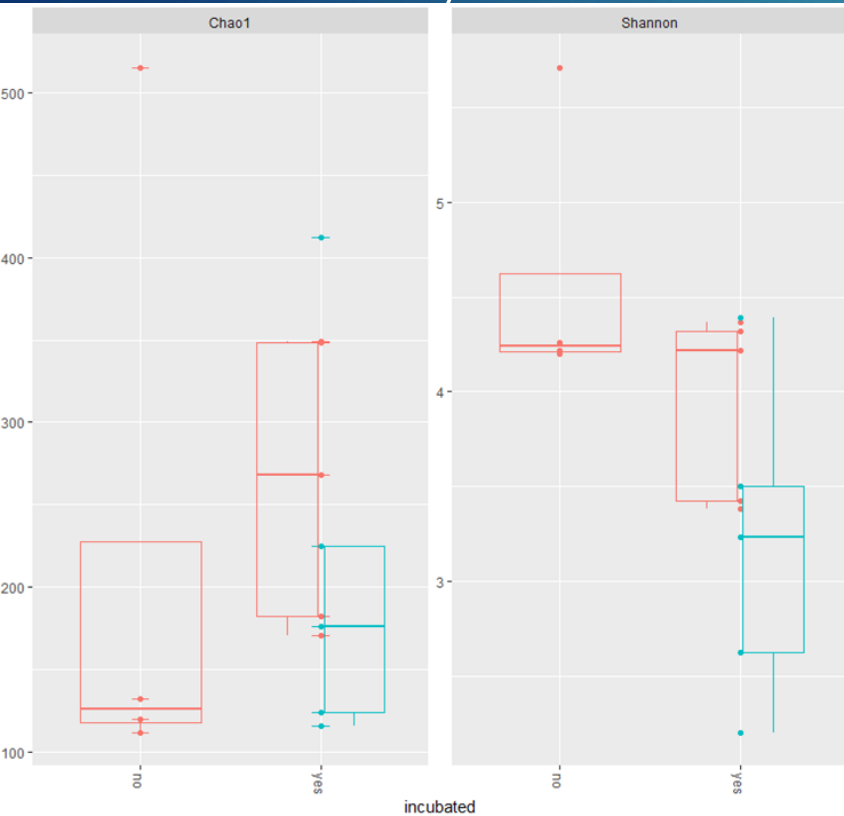


Results: Diversity

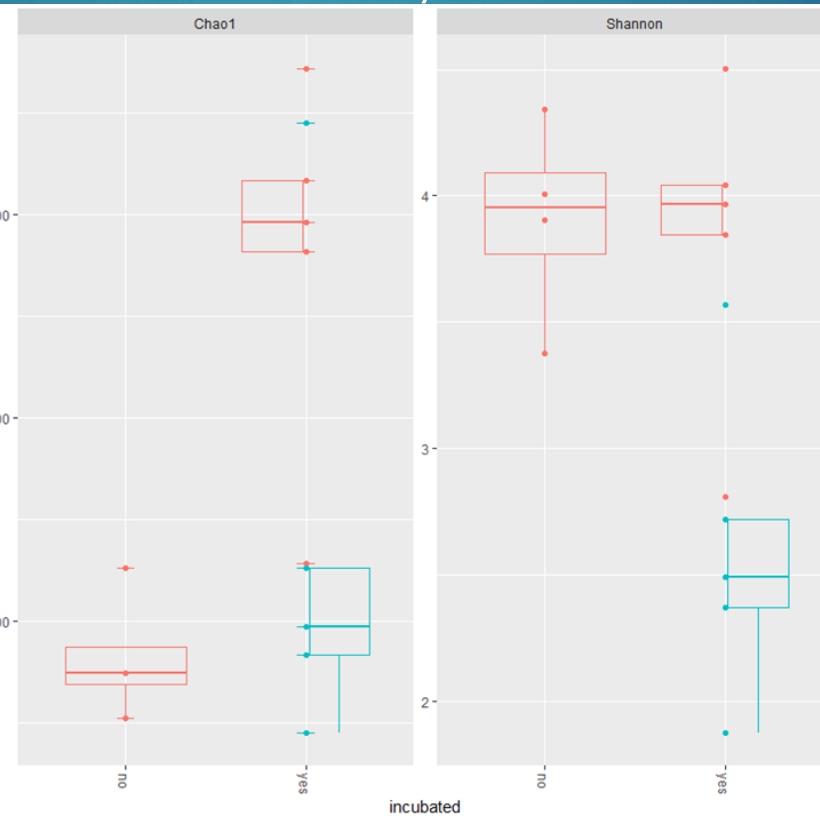
- ▶ Alpha diversity metrics are lower on triclosan exposed acrylic and nylon fibers
- ▶ Beta diversity shows a difference between triclosan exposed microplastic fibers and control microplastic fibers



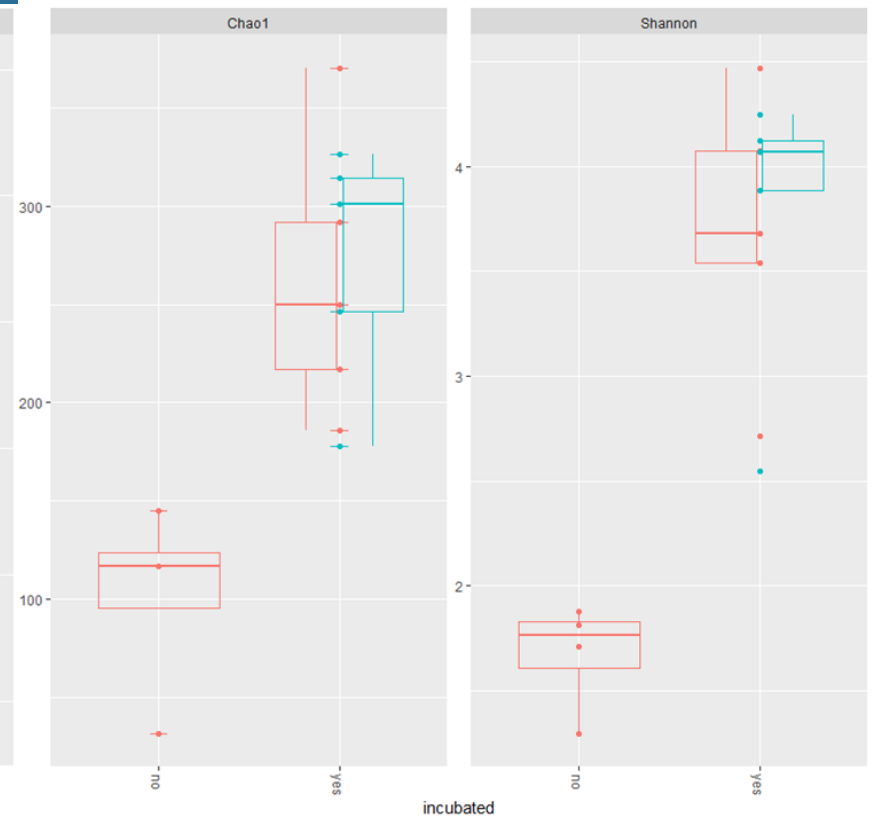
Acrylic



Nylon



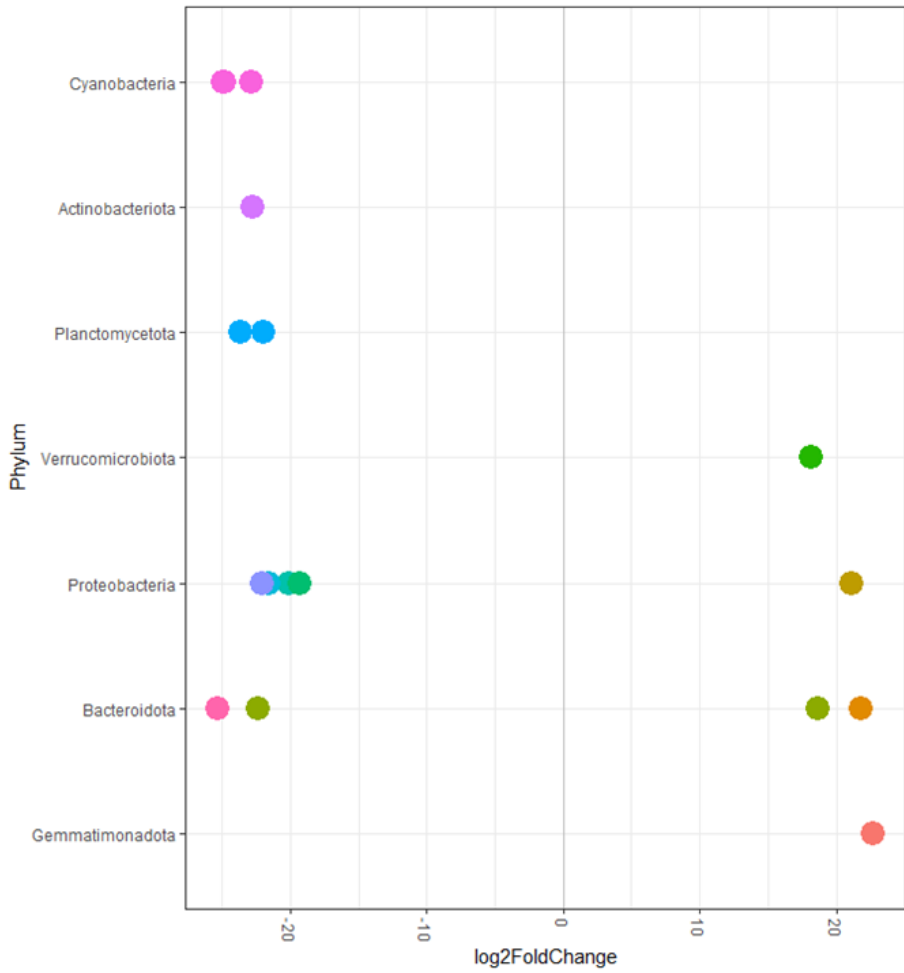
Polyester



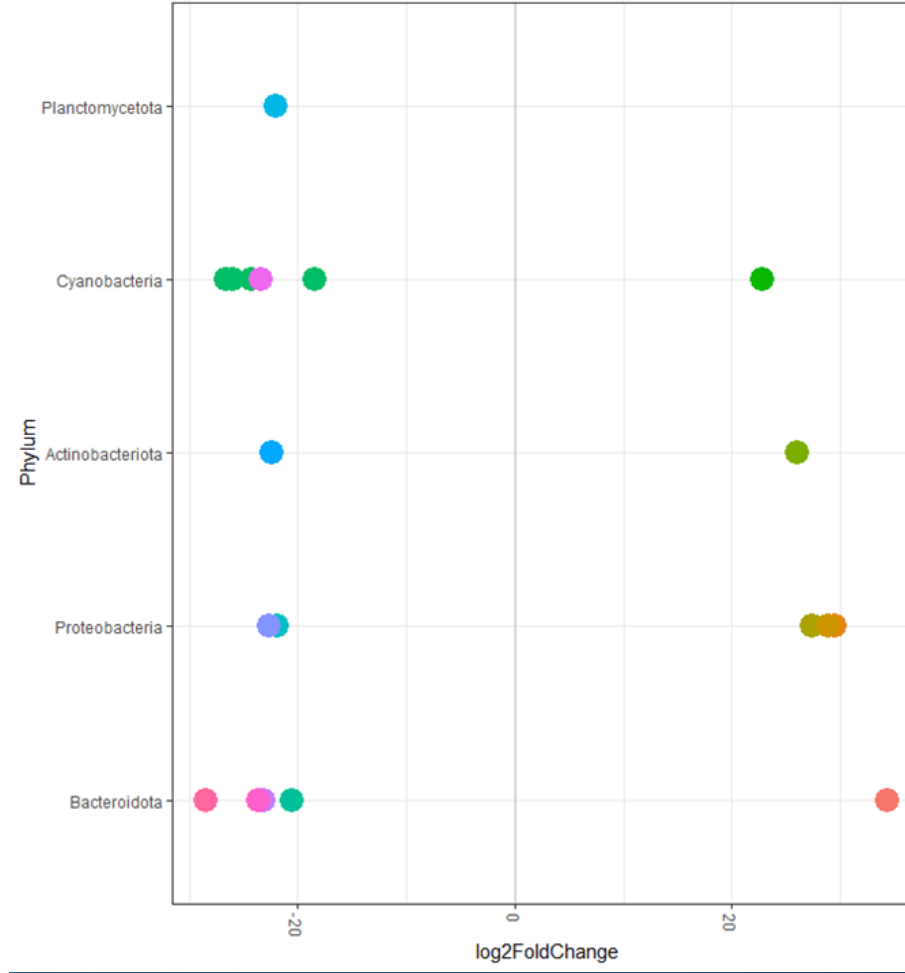
Results: Differential Abundance



Acrylic



Nylon



Polyester

