

CHANGES IN BOTH ALGAL AND BACTERIAL COMMUNITIES IN PERIPHYTON MATS DOMINATED BY THE DIATOM DIDYMOSPHENIA GEMINATA.

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Didymosphenia geminata (Didymo) is a DIATOM that can produce thick mats that can cause loss of biodiversity, alternation in ecosystem function, and impair recreation opportunities in nutrient poor rivers and lakes. These thick periphyton mats are a global problem that impact numerous waterways. However, limited research has been conducted on other microbial members of these mat communities which could impact overall ecosystem function. In the St. Mary's River (Michigan, USA), we characterize the naturally occurring bacterial and algal communities on rocks and compare this to adjacent Didymo dominated mats. Multiple samples were analyzed with both light microscopy and 16S rRNA gene sequencing. Non-Metric Multidimensional Scaling was used to characterize shifts in both communities. Significant changes in both algal and bacterial species composition were found suggesting shifts in the way Didymo-dominated periphyton mats function compared to mats typically found in these habitats.