Assessing the status of Cotton-Wool Disease (Oomycosis) in Brook and Rainbow Trout in PEI Rivers

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Cotton-wool disease (Oomycosis) is a common disease of freshwater fishes, frequently caused by the opportunistic oomycete pathogen *Saprolegnia parasitica.* Oomycosis occurs when the mucosal surface of the fish is compromised, enabling successful colonization by oomycete zoospores. Anecdotal reports over the last few years have suggested that incidence of oomycosis may be higher in brook (*Salvelinus fontinalis*) and rainbow (*Oncorhynchus mykiss)* trout in the West River on Prince Edward Island, Canada, than other PEI rivers. The goals of this project were to determine the prevalence of oomycosis in brook and rainbow trout in the West River, and what environmental or host factors may explain some observed data compared to the neighboring Dunk River. Single-pass 125-meter electrofishing surveys were conducted monthly from July – October of 2024 to determine the prevalence of oomycosis in brook and rainbow trout in the West and Dunk rivers. Physical water quality measurements, water samples for chemical and environmental DNA analysis were collected at each site. Each fish captured was examined for visual signs of oomycosis and the fork length was taken to approximate age. Those found with the disease or suspicious lesions were euthanized and returned to the lab for necropsy. In total, 404 brook and 120 rainbow trout were examined from two sites along the West River, and 141 brook and 110 rainbow trout were collected from one site on the Dunk River. Lack of confirmed positive cases warrants further investigation in relation to holding behavior exhibited by diseased fish. Alternative methods are discussed.

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