State of biodiversity reporting in Nova Scotia –What's happening with the NSNRR Ecosystem Monitoring Pilot Project?

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The Biodiversity Act, enacted in 2021, requires the Minister to "assess the state of biodiversity in the Province and provide information to inform the responsible conservation and sustainable use of biodiversity." To begin addressing this requirement, staff at NSDNRR developed and implemented a framework for assessing the state of ecosystems in the province. We selected red maple-conifer mixedwood swamps as our focal ecosystem type because treed swamps are the forested wetland type most threatened by human activities and red maple-conifer mixedwood swamps are widely distributed and have a high relative biodiversity value. We used a combination of predictive ecosystem modeling, the Nova Scotia Wetland Inventory, previous research efforts and ground-truthing to identify 60 swamps that fell within certain size and logistics constraints in two bioclimatic regions (Atlantic Coast and Low Elevation). We weighted site selection by the size of each region and selected across a gradient of human disturbance. Because birds and amphibians are known to be excellent indicator taxa for forests and wetlands, we instrumented sites with recording devices (ARUs) sensitive to bird song and frog calls and programmed them to record during the heart of the breeding season (May 25 through July 15, 2022). All ARUs have been retrieved, downloaded and recordings are currently under analysis. We will use the same approach to instrument 50 interior sites in 2023 identified with late summer 2022 field reconnaissance. Results of this project will be used to assess whether this is a viable method to report on the state of biodiversity.

Keywords: Biodiversity reporting, Forested wetlands, Red maple-conifer swamps, Birds and frogs, ARUs

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