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## A CASE STUDY OF THE CARBON BALANCE AND ECO-HYDROLOGY IN A RAISED AND CUTOVER BOG

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Intact, active peatlands are well known to be a net carbon sink, while degraded and cutover peatlands can become a major carbon source. Restoration by drain blocking and flooding generally restores the carbon sink function, but this process takes time. There are relatively few studies on the carbon balance of cutover peatlands several decades after re-vegetation. Here, we present ongoing research measuring the carbon balance of an old cutover peatland (approx. 50 years after abandonment) compared to an adjacent un-cut raised bog. Results to date indicate that the annual carbon balance is highly dependent on the plant community and local hydrologic conditions. Accordingly, another major aspect of this work is to understand the eco-hydrological interactions in a recovering cutover bog with the goal of informing restoration measures for the sake of greenhouse gas mitigation. Here, we present preliminary results to date on eco-hydrology and a few thoughts on restoration.