Dear IPC commissioners,

During the Dendrobium public hearing on Friday just past, you just asked a question to Dr Mason (swamps expert) about the Sydney Basin coastal upland swamp carbon storage and carbon capture capabilities. Please see below, the weblink and citation details of the paper that Dr Mason referred to.

WEBLINK: Forgotten peatlands of eastern Australia: An unaccounted carbon capture and storage system - ScienceDirect

CITATION details :

> Kirsten L. Cowley, Kirstie A. Fryirs,
> Forgotten peatlands of eastern Australia: An unaccounted carbon capture and storage system,
> Science of The Total Environment,
> Volume 730,
> 2020,
> 139067,
> ISSN 0048-9697,
> https://doi.org/10.1016/j.scitotenv.2020.139067.
> (http://www.sciencedirect.com/science/article/pii/S0048969720325845)
> <u>Abstract</u>: In a carbon-constrained world, global peatlands are vital carbon capture and storage systems. Here we calculate regional carbon stocks, sequestration rates and potential carbon emissions of Temperate Highland Peat Swamps on Sandstone (THPSS) found in low order headwater streams in eastern Australia. We find that total carbon stocks within THPSS in two regions are 25 Mt CO_2 eq. with annual carbon sequestration rates at 60.5 kt CO_2 eq. A risk assessment model, based on anthropogenic activities known to impair the carbon storage functions of THPSS is used to identify swamps most at risk of carbon loss. Potential CO_2 emissions from at risk swamps could be up to 8.6 Mt CO_2 eq. When carbon stock is valued at the current carbon abatement price of \$AUD16.10 t-1 CO_2 eq, the total value of THPSS is over AUD\$404 million dollars (US\$281 million). This makes a strong economic case for the implementation of sustainable swamp conservation and restoration activities.
> Keywords: Carbon stocks; Carbon sequestration; Peatlands; Carbon emissions; Anthropogenic disturbance; Risk mapping

Kind regards,
Deidre Stuart