

Critique of CEDD item (f). Potential impact of a change of water level to Chinese Swamp Cypress.

Chinese swamp cypress (*Glyptostrobus pensilis*) is a critically endangered conifer species that is endemic to China and Indochina. It is highly dependent on wetland habitats and a drop in the water table could have significant impacts on its growth and survival, as well as the health of the entire ecosystem. In the past, the Chinese swamp cypress had a wide range of around 1.3 million km², but due to human activities, most of its habitats have been converted to agricultural land.

However, recent studies* have shown that the native range of the Chinese swamp cypress should include Hong Kong, and that there is a potentially rewilded natural population in the Hong Kong SAR Golf Club. This population consists of 38 large reproducing Chinese swamp cypress trees, numerous seedlings, and over 120 other native plant species, including other rare and restricted species. The occurrence of seedlings is rare even within the core area of occupancy, indicating that this population is potentially a remnant or a successfully rewilded natural population deserving the highest level of protection status under a precautionary conservation principle to guarantee the genetic diversity of the species.

A drop in the water table could have significant impacts on the growth and survival of Chinese swamp cypress trees. A 0.7 m drop in the water table in the vicinity of a large stand of Chinese swamp cypress could lead to reduced growth, increased stress, changes in soil conditions, and impacts on other species. Wetland soils are often high in organic matter and nutrients, which are important for supporting the growth of many species, including the Chinese swamp cypress. Changes in soil conditions could affect the ability of the trees to access the resources they need to survive.

To protect the Chinese swamp cypress and their habitat, it is important to maintain a stable water table in the swampy areas of occurrence. Special reserves should be established to protect rare populations, and the vegetation in the surrounding water catchments should be protected and restored to guarantee the long-term survival of this critically endangered species. Efforts also have to be made to control invasive species and to conduct a thorough population genetic survey to inform conservation efforts.

In conclusion, a drop in the water table could have significant negative impacts on the Chinese swamp cypress and the health of the entire ecosystem. Urgent conservation actions are required to protect this critically endangered species and ensure the persistence of its remaining populations.

Researched and drafted by Executive Counsel Limited

*Reference: Zhang, J-L., & Fischer, G. A. (2021). Reconsideration of the native range of the Chinese Swamp Cypress (*Glyptostrobus pensilis*) based on new insights from historic, remnant and planted populations. *Global Ecology and Conservation*, V.32