

**Does weather play an important role in the early nesting activity of colonial waterbirds?
A case study in Putrajaya Wetlands, Malaysia**

ABSTRACT

Environmental factors can play important roles in influencing waterbird communities. In particular, weather may have various biological and ecological impacts on the breeding activities of waterbirds, though most studies have investigated the effect of weather on the late stages of waterbird breeding (e.g., hatching rate, chick mortality). Conversely, the present study attempts to highlight the influence of weather on the early nesting activities of waterbirds by evaluating a recently established mixed-species colony in Putrajaya Wetlands, Malaysia. The results show that only rainfall and temperature have a significant influence on the species' nesting activities. Rainfall activity is significantly correlated with the Grey Heron's rate of establishment (rainfall: $r_s = 0.558$, $p = 0.03$, $n = 72$) whereas both temperature and rainfall are associated with Painted Stork's nesting density (temperature: $r_s = 0.573$, $p = 0.013$; rainfall: $r_s = 0.662$, $p = 0.03$, $n = 48$). There is a possibility that variations in the rainfall and temperature provide a cue for the birds to initiate their nesting. Regardless, this paper addresses concerns on the limitations faced in the study and suggests long-term studies for confirmation.

Keyword: Weather; Early nesting activity; Waterbirds; Putrajaya Wetlands; Malaysia