

水圳水泥化對其間生物數量變動之影響

林文隆^[1] 蔡顯修^[2] 吳雪如^[3]

摘 要 本研究主要探討灌溉水圳水泥化對魚類等生物的影響，於 1994 年 7 月至 1997 年 6 月與 2001 年 7 月至 2004 年 6 月在台中縣霧峰鄉的四德圳進行田野研究，兩段時間分別代表水圳水泥化前後之狀況。比較水泥化前後發現之魚類、兩棲爬蟲類與鳥類，在物種及數量上均有明顯差異。利用 Shannon-Wiener 與 Simpson 等多樣性指數，比較水泥化前後魚類及兩棲爬蟲類等類群生物多樣性的差別，結果顯示水泥後生物多樣性有降低之趨勢。因此建議相關單位在進行各項水利設施現代化工程的同時，也應重視各地區原有之生物資源及環境特性，落實生態工法兼顧工程考量及生態需求之精神。

關鍵詞：灌溉水圳、水泥化、生物組成、生物多樣性、農業生態。

Effect of ditch living thing by process of original structure replacement by RC irrigation ditch

Wen-Loung Lin^[1] Hsien-Hsiu Tsai^[2] Hsuan-Ju Wu^[3]

ABSTRACT This study presents ditch ecology that's affected due to the process of traditional structure replaced by concrete irrigation ditch. We chose Se-Ter ditch for study area in Wu-Feng township. This survey was conducted from July 1994 to June 1997 and July 2001 to June 2004 separately. Construction were started and finished in 2000. We used Shannon-Wiener function and Simpson's index to examine the difference of the biological composition of the ditch. The results showed that biodiversity index dropped after construction. By this way, we concluded that the biodiversity be connected with the material of which the ditch was made.

Key Words: irrigation ditch, concretion, species composition, biodiversity, agriculture ecology.

[1] 民翔環境生態研究有限公司(通訊作者)
Min-Shiang Environment and Ecology Research Company (Corresponding Author)
E-mail: owl@ms30.url.com.tw
[2] 中國文化大學土地資源學系副教授
Department of Natural Resource, Chinese Culture University
[3] 民翔環境生態研究有限公司
Min-Shiang Environment and Ecology Research Company