

## 以雷達圖法導引溪流生態工法之研究

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**摘 要** 近年來台灣各工程領域均嘗試引進生態工法應用施工，其中溪流整治工程因生態系統多樣、複雜且脆弱，稍加擾動即易造成對原有生態環境之破壞，使河溪生態環境失衡，因此，先進國家發展生態工法過程中，多以河川保育為初步研究發展之標的，而國內推動生態工法之趨勢亦復如此。

本文首先回顧溪流生態評估指數相關文獻，然後以澳洲溪流狀況指數為基礎，並考量國內防洪與景觀遊憩需要，研訂溪流整治評估六項指數，分為反應溪流生態環境之濱岸環境、水質及水棲生物、生態水文三項指數及反應區域防洪需求之防洪安全需求、人類活動需求、護岸強度需求三項指數，並建立量化方法與導引工程方向的系統方法。經實務印證初步可行，可供我國溪流整治朝向生態化規劃設計之參考。

**關鍵詞**：溪流整治評估指數、雷達圖、生態工法。

## Using the Radar-Graphic Method as a Guide for Stream Ecological Engineering Methods

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**ABSTRACT** In recent years, Taiwan has been making a major effort in incorporating ecological engineering methods (EEMs) into various public works engineering projects such as infrastructure, water resource engineering, environmental engineering as well as soil and water conservation engineering. As a result of such efforts, EEMs currently play a prominent role even in local stream restoration projects in Taiwan. Because of the diversity, complexity and vulnerability of Taiwan's ecological systems, any application of the EEMs requires careful planning and a clear guidance in order to avoid violating indigenous ecological systems and causing irreversible damage. Therefore, this study, using literature information such as the Australia stream condition index and incorporating factors unique to Taiwan, has developed six indices for evaluating stream restoration projects using the EEMs. These indices include considerations for stream ecological environment, water quality and habitat, eco-hydrology, flood prevention, aesthetics and recreation demands, and bank stability requirements. The proposed methodology establishes a quantitative assessment tool and

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provides a guide to planning and implementing stream restoration projects.

**Key Words:** index of stream restoration assessment (ISRA), radar-graphic method, ecological engineering methods (EEMs).