

排放控制與河川水質污染之經營-整合性污染控制決策支援模式之應用

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摘要

水為生命之需，而且水資源對國家的發展也是非常重要的。現今由於不當的污廢水排放，已造成了不同尺度的河川污染四處發生；無疑地，地表水資源使用已被嚴重地影響。因此，對於污染源在排放進入河川之前的管理和控制，對於維持水質是非常重要的。本研究中，創新的「整合性污染控制」及「流域整體性總量管制」的概念將被探討；而且「整合性污染控制決策支援模式」也被應用於河川水質管理，以達成所設定的適當目標；而該模式之優點如污染物質之負荷計算、水質之改善之成本計算及地理資訊的結合等也將予以探討。案例研究之城市河川系統污染狀況將使用該模式進行分析，污染現狀及改善策略之結果也可使用 MapInfo 地理資訊系統來展現。案例研究結果顯示該模式在確認及比對污染源的能力，模擬的結果也顯示紡織業是主要污染來源，需要被立即控制且降低污染排放量或改善污水處理程序。而且，以生化需氧量來看，該城市內有一半的河川污染值都超過法定律的水質標準，於某些河川甚至超過水質標準兩倍以上應該是優先納入改善目標。為改善生化需氧量能符合水質標準內，其污水處理程序必需升級（由初級處理以上），而模式亦能計算出其升級的平均成本費用及長期邊際成本費用。所估計出廠商所需付出的高昂水質改善費用長可警惕工廠降低污染排放量。最後，結合「整合性污染控制決策支援模式」和 MapInfo 地理資訊系統將可建立污染分佈背景地圖及相關資料庫，並提供給環境管理單位參考。而所有的資料將更容易公開及清楚展示，對關心的民眾和相關環保團體都可來分享資訊。

關鍵詞：排放管制、水質、整合性污染控制決策支援模式

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