



PROJECT PROFILE

Title	Construction and operational impacts at river crossings on National Road schemes	
Contractor	UCD	
Contact details	Dr Patrick Purcell School of Architecture Landscape and Civil Engineering University College Dublin, Newstead Belfield, Dublin 4 p.j.purcell@ucd.ie	
NRA Mentor	Vincent O'Malley	
Start date	Dec-08	
End date	Nov-11	
Status	On-going	
Type of project	Research Fellowship: PhD (Letizia Cocchiglia)	
Cost	€171.1k	
Project reference	NR/250/04 PO 6907	

Description	<p>Construction of river crossings on National Road Schemes has the potential to impact on sensitive river ecosystems containing protected species particularly those prone to siltation. These impacts can occur during the construction phase and to a lesser extent during the operational phase through routine maintenance activities. The NRA is encountering situations where bridge crossings are in SACs more frequently on many road schemes and this has significant implications for the planning process. A review of construction techniques and guidance for contractors as to how to avoid any pollution events would be beneficial in dealing with situations where these species are known to occur.</p> <p>The research will look at sensitive river ecosystems, eg, Special Areas of Conservation (SACs), containing protected species such as freshwater pearl mussel, lamprey and white-clawed crayfish as well as salmon spawning grounds and examine the methods of watercourse crossings construction that will significantly reduce environmental impacts on these sensitive ecosystems.</p>	 <p style="text-align: center;">Taking kick samples near a box culvert</p>
Objectives	To conduct an integrated research programme examining the environmental effects and methods of watercourse crossings construction on sensitive river ecosystems. The research will examine the effects on water quality and flow regime resulting from different construction techniques. A best practice guideline document on methods of construction and their environmental effects will be produced.	
Benefits	This research will augment the NRA's current watercourse crossing guidelines and fulfil the objectives of stage 4 of our environmental integration model. The scientific data will expedite the ecological investigations during the early stages of the planning process: constraints and route selection stages. Once consent is obtained for the construction of a national road scheme, there will be an agreed procedure for bridge construction and monitoring that will allow projects to advance in a more timely and efficient manner.	
Outputs	A guidance document that will assist in the planning and construction process and provide a useful reference for responding to ecological objections on national road schemes.	