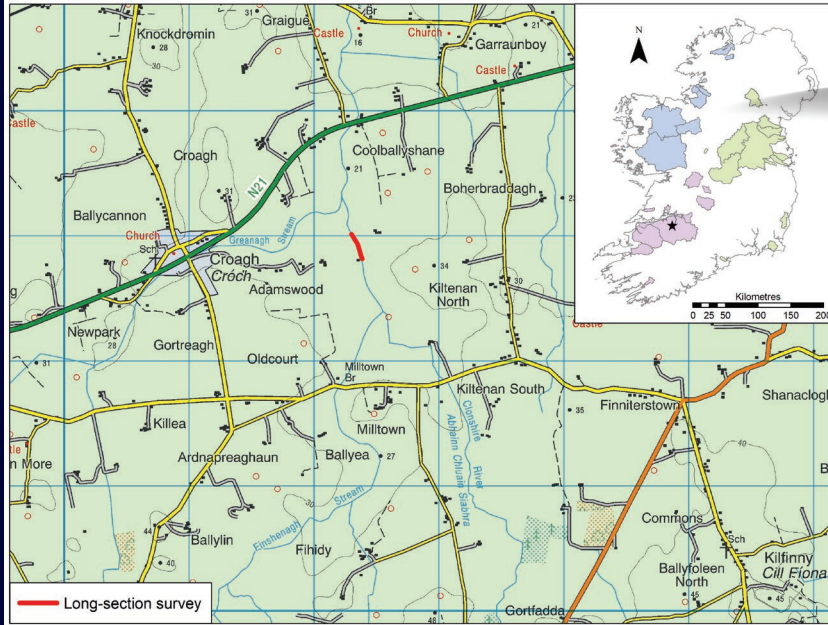




## 2. Enhanced Maintenance: River Clonshire, Maigue catchment



Location of survey site in red. Inset: location within OPW catchments.  
CYAL50346939 © National Mapping Division of Tailte Éireann

### What is 'Enhanced Maintenance'?

The Office of Public Works undertake channel maintenance across 11,500 kilometres of inland waterways. Enhanced Maintenance was developed to promote environmentally-friendly sustainable drainage maintenance for flora and fauna within the river. The approach is now incorporated by the OPW into their standard procedures as Environmental Drainage Maintenance.

On the River Clonshire, a site was selected in 2007 for experimental creation of deeper pools and adjoining shallow riffles to create more diverse habitat in the river. It was re-surveyed in 2019 by the EREP team.

### What instream works were done and why?

Historically, the river was widened and straightened which resulted in limited diversity in flows or habitat. In order to rectify this, the OPW and IFI undertook instream works in 2007.

Five pools were excavated within 200 metres of the river channel. The aim of these works were to create pools under shaded sections of channel. Larger fish reside in such pools and particularly during warm weather, pool habitat provides an important refuge as it is cooler.

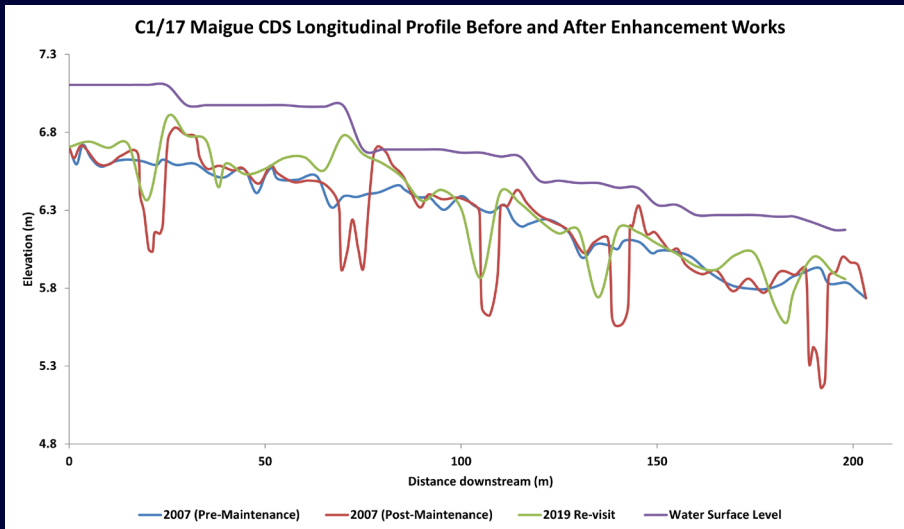
Excavated material from the pools was placed in the river channel immediately downstream of the excavated pools, creating riffles. Riffles provide shallow fast flowing habitat which is well-oxygenated for juvenile fish. The gravels present in riffles also serve as spawning habitat, important for fish reproduction and maintaining stocks within the river.



Pre-digging situation (top) and changes in levels following bed excavation (bottom).







### River profile:

- Minor infilling of the pools was observed over the 13 years
- Overall, new channel form was maintained

### Site suitability:

- Gradient in the site was suitable for works to be self-sustaining
- Suitable material (substrate) already available in the river permitted the channel form to be maintained over the intervening years

Longitudinal profile of the 200 metre stretch of channel in the Clonshire River, where enhancement works took place in 2007. The site was re-surveyed in 2019.



This study site demonstrated successfully that environmental sustainable drainage maintenance practices – specifically re-profiling the channel bed – included in the OPW standard procedures (Brew & Gilligan, 2019) can achieve a long lifespan.

Further merits of the approach from an OPW perspective include:

- Recognising and encouraging the expertise of OPW personnel who do these types of works
- Low/zero cost where the channels are already programmed for maintenance
- No negative impact on conveyance

From a habitat perspective:

- Diversity has been introduced into the channel form and types of water flow
- Pools and riffles created provide habitat for both younger and older fish

### Further information:

Project website: <https://www.fisheriesireland.ie/what-we-do/research/environmental-drainage-maintenance-research-programme-edmrp>  
IFI publications: <https://www.fisheriesireland.ie/publications> search for EREP Annual Report 2019  
OPW Environmental Management: <https://www.gov.ie/en/policy-information/5fc871-environmental-activities/>