



“Restoration of the Lower Shannon SAC (Mulkear River) for Sea Lamprey, Atlantic Salmon and the European Otter”

Press Release

18th December 2013

Review of Work to Benefit Atlantic Salmon 2013

2013 will be remembered by many as the year that Ireland finally got a half decent summer. The long, relatively dry summer, meant that it was an exceptional year for MulkearLIFE which greatly assisted the project to make up lost time from washout summer of 2012. Consequently, major instream works were completed on several sections of the Mulkear River and its main tributaries. This work, which commenced in early July 2013, was undertaken by MulkearLIFE’s main project partners in the Office of Public Works (OPW) and Limerick County Council.

MulkearLIFE’s instream works are addressing damage and degradation of habitat which date back to the time of the Great Famine in 1847. There have been three major drainage schemes within the Mulkear Catchment in the 166 years which have passed since then. These have included major works the Mulkear, Newport and Bilboa Rivers and a range of other smaller tributaries. A direct consequence of this drainage work has been the loss of channel length, through the removal of meanders (bends in the river) and the loss in instream habitat through the removal of instream substrate. As a consequence of these past engineering practices, a more uniform, low gradient river channel is apparent in certain stretches of the Mulkear River and, in certain sections, the altered channel has led to significant bank erosion. This in turn can create a major problem with eroded riverbank silt being deposited into the channel potentially impacting on salmon spawning beds. The cumulative effect of these measures has straightened the river and greatly reduced the complexity of the habitat, which had lead to a reduction in fish numbers. MulkearLIFE’s instream works seek to address these concerns where possible and practical.



Plaque detailing Mulkear Drainage Scheme 1874 (Image: Ruairí Ó Conchúir)

One of the finest summers in recent memory created ideal conditions to complete instream works. The low water conditions and dry fields allowed MulkearLIFE, with our project partner Limerick County Council, to continue major instream works, in the form of rubble mats, on the Mulkear River. The works do not impact negatively or restrict the flow of water or create a risk of flooding rather they greatly enhance the complexity of the river and riverbank biodiversity. MulkearLIFE and Limerick County Council prioritised the implementation of these instream measures as part of the overall work programme of MulkearLIFE. The overall objective of the habitat restoration plan is to enhance habitat complexity and quality in the wider river ecosystem. In 2013, MulkearLIFE installed 14 rubble mats on the Mulkear River to compliment the 10 that were installed in 2011.



***Large quantities of rock are used to complete instream works (Image: Glen Wightman)**

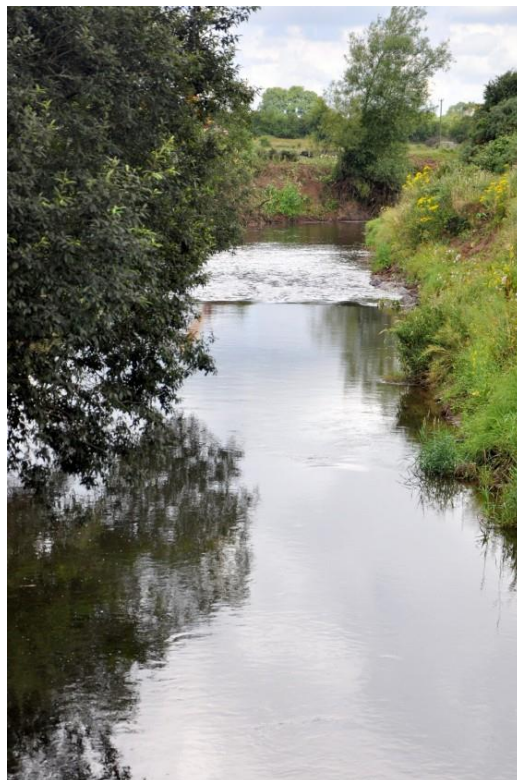


Skilled long-reach excavator driver works from the bank (Image: Ruairí Ó Conchúir)



1 of 14 new rubble mats completed on Mulkear in the Summer of 2013 (Image: R. Ó Conchúir)

Rubble mats essentially perform the same function by mimicking the natural riffle habitat which was present pre-drainage. The rubble mat reduces the cross-sectional area of the river thereby increasing flow velocities at low summer flows. The faster flowing area on top of the rubble mat is quickly colonised by a range of aquatic vegetation and aquatic invertebrates. The fast flowing water also provides exceptional habitat for young salmonids. The main objective of the rubble mats is to enhance their numbers. The work will also benefit various lamprey species and other fish, kingfisher, heron, dipper and various aquatic invertebrates including white-clawed crayfish.



Fast flowing water provides exceptional habitat (Image: Ruairí Ó Conchúir)

To measure the effect of the rubble mats Mulkear LIFE undertakes electrofishing survey. Electrofishing is a very effective tool in assessing fish stocks and involves sending electric current underwater in highly controlled pulses. The electricity will temporarily stun whatever fish are nearby, making them pop to the surface, and it's done to help MulkearLIFE accurately count and measure fish populations.



As fish float to the surface they are quickly collected (Image: Ruairí Ó Conchúir)

Electrofishing survey work in 2011, prior to their installation of the rubble mats, clearly demonstrated that the proposed sites for the installation of rubble mats were not utilized by salmon fry. Indeed, only a very limited number of salmon parr used them. The picture in 2013 is totally different. The results for this season reveal that hundreds of salmon fry are utilising the six rubble mats that were surveyed. The average density is an amazing 0.72 fry/m^2 . In the space of two years, the average salmon parr density has tripled. MulkearLIFE is delighted to conclude that the rubble mats are an outstanding success.



All salmon are measured and returned to the river (Image: Inland Fisheries Ireland)

The Office of Public Works (OPW) continued enhancement work on the Killeenagarriff River. As in previous years large rocks were strategically placed (referred to as random boulders) in the river. Large boulders are a natural physical feature of salmonid rivers and the concept behind the river enhancement work was that the 'strategic' placement of such random boulders would mimic those naturally occurring in the river. The boulders provide instream cover which is important from an ecological prospective. They provide protection for a wide range of species and help to create habitat complexity, thus promoting higher level of instream and riparian biodiversity.

A small number of stone weirs were trialled by OPW. Stone weirs create hydrological changes to the water flow as they help to scour a large pool immediately downstream of the weir. This allows for a substantial quantity of gravel to be deposited in the tail of the pool providing excellent salmon spawning site. The end result, from a fishery perspective, is that the weir structure is providing high quality habitat for juvenile salmon and trout and adult trout whilst creating ideal spawning habitat. Large salmon can rest here in wintertime adjacent to where they want to spawn.



Skilled OPW staff use hydraulic excavators to precisely place rock (Image: Glen Wightman)

In addition to the enhancement work, the OPW was forced to carry out bank protection work to their flood defences. Flood waters had compromised several sections of riverbanks putting homes and farmland at risk. Rock armour was used to protect the badly eroding banks. Erosion can cause large amounts to sediment to enter the stream which can smother salmon eggs when they are in the gravel. Large rocks are placed along the bank to prevent this from happening. The stabilization of the banks allows for the re-colonisation of native vegetation and has supported trees, which in turn, is beneficial for bird life. Within the wider ecosystem mammals, such as otter, are known to use the area and benefit from the increased food supply.

MulkearLIFE will continue to monitor the fish populations to measure the effectiveness of the instream works. Planned survey work in 2014 will give the project team another critical year to evaluate past works and will be the first year the project will be able to monitor the rubble mats and other instream works that were installed in 2013.



Limerick County Council staff hard at work supplying rock for Rubble Mats (Image: Ruairí Ó Conchúir)

The staff of MulkearLIFE, Inland Fisheries Ireland, OPW and Limerick County Council works in partnership to complete this work with the full co-operation and support of local landowners and the NPWS. The enhancement work ran smoothly and the works were carried out precisely to plan which is evidence of the hard work, skill and professionalism of the Limerick County Council and OPW teams. The project team is lucky to have such dedicated partners and their enthusiasm to rehabilitate the Mulkear catchment is greatly appreciated.



The dedicated OPW staff

Notes for Editors

1. High Resolution Digital Images are available to accompany this Press Release.
2. Interviews can be arranged with the Project Manager by using the contact details below.

3. MulkearLIFE is a new €1.75 million European Commission funded LIFE Nature project working on the restoration of the Lower Shannon Special Area of Conservation (with a focus on the Mulkear River catchment) for Atlantic Salmon, Sea Lamprey and European Otter. Further details may be viewed on the project website www.mulkearlifeproject.com
4. Inland Fisheries Ireland (Limerick) is lead partner together with the OPW and Limerick County Council. Additional funding support comes from National Parks and Wildlife Service. Other supporters include Teagasc, IFA, ICMSA, and local angling groups.
5. The project is one of the first and most important integrated catchment management projects in Ireland. It is a flagship EU LIFE Nature project –covering some 650 sq km which contain a variety of habitats and protected species. Much of the area is designated as a Special Areas of Conservation (SACs) under the EU Habitats Directive and forms part of the Natura 2000 Network.

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