



Day 2 Webinar 1 - Going with the Flow - Restoring Our Rivers

Question 1 How can passive river restoration take place in actively maintained drainage channels?

Answer This is challenging, as complete passive restoration will not take place if a channel is being maintained. However, the responsible agencies in both jurisdictions (OPW & DFI Rivers) have environmental strategy protocols for channel maintenance. This includes practices such as protecting the non-working bank, selective removal of vegetation and spoil management. These practices often allow river features that have occurred naturally to remain.

CatchmentCARE have been working with OPW & DFI when implementing river restoration measures. In one case, CatchmentCARE suggested measures to OPW during their channel maintenance of the Cor River in Co. Monaghan. OPW wilfully carried out novel approaches such as using cut trees as large wood deflectors and bank protection in selected areas. They also created pool riffle habitat and two stage channels through berm management. These measures, while engineered, were adequate for that channel. Material was recycled from the river corridor to create water flow and depth diversity to kick start more natural processes.

Question 2 What incentive is there for landowners/ farmers to allow fencing off river?

Answer CatchmentCARE, many farmers were often open to environmental measures however were hesitant to lose access to the river as it is a drinking source for their livestock. To remedy this, we offered alternative drinking sources by providing drinking troughs fed by solar pumps and rainwater harvesting systems or pasture pumps. There was also an animal welfare benefit for farmers as they were less likely to lose livestock (especially calves & lambs) to the watercourse.

Some farmers were concerned about losing land to the river and we advised them that fencing and allowing vegetation to grow on the banks would often stabilise banks and slow the flow resulting in less detrimental bank erosion. In some instances, gates or styles were installed to allow access to the river to use as an amenity. This encourages the locals to take ownership and enjoy the river area.

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- Question 3** I'm interested in land take for fencing - are farmers compensated and do they forfeit one of the Basic Farm Payments - are you finding differences North & South
- Answer** This was a concern for farmers, many of whom would like to help out but were hesitant due to this issue. Assurances were given by departments in both jurisdictions (specifying the CatchmentCARE project) stating that they can continue to claim their farm payments. Once farmers had this in writing, they were happy to proceed with fencing.
- Question 4** It was nice to see examples of passive measures in Ireland. It would be nice to see how the quality of water was before and after these measures. Do you already have an idea for all the examples shown?
- Answer** During the initial scoping phase of the CatchmentCARE project, sampling took place throughout the catchments. This included electro-fishing surveys, River Hydromorphology Assessments Techniques (RHATs), Barrier assessments and macro-invertebrate sampling. This data along with data from NIEA, EPA, AFBI, DAERA gave a baseline for reference as well as indicating where to undertake river improvement projects. As specific sites were chosen for improvement works, more intense sampling has taken place in some of those locations to assess before-after-control-impact of measures. More post-works assessment is required before any expected improvements can be measured.
- Question 5** Why were all the trees felled on river system 10 years ago??
- Answer** The trees were felled by the landowner to obtain a neat field without interrupted views and unshaded land. Once the farmer was informed of the vital function of vegetation to the health of the local river, he was happy to allow riparian vegetation to re-establish.
- Question 6** How difficult has it been to get agreement from the farmers to undertake the work on their land.
- Answer** Catchment Officers carried out extensive stakeholder engagement which included communicating with community groups and locals. Having a local presence in the catchment was vitally important to ensuring that locals were on-board and understood the project. Information events were held in a range of settings to ensure that a wide audience and variety of local stakeholders were aware and informed of the project and proposed works. Regular contact with owners and listening to farmers concerns is essential for the success of these type of projects.
- Question 7** Did you need to get permission from the Infrastructure Department for the installing the deflectors and other bed modifications?
- Answer** We work closely with the various regulatory agencies
- Question 8** With fencing placed 5m from river - is there issues for land eligibility and Basic Farm Payments for farmers in NI?
- Answer** There are no issues. We have had written confirmation from DAERA that the farmers can continue to claim the Basic Farm Payments
- Question 9** Does the dredging of the river by 1 1/2m remove gravel beds for fish spawning and how does it impact on the river bed??
- Answer** It obviously has a major impact, everything is removed. the river has never been the same since. we are trying to restore the bed

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Question 10 Is the arterial drainage act being reformed?? does arterial drainage still occur in NI?

Answer I think it is unlikely there will any more arterial drainage as it has such a negative impact on the river. However, there is pressure from the public to protect infrastructure and Rivers Agency undertake regular work to mitigate against flooding

Question 11 Do you find it's a problem re vegetation as a lot of LA's and farmers want to remove vegetation from the channels. how do you marry this up?

Answer That hasn't been too much of a problem on the Blackwater

Question 12 Curious about the alders that fell into the river - where they planted too close to the river's edge? the closeness of the planting then increase erosion from the exposed root balls?

Answer Seed was sprayed over the whole riparian area. The seeds close to the bank were the only ones that succeeded probably due to grazing and silage cutting and also the alders preference for water

Question 13 Do you think fruiting trees would provide a greater food source to biodiversity than the regular broadleaf species which would be planted?

Answer Answer to come

Question 14 How difficult has it been to get agreement for from the farmers to undertake the work on their land.

Answer Answer to come

Question 15 What education work has been done with land users in the catchments?? what results have the soil samples shown?

Answer Answer to come

Question 16 Will LA/ CatchmentCARE be carrying out any spot water quality checks in tandem with the passive sampling?

Answer Whilst the LA team do not plan to carryout spot checks on water quality in tandem with the passive sampling preliminary study – this does remain an option if a significant event is detected or for enforcement/management in the future.

Question 17 If cypermethrin based dips are now banned and can only be used as a pour on, which has little volume, what is your opinion on why rivers are continuing to fail on cypermthrin which is insoluble in water?

Answer Cypermethrin was previously out of circulation in Ireland but is currently back in circulation and available with some restrictions. There are products available in Ireland for sheep dipping with Cypermethrin as an active ingredient. CatchmentCARE are at present unaware of the amounts/presence/absence of Cypermethrin in the waterways in the Finn Catchment but plan to use the passive sampler survey to begin to get a better understanding of which herbicides and pesticides are entering the water. In terms of failing rivers, the CCARE team are concerned that in the Finn catchment the *Water Framework Directive Status* of many waterbodies is failing and this metric is partially influenced by Q-Score assessments on macroinvertebrates (water samples are also taken to

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investigate water chemistry). So whilst the presence/absence of Cypermethrin (and other chemicals) may be having a negative effect on macroinvertebrates the rivers are not failing because of Cypermethrin but rather because of the potential effects of a number of chemicals on the macroinvertebrate populations.

Question 18 Will LA be continuing the sampling after the lifetime of CatchmentCARE?

Answer LA will retain the sampling equipment after the lifetime of CCARE. It is hoped that the preliminary study initiated by CCARE can be used to contribute to LA core work in the future.

Question 19 Are there any 'ambassador' farmers doing best practice that can do peer farmer to farmer education and on the ground change?

Answer We don't have any specific "ambassador" farmers at present but we do plan to conduct more sheep dip demonstration days in the future. The plan would be that these become interactive days where farmers can come together to discuss best practice and to create a community approach to tackling the issue of chemical export to watercourses from sheep dipping practices. Perhaps there is scope here to build in an ambassador element as you suggest.

Question 20 What are Coillte's own practices?? are they going to implement real change?

Answer In 1991 Coillte introduced a number of practices which will reduce chemical export from forestry plantations into the water courses. These include:

- Plantation setbacks of up to 25m depending on site slope and soil type
- Installation of Drainage ditches
- Switch to acetimprid instead of Cypermethrin
- Integrated system to monitor the need for chemical use

Due to the longevity of forestry crops, paired with the mitigation measures being implemented by Coillte since 1991, it is highly likely that no significant mitigation measures could be implemented by the CatchmentCARE Project. New stands of crop (planted after 1991) are being planted with mitigation measures in place that would have been suggested by CatchmentCARE regardless.

Question 21 Any observations on mobile dipping units - is their use widespread? Do they pose additional challenges for disposal

Answer Mobile sheep dipping isn't currently regulated and therefore yes it does pose an issue in terms of disposal. The CCARE team hope to engage the mobile sheep dip operators in the Sheep Dip Demonstration days in the future – to try and promote best practice through education.

Question 22 Is there a missed opportunity for a measure re fencing/drinkers for non-derogation farms under the GAP regulations?

Question 23 Is the chemical for treatment of docks becoming an issue (Amileroperid)??

Answer Herbicides for weed control including docks are usually organophosphates which, as a group, are of concern in terms of export from land use to water courses. Organophosphates have the potential to bioaccumulate in aquatic fauna and have the capacity to persist in the environment for years under the right conditions.