

Fish Migration and Barriers

Oireachtas Joint Committee on Environment and Climate Action February 2024

Opening statement by All-Ireland Director of The Rivers Trust Mark Horton

Hello agus maidin mhaith. Is mise Mark Horton as Tir Eoghan agus is mè an Stiurthòir uile-Eireann ar an Rivers Trust.

Hello and good morning— I am Mark Horton, the All-Ireland Director of The Rivers Trust.

I am delighted to address this esteemed Environment and Climate Action committee to provide insight into the important barriers to fish migration within Ireland's freshwater landscapes.

The soft science tells us that any physical barrier in a river significantly impedes the migratory fish's ability to complete its natural life cycle. Such obstruction inevitably leads to a decline in fish species numbers due to disrupted reproduction patterns, which impacts negatively on other dependant species such as otter or kingfisher.

Hard science shows us that with over 73,000 barriers dotting Ireland's river network, the impediment to migrating fish is clear. These obstructions disrupt the natural life cycle of crucial species like salmon and seriously undermine their future existence.

The most recent alarming estimates from Inland Fisheries Ireland indicate that wild salmon numbers have dropped by 70 per cent in the last 30 years.

In the mid-1970s, about 1.7 million salmon returned to Ireland. Today, it's just 150,000.

And whilst there are many intertwined and complex pressures on salmon, barriers to successful migration to the sea and subsequently accessing vital spawning habitat on their homeward journey is a significant contributing factor in its decline.

Please take a moment to consider an Ireland without the mighty salmon. This key species is central in centuries of historical and cultural significance.

The loss of the Irish salmon would not only diminish our natural heritage but also rob us of the enduring spirit they symbolise, as well as having a serious detrimental effect on the Irish economy.

But before going into the details of the barriers to fish migration, I would like to briefly explain what The Rivers Trust is and give you an insight into why this subject is important to us.

The Rivers Trust is the umbrella organisation of over 60 independent, community-led, catchment-scale Rivers Trusts across Ireland, Northern Ireland, and Britain, with 21 of those Rivers Trusts on the island of Ireland.

We are one of only a handful of environmental charities operating on an all-Ireland basis in recognition that our rivers and their wildlife recognise only natural boundaries.

That is why The Rivers Trust is heavily invested in finding solutions to encourage and facilitate the removal, or, if not feasible, at least the easement, of barriers to fish migration and the restoration of free-flowing rivers in Ireland.

We are part of [Dam Removal Europe](#), a pan-European barrier removal coalition, and we work with the [World Fish Migration Foundation](#).

Where barrier removal is taking place, we take a strategic approach to maximise positive environmental results and consult with all stakeholders, including local communities.

We balance the benefits to the environment and society, taking into account the function and value that some barriers provide.

Many Rivers Trusts in Britain are already delivering in-river barrier removal. In the last three years alone rivers trusts have removed more than 100 migratory barriers and delivered easements, such as nature-like by-passes and technical fish passes, to at least a further 200 barriers.

This has opened more than 10,000 km of the river to migratory fish, improving habitat and increasing connectivity for wider biodiversity gain.

So far, we have been unable to carry out this vital work in Ireland due to the current challenges surrounding regulation and the availability of funding for barrier removal.

And there is a lot of work to be done.

Across Europe, there are thought to be over one million barriers fragmenting rivers, of which at least 100,000 are considered obsolete.

In Ireland, over the last 200 years, our rivers have been severely impacted by human activity for land drainage, navigation, and stream power for mills and, in more recent decades, hydroelectric power.

As a result, Irish rivers are heavily fragmented by weirs, dams, sluices, culverts, bridges, and other artificial barriers.

Ireland's National Barriers Mitigation Programme has already identified around 73,077 potential barriers on Irish rivers that break up the continuity of flow and habitat from the source to the sea.

Barriers detrimentally impact river ecosystems by inducing habitat loss, amplifying the impacts of pollution, altering sediment and nutrient movement, and changing water levels.

It is not just fish that are impacted. Changes in hydrological flow can also increase sedimentation rates and alter the composition of river and lake substrates, which in turn can affect bottom-dwelling organisms - For example, the critically endangered freshwater pearl mussel in Irish rivers.

But for freshwater fish specifically, in-channel barriers result in swathes of disconnected habitat, disrupting migratory patterns and rendering otherwise good fisheries habitat inaccessible to fish species, both migratory and non-migratory.

Having to pass multiple barriers in a river system has a cumulative impact on migratory fish, using up valuable energy reserves to pass each one; fish can often suffer significant injury or direct mortality as they continually throw themselves at these human-made barriers to fulfil their natural migratory instinct.

Barriers can also cause indirect mortality as they become easy targets for predators exploiting the obstacles hindering their migration, and the spread of disease and pathogens can increase as fish are held up around them.

The impact of barriers to migration is considered a factor in the critical drop in fish numbers in Irish rivers.

The Irish Red List 2023, supported by Inland Fisheries Ireland, conducted a comprehensive review of freshwater fish species and certain trout ecotypes in Ireland.

Using the latest international guidelines, IFI found that 43% of fish species are threatened, with the European Eel classified as Critically Endangered and the Pollan assessed as Endangered. Nine species were classified as Vulnerable.

What can be done?

In practical terms, various techniques can be used depending on conditions.

If delivered in partnerships, costs need not be prohibitive.

These include complete removal of a structure, modification, and replacement with alternatives like rock ramps or technical fish passes.

The benefits of these interventions are substantial. Direct benefits accrue to various aquatic organisms, including salmonids, eels, and coarse fish, by facilitating free movement within the water body.

Indirect benefits extend to plants and other aquatic organisms through the naturalisation of in-channel habitats and the restoration of natural processes.

Implementing these techniques enhances the aesthetic and recreational value of watercourses. Thus, investing in such measures not only supports biodiversity conservation but also fosters sustainable water management practices for the benefit of present and future generations.

To effectively address barriers to fish migration in Ireland, government policies must also prioritise holistic approaches that integrate environmental considerations into decision-making processes.

Several key policy measures can facilitate the removal of barriers to fish migration including legislation and regulation, funding and incentives, collaborative working, monitoring and enforcement and public education.

By implementing these policy measures, the government can play a central role in facilitating the removal of barriers to fish migration in Ireland, and with effective partnership working, these projects could be delivered at scale and cost-effectively.

These efforts are essential for restoring and preserving the health of freshwater ecosystems, protecting biodiversity, and ensuring the long-term sustainability of Ireland's aquatic resources.

In conclusion, restoring and preserving fish migration pathways is paramount to the health and sustainability of Ireland's freshwater ecosystems.

The existing legislation concerning fish passage in Ireland needs to be revised. Therefore, it is imperative to re-evaluate the current legislative framework, which is outdated and incongruent with several EU Directives.

By not adequately addressing barriers to fish migration, Ireland risks violating its obligations under these directives and undermining efforts to protect freshwater ecosystems and biodiversity.

The Rivers Trust advocates for a comprehensive review to pinpoint deficiencies and reconcile conflicting policies, prioritising amendments that enshrine the preservation of migrating fish and their habitats over the persistence of river barriers.

As stewards of our natural heritage, it is incumbent upon us to recognise the importance of fish migration, identify and mitigate barriers, and forge a path towards a future where Irish rivers and streams remain vibrant, interconnected, and teeming with life.

This requires both practical interventions and policies backed by funding which support the removal of barriers in Irish rivers.

With this committee's obvious interest and investment, I am optimistic that we can unite our efforts to dismantle the barriers hindering barrier removal, paving the way for a brighter future where Irish rivers flow freely and our fish thrive abundantly.

Let's work together to remove the barriers to barrier removal in Ireland!

Go raibh maith agat, thank you for your attention.

ENDS

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The Rivers Trust has produced a short briefing document for the committee explaining why fish migrate, the importance of migration to river and species health, the barriers fish face in our freshwater landscape, and potential solutions.