

**Opening Statement of Mr. Francis O'Donnell, CEO of Inland Fisheries Ireland
on Barrier Mitigation for Joint Oireachtas Committee for Environment and
Climate Action**

Good Morning, Deputies and Senators. Thank you for inviting us this morning to discuss barriers to fish passage in Ireland and the mitigation of same. I am accompanied by Dr Cathal Gallagher this morning who is the Head of Research for Inland Fisheries Ireland.

Riverine connectivity is critical in protecting our freshwater fish and the habitats in which they reside. Migratory species such as Atlantic salmon, sea trout, sea lamprey, river lamprey, twaite and allis shad and European eel all make long migratory journeys to reproduce. However, a range of other fish, such as pike, brown trout and bream, live entirely in fresh water but make extended movements along the river system for feeding or to access spawning and nursery areas. Any restrictions to fish migrations may have negative consequences for their habitat use, reproductive or feeding capacity and could lead to long-term declines in their population. Fish movements and migrations can be affected by different man-made structures in rivers. These may include small structures such as bridge floors, culverts, sluices, to larger structures such as weirs and dams. Barriers also impact on the natural river process which become disconnected, temperature regimes are altered, flow rates changed with an interruption in sediment transport between upstream and downstream of structures. In many instances large structures change river habitat into lake habitat (lotic to lentic habitat) with the creation of large impoundments. Hydromorphology is identified as the second most common pressure on water quality in Ireland. To support mitigation of this pressure IFI has led the

development of a river barrier assessment tool and is currently mapping the extent of barriers nationwide through IFI's National Barriers programme. There are currently 73,377 potential barriers identified with 31,170 (42.5%) assessed to date. Of those assessed as a problem 233 have had follow up surveys (SNIFFER) carried out; these are required before any mitigation work can be carried out. The mitigation of barriers and the restoration of free-flowing rivers can enable the protection and restoration of natural biodiversity in our catchments. With the support of the Department of Housing, Local Government and Heritage and the Department of Environment, Climate and Communications, IFI has developed a National Barriers Mitigation programme to run from 2024 to 2027 and to meet commitments made to address water quality pressures. The National Barriers Programme (NBP) funded to date by the Department of Housing, Local Government and Heritage, which has policy responsibility for the Water Framework Directive, has estimated the number of structures that are or have a high probability of being a barrier to fish passage in the Irish river network. The NBP has estimated that there are potentially 8,500 culverts/bridges, 1,500 weirs and 160 other structures in Irish rivers that represent a barrier to fish passage. Over the life of the NBP (2024 to 2027), which is to be supported by the establishment of a new capital and operational mitigation programme, it is expected that 257 barriers will be mitigated. The plan includes four pilot barrier mitigation projects that are being progressed to trial methods for dealing with different implementation challenges. Carrying out Barrier Mitigation projects on man-made structures in river systems can be a complex process involving a lot of planning, title research, surveys and studies, design, budgeting, consultation and innovation to identify the most appropriate management technique to adapt.

In tackling this issue, Inland Fisheries Ireland (IFI) are working on a number of medium and large-scale barrier mitigation projects, improving fish passage on weirs, bridges and culverts. IFI are currently working on mitigation to passage at Bretts weir, River Nore, Co. Kilkenny, Bakery weir River Suir Cahir, Pallas weir on the river Bann and the Dalligan weir on the River Dalligan, along with Annacotty Weir, Co. Limerick, Templederry Bridge, Co. Tipperary, Castlecor Weir Fish Passage, Askeaton Weir, Co. Limerick and Bishops Stream Barrier Removal, Co. Roscommon. This list is not exhaustive and covers 2024/2025 period. We also supply expert advice to various agencies and local authorities in terms of barrier mitigation on rivers such as the River Ward, the Kells blackwater and the Dodder. Moreover, IFI has agreed to work with larger actors such as the ESB to understand the impacts of Hydro electricity on migrating salmon and eels. Large barriers on the Erne, Liffey and Shannon systems have brought those populations to near extinction. Without immediate and proper mitigation these genetic strains which are unique will be lost forever. There has been significant introgression or mixing of genetics on these systems which we now know to be very harmful.

One must consider and understand the physical impacts of turbines on salmon and eels as they migrate to sea long after they have left the Irish coast. Physical injuries causing death may only become apparent months later and much research is needed in this area via tracking.

Climate change has been identified by Inland Fisheries Ireland (IFI) as one of the greatest threats facing fish populations and the wider aquatic environment in the medium to long-term. Average air temperatures in Ireland have already increased by 0.8°C since 1900 and changes are projected to increase over the

coming decades (Desmond et al., 2017). Climate change will have widespread effects on Ireland's environment including impacts on aquatic habitat and the biota within. It is now necessary to improve resilience to climate change impacts from associated increased hydrological extremes of drought and flood risk. Given the projected trajectory of climate change; actions are needed to limit river water warming. Management strategies to limit temperature increase should carefully consider restoring the thermal regime of rivers through weir removals and a return to more natural hydromorphology conditions, combined where possible with riparian tree planting as an additional mitigation measure.

Unfortunately, the European eel numbers across Europe have been decimated and Atlantic salmon numbers returning to Ireland compared to the 1970s have been reduced by 80%. The trend is getting worse and there is now a need to really deal with barriers and find solutions if we are going to save two wonders of nature that undertake what is a most amazing migratory journey in the natural world

Thank you for listening this morning.

Francis O Donnell

CEO IFI