



**Iascach Intíre Éireann  
Inland Fisheries Ireland**

Forward Planning Section  
Development Plan Review  
Planning Department  
Clare County Council  
New Road  
Ennis  
County Clare



29.09.2020

**Clare County Development Plan 2022-2028**

Dear Sir/Madam,

Inland Fisheries Ireland (IFI) is of the view that County Development Plans in considering the protection of the quality of the aquatic environment must address not only water quality but also include the protection of the physical environment, hydrological processes and biodiversity. Protection of the aquatic environment must imply a greater commitment than merely to prevent fish mortality or protect water quality. The insidious effects of creeping/chronic pollution are often more serious than direct discharges which result in instantaneous fish kills, because sub-lethal pollution may reduce growth, inhibit reproduction functions or so alter the habitat as to render it uninhabitable for certain more species. Maintenance of habitat is a particularly important objective of IFI. It entails a greater knowledge of the environmental responses of aquatic life than to pollution/environmental degradation and tends towards more stringent habitat and water quality objectives. An important aspect in the maintenance of habitat is the protection of each stage the food chain. Destruction of habitat or contamination of the food chain at any level may eliminate any other form of life depending on it.

The EU Water Framework Directive (2000/60/EC) requires the protection of the ecological status of river catchments – this encompasses water quality and requires the conservation of habitats for ecological communities. One of the primary objectives of the Directive is to establish a framework which prevents further deterioration and protects and enhances the status of aquatic ecosystems. Protection of aquatic ecosystems requires that river systems be protected on a catchment basis. Development Plans must recognise that protection of the aquatic environment/habitat not only requires the protection of water quality but also necessitates the protection and maintenance of physical habitat and hydrological processes/regimes.

**Water - Waste Water and Environmental Services:**

Regarding waste water treatment systems, sufficient treatment capacity must be available both within the receiving sewerage systems locally and downstream of waste water treatment plants over the full duration of the plan in order that the ecological integrity of the ultimate receiving waters are protected. This ecological integrity also includes the maintenance of river connectivity, this can be a particular concern in relation to the abstraction of water for drinking water supply. One particular area of concern for IFI is the abstraction and associated dam at Doo Lough. Surveys by IFI (including survey work undertaken in September 2020) have recorded salmon and sea trout in the lower reaches of the Annageeragh but a complete absence of salmon in the river above the lake. The dam is acting as a barrier to fish migration. There are also issues with discharges of ferrous sulphate from the WTP at Doolough.



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IFI would highlight the importance of building a comprehensive and robust assessment of both local infrastructural needs and Local Authority/Irish Water capacity to meet those needs into the plan. Should particular WWTPs fail to provide expected capacities during the life of the plan, IFI also highlight the risk of associated significant environmental impacts which may result from local development.

The policy of granting planning permissions for developments with associated increased loading on inadequate or already overloaded municipal sewage treatment plants is clearly not a sustainable practice. Taking account of the adverse effects of increased wastewater discharges on the biological quality of rivers, Inland Fisheries Ireland considers that in areas where treatment facilities necessary for development do not exist, planning permissions should either be refused on the grounds that such development is premature or the developer should be constrained by an appropriate condition requiring that connections to sewer will not be permitted until sewage works upgrading is completed and operational.

### **Flood Risk-Flooding:**

Due to population growth, economics and environmental legislation including the Water Framework Directive and the Floods Directive, there is an obvious need to move to an integrated, catchment based approach for the management of the numerous pressures to the environment from climate change. This new integrated approach needs to encourage and support sustainable land management in rural areas in order to address long term vulnerability. Areas that need to be addressed include: runoff reduction and attenuation, floodplain management/storage, diversion channels and sediment management.

Climate change projections over the next century anticipate increased frequency and severity of floods, reduced flows in streams/rivers and higher water temperatures. With regard to the threat from flooding, measures, focusing only on traditional hard engineering approaches to flood management (such as flood walls and embankments etc.), will not be sustainable. Accordingly, our approach to managing flood risk has to change. The approach needs to be more integrated at the catchment level and recognise that land and water management in one part of a catchment can impact on flooding and flood risk elsewhere. In the past our methods for dealing with flood risk has been to build flood defences and improving warning systems. With climate change, Ireland is likely to experience rising sea levels, wetter winters and hotter, drier summers. Predictions also suggest that Ireland is also likely to experience more extreme weather events such as more intense rainfall which, combined with land-use change, means damaging floods are likely to be more frequent. A catchment approach generates efficiencies in recognising that numerous issues affect many different sectors and that catchment scale management can bring about whole catchment improvements and numerous gains to society. Essential to the catchment based approach is the acknowledgment that working with natural flood management techniques can predict and alleviate flood risk in other areas of a catchment.

Practices undertaken in the past which have contributed to the severity of flooding events in towns/villages throughout Ireland include the fact that wholesale realignment/straightening of rivers was undertaken (much of this work was carried out in the 1800s, but some is more recent). These works were part of a system that managed the river in a way that increased the land available for agriculture. In doing this however, the natural storage within these catchments has been reduced significantly and the effect has been to increase the volume and speed at which flood-waters arrive at vulnerable urban areas downstream.



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River reach realignment works, which involve the restoration of straightened rivers to their natural course are among a large suite of river morphology and floodplain restoration measures aimed at increasing the natural flood storage of river systems and reducing the speed at which floods arrive at vulnerable sites downstream. We would direct you to a Scottish Environment Protection Agency publication, Natural Flood Management Handbook, Authors H. Forbes, K. Ball & F. McLay, December 2015 and accessed on [www.sepa.org.uk](http://www.sepa.org.uk) which details numerous measures including river reach realignment works to tackle flooding. Such practices are coming to be regarded as "Best Practice" to tackle flooding issues throughout Europe. An added benefit of such works is that the length of salmon spawning and nursery channel would be increased significantly, while the quality of this habitat would also be improved because of the increased sinuosity of the channel. Such a programme of works would represent a win-win scenario, in that the likelihood of flooding is reduced while the environment will also benefit significantly. We request that such measures be explored as part of this plan.

Our experience is that many weirs/culverts/bridges, owned/operated privately and by local authorities are significant contributors to flooding. At many river crossings this is related to inadequate conveyance capacity during high flow events, while much of the time the issue of conveyance capacity is further diminished where poor design means that structures are susceptible to full/partial blockage by debris during flood events. At many weir and bridge sites during high flow events these structures act as a control, maintaining the water levels upstream of the weir at a higher level than if the structure was not there, thereby contributing to flooding upstream of the structure. In the majority of such cases these structures also represent a barrier to the migration of fish and IFI would welcome works to remove/replace such structure to mitigate against future flooding events associated with global warming. Such works would also represent a win-win scenario, in that the likelihood of flooding is reduced while the environment would also benefit significantly.

### **Renewable/Green Energy vs Environmental Sustainability:**

It is important that this plan stress that environmental sustainability will be the deciding criteria with regard to any proposed renewable energy scheme. IFI would refer directly to our concerns relating to any proposed hydro-electric scheme. HEP energy while renewable has the potential for significant environmental damage. It can de-water significant stretches of river leading to migration difficulties for fish, loss of spawning habitat, disruption of downstream food webs and increased siltation. We ask that this plan recognize the difference between "green"/renewable energy and energy that can be described as environmentally sustainable. A set of guidelines are available on the planning, design and operation of HEP schemes is available on the website of IFI at:

<https://www.fisheriesireland.ie/documents/13-guidelines-on-the-planning-design-construction-operation-of-small-scale-hydro-electric-schemes-a-1.html>

### **Aquatic Habitat Protection (including protection of Riparian Habitat):**

A policy in relation to aquatic habitat protection should be included in the Plans. Protection of the aquatic environment has to date been generally addressed on an ad-hoc basis under planning control/legislation. The current planning regulations do not sufficiently address issues of watercourse protection and management. The impacts of some developments on the aquatic environment may only become apparent in the long term. Developments such as road and bypass development, urbanisation, flood relief, afforestation, river drainage have caused and are causing major disturbances to the physical habitat.



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"Development" can require that extensive sections of watercourses be drained, altered and diverted, flood plains may be modified to accommodate housing and industrial development, impermeable surface areas in towns and on motorways have increased giving rise to increased runoff, and smaller streams and rivers have been culverted to accommodate development.

The local authority under the terms of the EU Water Framework Directive (WFD) (2000/60/EC) is legally obliged to protect the ecological status of river catchments and channels. Therefore consideration has to be given to other factors including flow, drainage, dams, bank erosion, quality of instream vegetation and riparian habitat etc. The impacts of development when not policy driven or environmentally managed are numerous, i.e. destruction of instream habitats, interference with fish spawning and nursery areas, obstruction of fish passage, removal of angling pools, changes in flow regimes. The above is an indication of some effects on fisheries which can be caused by development. The destruction of riparian areas along river banks results in fragmentation of riparian habitat within the river corridor, loss of cover for fish and aquatic animals and can further reduce the value of waterways as amenity areas.

Watercourses are natural corridors for fish and wildlife movement. They may be of significant amenity value or have such potential. They may also be of significance in terms of a town's traditional and social history. Where development is proposed in the few remaining areas within our towns, open watercourses are considered an obstacle and are frequently the first natural features to be realigned/ culverted or covered over etc. It is a poor reflection on the development objectives which exist both at National and Local Planning level for the protection of the natural environment, when a stream or river which has existed forever in a locality with its own habitat, wildlife etc; is allowed to be covered over and in effect lost forever. The disparity which currently exists must be acknowledged, e.g. a Tree Preservation Order will provide for the protection of a single mature oak tree in an area while in that same area permission may be given to culvert or cover over a stream or river. IFI requests that such disparity be addressed within the plan. It is essential that watercourses be maintained in an environmentally and aesthetically sensitive manner for future generations to cherish and protect.

To insure that impacts from development/change in land use practices (including flood plain development) do not interfere with the aquatic environment it is essential that those areas adjacent to waterways (riparian buffer zones) are managed in a manner which will lessen impacts to these habitats. A riparian/buffer zone is a vegetated area near a stream, which helps shade and partially protect a stream from the impact of adjacent land uses. It is a discrete ecological and geographical entity. It is the point of contact between the land (i.e. the terrestrial ecosystem) and the freshwater body (i.e. the aquatic ecosystem). It plays a key role in protecting/improving water quality in associated watercourses (streams, rivers, and lakes), thus providing environmental benefits. With the decline of many aquatic ecosystems due to development (both urbanisation and agricultural production), riparian buffers have become a common conservation measure aimed at improving water quality and lessening pollution impacts. The riparian/buffer zone must be sufficiently wide to protect the watercourse. Riparian buffers in addition to water quality benefits (bank stabilisation, interception of nutrients, sediments and pesticides) also provide habitat benefits in terms of providing shade, enhancing instream diversity (overhanging vegetation creates niches and supplies invertebrates and leaf-litter into the aquatic zone) and help mitigate habitat fragmentation by providing connectivity i.e. as linear features in the landscape, riparian zones/woodlands can reduce fragmentation by connecting isolated habitats/woodlands, thereby creating greater structural diversity and critical mass. Protection of aquatic zones can require riparian/buffer zones of up to 50m. The width of the riparian/buffer zone will depend on factors such as land use, land topography (e.g. slope), soil type, channel width/gradient and critical habitats to be protected.



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Numerous Local Authorities in the review and preparation of their respective development plans have included specific policies which reserve riparian/buffer zones free from inappropriate development along banks of rivers and streams for the purposes of, inter alia, providing habitat, river maintenance, access for anglers, walkers, recreational area and pollution buffer zone and undertaken to maintain such corridors. However some local authorities appear to consider a set-aside adjacent to watercourses solely for the purpose of channel maintenance i.e. biodiversity/amenity etc. requirements are not a consideration. IFI urges all local authorities to acknowledge and address the need for riparian habitat protection. IFI should be consulted in relation to any development (greenfield development or redevelopment of brownfield sites) that could potentially impact on the aquatic ecosystems and associated riparian habitat. IFI can provide guidance on site specific measures to enhance, protect, rehabilitate or establish riparian and aquatic habitats. The protection of habitats outside designated areas and a local commitment to reject proposals that would interfere with natural floodplains would greatly benefit both aquatic and riparian habitats. IFI is opposed to any development on floodplain lands.

### **Invasive Species**

The plans should include policies to ensure that developments do not lead to the spread of invasive species. Invasive species may drive local native species to extinction via competitive exclusion, niche displacement or hybridisation with related native species. For example, Himalayan balsam, Giant hogweed and Japanese knotweed compete with native bank vegetation undermining banks resulting in increased erosion and siltation of fish spawning beds. Giant Hogweed is also a human health hazard. Zebra mussels and Asian clam compete with fish alter the water chemistry of a waterbody, they can also mask the effects of eutrophication/enrichment. Invasive species can transform habitats and endanger whole ecosystems with serious implications for the environment and the economy. An example of a proactive policy in this regard would be to prohibit invasive species from inclusion in landscape design proposals. Landscaping proposals etc. should require the use of native species from local stock. See [www.invasivespeciesireland.com](http://www.invasivespeciesireland.com)

### **River/Stream Crossing Structures:**

The impacts of poorly designed river/stream crossing structures can be serious in terms of habitat loss. Prevention of the free upstream migration of fish species such as Salmon, Trout and Lamprey effectively results in the loss of spawning habitat upstream of the barrier to migration. This could have serious implications for the populations of fish species concerned and contravenes the legal obligation under the WFD to protect the ecological status of river catchments and channels. Indeed, it is an offence under the Fisheries Acts to prevent the free passage of fish. When structures are being designed for crossing fisheries waters, consideration must be given to the following biological criteria: species of fish required to safely pass; size of fish required to pass (life stage); time of year in which fish passage is required; and high and low design passage flows etc. Bridges and bottomless culverts have the least impact on fish passage. IFI recommends that plans should include a clear policy on the use of clear span structures where possible on fisheries waters and that IFI should be consulted on any such proposed developments.



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## **Water Conservation**

The plan is an opportunity to promote policies and awareness of water conservation which may ultimately result in a reduction in water use. Water conservation and water use efficiency are central elements of any strategy to enhance water supply reliability, restore ecosystems, and respond to climate change and changing demographics. Significant increases in water conservation and water use efficiency will be required to ensure reliable water supplies in the future. Best practice should be promoted in respect of water conservation in all developments through methods such as rain water harvesting. Accomplishing water conservation and water use efficiency goals will require action by all water users, including residential, commercial, industrial and agricultural water users, local and regional planning agencies, state agencies, chambers of commerce, and business, commercial and industrial professional and trade unions/associations.

## **Sustainable Urban Drainage Systems (SUDS):**

The requirement for the inclusion of SUDS for surface water disposal is a positive indicator of a local authority's intention for the sustainable development of the area and should, in conjunction with good management of the site, aid in flooding and pollution management. Such a design should be included in all development design proposals.

## **Management Policies:**

River Management Policies should be an integral part of any development programme and all waterways within the area considered as a natural resource requiring protection and development. The following mechanisms for protection of the aquatic environment could be considered for inclusion in Area Strategic Management:

- River Corridor Management Areas which provide for the protection and development of the aquatic environment (particularly within urban areas).
- Special Preservation Orders provided for specific habitats in need of protection e.g. an Aquatic Protection Order.
- Special Amenity Areas, identified for their potential as Linear Parklands along waterways.

Within the context of a plan, a watercourse could be assessed in relation to its existing aesthetic, amenity and recreational value, its potential for improvement and protection and the requirements to achieve this potential i.e. control of further physical interference, water quality deterioration, access, community participation etc.

Rivers and watercourses are assets which provide a basis for the development of visual and amenity features of the areas through which they flow. In housing and industrial site planning they provide a feature around which landscape design and development can be based. They can provide a focus for the involvement of the communities in the protection of water quality and the biological/wildlife diversity of aquatic habitats within these areas.

The 1997 Habitats Regulations and Special Areas of Conservation (SAC) Directive does not extend to the inclusion of all aquatic habitats of fish bearing importance or of amenity value. Therefore the reliance of the Development/Local Area Plans on these area designations solely will exclude significant numbers of waterways which are in need of protection. IFI requests that the plans provide for the maintenance and preservation of all watercourses and associated riparian habitats.



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#### **A Sustainable Plan and the Environment:**

In determining the likely significant effects of plans or programmes, regard should be given to the need for the sustainable development of the inland and marine fisheries resource (including the conservation of fish and other species of fauna and flora, aquatic habitats and the biodiversity of inland and marine water ecosystems). Consideration should be given to potential significant impacts on:

- Water quality
- Aquatic and associated riparian habitats
- Biological Diversity
- Ecosystem structure and functioning
- Fish spawning and nursery areas
- Surface water hydrology
- Passage of migratory fish
- Areas of natural heritage importance including geological heritage sites
- Sport and commercial fishing and angling
- Amenity and recreational areas

The Plans should:

- Be consistent with River Basin Management Plans, County Development Plans and comply with the requirements of the EU Water Framework Directive (WFD) (2000/60/EC).
- Include policies which preclude developments in areas where the sewage infrastructure facilities necessary for development do not exist.
- Advocate a change from an acceptance of river corridor interference to an assumption against it.
- Promote the integration and improvement of natural watercourses in urban renewal and development proposals.
- Encourage Local participation in urban and rural renewal.
- Include provision for consultation with IFI on developments which may impact on the aquatic environment.

Yours faithfully

Jane Gilleran  
Fisheries Environmental Officer



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