

Wicklow Bridges Project

Assessing barriers to migration of fish
species in County Wicklow and
sustainable solutions

National Biodiversity Week 2021



Iascach Intíre Éireann
Inland Fisheries Ireland

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W I C K L O W
ENDLESS OPPORTUNITIES



OVERVIEW

- Introduction
- Wicklow Bridges Project
- Wicklow's migratory fish species
- Geospatial data and risk mapping exercise
- Problems and solutions
- Next Steps / Planning for Watercourses





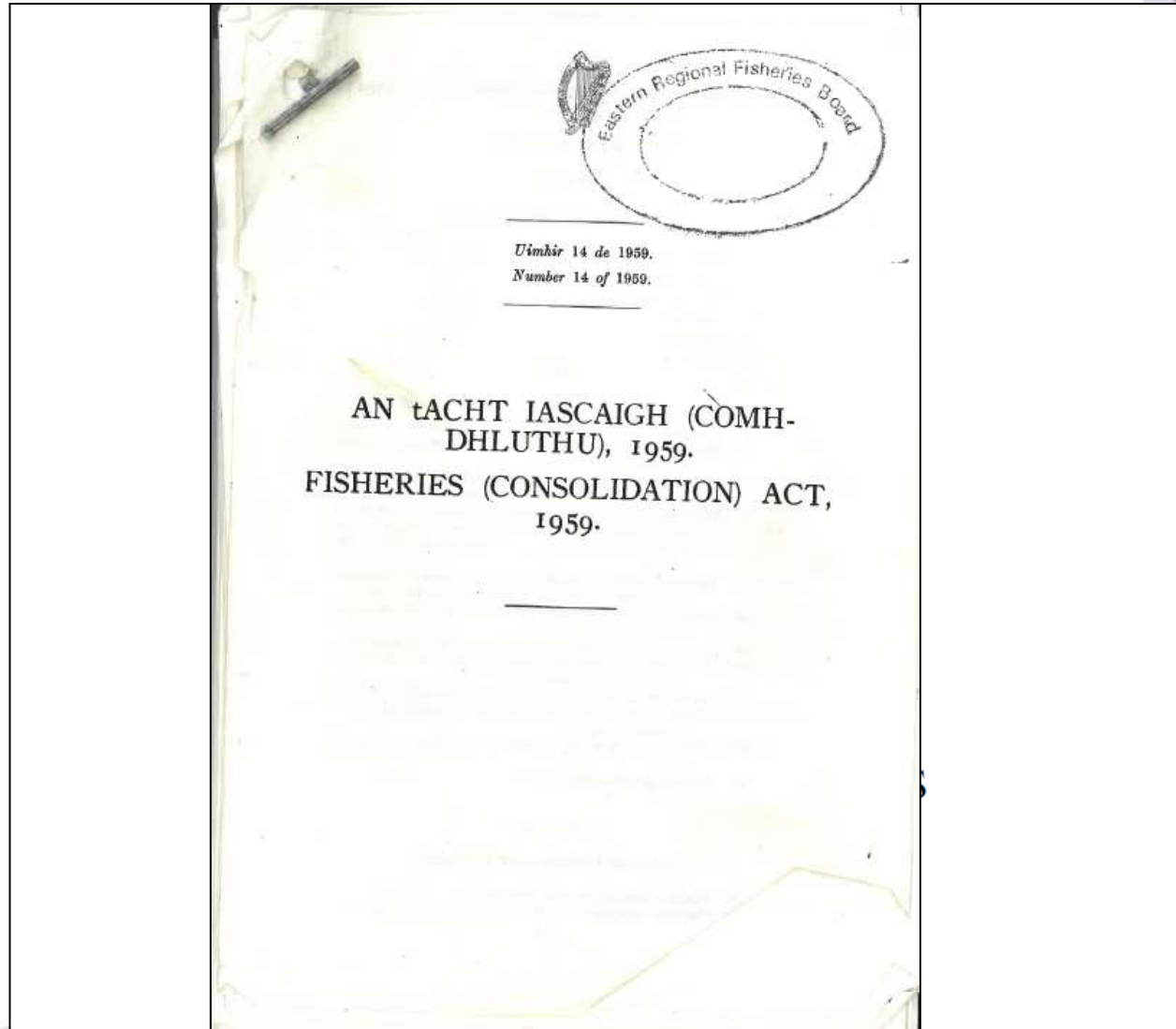
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- IFI charged with Protection and Conservation of the fisheries resource – FISH & HABITATS (including WATER)
- Area of responsibility – inland surface waters and marine waters extending to the 12-mile limit
- Range of species – all freshwater fish plus certain marine species (European Bass, Native Oysters)





Fisheries & Sustainability





GLOBAL PERSPECTIVE - Critical Natural Systems

- Land quality / degradation
- Soils – half of all life under our feet
- Pollinators – clean screens!
- Healthy forests - right trees in right places
- Ocean Habitats
- **Healthy freshwater ecosystems – clean, CONNECTED flowing rivers**



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Living Planet Index 2018 / IPBES 2019
www.ipbes.net



Wicklow Bridges Project - Context

- Coordinated by Wicklow County Council, through the Wicklow Heritage Forum and was part funded by the Heritage Council of Ireland.
- The County Wicklow Heritage Plan 2009 – 2014 formed the background to the project.



Heritage Plan Action: 3.8

'Undertake a survey of bridges and relevant culverts in County Wicklow to identify fauna usage and assess whether any impediments to passage exist, particularly in light of ongoing changes in climate and rainfall patterns etc. Use this information to carry out retrofitting of features such as nest boxes, fish baffles and mammal ledges wherever possible.'





County Wicklow's migratory fish species

- Lamprey (Sea, River and Brook)
- European Eel
- Atlantic salmon
- Brown trout / Sea trout

Some are better swimmers than others!





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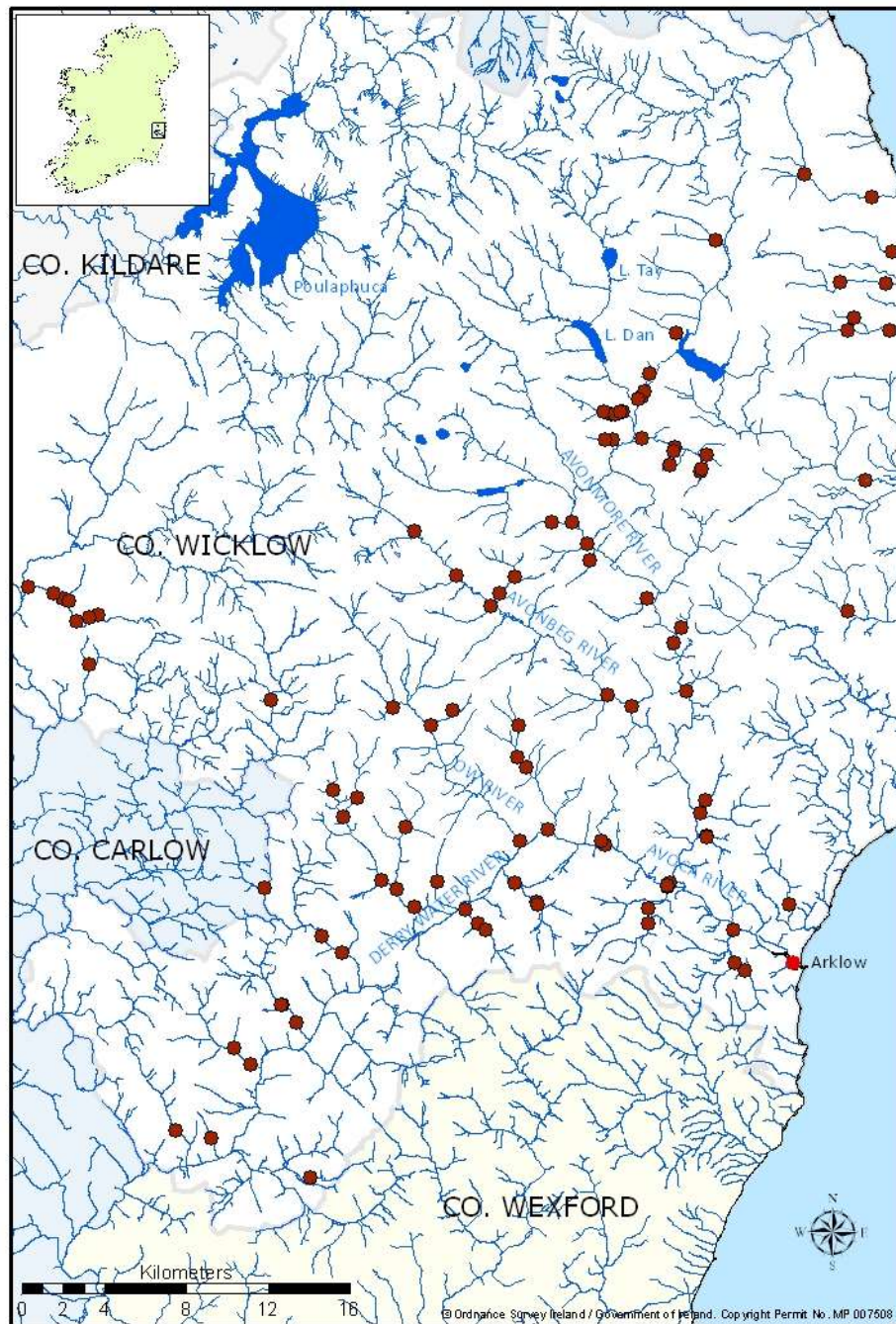


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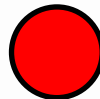
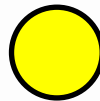




Assignment of risk

Risk category assigned for each species as follows:

- LOW
- MODERATE
- HIGH





RESULTS

Of the 103 structures assessed:

Atlantic salmon

- **33** 'LOW RISK'
- **12** 'MODERATE RISK'
- **58** 'HIGH RISK'

- **68** were ranked as 'HIGH RISK' for Eel
- **69** were ranked as 'HIGH RISK' for Lamprey

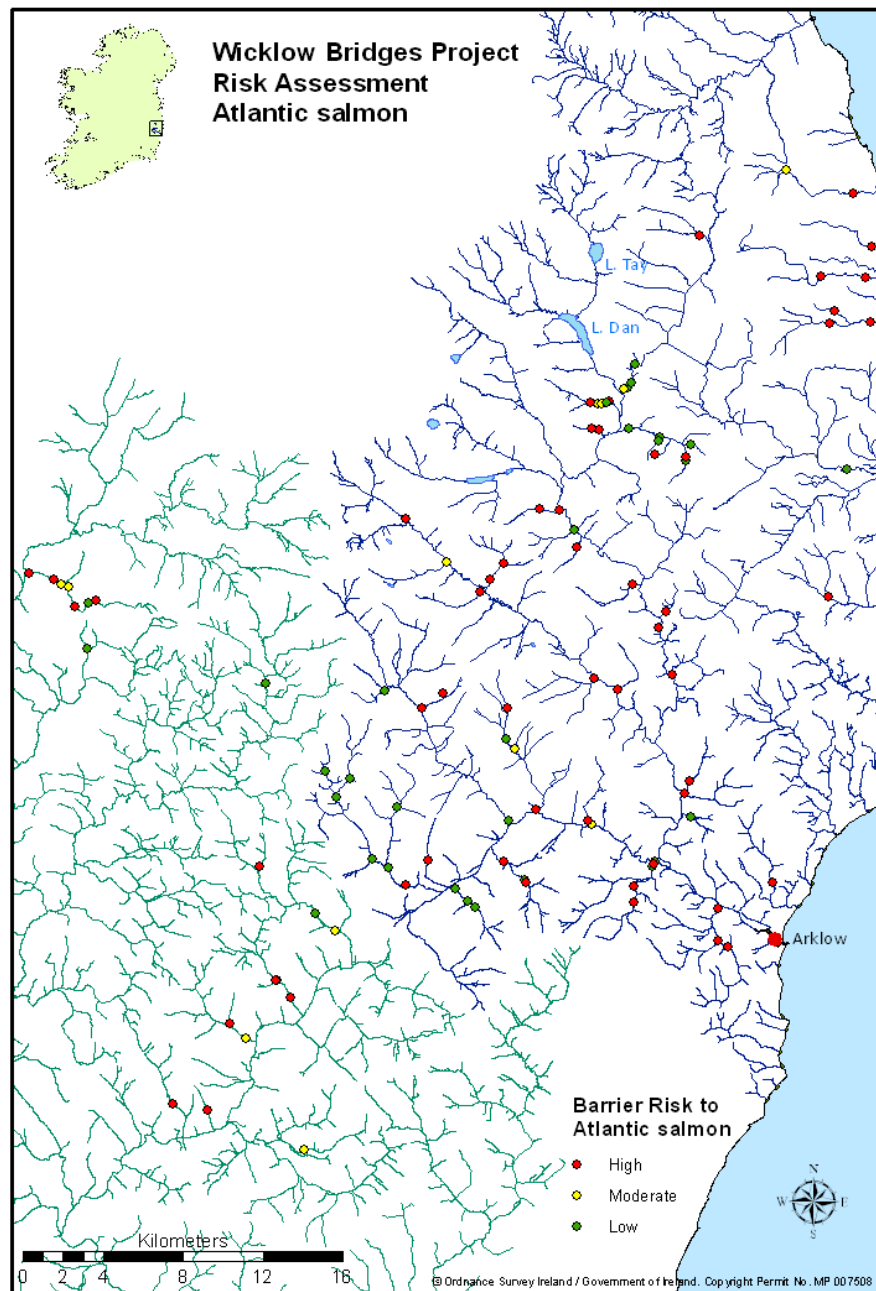
The majority of problems related to **Scour Apron Structures**

At most sites the dominant 'barrier' issue was a function of a number of associated physical factors including:

- **Water velocity**
- **Barrier height**
- **Laminar flow (smooth, unbroken, sheer flow)**



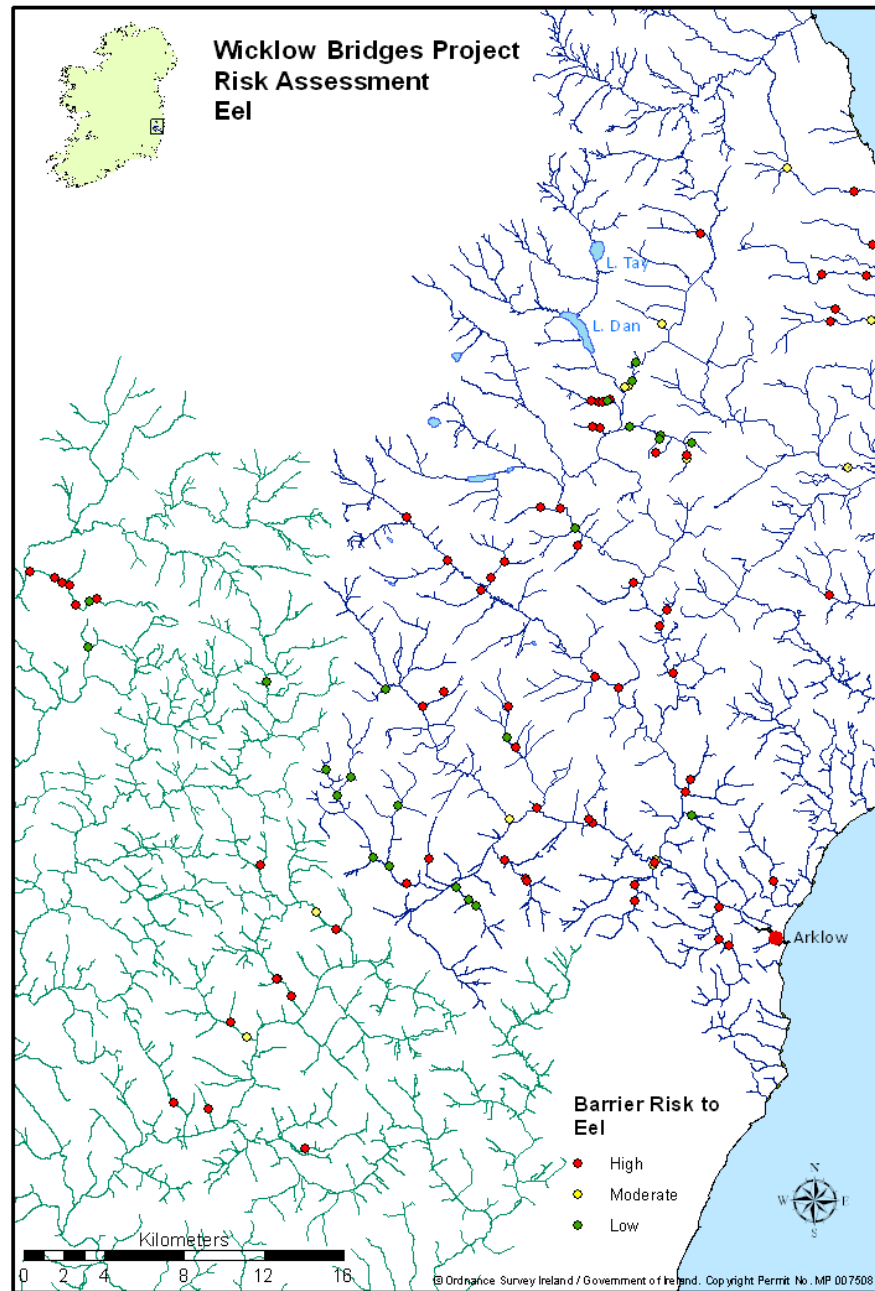
Wicklow Bridges Project Risk Assessment Atlantic salmon



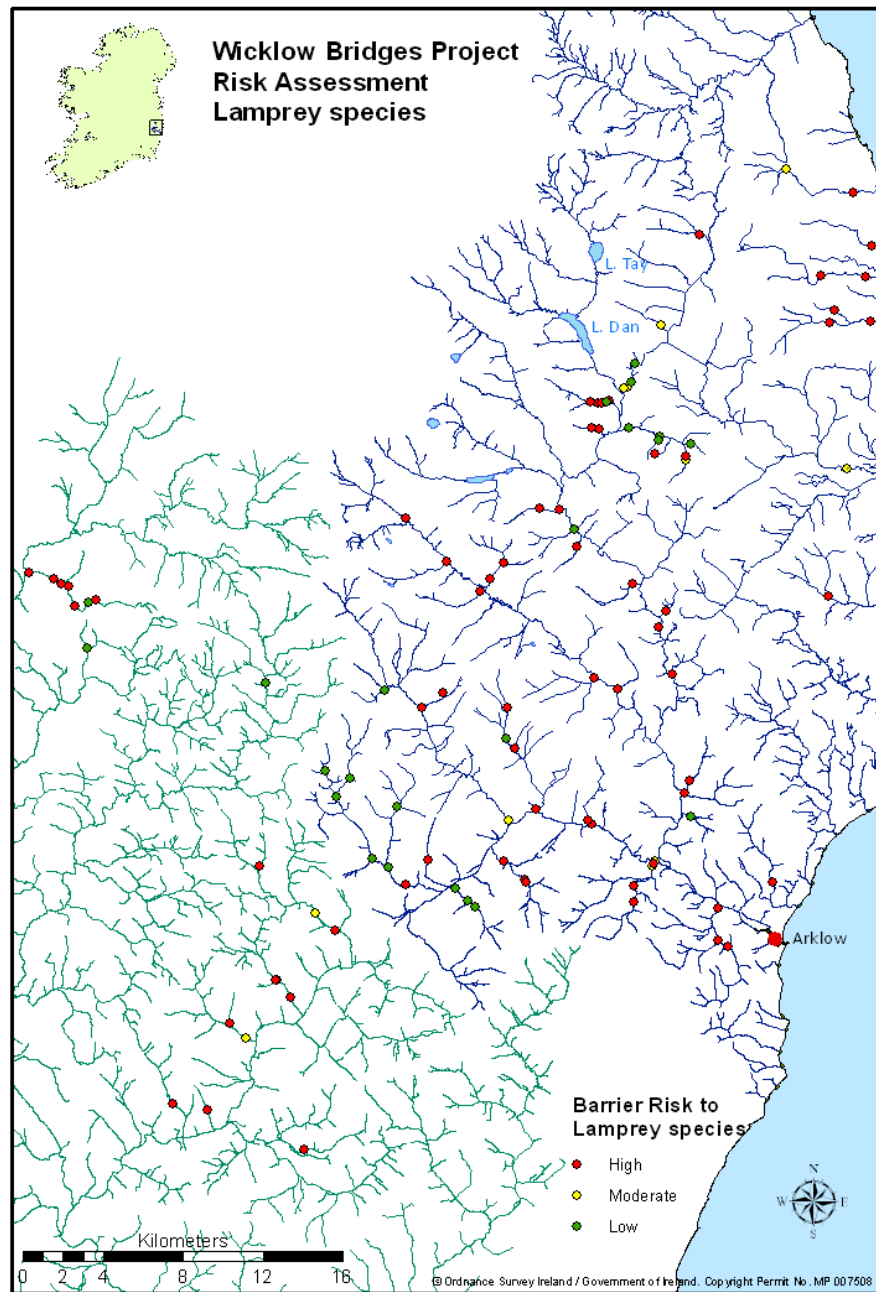
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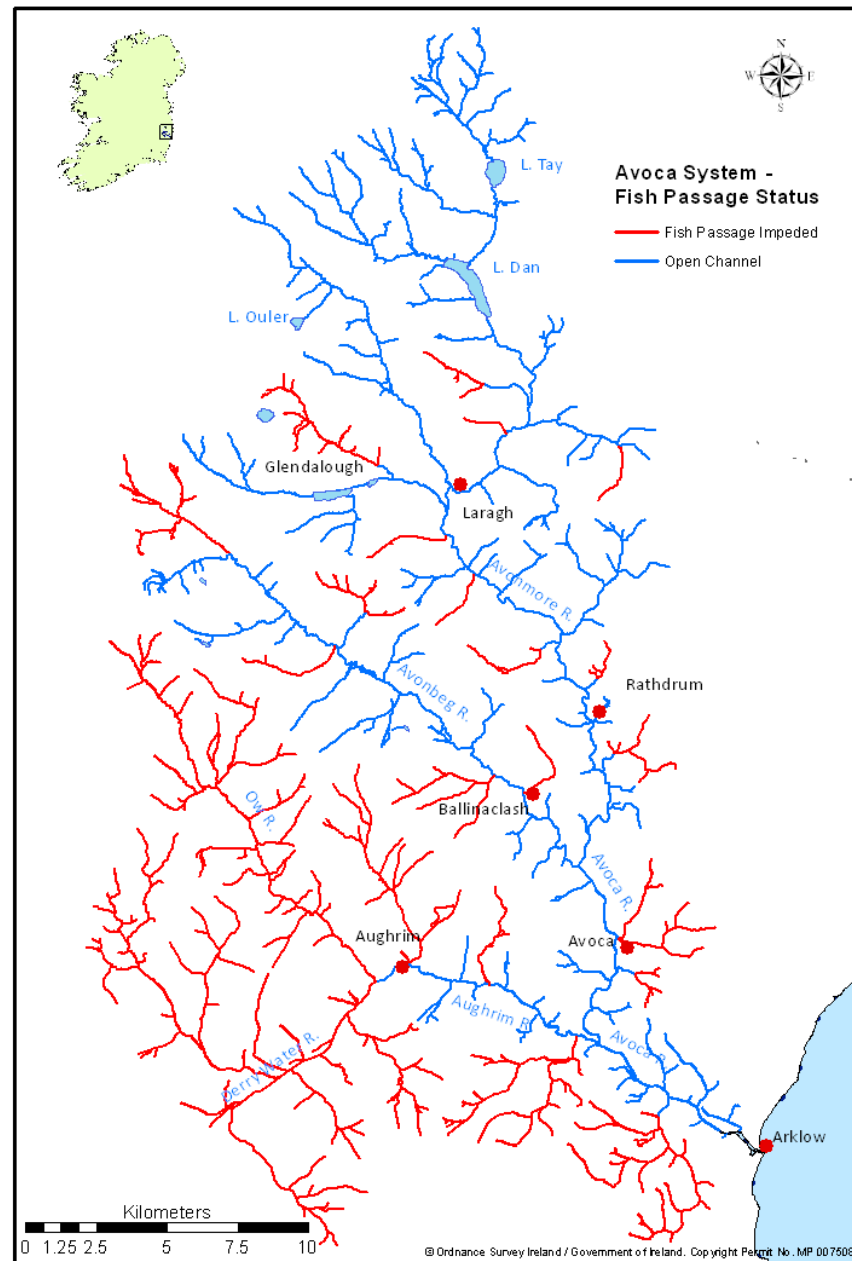
Wicklow Bridges Project Risk Assessment Eel



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CONCLUSIONS

- Scale of the issue - ~ 50% of the Avoca catchment is potentially impaired.
- Important step in the process of establishing a comprehensive baseline of barriers to fish passage Water Framework Directive.
- Relatively simple solutions / close to nature
- Routine bridge repairs and maintenance operations by relevant authorities (Wicklow County Council or TII).

OPPORTUNITY / COLLABORATION.



NEXT STEPS

- IFI's National Barriers Programme – 73,000 identified; 21,000 surveyed; work ongoing.
- Prioritisation matrix on barrier mitigation / removal – greatest biodiversity impacts...cost / benefit approach
- EU Biodiversity Strategy – 25,000km channel.
- 3rd cycle of the WFD River Water Basin Management Plan

**Partnerships / Projects /
SUSTAINABLE DEVELOPMENT**



IFI Planning Guidelines



PLANNING FOR WATERCOURSES IN THE URBAN ENVIRONMENT

A Guide to the Protection of Watercourses through the use of Buffer Zones,
Sustainable Drainage Systems, Instream Rehabilitation, Climate / Flood Risk and Recreational Planning

*Including one-off developments

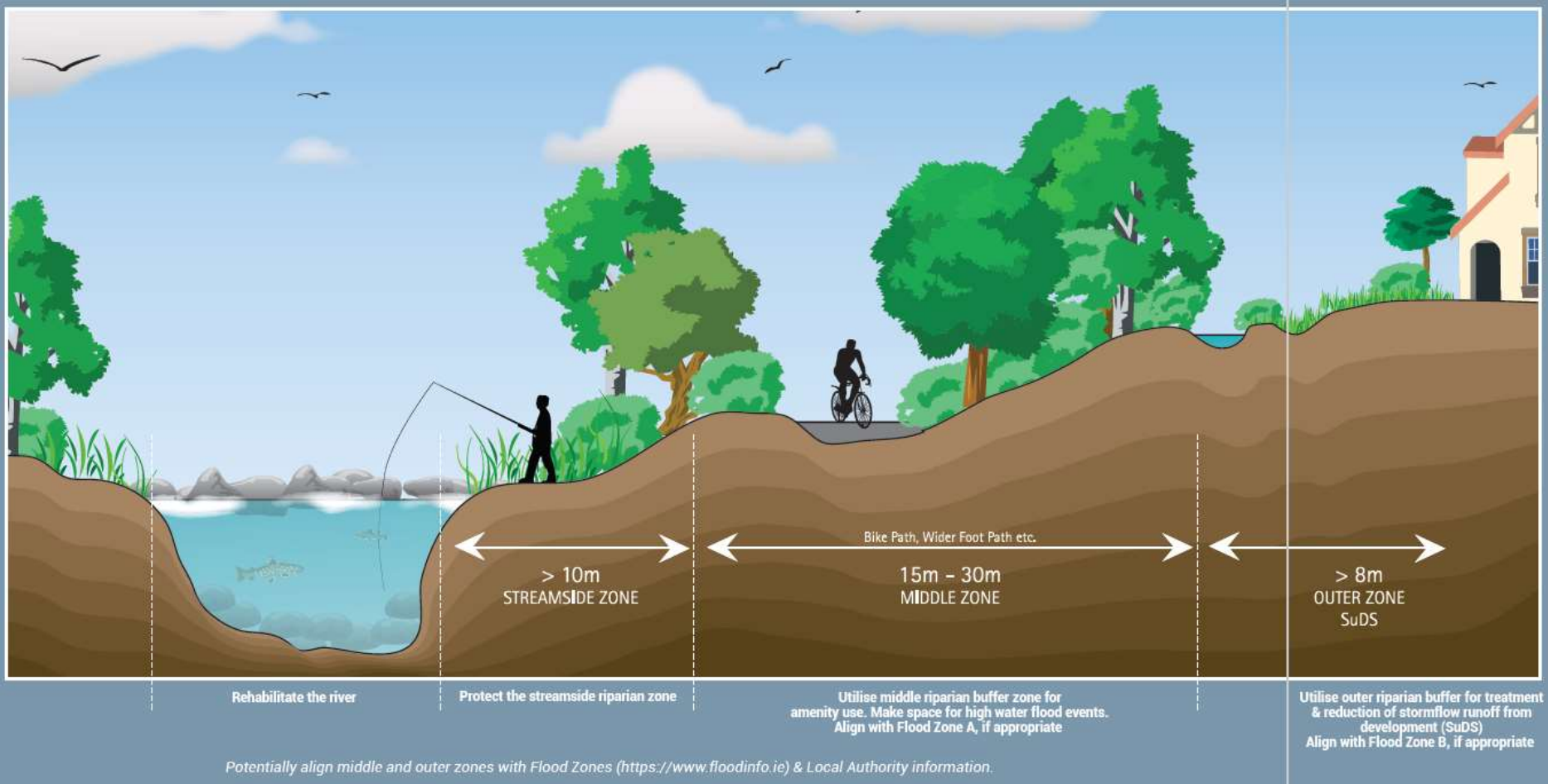


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A Guideline Developed by Inland Fisheries Ireland



IFI Planning Guidelines







Levers for Sustainability

COLLABORATION

PARTNERSHIPS

INTEGRATED SYSTEMS

**BIODIVERSITY / CLIMATE
ACTION**



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THANK YOU