



## **Streams and Rivers as Biodiversity Corridors**

### **Sligo LEADER Biodiversity Training**

**Karen Kennedy  
Community Water Officer**

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Connecting with the water catchment

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Importance of small streams

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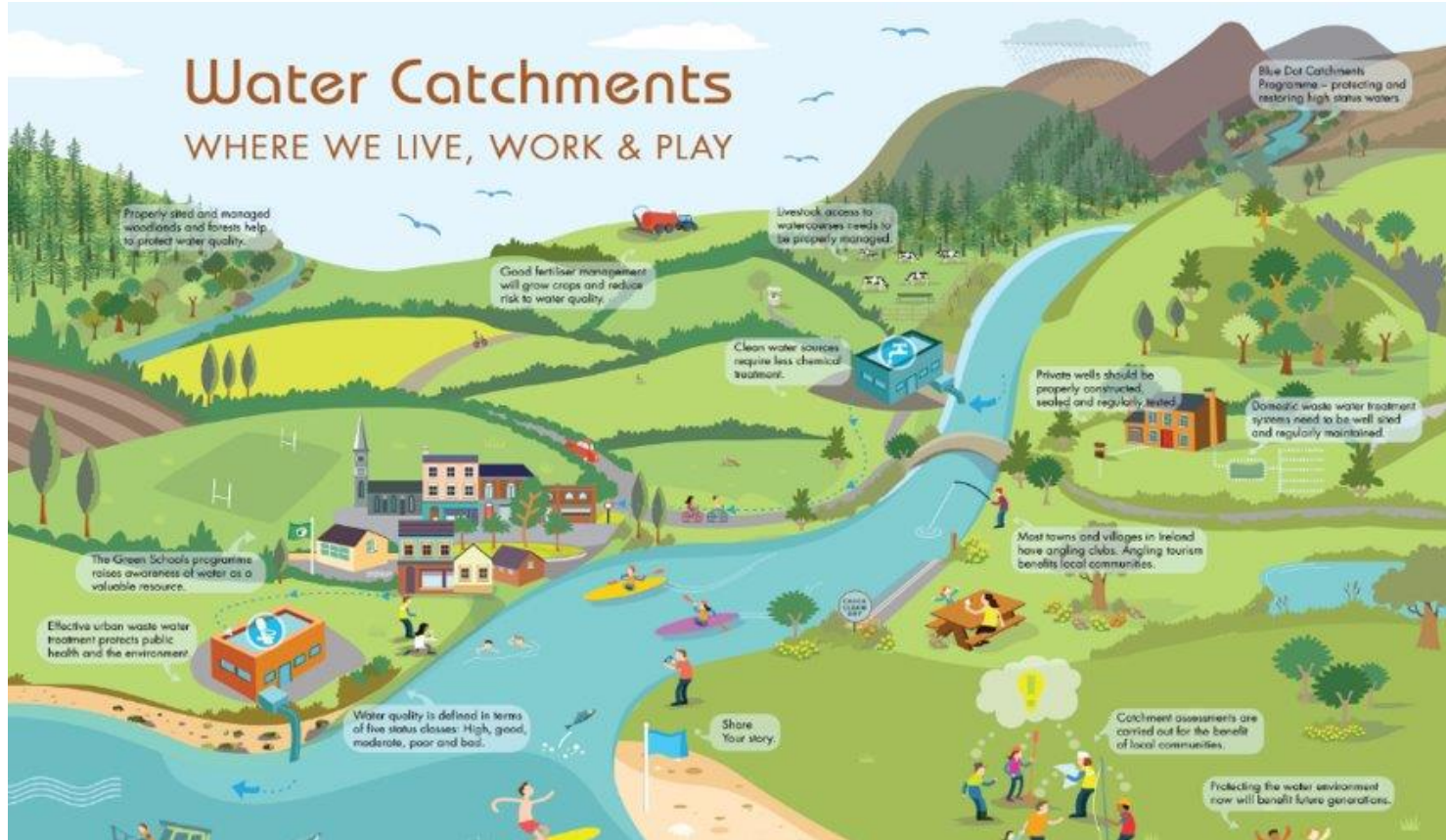
The Riparian Zone and Rivers as  
Biodiversity Corridors

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Funding support and resources for  
communities







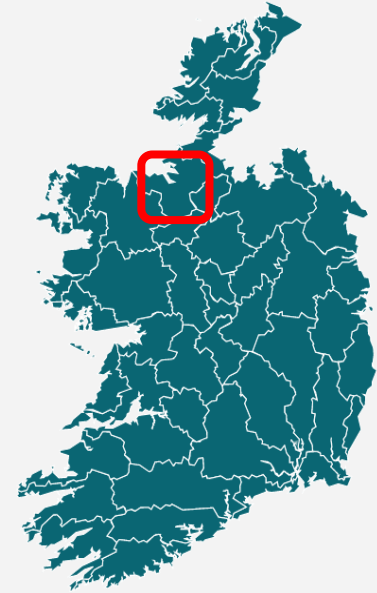
Catchments



Subcatchments



Waterbodies

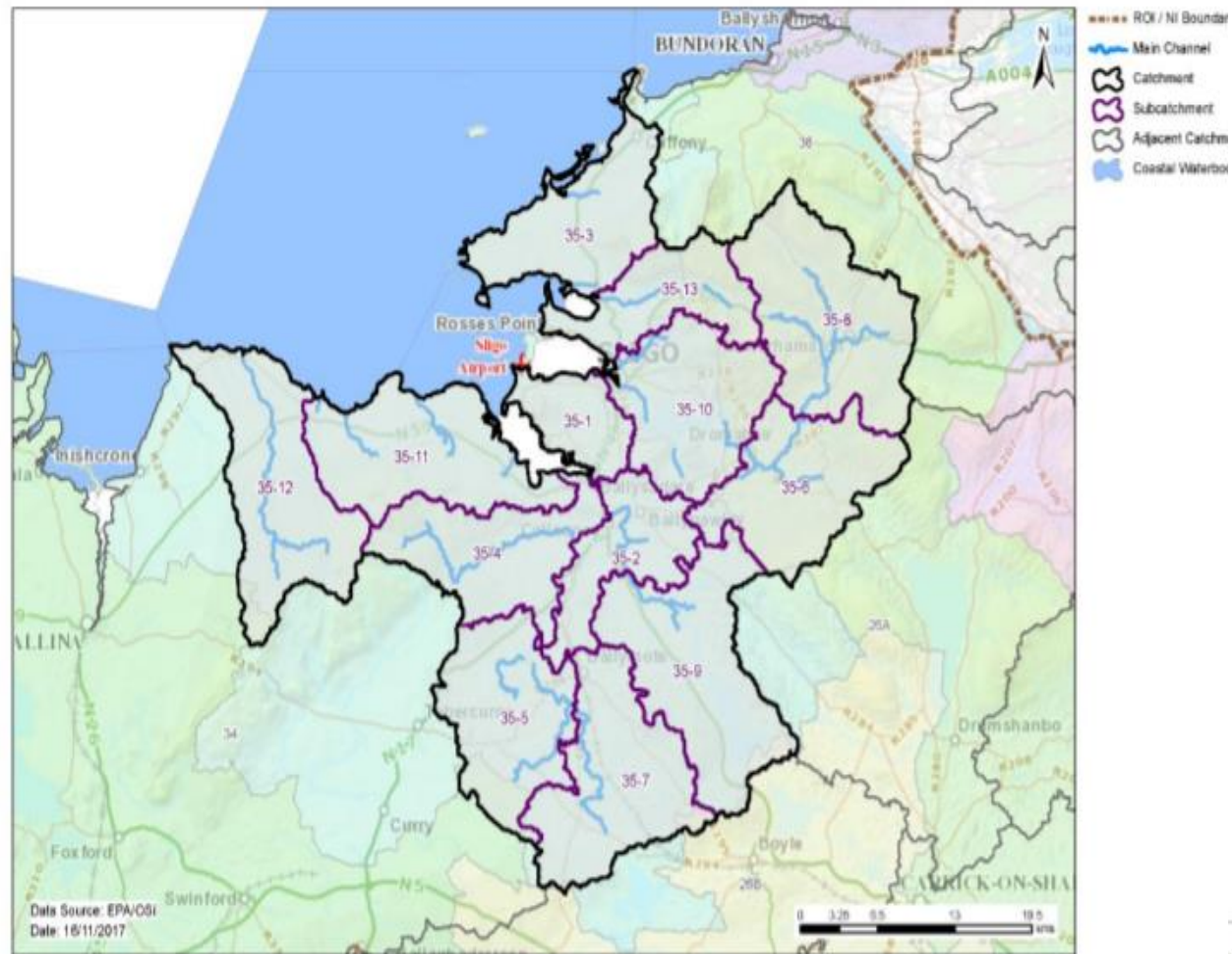


<https://www.catchments.ie/>



## Overview

### Sligo Bay Catchment (35)



## Overview

### Moy & Killala Bay Catchment (34)

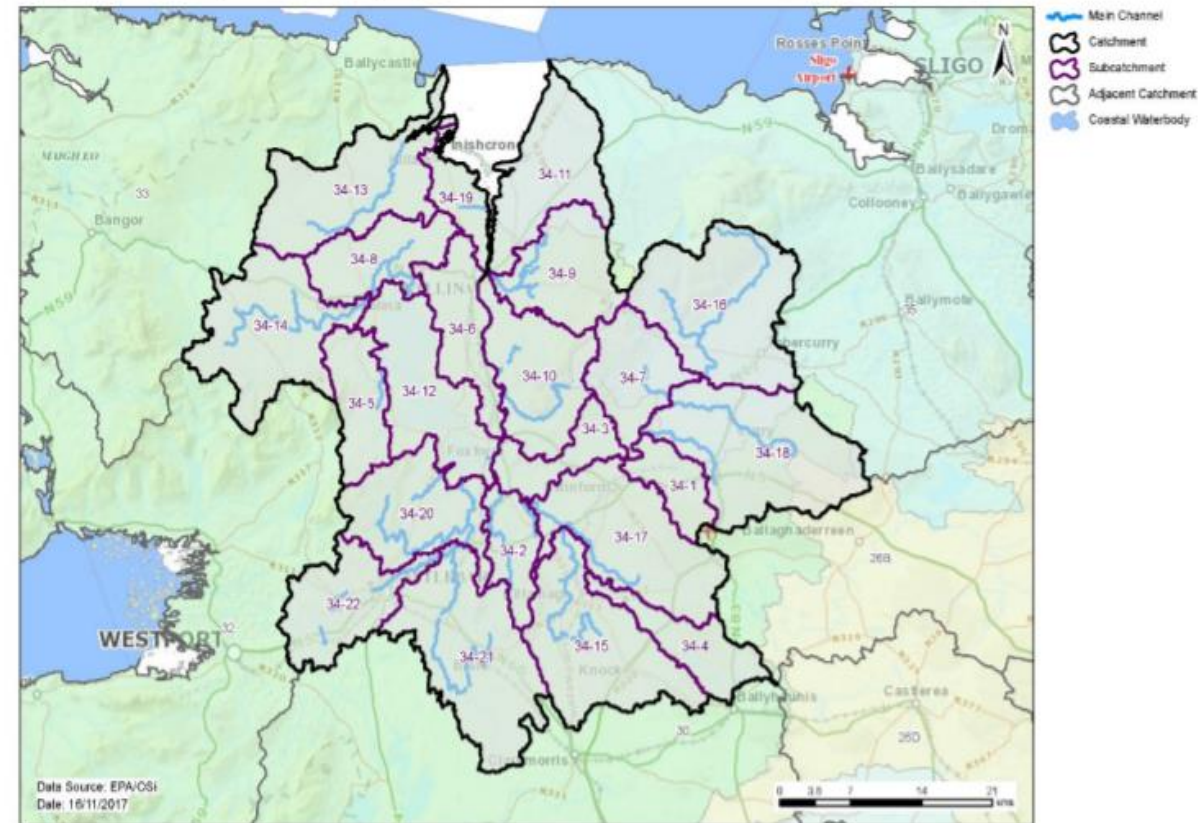


Figure 1. Subcatchments in the Moy and Killala Bay catchment

Figure 1. Location and subcatchments in the Sligo Bay Drowse catchment

# A brief introduction in 4 minutes!



**What is a healthy water catchment?**

This short 4min clip explains all

<https://vimeo.com/456880739>



Active Layers <<

Lake Waterbody WFD Status 2013-2018

River Waterbody WFD Status 2013-2018

Abstract

Water Quality Status Data for River Waterbodies 2013-2018

**Zoom to layer**

Legend

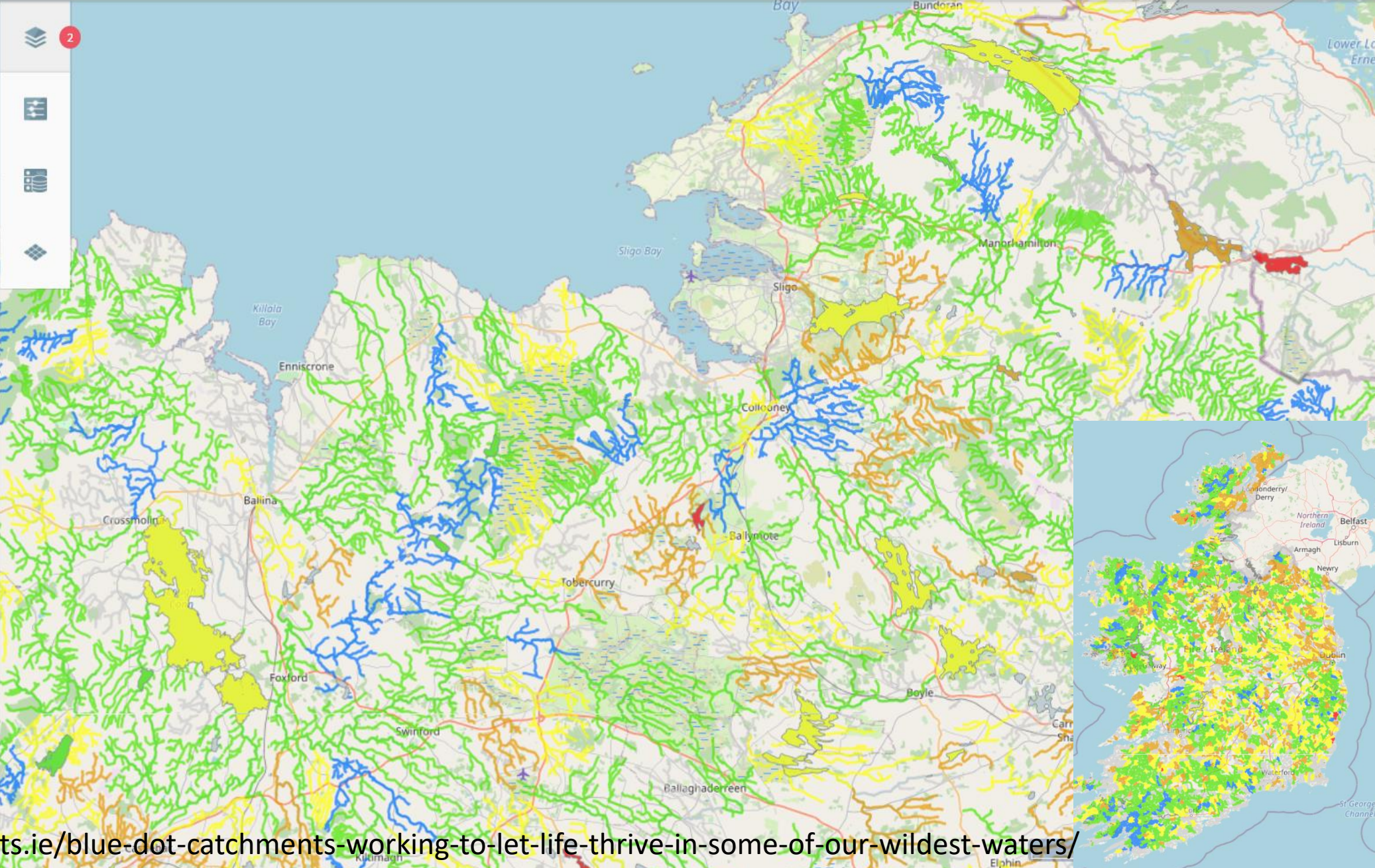
- High
- Good
- Moderate
- Poor
- Bad
- Unassigned

Layer Symbology

Default

Layer Queryable

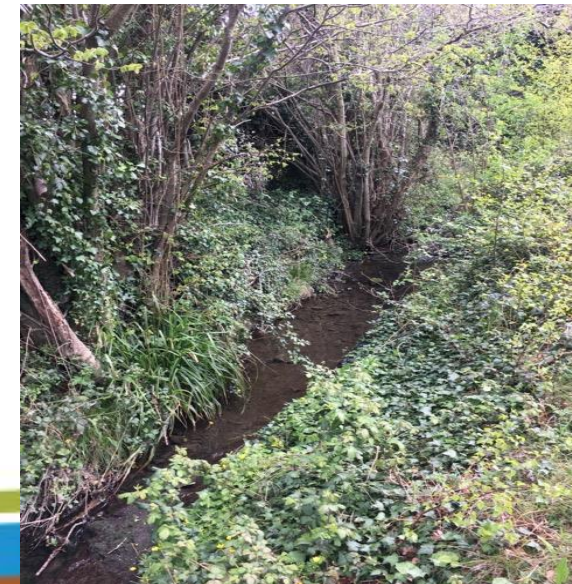
FILTER



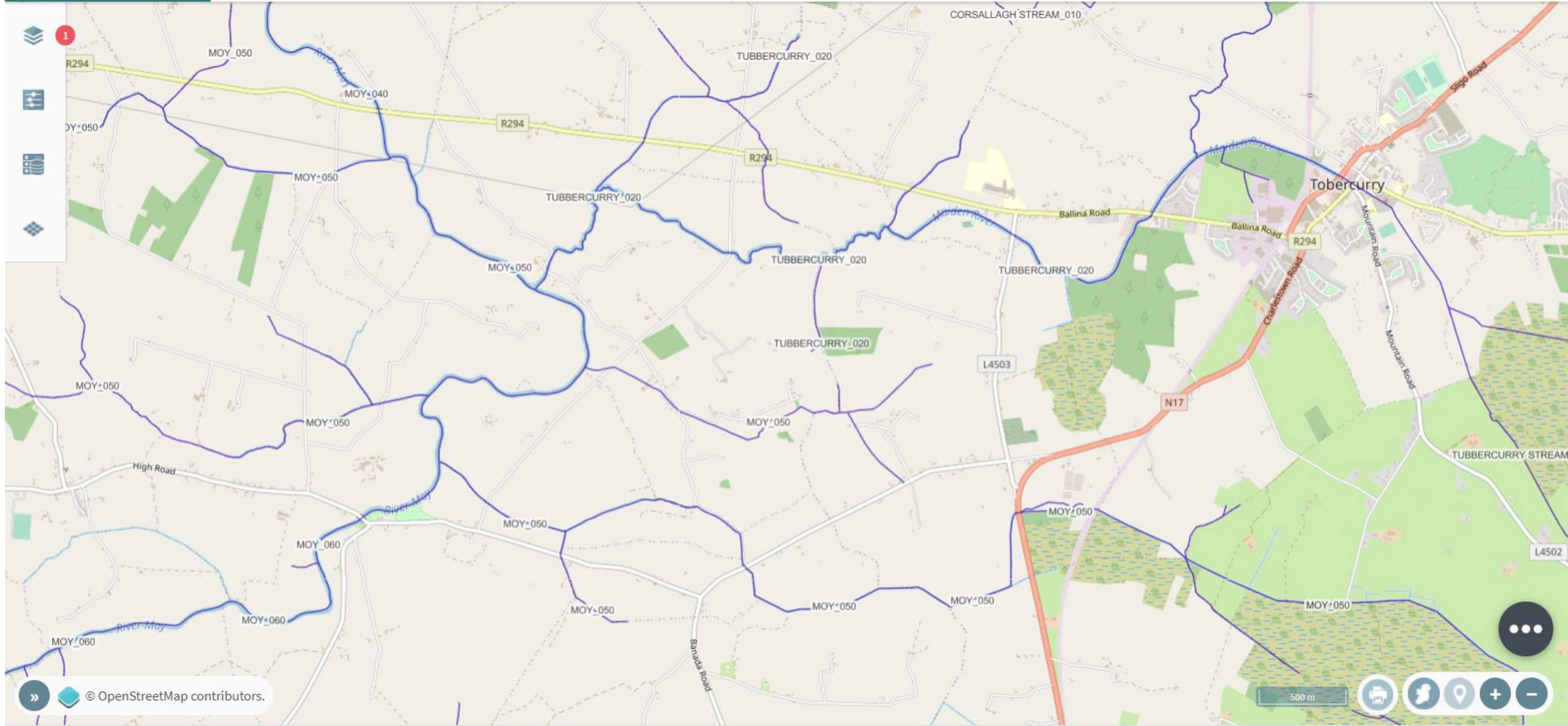


# Small Streams - where it all starts!

- Represent 77% of the length of the Irish river network
- Located within the headwaters of rivers
- Narrow channel widths generally <3m



<https://www.catchments.ie/the-importance-of-the-small-stream-network-in-ireland/>





Active Layers

S.A.C



River Waterbodies



Abstract

Each river is divided into a number of individual river water bodies for monitoring purposes and this helps us manage and protect our rivers at a local scale.

Zoom to layer

Legend

River Waterbody

Layer Symbology

Default

Layer Queryable

FILTER

River Flow Direction

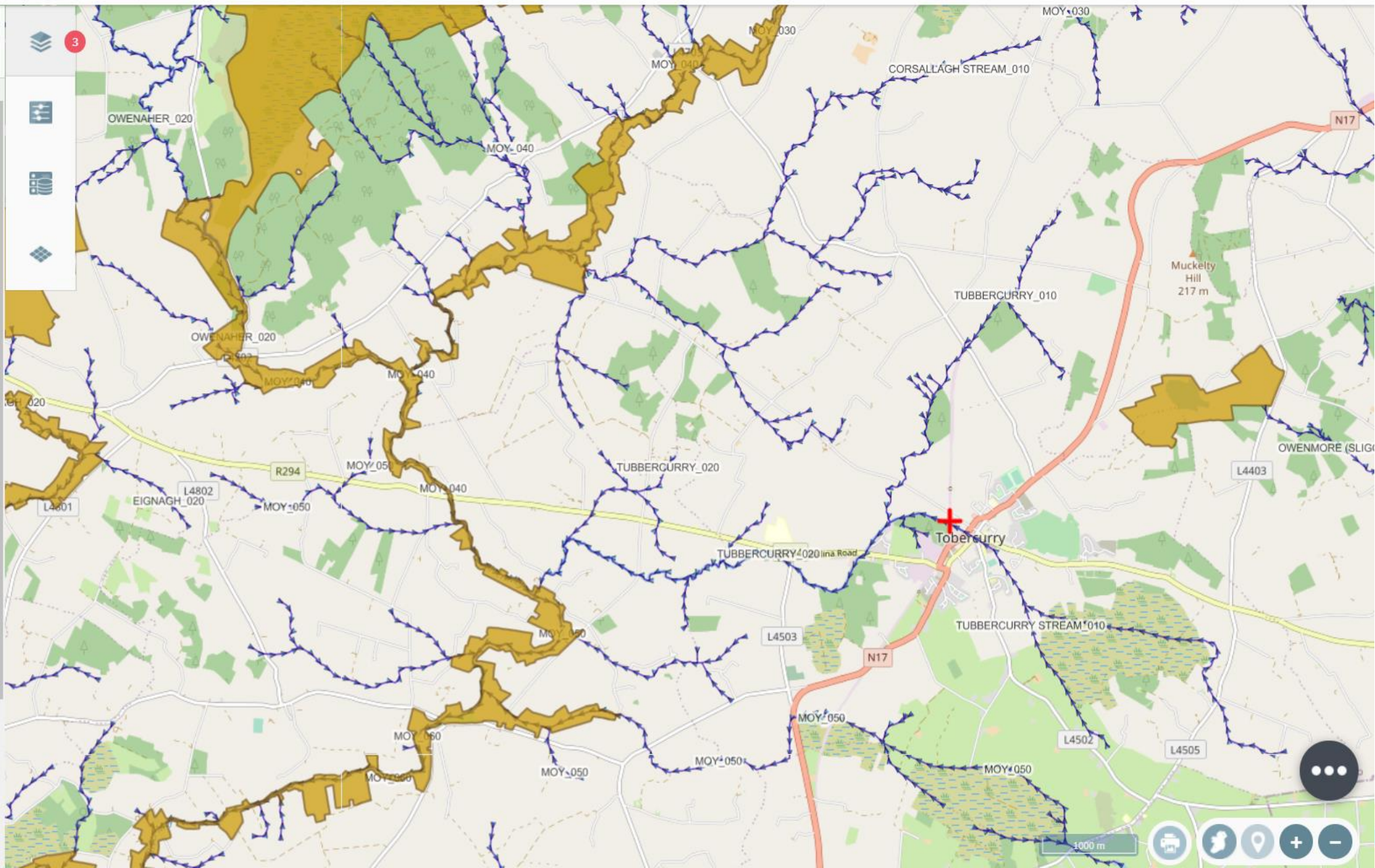


Abstract

Flow Direction Arrows of River Network

Zoom to layer

Legend



## Importance of Small streams

- Spawning and nursery habitat for salmon and trout
- Water for emerging biodiversity
- Sensitive water creatures – mayflies, stoneflies, freshwater pearl mussel
- Tourism & recreation
- They make for beautiful, peaceful places



## Threats to small streams

- Pollution
- Drainage
- Land changes e.g. infrastructure, housing, roads
- Climate change – drying out





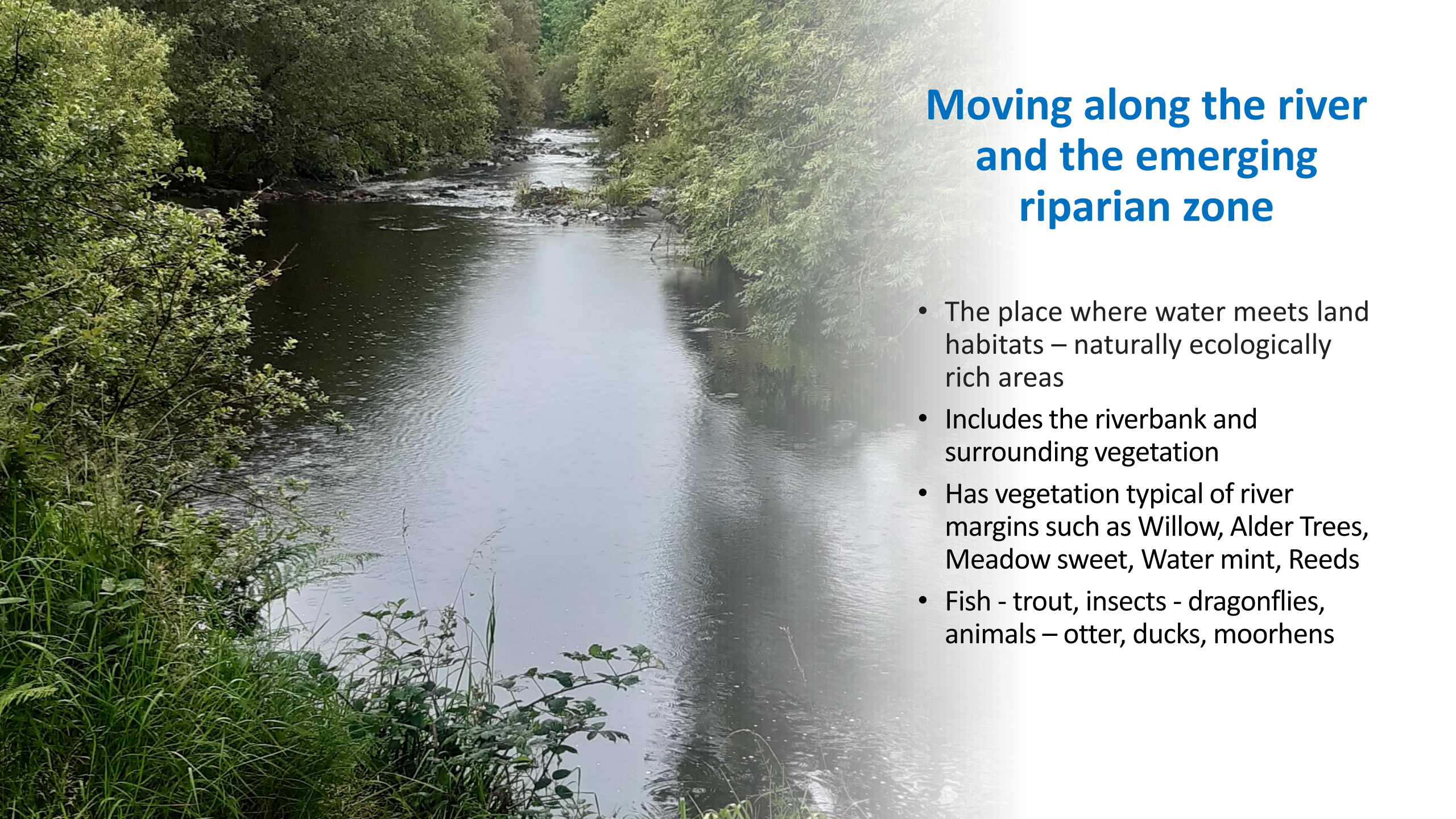
## Healthy Stream

- natural bank-side vegetation
  - partial shade
  - pools and riffles
- ... **all enhance fishery and wildlife habitat.**

## Unhealthy river corridor







## Moving along the river and the emerging riparian zone

- The place where water meets land habitats – naturally ecologically rich areas
- Includes the riverbank and surrounding vegetation
- Has vegetation typical of river margins such as Willow, Alder Trees, Meadow sweet, Water mint, Reeds
- Fish - trout, insects - dragonflies, animals – otter, ducks, moorhens





## A healthy riparian zone

- Provides habitats for animals, birds, insects
- Provides food and shade for fish
- Bank stability
- Flood control
- Temperature regulation
- Wildlife corridors
- Pollution, sediment and nutrient trapping coming from surrounding land



# Biodiversity in and around the riparian zone





# Invasive species live here also





# STOP THE SPREAD

Invasive plants and animals can carry diseases that kill fish, and block waterways and banks interfering with fishing. They can be small and hard to spot so are easily spread on damp equipment and clothing.

Protect the environment and fishing you enjoy by keeping your kit free of invasive plants and animals.

Remember to check these places

CHECK

**Check** your gear after leaving the water for mud, aquatic animals or plant material. Remove anything you find and leave it at the site.

CLEAN

**Clean** everything thoroughly as soon as you can, paying attention to nets, waders, and areas that are damp and hard to access. Use hot water if possible.

DRY

**Dry** everything for as long as possible before using elsewhere as some invasive plants and animals can survive for two weeks in damp conditions.

Watch out for



ASIAN CLAM



KILLER SHRIMP



FISH DISEASES



FLOATING PENNYWORT





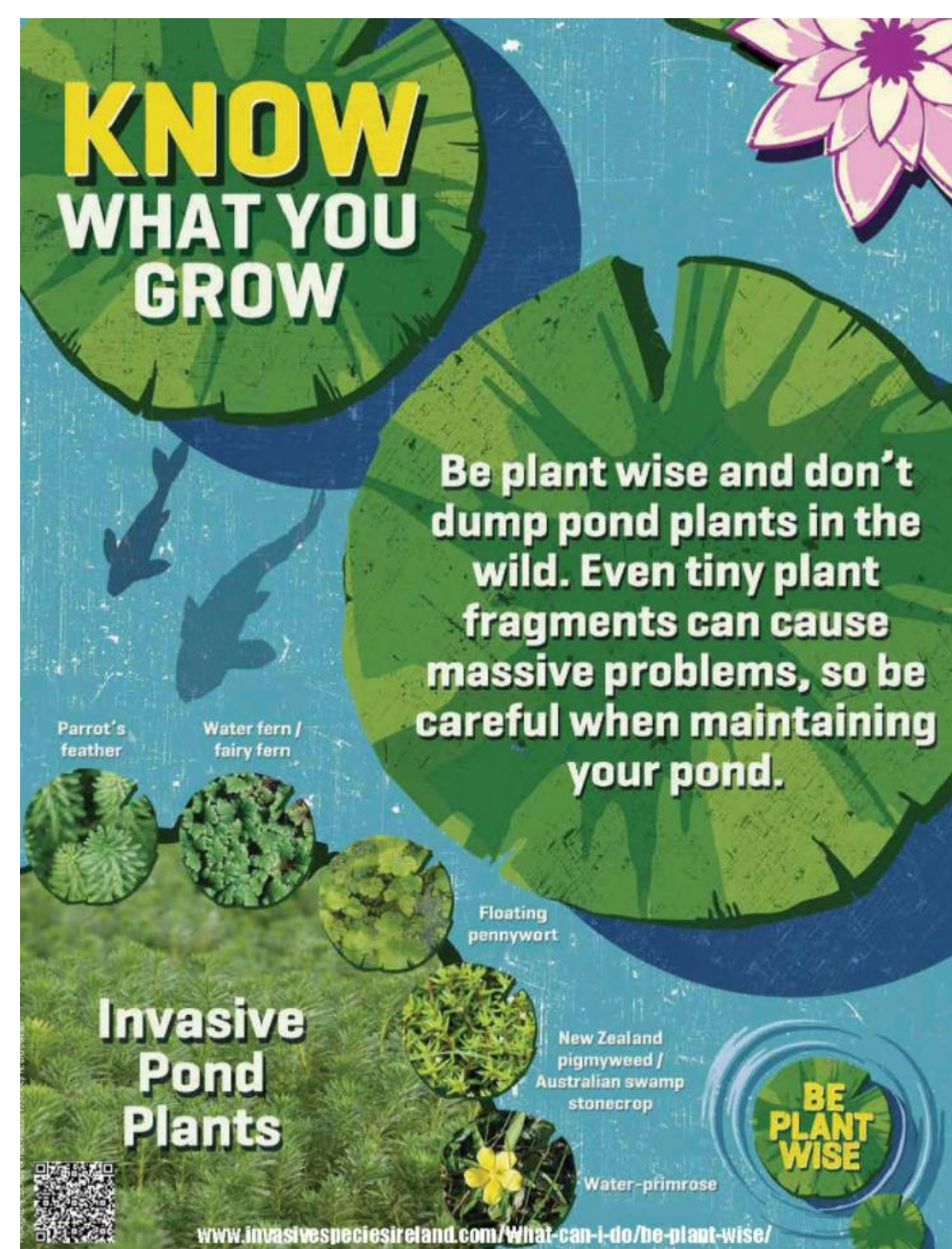
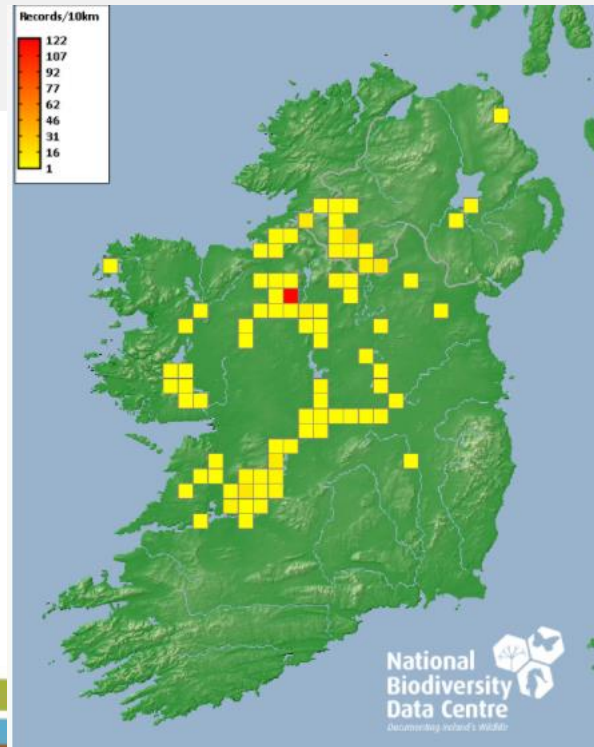
Enter your invasive species sightings here;

<http://records.biodiversityireland.ie/record/invasives>



Or use the [Biodiversity Data Capture app](#). ([iOS](#) and [Android](#))

<https://invasivespeciesireland.com/>







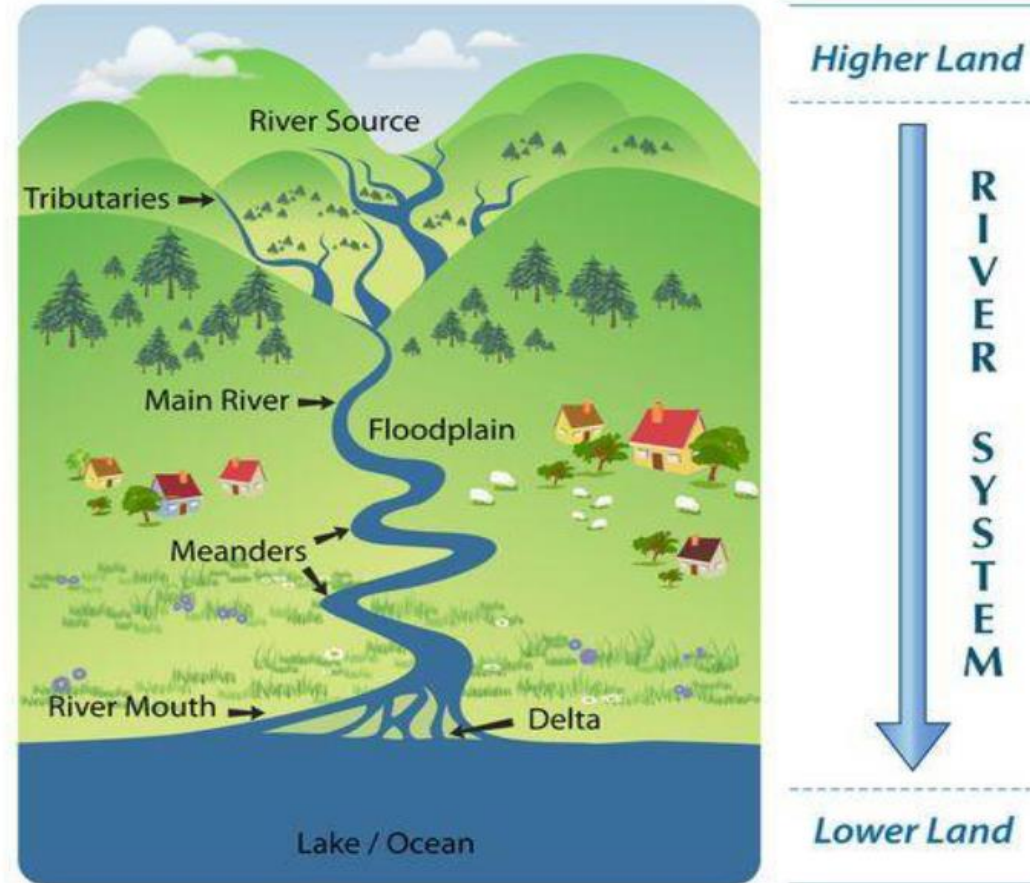
## Connectivity and Wildlife corridors

- **Wildlife corridors** are areas of vegetation that allow wildlife to travel from one area to the next
- A **corridor** provides shelter, food and protection from predators
- A continuum for wildlife – birds, bats, fish, insects, animals



- Were possible let Nature do its thing
- Make space for water
- Some erosion is good – supplies gravel
- Native, locally sources trees better than imported ones
- Look at what the catchment is telling you
- Remember generally the more diverse and dynamic the river is - the more biodiversity it can support.

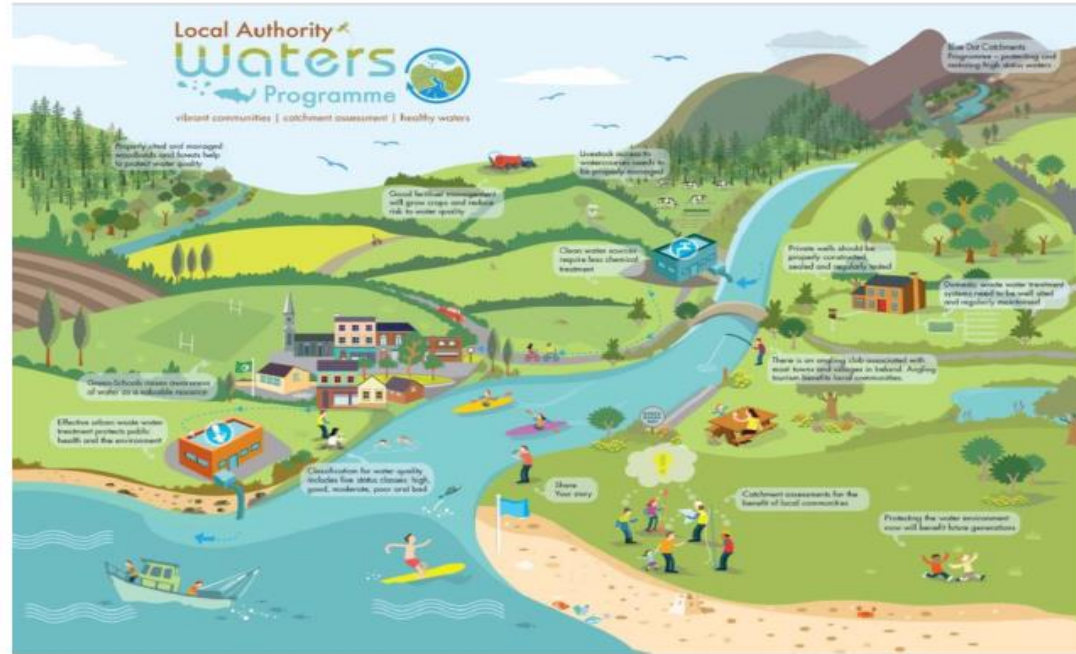
## Features of a River





# Projects and plans for communities within catchments?

- Any project that aims to enhance water quality!
- Small projects at the site scale to larger projects
- Take in context of local area
- Integrate into a larger project
- Bring in Biodiversity and Climate benefits a bonus



Informed by the characteristics of the catchment



# Building *Meitheal* around water

Community Water Officers can assist by;

- Promoting **catchment management thinking**
- Facilitating **conversations and projects** around rivers and the water environment
- **Support understanding and training** around local waters

- Supporting local people implement local projects
- Community Water Development Fund Projects
- Local Awareness Initiatives
- Community Consultations
- Development and support of Catchment Based Groups
- Citizen Science
- Developing links with other agencies to support communities





## Think projects...

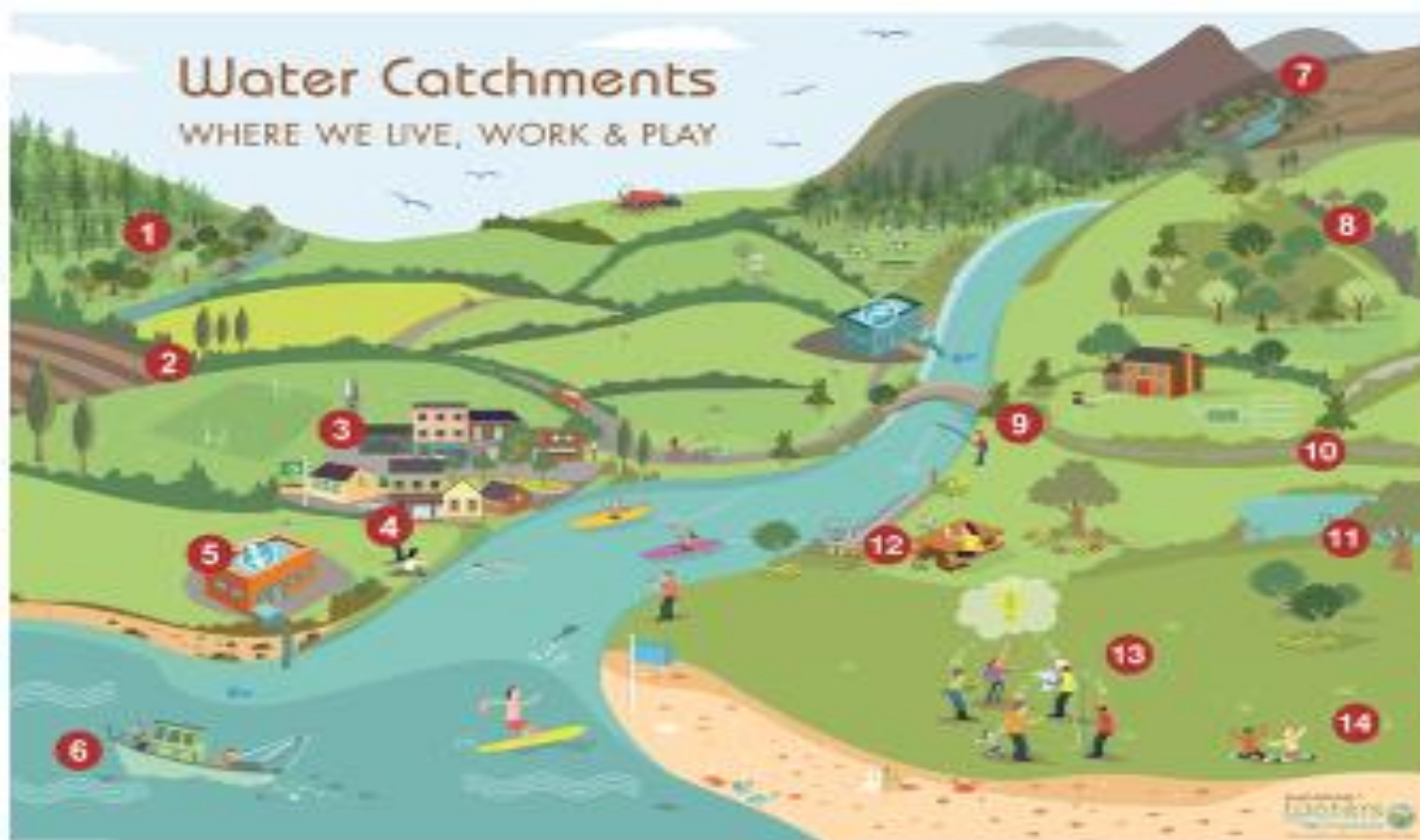
**1** Tree planting and riparian biodiversity work

**2** Silt trapping or "Slow the Flow" Natural Flood Retention Measures such as the addition of large woody debris to drains

**3** Nature Based Solutions (including SuDS)

**4** Innovative techniques for monitoring water quality and biodiversity

**5** Rainwater harvesting on roof of buildings and use of recycled water



**6** Coastal or lake nature safari and stewardship project by local fishermen and recreational users

**7** Fish passage projects

**8** Planting of native wild flowers and vegetation in habitat restoration projects

**9** Citizen science projects led by anglers

## ...Think catchments

Outdoor Classroom **1**  
**4**

Putting a plan together; where it all begins. Feasibility studies and planning involving all of the community in **1**  
**3** the catchment

Removal of invasive species and biosecurity planning **1**  
**2**

Wetlands to promote wildlife and reduce pollution and flooding **1**  
**1**

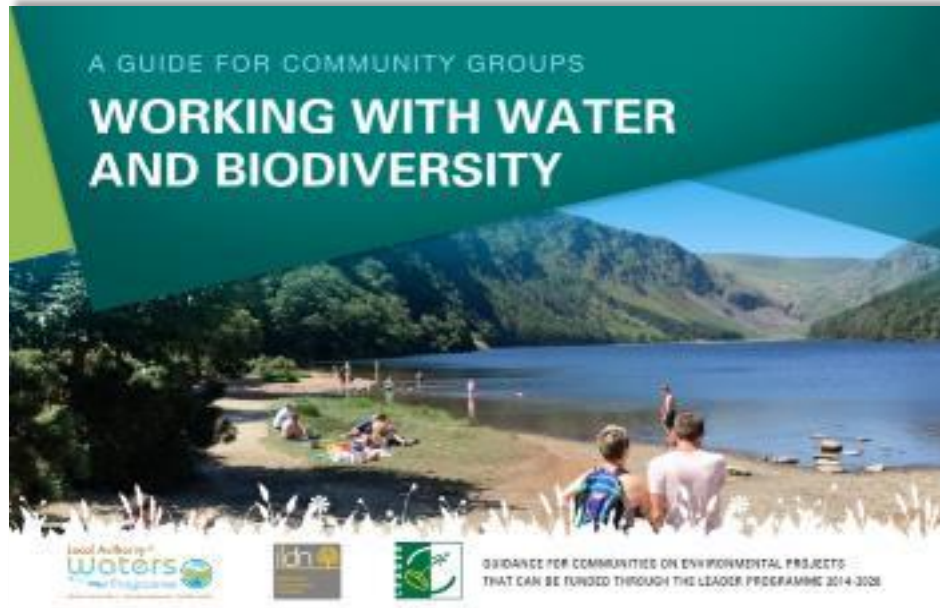
Bespoke breeding boxes for birds and mammals **1**  
**0**





# Potential sources of Support

## LEADER



## LAWPRO



<https://lawaters.ie/>



- [Community Environment Action Fund](#) – Local Agenda 21
- [Community Enhancement Programme](#)
- LA Sports Grants
- Heritage /Conservation Grants
- Community Facilities Remedial Works Scheme
- Arts Grant Scheme
- Festivals and Events Schemes
- Scheme of Capital Grants
- TidyTowns Grant Scheme
- Local Improvement Scheme
- Creative Ireland – Community Grant Scheme
- Municipal District Grants
- Anti litter/ Anti Grafitti Schemes
- Mens’/Community Sheds
- Creative Ireland Community Grant Scheme



# Water quality can be linked to many of the SDG



## SUSTAINABLE DEVELOPMENT GOALS



### Health (physical & mental)

How can all members of our community enjoy the best possible physical and mental health? What about people with special needs, older people, and carers?

### Environment & Sustainability

How do we value our natural environment and built heritage? What can be done to conserve, protect and restore these? How can we interact with the environment in a sustainable way, and hand it on to the next generation in a better state?

### Work, Economy & Resources

How can our communities thrive economically, with good jobs, and supports for enterprise, business, and for people not in work? What resources do we have and are they used effectively without causing harm to social and environmental sustainability?



### Social & Community Development

How can we be an inclusive community where we support each other and ensure no one is left out? What are the important social services and facilities we need to live well from childhood to old age?

### Values, Culture & Meaning

What is needed to ensure that everyone feels, and actually is, included and valued, and that our different values and cultures are respected and nurtured? What are the important parts of our culture that we want to hand on to future generations?

### Participation, Democracy & Good Governance

What is necessary to ensure that our local authority structures support the wellbeing of our community for this and future generations? What is necessary to ensure that we have a voice in the decisions that affect us, and that all voices are being heard?





## Resources

EPA Catchments website [www.catchments.ie](http://www.catchments.ie)

LAWPRO website [www.watersandcommunities.ie](http://www.watersandcommunities.ie)

Stories from Waterside website [www.storiesfromthewaterside.ie](http://www.storiesfromthewaterside.ie)

National Biodiversity Data Centre <https://www.biodiversityireland.ie/>

Older Maps <http://map.geohive.ie/>

Inland Fisheries Ireland <https://www.fisheriesireland.ie/>

National Parks and Wildlife <https://www.npws.ie/maps-and-data>





**Thank You**

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