

# **Shournagh Demonstration Catchment**

Water Quality and Assessment Mairead Shore

**10<sup>th</sup> October 2022** 





#### **Presentation Contents**



- Introduction to Catchments
- The Shournagh Catchment
- Water Quality Measurements
- Water Quality in the Shournagh Catchment
- Next Steps field work



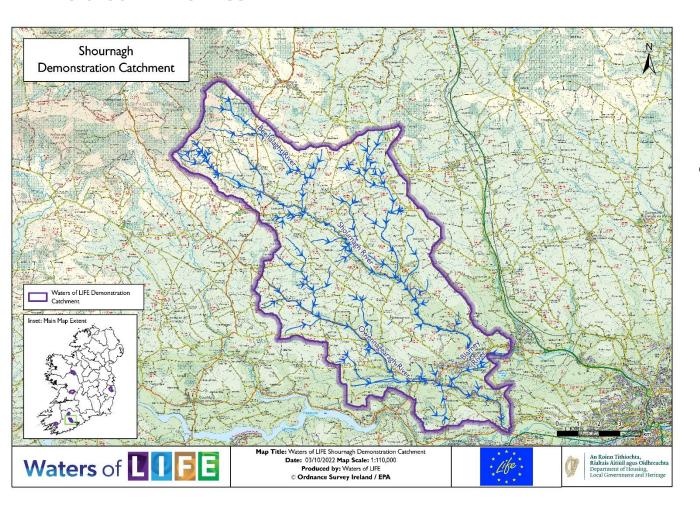
© Google maps street view on 04/04/2022 at Bannow Br on Shournagh\_40





#### **Catchments**





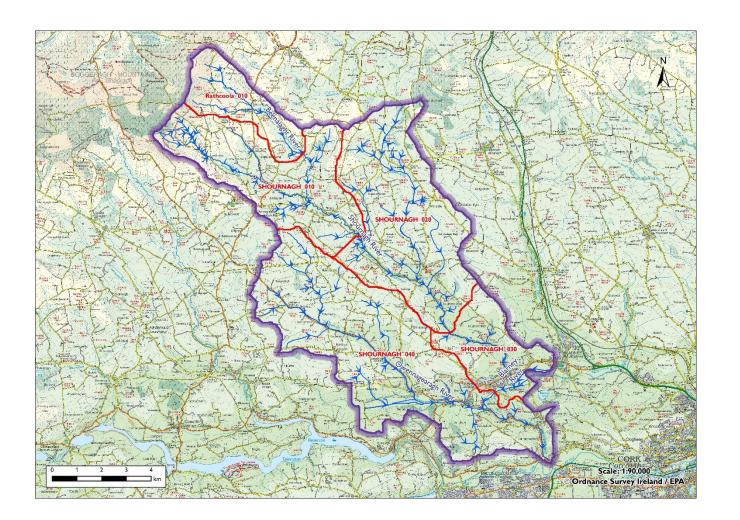
A catchment is a specific area of the landscape that collects rainfall and allows it to flow through rivers, lakes and groundwater to reach the sea.

The health of water within a catchment reflects both the natural attributes and the human activities occurring within that specific area.





## **Shournagh Demonstration Catchment**





- Shournagh sub-catchment is 119km<sup>2</sup>
- It consists of five river waterbodies:
  - Rathcoola\_010
  - Shournagh\_010
  - Shournagh\_020
  - Shournagh\_030
  - Shournagh\_040





## **Desk Study**

- Background
- Receptor information water quality data
- Pressure EPA information
- Pathways how pollutants move from land to the river

#### Shournagh Waters of Life Demonstration Catchment Desk Study Report





Picture taken from Google maps street view on 04/04/2022 at Bappow Br on Shournagh 40.

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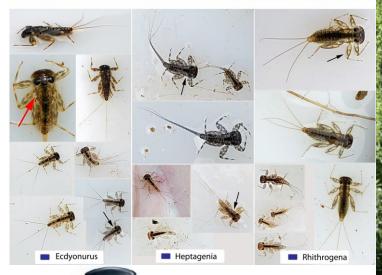
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# **Measuring Water Quality**

#### The Biological Indicators (INV)









#### Aquatic insects can be Indicators of Clean Rivers

Clean River



Mayfly nymphs have elongated bodies, large heads, well developed mouthparts and stout legs and three tails. Paired gills on the abdomen are the most characteristic feature to distinguish mayfly nymphs from other insects.



Stoneflies nymphs are strictly aquatic and occur under stones in every kind of unpolluted stream with an abundance of oxygen. They have six legs with hooked tips, antennae and two tails.



Caddisfly larvae have elongated bodies resembling caterpillars. They have hardened heads, a soft abdomen. Caddisfly larvae can be divided into two groups: cased caddisflies (the portable case-building type) and caseless caddisflies (the type that construct non-portable shelters). Cases come in large variety of shapes and structures. They are made of silk and wide range of materials (such as



Baetis is a genus of Mayfly and the most common and most abundant genus of invertebrate found in riffled streams in Ireland.

sand, bits of leaves and twigs and even the shells of small aquatic snails.



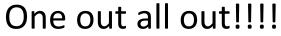
Blackfly larvae have elongated, wormlike bodies, with eyes and legs absent. The bodies are soft, naked, or covered with bristles or scales.



Aquatic snails some shade of brown and rarely with any distinctive markings. Freshwater snails are mostly herbivorous, feeding on water plants or more commonly on the film of algae, which covers most submerged objects.



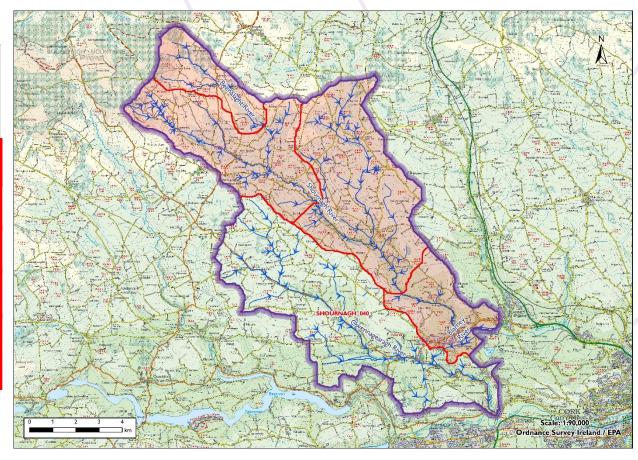
The large red Chironomus or bloodworm are a useful indicator of a stream that is at serious risk.



# Water Quality in Shournagh



WB name	High status obj.	Ecological Status				Significant
		2009	2012	2015	2018	Pressures
Rathcoola_010	No	G	Р	M	G	Agriculture
Shournagh_010	No	Н	M	G	G	
Shournagh_020	Yes	Н	Н	Н	G	Hymo
Shournagh_030	Yes	G	Н	Н	М	UWWTP Run Off
Shournagh_040	Yes	G	н	н	М	Agriculture UWWTP DWWTP







## **Immediate Next Steps**

Waters of

- You will see us in the catchment
- Assessment of the catchment
  - Commence October 2022
  - Identify all issue that may affect water quality
- Plan further detailed assessment
  - Catchment walks



© Shournagh River at Cloghphilip - (David Hegarty/ Paul O'Callaghan - LAWPRO)





# Thank you for listening

