

When we think about what lives in a river, lake or the sea the first thing most of us think of are fish. But, what you might not know is that the underwater world is also home to lots of other types of animals such as worms, snails and different insects. These are called “invertebrates” as they don’t have a back bone. Some invertebrates spend their whole lives in the water, while others, such as mayflies, spend part of their lives in water and then emerge out of the water as flies.

A healthy river will have good biodiversity; lots of different animals living in it. Rivers can become unhealthy and this often causes a reduction in the variety of animals living in it; poor biodiversity. One of the main reasons rivers become unhealthy is pollution. Pollution is anything that is added to the environment that causes harm.

Sometimes pollution can happen quickly such as when chemicals spill into a river. When this happens it can be easy to see the effects of the pollution because fish will die quickly and you can see them dead or dying in the water. That’s why one of the signs that is used to warn people about harmful or polluting substances shows a dead fish.



But sometimes pollution takes much longer to occur such as when fertilizers slowly enter the water over a number of years. This type of pollution can be very difficult to see because it takes longer to affect the river.

You can tell whether a river is healthy (unpolluted) or unhealthy (polluted) by taking a look at what types of invertebrates live there. Some types will only live in very healthy water and so if you find them you will know that the water is unpolluted. Other types will happily live in polluted water and so if you find lots of

them you will know the water is unhealthy. So, we can all check the quality of the water in our rivers by taking a sample of the animals we find living there.

On the other side of this sheet you will find 5 different groups of underwater animals. The difference between each group is that they have different sensitivities to pollution. That means that in Group A the animals are very sensitive to pollution and won’t live in unhealthy water. Animals in Group D are not sensitive to pollution (and may even like it) so they can live in unhealthy water. Count how many you have in each group and fill it into the table. The groups that have the most number will tell you the water quality of your river site.

For all information regarding Inland Fisheries Ireland please log onto

[www.fisheriesireland.ie](http://www.fisheriesireland.ie)

or send an email to

[outreach@fisheriesireland.ie](mailto:outreach@fisheriesireland.ie)

How many of Group A did you find	
How many of Group B did you find	
How many of Group C did you find	
How many of Group D did you find	
How many of Group E did you find	

**Safety notice – never go alone to any waterways and keep safe near water.**

ciste na  
gcuntas díomhaoin  
the dormant  
accounts fund

Invertebrate drawings courtesy of Comenius University in Bratislava. Bubbles graphic designed by starline / Freepik



Iascach Iníre Éireann  
Inland Fisheries Ireland

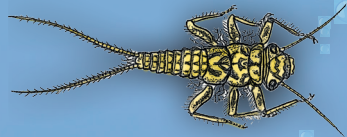


**Go Fishing Programme  
Water Pollution  
Indicator**



### Group A - Most Sensitive

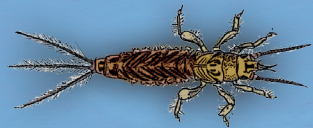
Stonefly  
(*Perla*)



Stonefly  
(*Chloroperla*)



Mayfly  
(*Ephemera*)



Mayfly  
(*Ecdyonurus*)

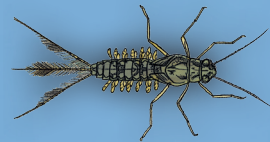


Mayfly  
(*Rhithrogena*)

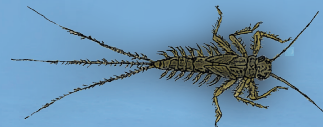


### Group B - Sensitive

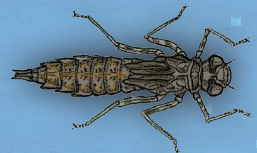
Mayfly  
(*Baetis*)



Mayfly  
(*Paraleptophlebia*)



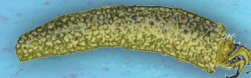
Dragonfly  
(*Anisoptera*)



Cased Caddis  
(*Limnephilus*)



Cased Caddis  
(*Sericostoma*)



### Group C - Less Sensitive

Freshwater  
Shrimp  
(*Gammarus*)



Mayfly  
(*Caenis*)



Uncased Caddis  
(*Hydropsyche*)



Mayfly  
(*Ephemerella*)



Beetle Larva  
(*Limnius*)



### Group D - Tolerant

Hog Louse  
(*Asellus*)



Alderfly  
(*Sialis*)



Beetle  
(*Haliplus*)



Leech  
(*Erpobdella*)



Freshwater  
Pond Snail  
(*Lymnaea*)



### Group E - Most Tolerant

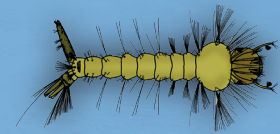
Bloodworm  
(*Chironomus*)



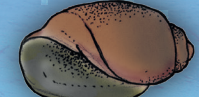
Sludge Worm  
(*Tubifex*)



Gnat (*Culex*)



Bladder Snail  
(*Physa*)



Rat-tailed  
Maggot  
(*Eristalis*)

