

What is Biodiversity?

Biodiversity, or "Biological Diversity", refers to the sum total interdependent web of life, from bacteria, microscopic algae, fungi, through to plants, trees, amphibians, fish, birds and mammals – and people!!! If we achieve "best-practice" we can greatly assist our community's capacity for Biodiversity.

HOME TRUTHS

The StreamScapes method views our toilets, sinks, baths and showers as Tributaries to our Rivers! What we put in them has a huge capacity to impact on local Water Quality and Biodiversity. Outside our homes in our gardens and yards we have an equal ability to create or destroy natural habitats. These tips will help restore water quality & biodiversity:

Household Best Practice

- Avoid any Cleaning Products with Phosphates or Bleach – they spoil the good work of your sewage treatment plant / septic tank, leading to aquatic pollution – use "eco-friendly" products!
- Use the minimum of any cleaning product – enough is enough!
- Do not use in-sink food macerators (they put added strain on sewage treatment) – compost your vegetable wastes and use as fertiliser in your garden!
- Any common household product labelled Hazard or Poison or Irritant must be treated as toxic waste when disposing of – follow Local Authority guidelines and do not put in drains!!!
- Keep your garden low-maintenance and low water-dependent, but covered in established sod (and not hard-surfaced) to avoid contributing to peak urban rainfall run-off. Use native plants and trees to establish suitable local habitats.
- Avoid herbicides, pesticides, and application of fertilisers – find natural ways to garden.
- Remember that disturbed ground contributes silt to local water courses – silts are a major enemy of aquatic biodiversity.
- Finally, control your use of water at home and in the garden...treat it as the precious substance that it is!

Don't let Nature go down the Drain!

The StreamScapes Loobagh Project is produced by Coomhola Salmon Trust for Limerick City & County Council.

For further information contact:
Coomhola Salmon Trust, Ltd.
streamscapes@eircom.net
www.streamscapes.ie

Cover photograph of River Loobagh and Kilmallock Abbey (taken by Andrew Holmes)
Thanks to: Anne Goggin, Sinead McDonnell, and all StreamScapes Loobagh Participants
design: idesigns, Schull, print: Ryson Print, Dublin

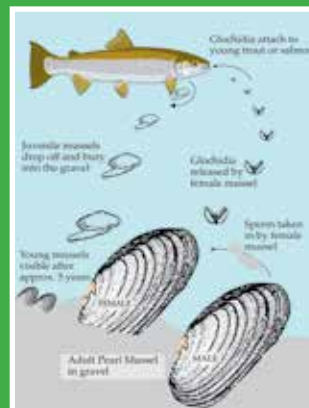
Instream Insects

Did you know that a survey or census of the bugs that live in your local river reveal the environmental quality of the water? Stone flies, mayflies, and cased caddis fly larvae are amongst the most pollution-sensitive aquatic bugs...if you find them in your river it is a good sign! And another good example of Biodiversity in action.



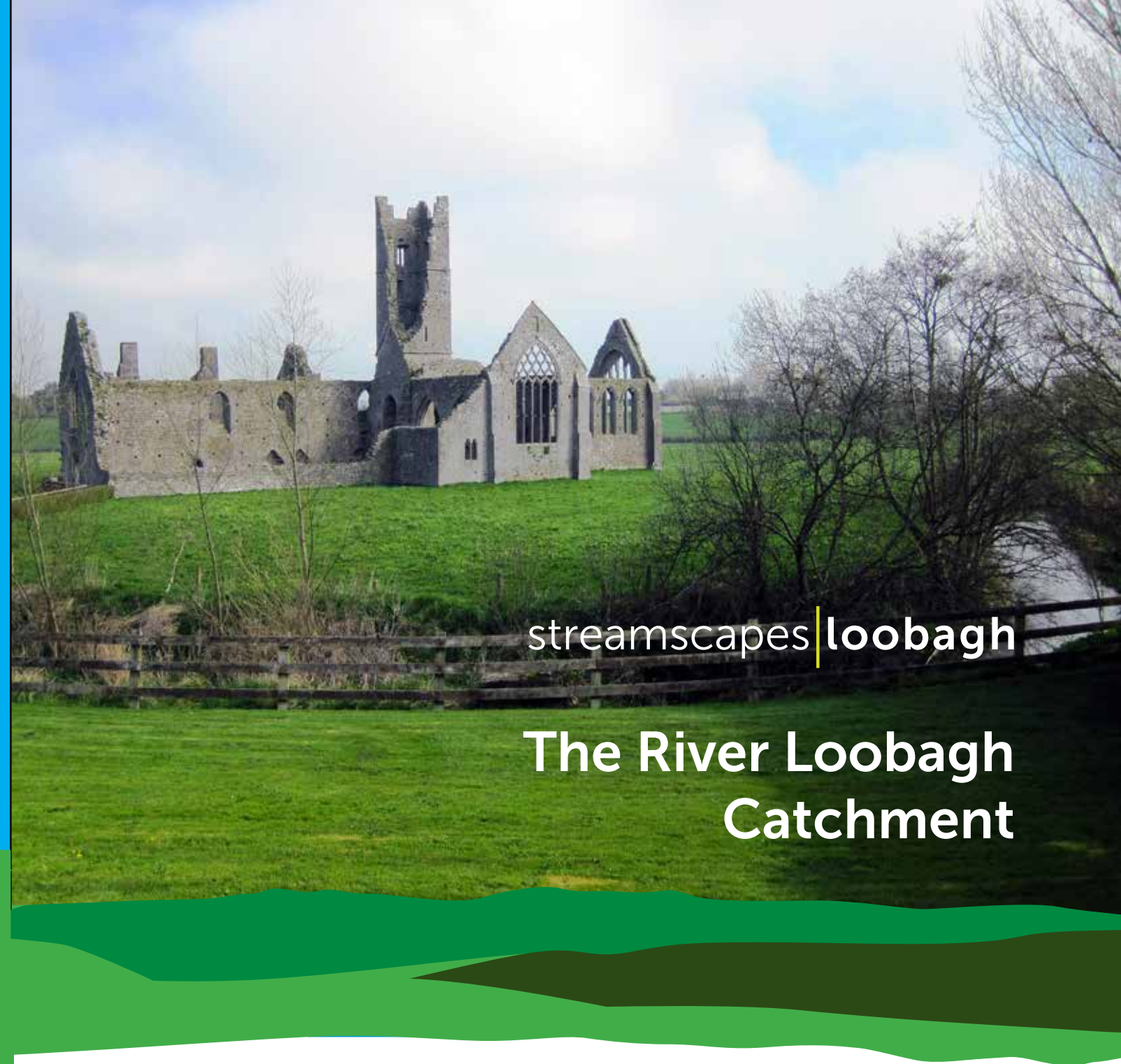
Freshwater Mussels

The study of Biodiversity is full of wondrous stories... the Freshwater Pearl Mussel (FPM), which used to live in most of Ireland's rivers but is now considered extremely threatened, is the longest lived species, living over 100 years. The microscopic juveniles spend a winter attached to a trout's gill... this is how they migrate. They are very sensitive to nutrient & silt pollution.



Salmon

The status of Salmon in local rivers is a great indicator of local environmental quality. When they are present, they are proof that multiple terrestrial, instream, and marine habitats are in balance. This is because salmon depend upon an entire suite of other, similarly sensitive organisms to thrive...Biodiversity!



streamscapes|loobagh

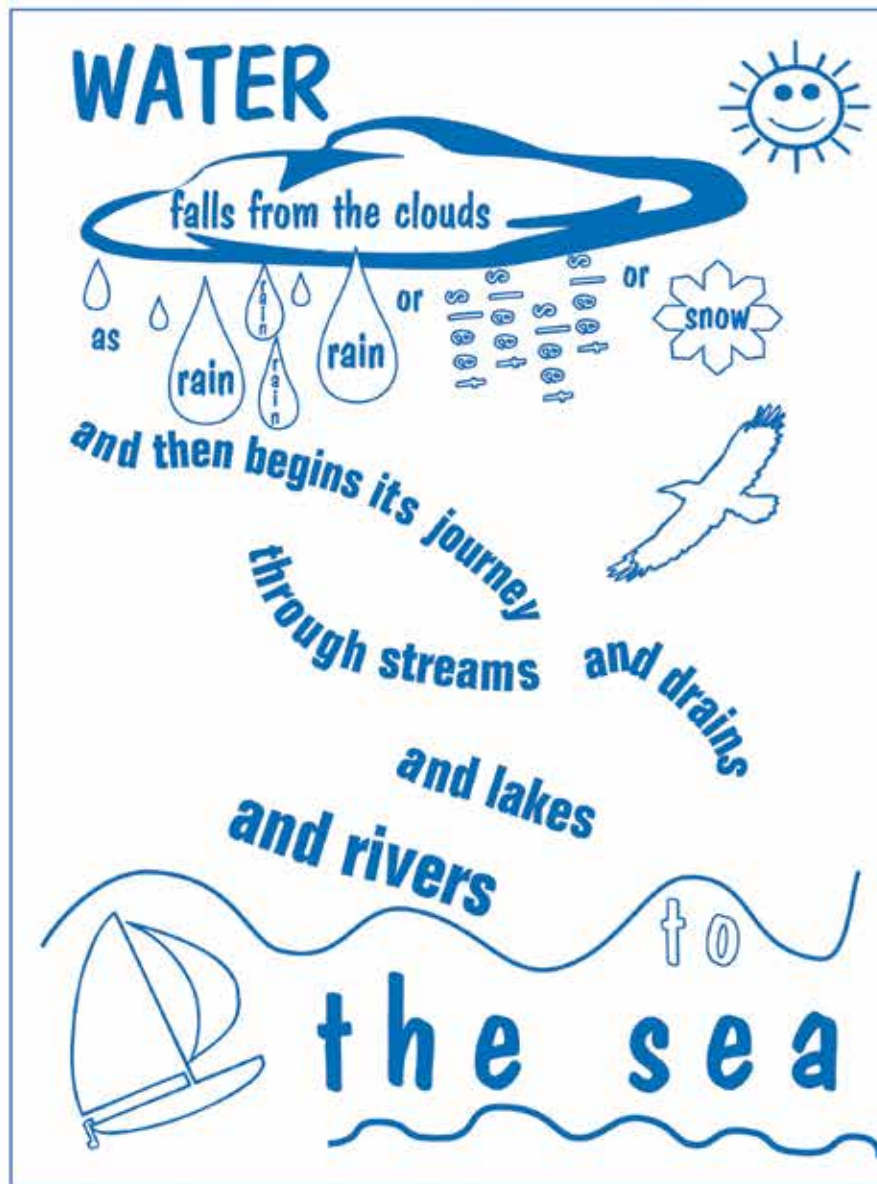
The River Loobagh Catchment

www.streamscapes.ie/loobagh

streamscapes
the waters & the wilds

Welcome to the Water-Cycle!

The River Loobagh's Journey from Source to Sea



But
that's only half
the story - how
does it get up
there in the
first place?

(clue)

And
what about
people????

The water that's on the earth
today is exactly the same
water that was always here
- no more and no less!

Water begins its life perfectly clean
but on its way it collects things

All these things need water -



(well ok, maybe not
ginger bread people) (or dinosaurs)
(but everything
else)



Most animals
need to drink every day
(adult humans 2-3 litres)
and die within a few days
if they don't.

Some animals
don't usually
drink but get
the water
they need
in their food

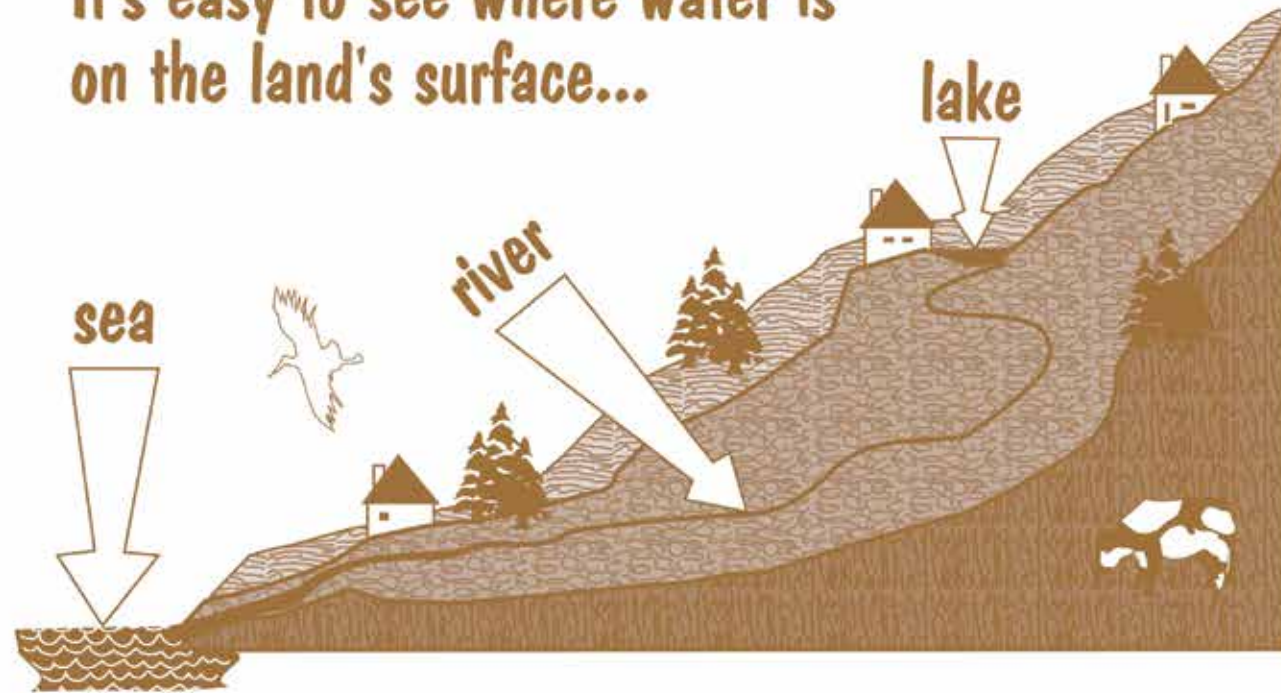


In the summer a big tree
needs about 200 buckets-full
of water EVERY DAY!

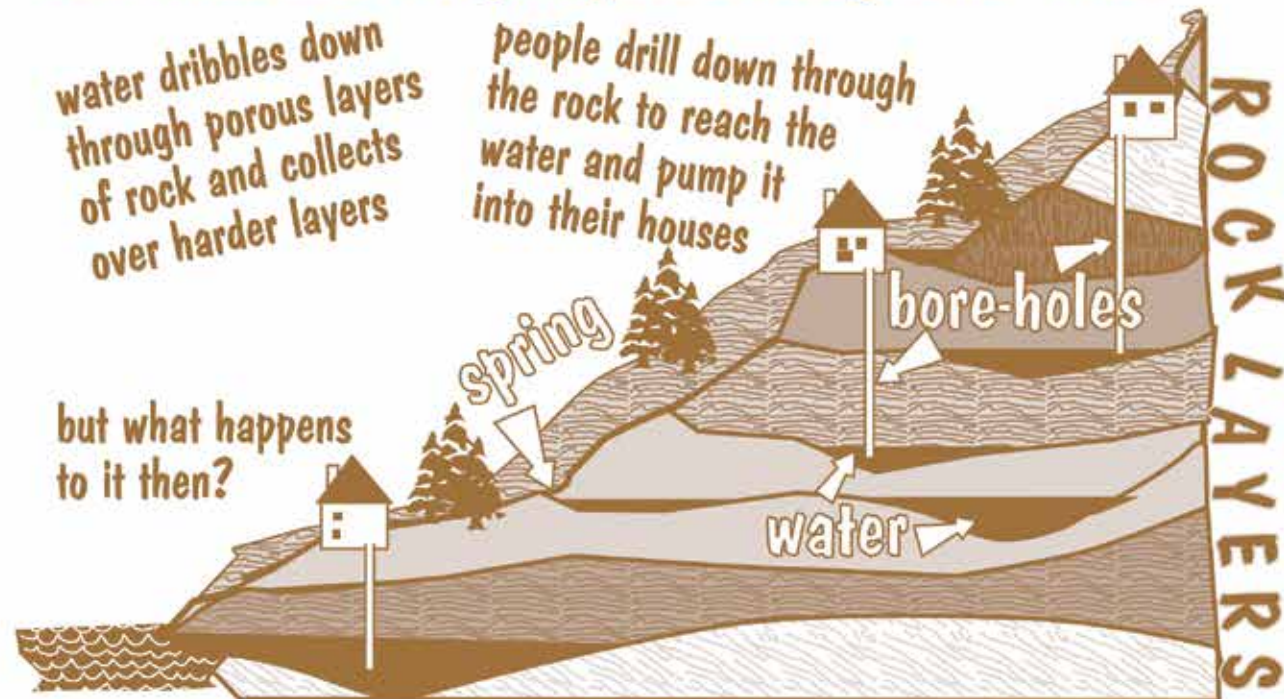
WATER OUT through tiny holes in the leaves.

WATER IN
through the roots

It's easy to see where water is on the land's surface...



But there's a lot going on underground too...

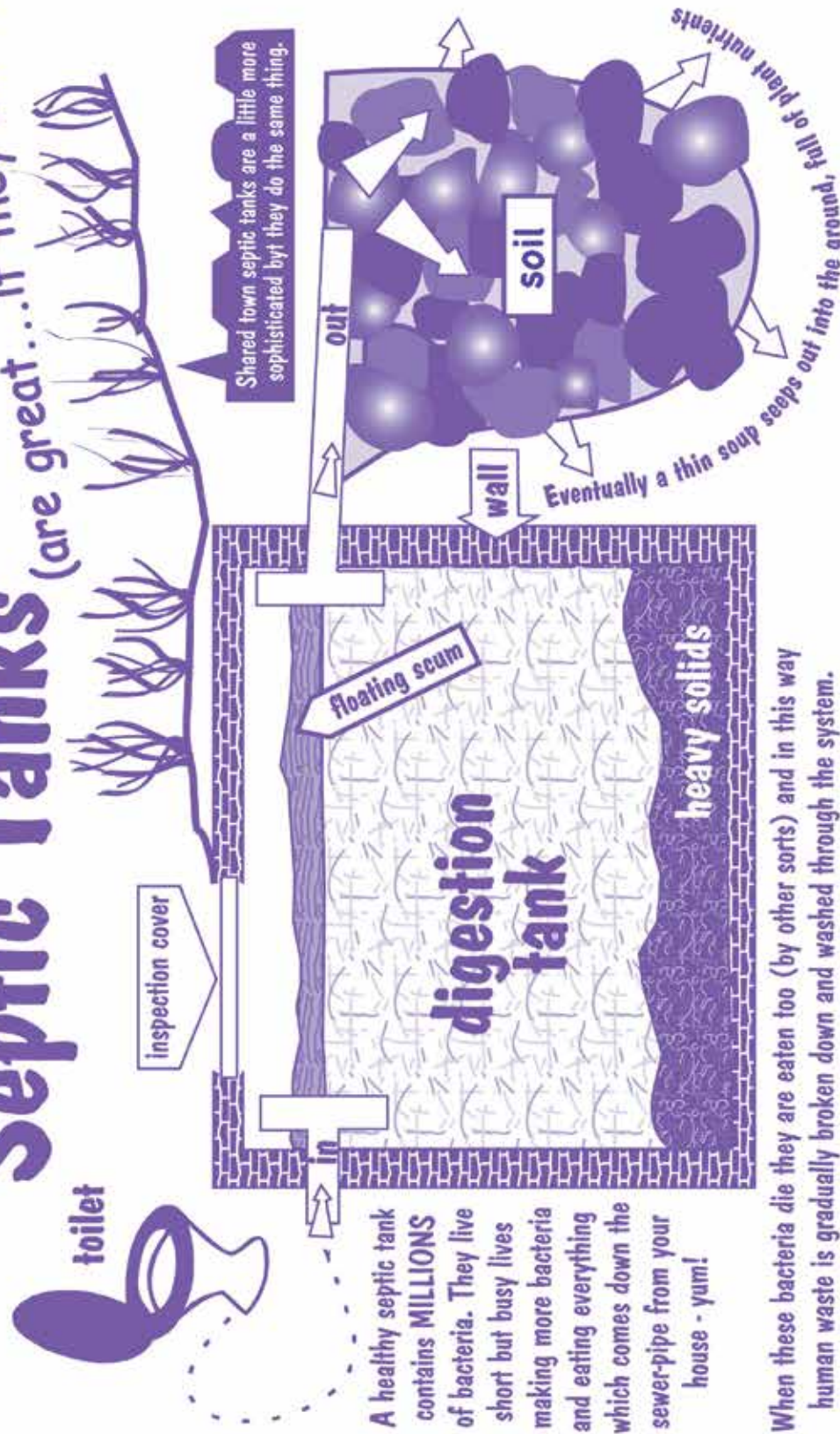


Let's have a look inside your house

water is used for all sorts of things in your home

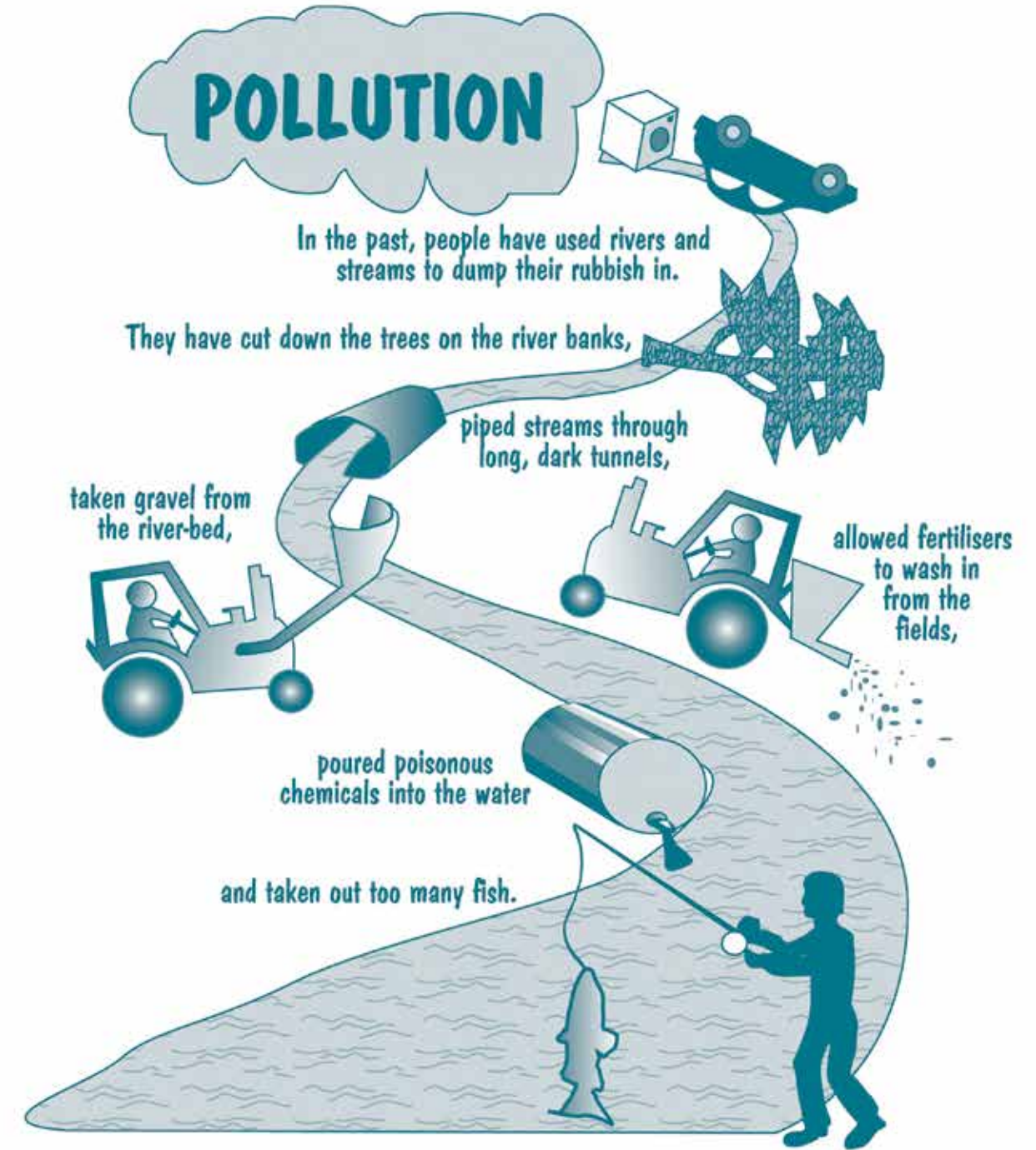


Septic Tanks (are great...if they work!)



BUT - the bacteria in your septic tank are sensitive little things and are killed by Bleaches, Toilet cleaners, Disinfectants etc.

POLLUTION



Not surprisingly, this has left lots of miserable smelly horrible-looking rivers!

BUT these days

everybody realises how important water is to all of us. If we respect our water systems then we can all have a happy healthy life in an interesting and exciting environment.

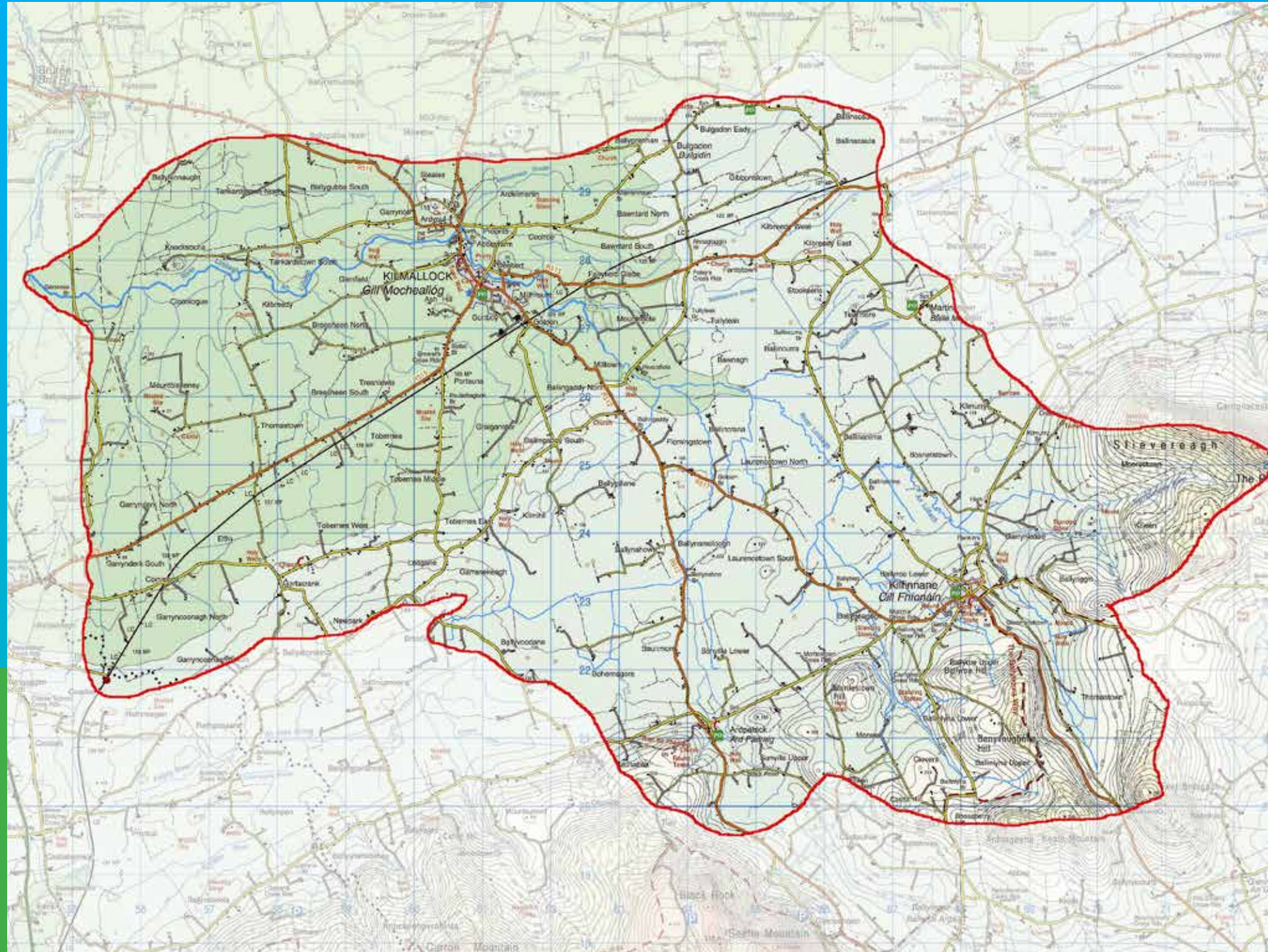
The River Loobagh Catchment

What is a Catchment?

When you think of it, we all live in valleys, no matter how steep or broad, and all of our valleys have streams and rivers. From the hills above us to the sea below, these water courses make their way across our landscape and define the **Catchment** in which we live. Here a mountain stream runs swiftly and tumbles over waterfalls, there a wide river flows easily past green fields, through our communities and down to the sea.

In that river, along its banks and into the surrounding landscapes, may be found a wealth of **biodiversity**; fish, birds, insects, animals, trees, wild flowers, and people, but only if our waters run pure and clean. For our **Catchment** also contains our farms and factories, towns and toilets. We need all of these, but we must also come to understand how, as we work and play, or cook, and clean, and garden at home, we have a huge impact on water quality around us.

A Catchment is a Community related by Water!



The River Loobagh Catchment sustains important and varied agricultural produce, vibrant communities, and a wealth of biodiversity.

Clean Wild Waters
+ **Wetland protection**
+ **Habitat conservation =**

- 
- Human Health (strong link between water & health!)
 - Rich Biodiversity; birds, fish, mammals, amphibians & reptiles, trees, plants, invertebrates...
 - Lower water treatment costs
 - Higher value farm produce
 - Amenity & aesthetics
 - Commercial Fishing
 - Angling & other tourism
 - Carbon dynamics
 - Climate amelioration
 - Culture & Heritage
 - Education & Learning
 - Grassland habitats
 - Erosion control
 - Flood Risk alleviation



Salmon

ALL LIVING CREATURES NEED

oxygen

good food

clean water

shelter

(and a lot need love and affection too!)

use their gills to take the oxygen they need from the water

but it has to be in the water first!

eat worms and insects and smaller fish

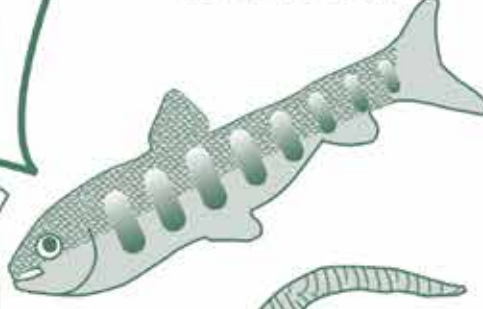
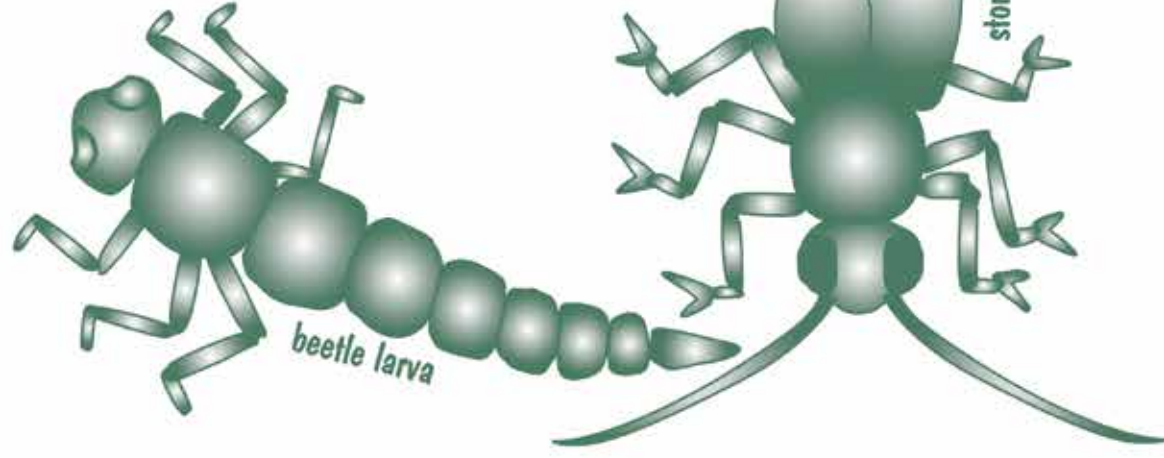
but what do these creatures eat?

need protection from the sun and from predators

overhanging banks and vegetation, fallen trees

die as soon as the water they're in becomes polluted

silage effluent, rubbish, paint, oil, etc...



worm

Healthy STREAMS and RIVERS have a huge range of plants and animals living in and around them.

They need deep sheltered pools for fish to hide in, but they also need shallow fast-flowing areas where air can mix with water.

Overhanging plants provide shelter and food for insects and birds.

The stream-bed will be scattered with stones of different sizes, as well as dead leaves - food for micro-organisms and bigger animals.

Algae and mosses grow on the stones - food for snails and insects.

Large destructive animals like cows will be kept away. It's ok to go fishing in a healthy river - as long as plenty of fish are left to breed.



Our Wildlife

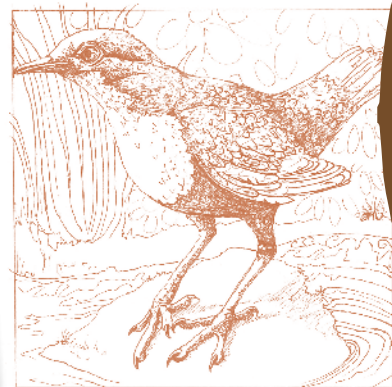
If we can achieve high-quality waters in our Catchment, lots of benefits follow. Following are drawings of a few examples of the variety of species which we might see in our River and along its banks.

How many species can you find?

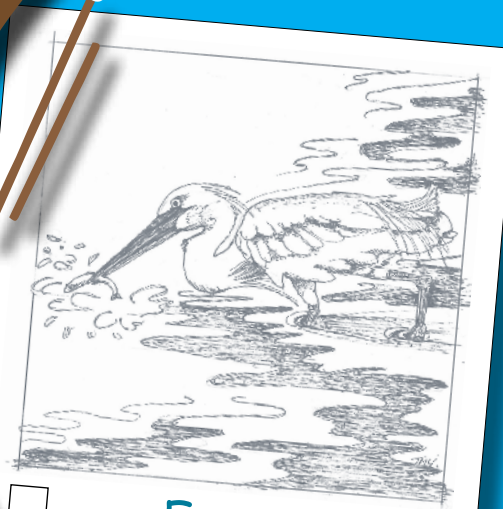
Tick the boxes of any of the species below that you are lucky to see...
tell your friends and family!



☐ Cormorant



☐ Dipper



☐ Egret



☐ Humans



☐ Otter



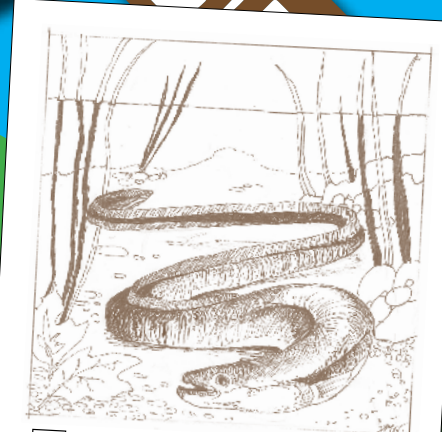
☐ Heron



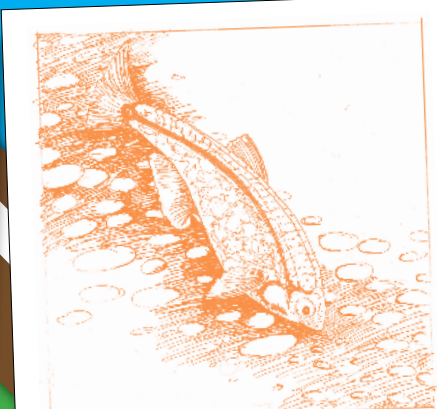
☐ Kingfisher



☐ Mallard



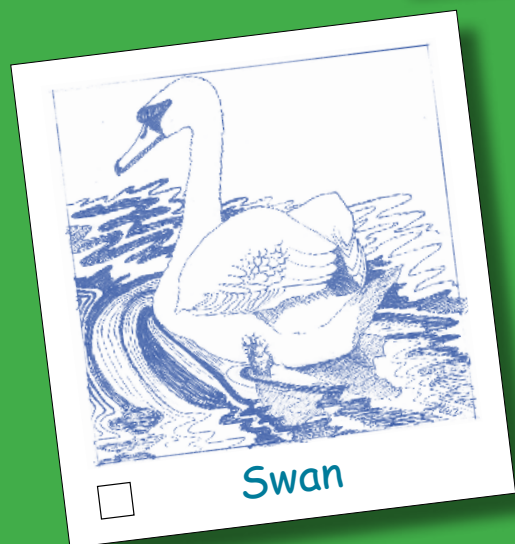
☐ Eel



☐ Minnow



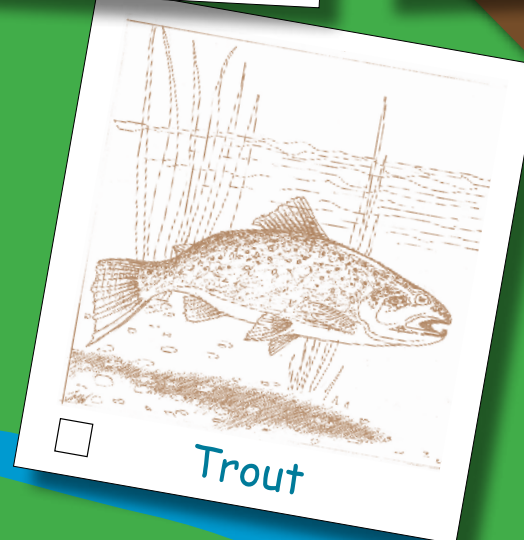
☐ Salmon



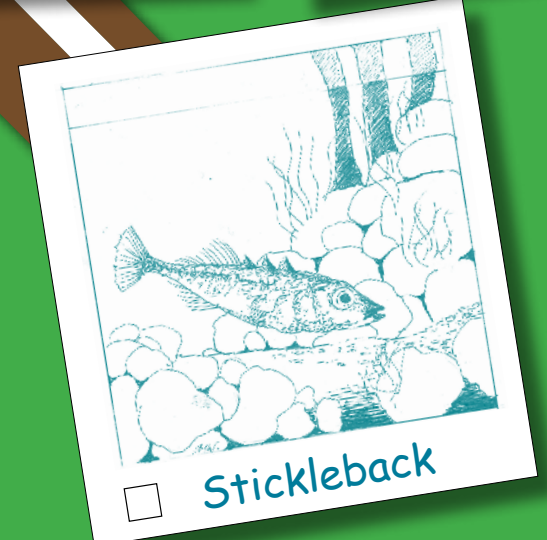
☐ Swan



☐ Bat



☐ Trout



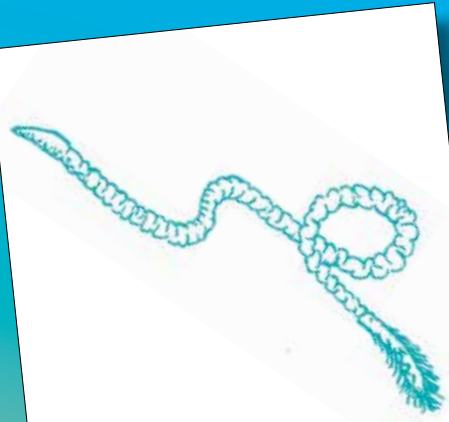
☐ Stickleback

Our Bugs

The Aquatic Insects that we find in our local stream can tell us what the water quality is on what is known as the 'Q Scale', so:

Q1 = Very Poor Q2 = Poor Q3 = Moderate Q4 = Good Q5 = Very Good

Q1 = Worms Q2 = Whirligig Beetle Q3 = Water Boatman/Caddis Q4 = Mayfly Q5 = Stonefly



Q1 Worm



Q2 Whirligig Beetle



Q3 Water Boatman



Q3 Water Boatman



Q3 Cased Caddis Fly



Q4 May Fly



Q4 May Fly



Q5 Stone Fly



Q5 Stone Fly

River Loobagh Catchment: Habitats & Species

Loobagh, from the Irish Lúbach, means 'twisted' or 'loopy', and refers to this beautiful river's extraordinary meanders and curves through the southern County Limerick landscape. The river's source is in the townland of Thomastown, in a picturesque valley between Keale Mountain and Fear Bréagach. From here the Loobagh stream flows north through rich grassland with field boundaries composed primarily of tree lines and native hedgerows.

After flowing north for some 2 kilometres, the Loobagh passes to the west of Kilfinnane, at 150m altitude the highest town in County Limerick. Here the stream becomes a river as it enters a meandering lowland phase, twisting its way through a mixture of rich pastures and wet grasslands. These meanders provide high quality riffles and pools for salmon and trout. The clear banks give good casting opportunities for a relaxing day of fishing. The limestone bedrock over which the river passes, increases the richness of plant growth which in turn provides cover and feeding for fish.

The river continues to broaden, widen and deepen as the northward flow changes to north-western. Downstream of Ballinanima Bridge, the twisting river gains more bankside trees of willow and ash. The domination of green grasslands begins to take on a patchwork of occasional arable lands with crops of barley and wheat appearing on the riverbanks.

Another sign of the rich soils in this area are the lowland plantations of deciduous woodlands. Kilmallock, founded on the banks of the Loobagh, has its origins in the 6th century, and some of the medieval walls still parallel the river through the northern part of the town, and the river meanders around the 13th century Kilmallock Abbey. Today, Kilmallock is a market town with a rich heritage, and is the main urban settlement on the river.

On leaving Kilmallock, the River Loobagh begins its final westward flow. This section of the river is arguably the best salmon fishing as it is wider and deeper, with more dappled light from intermittent trees and treelines. The surrounding habitats are mostly lowland grass pastures used for grazing livestock and silage production. Farmyards and houses are sparsely distributed throughout this rich agricultural landscape. Other occasional habitats along this final stretch include small patches of broadleaf forestry, tillage fields and some wet grasslands. This lowland river has covered only a short but stunning stretch of 22 kilometres, sustaining agriculture, forestry, and a vibrant Catchment Community, before its confluence with the River Maigue (An Mháigh, "river of the plain").

Flowing north, the Maigue is joined by a further multitude of rivers and streams as it wends its way through Bruree, Croom and Adare towns on its way to the Shannon estuary, and this is the channel by which the salmon, sea trout, eels and sea lamprey of the River Loobagh access the Atlantic for the marine part of their life-cycles.



Printed on Cocoon Offset Fibre sourcing and recycling 100% post-consumer fibres, FSC® Recycled certified and PCF (Process Chlorine Free). Chemicals: no substances classified as carcinogenic, mutagenic, or repro-toxic (CMR) are used as raw materials. Printed using vegetable oil-based inks and water based varnishes and sealants. Chemicals and solvents used in the processes are recycled or safely disposed of outside the public drainage system.