

rivers, lakes and streams

Navigable Waterways

People have traditionally settled where there is water. Rivers provided food and drink, energy for industry and transportation for trade. Most, if not all of the towns in West Cork have been built on one of the numerous rivers in the region.

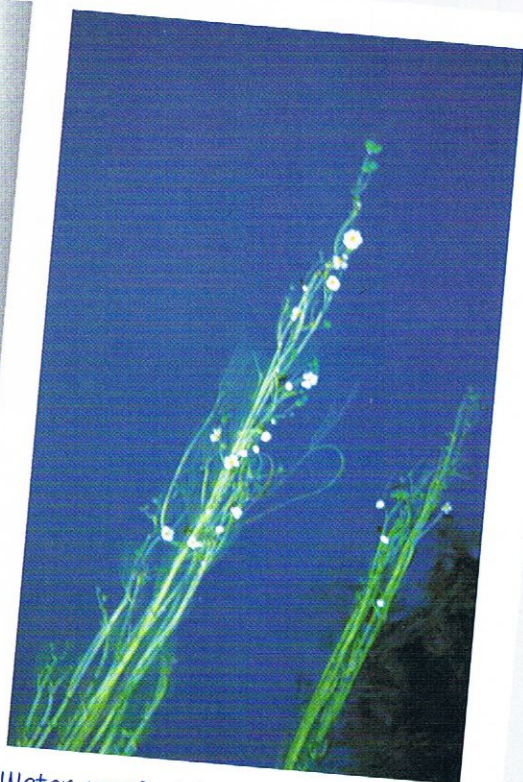


Freshwater Ecology

Wherever there is water, there is animal and plant life. Single celled algae and the water flea, or Daphnia, will appear quite quickly in a water barrel under a down-pipe. At the other end of the scale, the salmon, breeds only where clean flowing waters prevail. The salmon, giver of knowledge to Fionn McCumhaill, prized dish throughout the ages, is a sign of a pure environment.

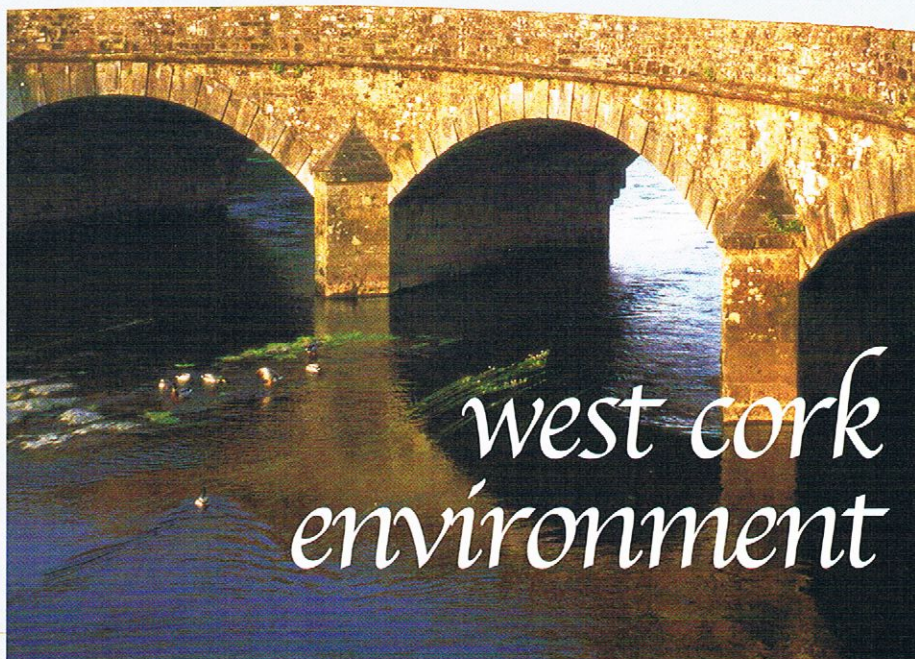
Angling in West Cork

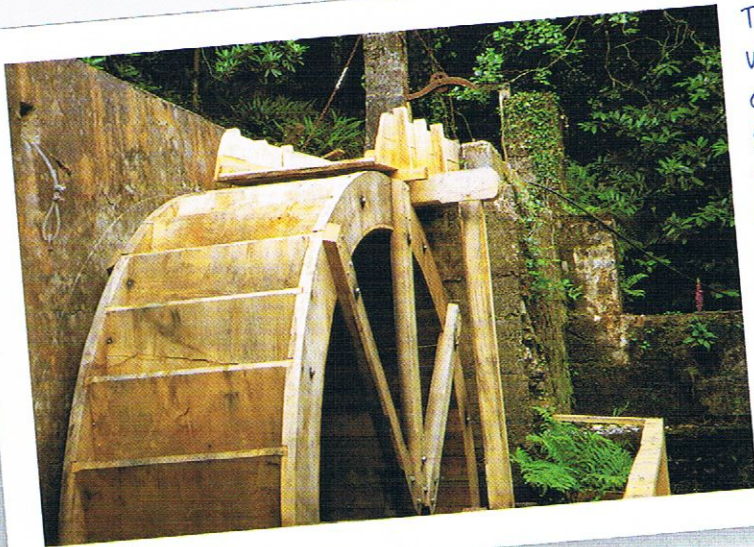
The South Western Regional Fisheries Board manages many rivers and lakes in West Cork, such as Garranes and Driminidy lakes near Drimoleague and Lough Bofinne near Bantry. The rivers of West Cork are rich in fish life, from the Adrigole river in Beara, to the Owenboy river, which enters the sea between Carrigaline and Crosshaven.



Water crowfoot in the Bandon River.

The SWRFB have maps and other information relating to angling for the amateur and pro alike.





This waterwheel will provide the Coomhola Salmon Trust with electricity in the future.

The River Catchment

The river channel itself is only a small part of the river valley. The term "catchment" refers to the whole area that feeds a river, from the top of the surrounding hills down to the sea. There is an increasing awareness that the health of a river will depend on all activities that effect water quality within the river catchment. The Ilen and Bandon rivers have the largest catchments in the region.

In an effort to keep our rivers healthy, Teagasc are presently proposing lower phosphate fertiliser usage. When carried out in conjunction with nutrient management planning, this reduces the amount of nutrients running off into the streams and saves money on fertiliser costs, while not reducing crop yields. If sufficient borders are left around fields and next to streams and drains, natural plant growth can filter nutrients from run-off water. These buffer zones have been found to be very useful in protecting waterways from nutrients, silt and chemicals that may wash from agricultural land in wet weather.

Profile

Outside Bantry the Coomhola Salmon Trust works to keep the waters of West Cork clean and to keep salmon in our streams.

They provide educational and research services for salmon and

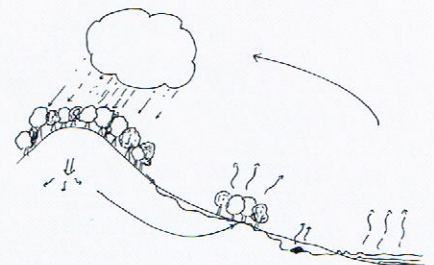


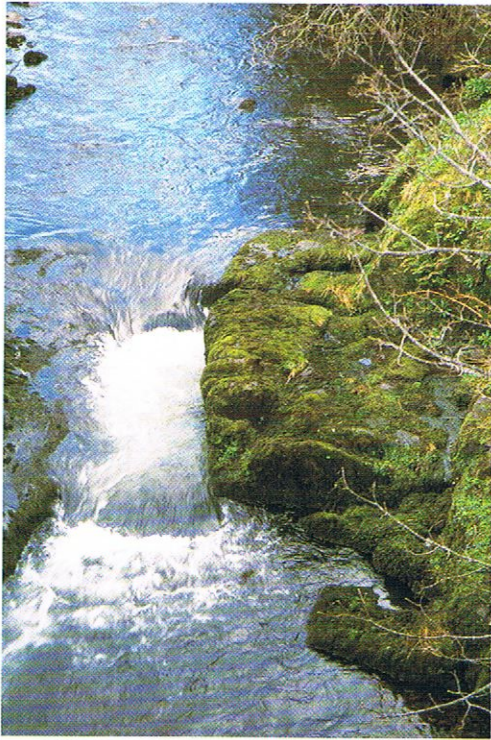
freshwater enhancement projects and are producers of the Stream Scapes Catchment Education Project. As part of this project they publish books about the SS programme, available from them in Bantry. In a Trans-European project, they sent West Cork salmon eggs to the Rhine for restocking there. The Coomhola Salmon Trust, unique in Europe, is the leading independent voice calling for catchment education to accompany emerging catchment management schemes.



The Cycle of Water

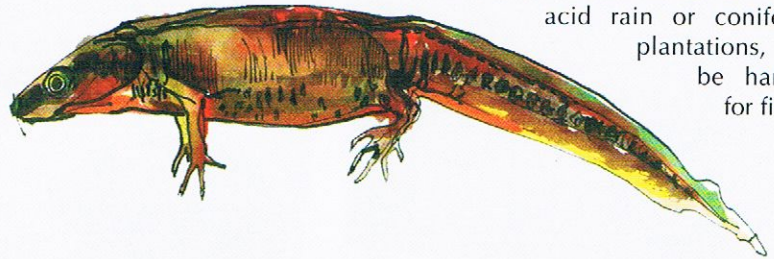
Water is forever moving. Even the great glaciers that once covered this part of the world moved slowly and steadily, carving out the familiar landscapes of Ireland. Surface water flows above ground and includes streams, ponds, lakes and rivers. Ground water is below ground level, be it in underground streams or in aquifers: large reservoirs. The diagram below shows the cycle of water in the environment.





Small mountain stream in Beara, swift, pure and high in oxygen.

water. Here insect bodies are streamlined and adapted to gripping tightly to the stones. Medium quality water has less of a variety of species, but the population of individual species may be greater. These insects tolerate lower oxygen levels in the water. Very poor water quality encourages only a few species, but these may be present in very high numbers. One species that likes polluted environments is a small worm (<3mm), called a nematode. Up to 20,000,000 nematodes have been counted in 1m² in some marine muds and sands! By checking the insect life in a river, we can check the quality of the water.



Water Analysis and Quality

In addition to biological monitoring, there are other methods for measuring water quality. Some common parameters are biochemical oxygen demand (BOD), suspended solids, temperature and pH. BOD is a measure of the amount of oxygen used up by microorganisms as they feed on organic nutrients in the water. High levels in rivers indicate pollution, usually from sewage, industry or even from farm yard washings. Suspended solids can cloud water, or settle out to clog spawning beds. Temperature affects the amount of oxygen that can dissolve in water. Cold water is best for our wildlife. pH is a measure of how acid or alkaline the water is. Acidic water caused by acid rain or coniferous plantations, can be harmful for fish.

Flood peaks and summer low flows are another cycle of water. In a healthy river system the presence of wetlands will even out the two extremes and allow a balanced flow year round (see section four).

The Environmental Protection Agency produces a map of Ireland and a book showing the water quality of our rivers, as determined using biological monitoring. West Cork has predominantly clean rivers and streams, but a few areas need extra care and protection.

Measures to Protect Water

The use of sewage treatment systems is now becoming more common for towns and villages, as well as for houses and group schemes. Agricultural advisors have numerous leaflets on the

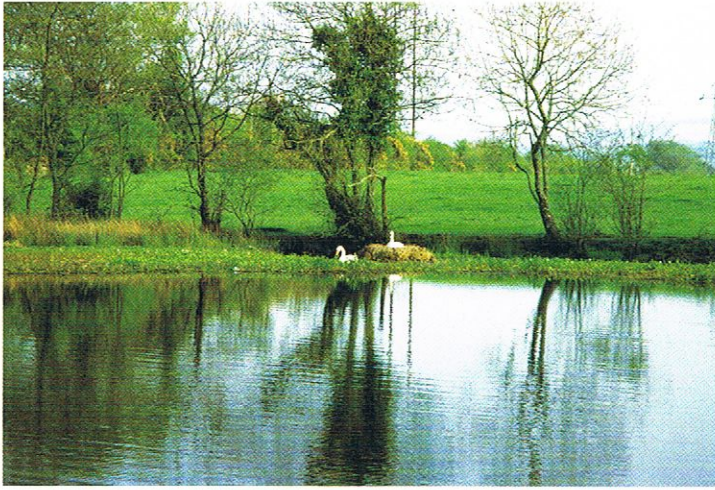


Vital Signs

The species of insects that live in rivers and streams vary depending on the purity of the water. Measuring this variety to assess river health is called Biological Monitoring. Pristine water has a wide variety of species in an even balance of predators and prey. These require high levels of oxygen and low nutrient levels. They are often found at riffle areas in a river; the swiftest flowing



Owenabue river at Carrigaline.



Swans nesting
in a bed of Bog
Bean,
Dunmanway
Lake.



control of silage effluent, slurry management, and protection of surface and ground water from nitrates and phosphates.

Action

The range of environmentally friendly cleaning products on the market shows the growing awareness for our water ways and their protection. These cleaners can be bought in the nearest health food shop, or ask in your local shop.

Action - Garden Pond

You can attract a host of wetland wildlife to your garden with even a small pond. A pond will attract birds to wash and drink, as well as a



selection of dragonflies. Planted with wetland or pond plants such as water lilies and the pink flowering rush, you can brighten up the corner of any garden. Your local garden centre will have liners and information.

Sewage Treatment

When sewage or slurry gets into waterways untreated, it has a characteristic effect on the water and on the life within it. Micro-organisms take rapid advantage of the sudden influx of food and grow rapidly. As they grow, they use much of the available oxygen in the water. Because of this, fish and insects can die in whole stretches of a river, a fish kill. On a lesser

scale, the added nutrients encourage the vigorous growth of a few tolerant species and the general biodiversity of the water-body is reduced. A water body in which there are excessive nutrients is called eutrophic. By treating sewage before discharging into the water, this effect is reduced.

