

Water quality issues in relation to angling in the Upper Neagh Bann catchment area.

An emphasis on the problems of eutrophication, invasive species and pollution.

Armagh fisheries limited incorporating

Armagh and district angling club.

- Our club has responsibility for the active management of three game trout fisheries and also have fishing rights on three more lakes and some stretches of the river Blackwater and the river Oona.
- Armagh club also own and manage our own hatchery for the breeding and rearing of rainbow trout and our indigenous brown trout for stocking out into our own club waters.

Water Quality.

- Water quality is the physical, chemical and biological characteristics of water. It is a measure of the condition of water relative to the requirements of one or more biotic species and/or to human need or purpose.

Eutrophication.

The process by which a body of water acquires a high concentration of nutrients especially phosphates and nitrates. These typically promote the growth of algae. As the algae die and decompose high levels of organic matter and the decomposing organisms deplete the water of available oxygen, causing the death of other organisms such as fish. Eutrophication is a natural slow aging process for a water body, but human activity greatly speeds up this process.

Invasive Species.

Invasive species can be defined as those species that are outside of their natural distribution area and secondly threaten the biological diversity of the place where they have become established.

Pollution.

Pollution is the introduction of contaminants into a natural environment that causes instability, disorder, harm or discomfort to the physical system or living organisms.

Pollutants the elements of pollution can be either foreign substances or naturally occurring contaminants.

Problems facing angling in the Upper Neagh Bann Catchment area.

- Increasingly angling lakes in particular are suffering as a result of poor water quality resulting in huge blooms of algae which deoxygenate the water especially in the warmer summer months.
- This results in fish deaths, loss of revenue, destruction of the environment and undermines work done by angling clubs in relation to habitat improvement and conservation.
- Invasive species causing huge problems and challenges to cash strapped clubs.
- Pollution incidents which have the capacity to destroy angling waters and wipe out hatcheries.

How does this impact on Armagh fisheries Ltd/Armagh angling club hatchery?

- We are having to spend a lot more money every year to increase the oxygen levels in the water in the hatchery by using aerators in every tank.
- The use of barley straw to reduce the algal blooms in the lakes is both expensive and is only a short term fix.
- The death of fish on our club water as a result of algal blooms and low oxygen levels.
- Continued decrease in our clubs water quality since 1995.

Implications of invasive species.

- The appearance of curly leafed Canadian pond weed has been a major problem due to the way it spreads and reduces fishable water.
- Loss of revenue, reduction in membership.
- Loss of indigenous species.
- Massive loss of oxygen in the autumn due to the weed decomposing this feeds down to our hatchery which has caused major problems and still has the potential to endanger our hatchery.
- Financial cost of dealing with this problem.

Pollution and its harmful consequences.

- Total destruction of habitat including natural flora and fauna which includes insect life on which trout are dependent upon.
- Loss of revenue and the huge cost of attempting to reverse the damage caused.
- Pollution incident on Lowry's lake in 2008 had the potential to impact devastatingly on both our club hatchery and the lake.

The major causes of eutrophication.

- Phosphates entering the water on a continuum.
- Nitrates entering the water from surrounding agricultural lands.
Combined with,
- Warm weather conditions experienced in late spring and summer.

Possible causes of invasive species establishing themselves in new areas.

- Deliberate introduction.
- Accidental introduction.
- Natural translocation i.e., from birds and animals.

Causes of pollution in angling waters.

- Chemical spills.
- Deliberate discharge of offensive pollutants i.e., Diesel oil, sewage, farm effluent, industrial waste.
- Fly tipping of waste.
- Fallen animals.
- Run off from building and road work projects causing siltation of spawning beds in rivers.

Possible solutions to the current water quality problems.

- River Basin Management plans would take a more active role in working collaboratively and proactively with angling clubs who are experiencing problems with poor water quality.
- Financial aid for water users i.e. angling clubs to tackle water quality issues.
- Regular inspection of domestic septic tank functionality/discharges.

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- Widespread surveying of agricultural land to assess the need for further application of chemical fertilizers or manure.
- Establishment of code of good agricultural, industrial and construction/building practice in relation to water quality especially for areas where water quality is poor, with strong penalties for breach of code.
- A move towards statutory legislation to reduce phosphate use country wide as was done in Switzerland in 1986 and many states in the USA.

Questions from angling clubs.

- How are angling clubs benefiting from the water framework directive?
- Are angling club waters monitored for improving/deteriorating water quality?
- Are there any finances available for angling clubs to improve water quality such as grants for ultra sonic devices to tackle severe recurrent algal blooms?

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- How can angling clubs influence the agricultural industry to reduce, control and limit the use of chemical and natural fertilisers?
- Are there any future governmental/assembly discussions/plans to reduce the amount of phosphates in detergents, laundering agents and industrial products in N.I ?

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- How long is it envisaged before angling waters will see a marked improvement in the water quality issues that currently impact on the lakes and rivers in the Upper Neagh Bann Catchment area?