Summary: Allua Priority Area for Action Desk based Assessment

This is a non-technical summary of the desk based study on the Allua Priority Area for Action (PAA).

A desk based assessment is the first step in our work. We gather available information about the river into a single document. The information comes from many public bodies including the Environmental Protection Agency, local authorities, Inland Fisheries Ireland and Irish Water. It also includes information learned from the public at a local community meeting which was held in 13/05/2021

The study helps us to understand:

- The quality of the water in the river
    - Has it changed in the last few years?
- The importance of the river
    - Are there any rare plants, animals or habitats that must be protected?
    - Is it used to supply our drinking water?
- The human-made impacts
    - Is there a wastewater treatment plant?
    - Is land used for agriculture or forestry?
    - Has the river been changed physically?

Background and location

The Allua PAA is located in Co. Cork. It is divided into two sections or waterbodies which are distinguished by a unique number (shown in **Figure 1**):

- Lee (Cork)_020: This waterbody flows to west to east to Ballingeary village
- Lough Allua: This waterbody stretches from a short distance east of Ballingeary to west of Inchigeelagh

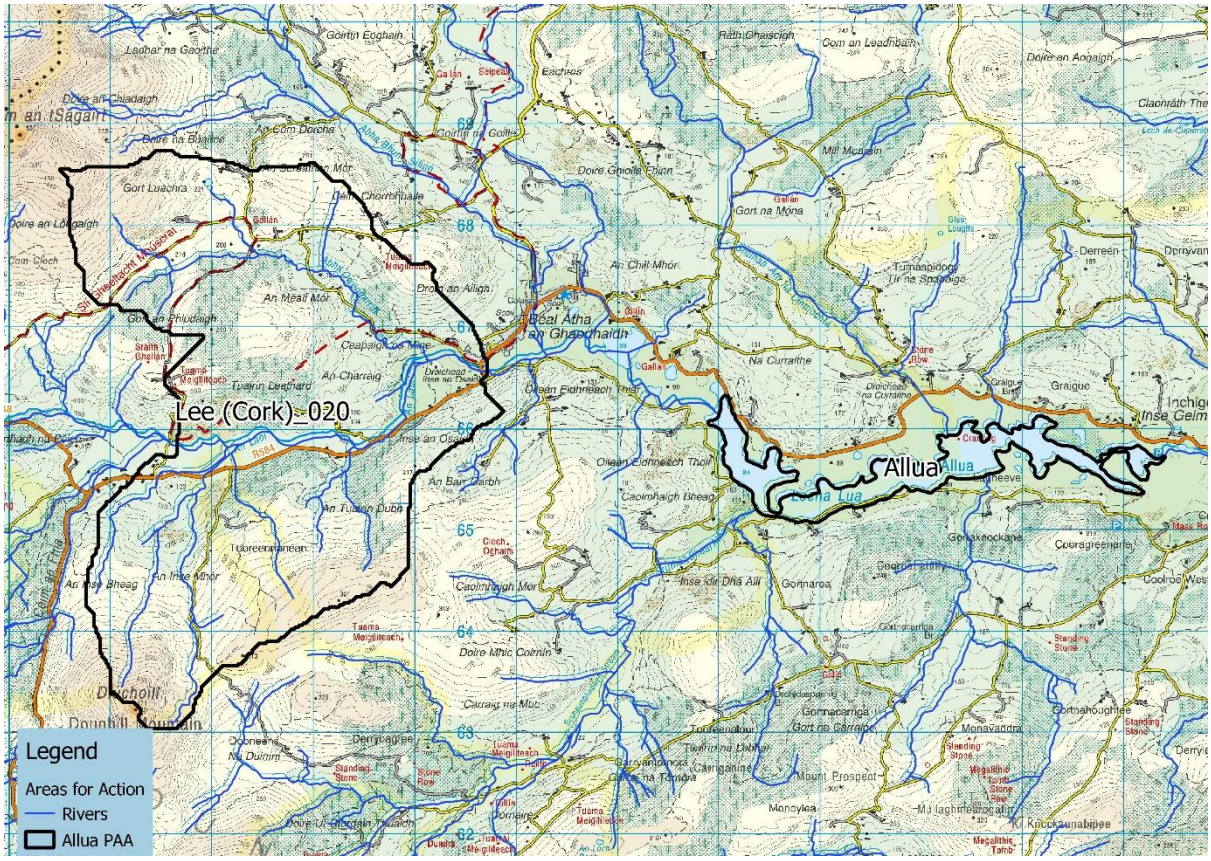

Figure 1 The Allua PAA

Catchment Description

The main settlements in the Allua PAA are Ballingeary and Inchigeelagh. Agriculture is the main land-use in the catchment, with some areas of. Soils are generally wet (and poorly draining) throughout the PAA although there are very small areas of dry soils.

Lough Allua is protected for salmonids and is also used locally as a recreational water for both bathing and kayaking.

Water Quality in the Allua PAA

Rivers are classified into five quality classes (status), with high being unpolluted and bad being the most polluted.

High	Good	Moderate	Poor	Bad

The Environmental Protection Agency assign status at (approximately) 3-yearly intervals based on the standards set out in European legislation, the Water Framework Directive. Status is based on many different elements that altogether indicate the overall health of the river, for example the ecology recorded in river habitats, the physico-chemical condition of the river (oxygen levels, nutrient concentrations, indicators of organic and chemical pollution etc) and also the physical condition of the river bed and bank.

We need to make sure that the Allua PAA achieves Good Status. We have reviewed water quality data available for each of the waterbodies and we have found that:

- Lee (Cork)_020 is currently at moderate status. This is due to an unsatisfactory fish community, the reason for this is currently unknown
- Lough Allua is currently at poor status. This is due to a combination of an unsatisfactory fish community dominated by coarse fish (Roach and Perch) as well as high nutrient levels and physical modification.

Sources of Pollution

Pollutants find their way to rivers by a number of paths:

- They can be piped directly to the river from large sources such as wastewater treatment plants, or small sources such as faulty septic tanks, farmyards, roadside drains etc.
- They can flow across the ground to the river when nutrients which are applied to the land as fertiliser are washed off by rainfall before the crop and soil has absorbed them. This is usually a problem where soils are wetter and poorly draining, particularly during wet weather.
- Groundwater losses occur when pollutants move down through the soil and rock into groundwater and eventually into rivers, lakes and coastal waters. This usually occurs when too much fertiliser is applied to land, or when the soil isn't ready to absorb the nutrient (e.g. temperatures too cold, incorrect soil pH etc) and is common in free-draining/ light soils.

The desk study identified several sources of potential pressures in the Allua PAA.

- Agriculture - The nature of the poorly draining soils in much of this PAA means that they do not hold on to phosphate applied as a fertiliser. This means it can be easily washed off the land and into the river, streams, drains and coast. Another source of nutrients may be farmyards where milk washings, silage leachate and soiled water can reach rivers and the sea.
- Waste Water – There is a sewage treatment plant in Ballingeary which could potentially contribute to the nutrient problem. This plant has only primary treatment and is overloaded, the degree to which it is contributing to the problem will be investigated.
- Land drainage – land being drained for flood relief or agricultural reasons can increase nutrient losses in various ways including moving nutrient rich sediment downstream and by transmitting nutrient rich water faster.
- Hydromorphology - There is unknown physical modification to the lake, more information is required on the nature of this issue
- Non Native Species – non native fish including roach and perch outnumber native fish in Lough Allua. Fish status is driving overall ecological status in both Lough Allua and Lee (Cork)_020.

Next Steps

Community Engagement Meetings

We held a community information meeting on zoom on the 13th of May 2021 to tell the public about our work and to hear about water quality concerns from people living in the area.

Issues mentioned included waste water overflows, concerns regarding bathing water and lack of bacterial testing and concerns regarding the quality status of the lake being driven by the historic introduction of coarse fish.

Agricultural Sustainability Support and Advice advisors from Teagasc and Dairygold will hold an information meeting for farmers within the PAA. During this meeting, the advisors will give details of the supports available for farmers in this catchment.

Local Catchment Assessment

LAWPRO's catchment scientists will carry out fieldwork to identify areas with highest impact. We will collect water samples to learn about the nutrient levels in the rivers. We will walk selected stretches of the river to identify where nitrate, ortho-phosphate and other pollutants are being lost from the land.

The outcome of this work will be published here when available.

The table below gives some summary information on waterbody status, possible water quality issues and sources of pollution for the Allua PAA.

Table 1 Ecological status, pressures, and significance in the Allua PAA

WB Code	WB Name	WB Type	Risk	Ecological Status				EPA Characterisation Significant Pressure Category (Sub-category) (2013-2015)	EPA Characterisation Significant Issue (2013-2015)	Desk Study Review Potential additional pressures (2019)	Desk study Review Potential Significant Issue (2019)
				2007 – 2009	2010 – 2012	2013-2015	2015-2018				
IE_SW_19L 030100	LEE (CORK)_020	River	*At Risk*	Good	Good	Moderate	Moderate	Anthropogenic Pressures	Unknown	None	None
IE_SW_19_ 4	Allua	Lake	*At Risk*	Bad	Moderate	Poor	Poor	Agriculture	Agriculture	Hydromorphology	Unknown
								Forestry	Forestry		
								Urban Waste Water	Agglomeration PE of 500 to 1,000		