Referral Report

Agricultural Sustainability Support and Advisory Programme (ASSAP)

Advisors working with ASSAP and Glanbia/Tirlan offer a free and confidential advisory service to farmers. Where farmers agreed to take part in the programme the advisor carried out a farm assessment and recommended mitigation actions targeted to address the water issues identified by the Local Authority Waters Programme (LAWPRO).

Mitigation Actions Recommended

During a farm visit the advisor identifies issues that need mitigation measures implemented to reduce the risk to water quality. These are categorised as **Risk 1, 2 or 3**. **Risk 1** issues are those that are most likely to impact on water quality and relate directly to the water quality issues identified by LAWPRO. **Risk 2 and 3** are other issues on the farm that may require management or improvement which would indirectly lead to improvement in water quality.

Reporting

Waterbody scale reports are a summary of the issues impacting water quality and the mitigation actions implemented by farmers. They are a synthesis and interpretation of individual referral reports. They are prepared by ASSAP advisors following review with the catchment scientist.

Accompanying this report are summary details of the mitigation actions recommended and implemented in this waterbody. This report and accompanying documents will be uploaded to the WFD App.

Summary

PAA	Urrin
No.of waterbodies	2
Water body name	Urrin_050
Numberof referrals	2
Referral codes	RA0000328
Advisors	Eamonn Grace (Retired) & Neilus Nunan (Teagasc) TJ Phelan & Matthew Moylan (Tirlan)
Scientist	Brian Casey
Date	21st March 2023

Priority Area for Action:

Waterbody: Urrin_050

Referral 1:

Background information

Table 0-1: Information relating to PAA and waterbody name, draft and referral code, and referral date.

PAA	Waterbody	Draft referral code (LAWPRO excel code)	WFD App Referral code		Referral date
Urrin	Urrin_050	*Urrin_050_RFL001*	RA0000328		06/11/2020

Referral evidence and significant issue

From LAWPRO referral

Observations in the area of **Referral 1** included elevated levels of TON-N at the monitoring point for the waterbody. There are areas of X extreme to high groundwater vulnerability within the sub basin. There is a high risk of nitrate leaching in these areas. Measures to reduce nitrate leaching through soils will need to be applied in the areas upstream. Adherence to the Nutrient Management Plan and avoid spreading at high risk times is important for these areas. Critical Source Areas (CSA) such as rock outcrops and thin soils should be avoided when spreading fertiliser/slurry.

Measures implemented following advice

Information relating to the final mitigation measures agreed and implemented – at referral scale. Use data from Farm Assessment records to detail measures implemented.

During ASSAP/Dairy Co-op visits, farmers worked with the advisor in the referral area and identified a number of additional concerns (other potential losses to waterbody) they had which were also addressed.

Informing and educating farmers was a key plank of the mitigation strategy used. Implementation of Nutrient Management Plan was focussed on heavily as a means of addressing the problem and particularly in avoiding over application of Nitrogen and Phosphorous. Getting the Ph status up was also a key consideration and promoting the use of lime was used for this aim. Use of clover was promoted as a substitute for excessive and expensive late nitrogen applications. The virtues of nitrification inhibitors (Protected Urea) were extolled on every farmer visited.

All farmers were advised to avoid application at high risk times, especially early and late in the year. They were also advised to avoid application at high risk places (CSA's). Examples of high risk places used were groundwater vulnerable areas, shallow soils, rock outcrops etc. Farmers were advised to adopt latest manure application techniques, including calibrated GPS spreading equipment, etc. with the aim of precision application of nutrients at correct rate.

Barriers to implementation of measures

Information relating to the barriers that prevented the implementation of mitigation measures recommend by ASSAP – at referral scale.

List of potential barriers:
Time (e.g., measure not implemented because farmer must wait until next growing season),
Cost (e.g., farmer can't afford to implement a measure),
No. of farms that have not engaged
Behaviour (e.g., reasons for no or lack of engagement or participation)
Social (e.g., age, health)
Policy (e.g., existing policy prevents the farmer from implementing a measure),
Non-ag issue (e.g., LAWPRO confirmed the issue is due to a pressure other than agriculture, such as WWTP),
Time lag (e.g., waiting for nutrient levels to decline after nitrate mitigation measures are implemented),
Unknown issue (e.g., where ASSAP and LAWPRO agree the pressure or issue has not been identified)

No major issues at all. Most farmers in agreement that the measures recommended would save money rather than increase costs. The stark reality of massive increases in fertiliser costs meant that all farmers were more than willing to engage in the conversation about reducing nitrogen use and increasing nutrient use efficiency in general.

Referral 1 Conclusion

Conclusion relating to the process from measures recommended to barriers to implementation – at referral scale.

It was agreed by both scientist and advisors that the measures recommended were sufficient for addressing the significant issues identified to **Referral 1**. It was also agreed that sufficient implementation of recommended measures was achieved by landowners in the referral area.

Referral 2:

Background information

Table 0-1: Information relating to PAA and waterbody name, draft and referral code, and referral date.

PAA	Waterbody	Draft referral code (LAWPRO excel code)	WFD App Referral code		Referral date
Urrin	Urrin_050	*Urrin_050_RFL002*	RA0000328		06/11/2020

Referral evidence and significant issue

From LAWPRO referral

Observations in the **Referral 2** area included High Risk for nitrate in the Urrin_050 sub-basin. There are areas of X extreme to high groundwater vulnerability within the sub basin. There is a high risk of nitrate leaching in these areas. Adherence to the Nutrient Management Plan and avoiding spreading at high risk times is important for these areas. Critical Source Areas (CSA) such as rock outcrops and thin soils should be avoided when spreading fertiliser/slurry.

Measures implemented following advice;

Information relating to the final mitigation measures agreed and implemented – at referral scale. Use data from Farm Assessment records to detail measures implemented.

- Catch crops/cover crops were the main mitigation measure recommended and implemented at farm level. The GLAS scheme was very beneficial in helping to fund this measure where it was available. The new ACRES scheme will continue to support this very important measure.
- Following Nutrient Management Planning (NMP) advice was also a critical measure that was recommended but not always implemented, sometimes due to lack of soil samples and/or pressure on advisors to get them completed.
- Early and late applications of Nitrogen were not recommended as seen as risky times and detrimental to water quality. Implementation was very high and was helped by the large increases in fertiliser prices in 2022.
- Careful selection of fields for late harvested crops such as maize, beet and potatoes was recommended due to the high risk of sediment losses to water. This measure was hit and miss for uptake but the recent legislation dealing with this problem will help in the future to ensure that this problem is minimised. There was one major incident in the catchment relating to this that drew the attention of the county council at the time and this farmer was visited and the problem identified and solved at the time.

Barriers to implementation of measures

Information relating to the barriers that prevented the implementation of mitigation measures recommend by ASSAP – at referral scale.

List of potential barriers:
Time (e.g., measure not implemented because farmer must wait until next growing season),
Cost (e.g., farmer can't afford to implement a measure),
No. of farms that have not engaged
Behaviour (e.g., reasons for no or lack of engagement or participation),
Social (e.g., age, health)
Policy (e.g., existing policy prevents the farmer from implementing a measure),
Non-ag issue (e.g., LAWPRO confirmed the issue is due to a pressure other than agriculture, such as WWTP),
Time lag (e.g., waiting for nutrient levels to decline after nitrate mitigation measures are implemented),
Unknown issue (e.g., where ASSAP and LAWPRO agree the pressure or issue has not been identified)

Most tillage farmers in the area incorrectly believed that they were having little or no adverse impact on the waterbodies in comparison to intensive livestock system. Changing this attitude was a major challenge and involved challenging and educating the farmers on this very important point. The main barrier was **cost**, especially in relation to the provision of catch/cover crops for over the risky winter months and buffers for late harvested crops, in particular. The GLAS/ACRES schemes are a major help in this regard and the new legislation is also helping to cater for these problems.

Referral 2 Conclusion:

Conclusion relating to the process from measures recommended to barriers to implementation – at referral scale.

It was agreed by both scientist and advisors that the measures recommended were sufficient for addressing the significant issues identified to **Referral 2**. It was also agreed that sufficient implementation of recommended measures was achieved by landowners in the referral area but that this could also be greatly improved upon. It is hoped that the new EIP and ACRES schemes will provide much needed assistance in this regard.

PAA Communications

Description of farmer meetings, discussion groups, KT events, media engagements, newsletters, training courses etc undertaken by ASSAP advisors in water body. Dairy co-op advisors to detail their engagements separately.

- LAWPRO Community information meeting
- ASSAP farmers meeting
- Local discussion group meetings
- Articles in local paper
- South East radio interviews
- Newsletters
- AETS water quality course completed with a number of farmers in PAA

Waterbody conclusion for WFD App

Based on Measures Implemented (to be copied to "Progress Description" in EPA App)

All measures implemented are expected to address the issues identified in the referral areas. A lot of additional work beyond referral areas has been carried within the PAA by farmers, it is expected the additional work will add to the improvement of water quality in the PAA also.

It should be noted that advisory work outside of the referral areas was also carried out but within the PAA. This advisory work was also focussed around water quality protection.

Phosphate advice was also included in the measures recommended but an official phosphorous referral was not made. It was decided at the time that no phosphate referral would be required but that discussion groups and measures that would help to mitigate phosphorous losses would be advised.

Summary of actions carried out in the waterbody as a whole:

10 farms were visited by an ASSAP/Dairy Co-op advisor in the Urrin_050 with each farm getting a plan from the advisors containing advice to reduce nutrient/sediment loss to the waterbody. Of the 10 farms, 3 received two farm visits and 1 received three farm visits by advisors to support the farmers in the PAA. During these visits the advisor gave phosphate advice also as the catchment scientist had identified at an early stage that these could also present issues in some areas.

Risk 1's identified in the Waterbody: 37

Identifying the risks is crucially important is setting out the appropriate mitigation measures needed to be implemented on the ground by the farmers. This highlights the importance of one on one farmer support to improve water quality.

Table 0-1: Risk 1 mitigation action progress in the Urrin PAA

Commenced	Complete	Ongoing
19	22	56

1 Appendix 1 Referral structures

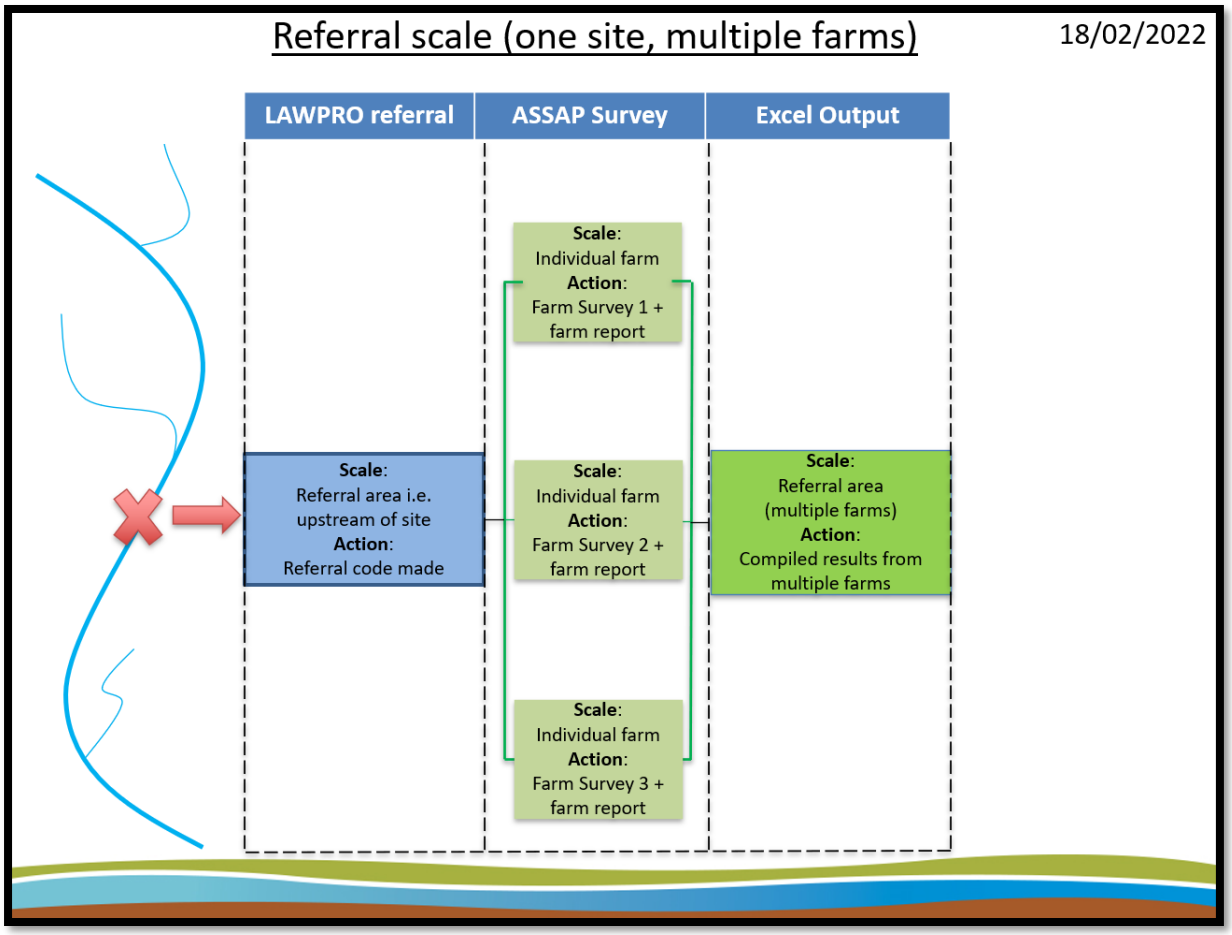

Figure 1 Image showing the hypothetical structure of referral scale. One referral is typically one site in the waterbody that has shown evidence of impact and the referral area around it may contain multiple farms i.e., referral scale ~ one site, multiple farms.

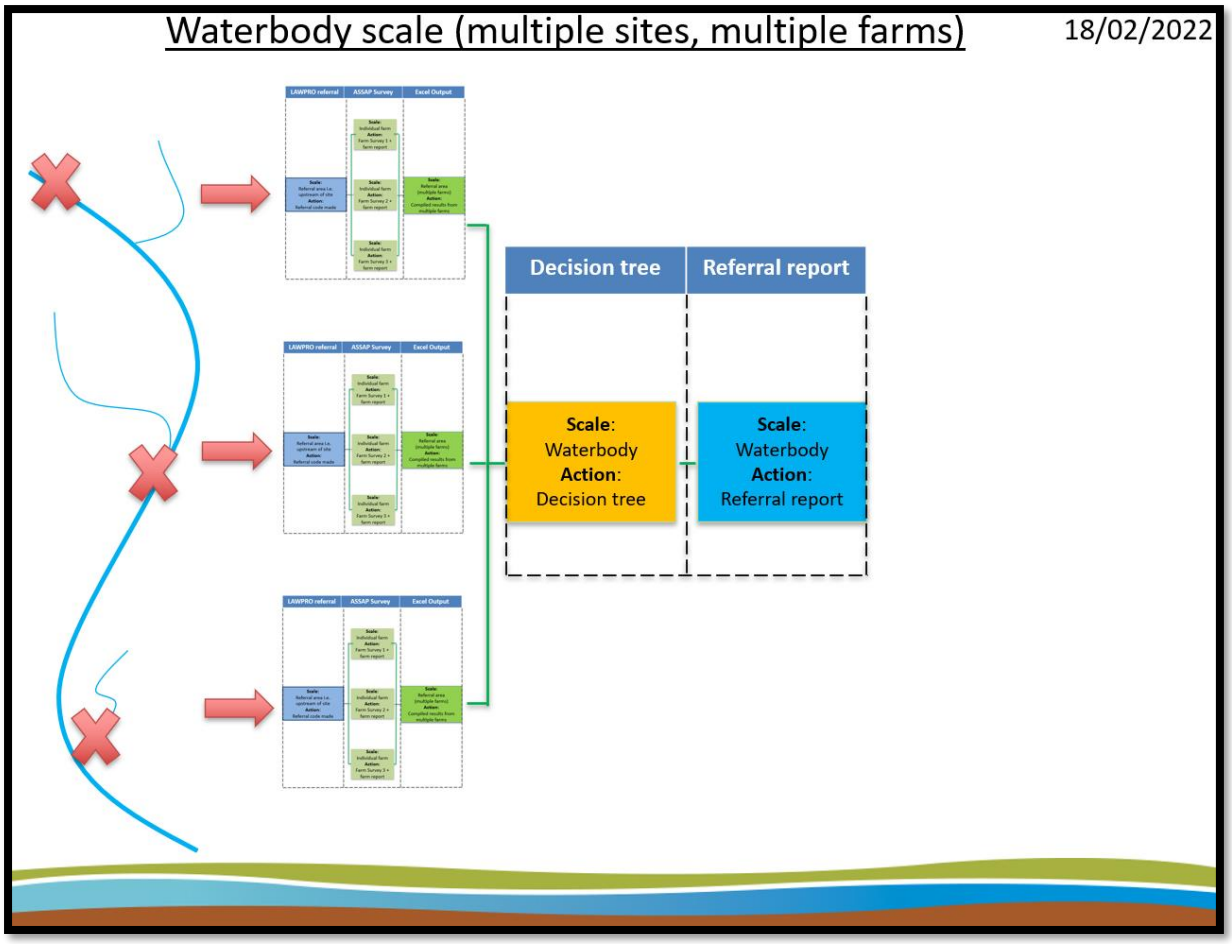

Figure 2 Image showing the hypothetical structure of waterbody scale. This document reports at waterbody scale but uses referral scale details and results. Waterbody scale contains multiple sites and referral areas i.e., waterbody scale ~ multiple sites and multiple farms.

2 Appendix 2 Handover process (decision tree)

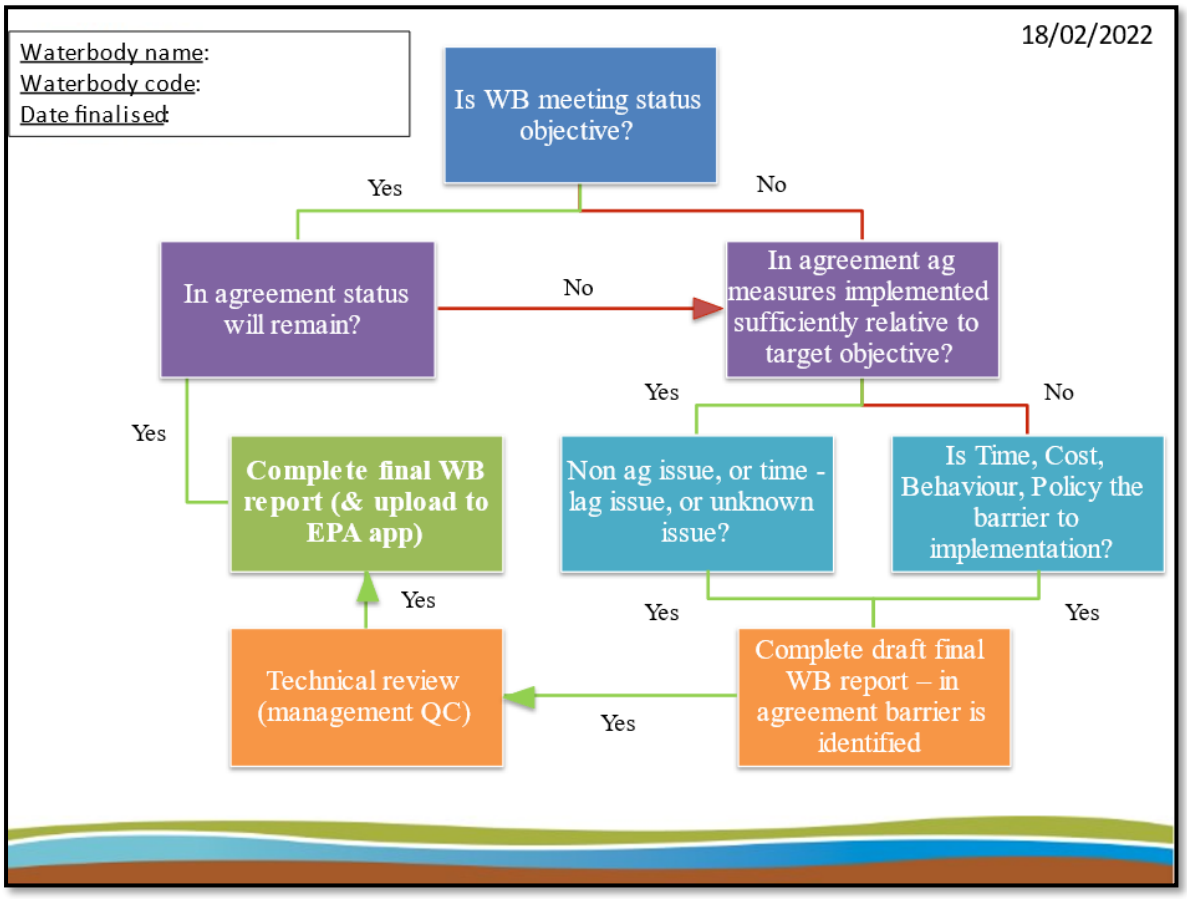

Figure 3 Decision tree used by advisor and scientist to discuss measures and any barriers to measures identified. This is used as part of the handover process.