

# Partnership Meeting

# Agenda

## Wye Catchment Nutrient Management Board

Date: **Wednesday 28 September 2022**

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Time: **2.00 pm**

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Place:

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Notes: For any further information please contact:

**Simon Cann**

Tel: 01432 260667

Email: [NutrientManagementBoard@herefordshire.gov.uk](mailto:NutrientManagementBoard@herefordshire.gov.uk)

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If you would like help to understand this document, or would like it in another format, please call Simon Cann on 01432 260667 or e-mail [NutrientManagementBoard@herefordshire.gov.uk](mailto:NutrientManagementBoard@herefordshire.gov.uk) in advance of the meeting.

# Agenda for the meeting of the Wye Catchment Nutrient Management Board

## Membership:

### Chairperson

Councillor Elissa Swinglehurst (ES)

Herefordshire Council

### Voting Members

Merry Albright (MA)  
Helen Dale (HD)  
Simon Evans (SE)  
Jenny Gamble (JG)  
David Lee (DL)  
James Marsden (JM)  
Claire Minett (CM)  
Fergus O'Brien (FOB)  
Craig O'Connor (COC)  
Councillor Sid Phelps (SP)  
Phil Crossland (PC)  
Helen Stace (HS)  
Grace Wight (GW)  
Martin Williams (MW)

Herefordshire Construction Industry Lobby Group  
Countryside Landowners Association  
The Wye and Usk Foundation  
Environment Agency  
Natural Resources Wales  
Brecon Beacons National Park  
Natural England  
Dwr Cymru Welsh Water  
Monmouthshire County Council  
Forest of Dean District Council  
Herefordshire Council  
Herefordshire Wildlife Trust  
Environment Agency  
National Farmers Union

### Statutory Advisors

Samantha Banks (SB)  
Kevin Bishop (KB)  
Sue Buckingham (SB)  
Alistair Chapman (AC)  
Oda Dijksterhuis (OD)  
Elizabeth Duberley (ED)  
Hayley Fleming (HF)  
Robert Greenland (RG)  
Mark Hand (MH)  
Rachael Joy (RJ)  
Bethany Lewis (BL)  
Matthew Lewis (ML)  
Andrew Osbaldiston (AO)  
Tristan Semple (TS)  
Kevin Singleton (KS)  
Ann Weedy (AW)  
Emma Whitehouse (EW)

Herefordshire Council  
Herefordshire Council  
Natural England  
Forest of Dean District Council  
Environment Agency  
Herefordshire Council  
Natural England  
Monmouthshire County Council  
Monmouthshire County Council  
Herefordshire Council  
Herefordshire Council  
Monmouthshire County Council  
Environment Agency  
Environment Agency  
Herefordshire Council  
Natural Resources Wales  
Environment Agency

## Agenda

### Pages

#### **WELCOME AND APOLOGIES**

#### **1. BOARD MEMBERSHIP**

- Proposal to accept Martin Williams resignation from the NFU rep role
- Proposal to accept Sarah Faulkner's Nomination to the NFU rep role
- Proposal to accept Martin Williams Nomination to the vacant Farm Herefordshire role
- Proposal to accept the resignation of Helen Stace from HWT
- Proposal to accept the nomination of Jamie Audsley from HWT

#### **2. NOTES AND MATTERS ARISING FROM LAST TIME**

Action: A second letter to be sent out on behalf of the Board to DEFRA to request data from its inventory on livestock numbers, specifically the numbers of chickens, in the Herefordshire catchment area. [Action by: RJ)

Recommendation: Chairs of TAG Working Groups to be brought forward by 29 July 2022 [Action by: all of group]

Action: Powys Cllr to provided details of the equivalent to Farm Herefordshire in Powys. [Action by: Cllr Jackie Charlton]

Action: CM to circulate latest version of the Catchment sensitive farming evaluation report. [Action by: CM]

Action: GW to bring information relating to WEIF, Project TARA, tree planting initiatives and phosphate bound in sediment data to the board as part of the Evidence working group remit. [Action by: GW]

Action: ES would like enforcement process mapped out, with an overview of the problems involved in progressing certain cases. [Action by: GW]

Action: AW to provide detailed update on pig farm visits. [Action by: AW]

Action: CM to go back and get information and data on ammonia added. [Action by: CM]

Action: AW to follow up with WPZ proposal response with Welsh Minister. [Action by: AW]

		Led by: Chair
3.	<b>UPDATE FROM TAG</b>	
		Led by: [Hayley Fleming]
4.	<b>UPDATES FROM PARTNERS</b> Updates of recent actions and activities undertaken by partners of the board.	7 - 12
5.	<b>REGULATION - INCLUDING FARMING RULES FOR WATER</b>	
6.	<b>CITIZEN SCIENCE PRESENTATION</b> Soil sampling in the Garren Catchment.  A report on some novel citizen science commissioned by the Wye Salmon Association (WSA) and delivered with help from The Countryside Charity (CPRE).  Led by: Stuart Smith and Gordon Green	13 - 22
7.	<b>PUBLIC QUESTIONS</b> To provide the opportunity to members of the public attending the meeting to ask questions of the statutory partners.	
		Led by: All
8.	<b>AOUB</b> By prior agreement with the Chair.	
9.	<b>DATE OF NEXT MEETING</b> [21 December 2-5pm]	

## **The Seven Principles of Public Life**

### **(Nolan Principles)**

#### **1. Selflessness**

Holders of public office should act solely in terms of the public interest.

#### **2. Integrity**

Holders of public office must avoid placing themselves under any obligation to people or organisations that might try inappropriately to influence them in their work. They should not act or take decisions in order to gain financial or other material benefits for themselves, their family, or their friends. They must declare and resolve any interests and relationships.

#### **3. Objectivity**

Holders of public office must act and take decisions impartially, fairly and on merit, using the best evidence and without discrimination or bias.

#### **4. Accountability**

Holders of public office are accountable to the public for their decisions and actions and must submit themselves to the scrutiny necessary to ensure this.

#### **5. Openness**

Holders of public office should act and take decisions in an open and transparent manner. Information should not be withheld from the public unless there are clear and lawful reasons for so doing.

#### **6. Honesty**

Holders of public office should be truthful.

#### **7. Leadership**

Holders of public office should exhibit these principles in their own behaviour and treat others with respect. They should actively promote and robustly support the principles and challenge poor behaviour wherever it occurs.



**NMB Partner reporting template**

Organisation:	Natural England
Officer:	Claire Minett
Date submitted:	19 <sup>th</sup> September 2022
Actions on Phosphate Action Plan contributing to:	<ul style="list-style-type: none"> <li>• Farm Advice _ CSF- continue to develop improve advice and uptake, continue to explore evidence to quantify impact.</li> <li>• Chair TAG and develop working groups</li> <li>• Reviewing condition of the river</li> <li>• Provide statutory planning advice</li> <li>• SSSI consenting and enforcement</li> </ul>
Actions on Phosphate Action Plan recent work has contributed to:	Progress on all above -together with continued close joint working on the above with EA, NRW and HC
Brief progress update on activities	<p><b>Farm Advice in the Wye Catchment</b></p> <ul style="list-style-type: none"> <li>• 178 enquiries received overall this year:</li> <li>• 65 Mid-Tier agreements approved</li> <li>• 20 Mid-Tier support approvals for WUF</li> <li>• 58 Capital Grant Approvals in progress</li> <li>• 75 one to one technical support visits delivered through the FaLMA contact. These include Farm Infrastructure Audits, Water Pathway Management advice, Soil Husbandry advice, soil assessment, monitoring &amp; sampling and air quality advice</li> <li>• 5 Higher Level Stewardship extensions being reviewed for extension in the Wye .</li> <li>• ELMS – Farm Advice TAG working group to look at alternative funding for landscape scale ambitions.</li> <li>• NE recruiting an Agricultural Specialist Wye Strategic Advisor to support Farm Advice TAG and support agricultural planning advice.</li> </ul> <p><b>Chair of TAG and develop working groups</b></p> <p>Significant progress and resource invested in developing working groups, full update provided by TAG Chair as separate agenda item</p>

**Reviewing Condition of the River**

The river Wye is currently classed as “unfavourable recovering”. This assessment is based on a range of measures, which includes phosphates. The condition assessment is under review. Water quality data is not under review. Natural England, is looking at other SSSI features such as salmon and macrophytes. Any change in SSSI condition would be as a result of changes of these indicators and would not alter the situation with regard to nutrient. Despite the approach of only looking at specific features, all assessments will be compliant with CSMG and it is still very complex.

Ongoing challenge to recruit freshwater ecological expertise, currently 4 vacancies going through recruitment process.

**Providing SSSI consent/assent/advice**

We have provided either advice, consent or assents for 97 cases on the river wye since the start of this year.

**Providing Statutory Planning Advice**

Ongoing engagement with HC. Our advice on Nutrient Neutrality remains in place on the Lugg. The Lugg is failing its water quality targets, the Wye is not currently failing its water quality targets. The river Wye is close to its phosphate targets on some of the monitoring points. This evidence is regularly reviewed by NE and the EA, findings are shared with the Council and Nutrient Management Board .



### **Nutrient Management Board Update**

Organisation:	Environment Agency
Officer:	
Date submitted:	September 2022
Actions on Phosphate Action Plan contributing to:	<ul style="list-style-type: none"> <li>• Monitoring, evidence &amp; modelling</li> <li>• Regulation, advice &amp; guidance (agriculture &amp; water resources)</li> <li>• DCWW – improvement &amp; regulation</li> <li>• Investigations based on geographic “hot spots”</li> <li>• Targeted projects including natural flood management &amp; citizen science</li> <li>• WPZ</li> <li>• Integrated wetlands</li> <li>• River Wye management catchment integrated data analysis report</li> </ul>
Actions on Phosphate Action Plan recent work has contributed to:	All the above, including input to TAG sub-groups and strategic work with Defra to scope longer-term policy and funding initiatives.
Brief progress update on activities	<p><b>Monitoring, evidence &amp; modelling</b></p> <ul style="list-style-type: none"> <li>• In August we released our latest report: <a href="#">River Wye Management Catchment Integrated Data Analysis Report</a>. Key recommendations include reducing nutrient input across the entire catchment, with a focus on diffuse sources during rainfall events, collecting more data (including sediment nutrients), further investigation of manure pathways/impacts and land use changes, and appraising options such as tree planting and sustainable water resource management to mitigate poor water quality.</li> <li>• We continue to manage and update our public facing webpage: <a href="#">River Wye Water Quality - Environment Agency - Citizen Space (environment-agency.gov.uk)</a></li> <li>• 11 sondes (deployed in the Wye, Arrow and Lugg catchments) have provided continuous water quality monitoring – improving our temporal and spatial data resolution. We are looking to secure funding to deploy the sondes next year.</li> <li>• We implemented our River Wye high temperature and algal bloom <a href="#">early warning system</a>. We deployed staff in response to high river temperatures, reports of dead fish, low dissolved oxygen levels and pollution.</li> <li>• Sonde data has been valuable in improving our response to prolonged dry weather (PDW) incidents and provided a base for more positive engagement with our stakeholders e.g. by helping others (esp. fisheries &amp;</li> </ul>

angling groups) make informed decisions. Our timely, responsive information and advice may have reduced some potential impacts this summer.

- In addition to our Field Monitoring team's routine sampling of water chemistry and invertebrates, we have carried out 8 macrophyte surveys, 18 RAPPER (Rapid Assessment of PeriPhyton Ecology in Rivers) surveys, 16 algal samples, 8 river habitat surveys and 1 walkover investigation following sonde ammonium peak.
- We have committed to chairing the Technical Advisory Group (TAG) 'evidence subgroup' and will therefore be reducing the frequency of our integrated data analysis reports as a result (see below for more detail).
- In response to the need for scientific certainty in the action plan, and with regards to the "Dutch Ruling" and the 2015 Consent Order, we have scoped potential modelling improvements. We hope to take this forward with the TAG evidence subgroup to improve levels of certainty and demonstrate current measures/mechanisms will achieve conservation targets or conversely, that additional measures such as a water protection zone (WPZ) might be needed.
- Revised Polluter Pays (Fair Share) principles have been signed off by DEFRA. We are awaiting EA / PR24 guidance which we hope will be released in the next few weeks.

#### **Regulation, advice & guidance & regulation**

- There have been 56 full farm inspections so far this year, resulting in 20 actions across 11 farms. All farms with actions are followed up. The number of farm inspections will increase over Q3 and Q4 as PDW and drought pressures subside, vacant posts are filled and newly trained officers gain experience and increased knowledge. Access, particularly to poultry units was restricted earlier in the year due to Avian Influenza. The numbers reported this year are for full farm inspections which cover multiple regulatory regimes and include comprehensive assessments of farm infrastructure and management practices/records. These differ from the Soil Patrol approach last year of a 'wide and fast' check of farms and high-risk sites. The data from soil patrol, additional remote sensing (satellite/LiDAR) and the Wye Water Quality Data and Analysis Reports has been used to inform this year's full inspection list.
- A total of 93 compliance inspections have been carried out by the Environment Agency in the Wye Management Catchment this year, which has identified 20 non compliances. In total of 343 inspections have been completed across West Midlands due to PDW and drought. We have completed the New Authorisations programme in the Wye catchment so most previously exempt activity is now licensed.

#### **Dŵr Cymru Welsh Water – improvement & regulation**

- For Dŵr Cymru Welsh Water (DCWW) there would normally be 6 operator self-monitoring (OSM) sites and 12 descriptive inspections per year. With the emphasis on the Wye catchment the planned number has been

increased to 20 OSM and 20 descriptive inspections. Due to resource allocation to PDW and drought, inspections these will be carried out in Q3 and Q4.

- A review of DCWW 2020 data for event duration monitors (EDM) for spills to the environment has been completed. The response by DWCC will be expected by the end of September 2022. This review focused on all network combined sewer overflows with more than 40 spills a year.
- A national trial of inspections focusing on pumping stations and combined sewer overflows (CSO) with another water company has just been completed and it is expected to add a number of these for DCWW in 23/24, when new procedures have been clarified.
- SIMCAT/SAGIS/Optimiser for the Wye model have been updated and are being used to inform the 2024 Price Review (PR24) Water Industry National Environment Programme (WINEP). The updated models are planned to be shared at end of September via a data sharing licence. Citizen science data has been shared with model builders to check validation against model predictions.

#### **Investigations based on geographic “hot spots”**

- We are developing a project to improve spatial representation of agricultural data.
- The first prototype has been developed for a Wye catchment risk mapping tool, which, in combination with the work being done by the national remote sensing team, will improve how we target resources and interventions.
- Findings of the River Wye Management Catchment Integrated Data Analysis Report have recommended a focus on 5 functional groups of waterbodies: River Arrow near Kington; River Arrow near Pembridge and Curl Brook; River Lugg and tributaries near Presteigne; Little Lugg and Withington Marsh Brook; River Frome.

#### **Targeted projects**

- We now have a full time Citizen Science Coordinator who will be overseeing the citizen science groups in the Wye in addition to a national project entitled Catchment Systems Thinking Cooperative (CaSTCo) to engage communities in catchment monitoring.
- Wye P+ Project (2023-24 Water Environment Improvement Fund), in partnership with the Wye & Usk Foundation is pending funding allocation. There are 4 parts: farmer education; supply chain; natural flood management in a sub catchment and land drains (arable and poultry).
- Resilient Wye Water project is a new project focusing on sustainable water resources and abstraction in the Wye. We will be looking to work with partners shortly.

#### **Integrated wetlands**

- We have developed a Regulatory Position Statement to streamline procedures for implementation of the nutrient wetlands.

### **Additional activity**

- We have been working with EA national and Defra to explore opportunities for further strategic support, funding, pilot projects and innovative approaches to permitting. Draft proposals are currently being scoped.
- Salmon patrols have been carried out to provide advice/guidance to anglers around the new byelaws, check river temperatures, investigate reports of poaching and follow up reports of dead salmon seen in the river. Patrols will continue as the salmon migration/spawning season begins next month targeting 'pinch points' where it is easy to access the river to poach.

### **River Wye management catchment integrated data analysis report**

- In January 2022, we published our first River Wye Management Catchment Integrated Data Analysis Report and have published subsequent reports every three months since. The aim of the reports is to bring data from citizen scientists, monitoring sondes and autosamplers together with existing datasets to contribute to a shared understanding and ownership among stakeholders of the issues and actions required. The reports have been vital in kick-starting actions into motion, and we thank those who have read, shared and provided feedback.
- At the June Nutrient Management Board meeting it was agreed that there will be sub-groups of the TAG to progress key themes of the Phosphate Action Plan and work collectively with partners and experts to resolve gaps and take opportunities identified.
- The Environment Agency is chairing the 'evidence subgroup' that is key for building shared understanding of the workable solutions, their timeliness and effectiveness. We are now focusing more resources on this subgroup and will publish our integrated data analysis reports every six months instead of three months, with the next report due in the new year. We have received positive feedback from a range of people on the value of our integrated data analysis reports and are pleased to hear they have been useful for everyone's collective understanding of the problems and what the data is showing us.

# Soil sampling in the Garren Catchment

A report on some novel citizen science commissioned by WSA and delivered with help from CPRE

*Objective: to measure soil phosphorus concentrations within the Garren Catchment and determine if they are increasing, as predicted by the recent RePhOKUs report (Withers et al. 2022)*

Stuart Smith & Gordon Green

September 2022

Wye Salmon  
Association

# The Garren Brook

- ▶ A small lowland tributary of the River Wye
  - ▶ 29 km length
  - ▶ Joins the Wye between Goodrich and Symonds Yat
  - ▶ Tributaries: Gamber, Llanerch & Luke Brooks
- ▶ Groundwater fed, with high alkalinity
- ▶ Not within the Wye SAC, so WFD water quality targets apply
  - ▶ Achieves 'good' status for reactive phosphorus (RP) ... just
  - ▶ High turbidity is severely impacting macrophyte and fish populations

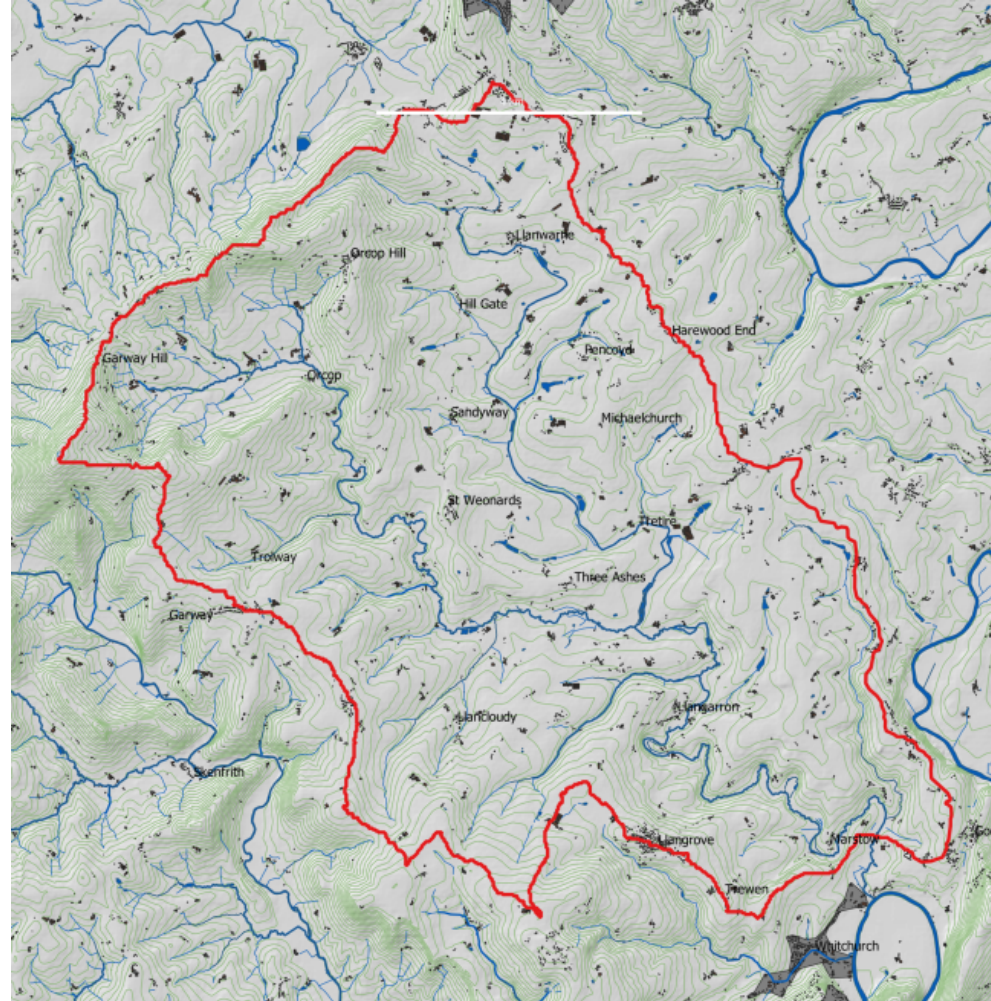


*Garren Brook from Langstone Bridge*



# The Garren Catchment

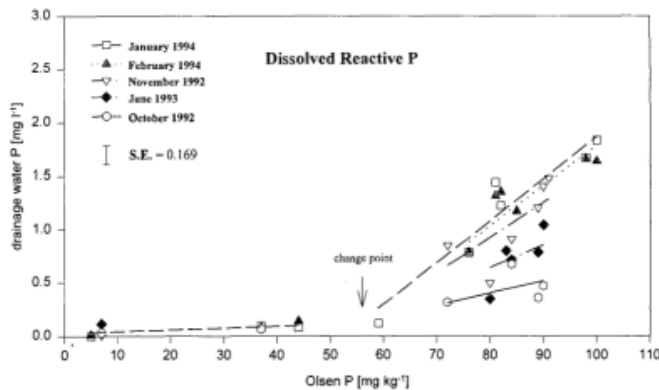
- ▶ 90 km<sup>2</sup> of Herefordshire farmland
- ▶ No major settlements
- ▶ Land use
  - ▶ Arable & horticulture 48%
  - ▶ Improved grassland 44%
  - ▶ Woodland 4%
  - ▶ Suburban 3%



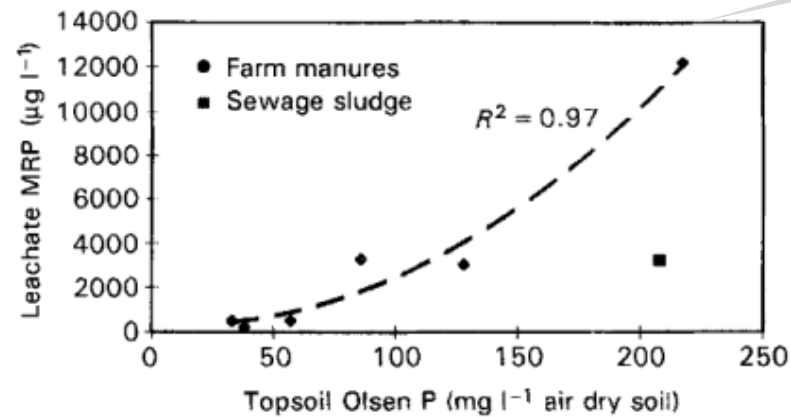
# Why measure soil phosphorus?

- ▶ Soil P is a driving parameter for diffuse pathways
  - ▶ Groundwater leaching
  - ▶ Bulk soil erosion
- ▶ Groundwater leaching has a non-linear relationship with soil P

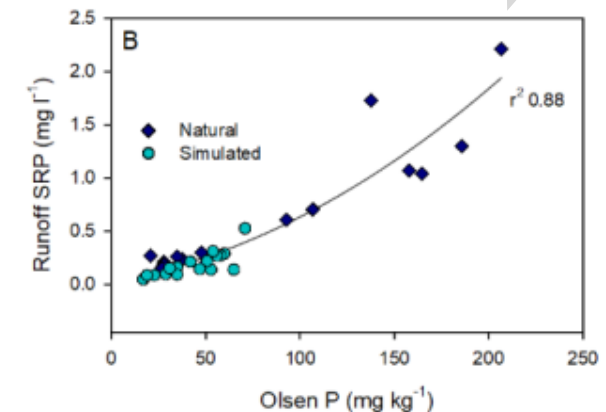
Wye soil



Heckrath et al. 1995



Smith et al. 1998



Withers et al. 2022



# Olsen-P

- ▶ The Olsen test for phosphorus is widely used in UK agriculture
- ▶ It does not measure total phosphorus
- ▶ It approximates:
  - ▶ Plant-available phosphorus
  - ▶ Leachable phosphorus
- ▶ Olsen-P is used in soil nutrient guidance for farmers (ADHB RB209 series)

RB209 soil indices

Soil index	P concentration (mg/l)
0	0-9
1	10-15
2	16-25
3	26-45
4	46-70
5	71-100
6	101-140
7	141-200

- Target for grassland and most arable crops is index 2 (16-25 mg/l)
- Some vegetables (e.g. potatoes) target index 3 (26-45 mg/l)

# Baseline data

- ▶ Soil Olsen-P was last surveyed nationally as part of the Countryside Survey, 2007
- ▶ This is available as digital mapping data from the UK Centre for Ecology and Hydrology
- ▶ The data has been extracted across the Garren Catchment, yielding the following mean values:

Land use	Olsen-P (mg/l)
Improved grassland	31
Arable & horticulture	54



# Olsen-P results

## ▶ Arable

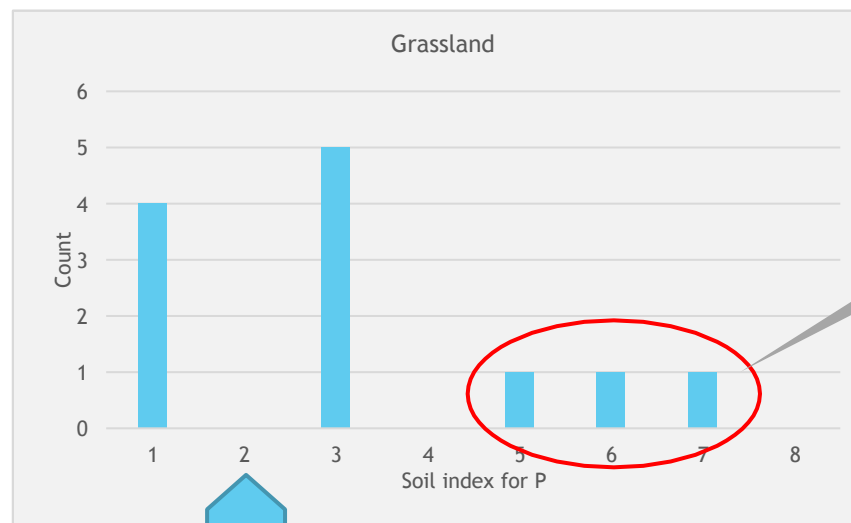
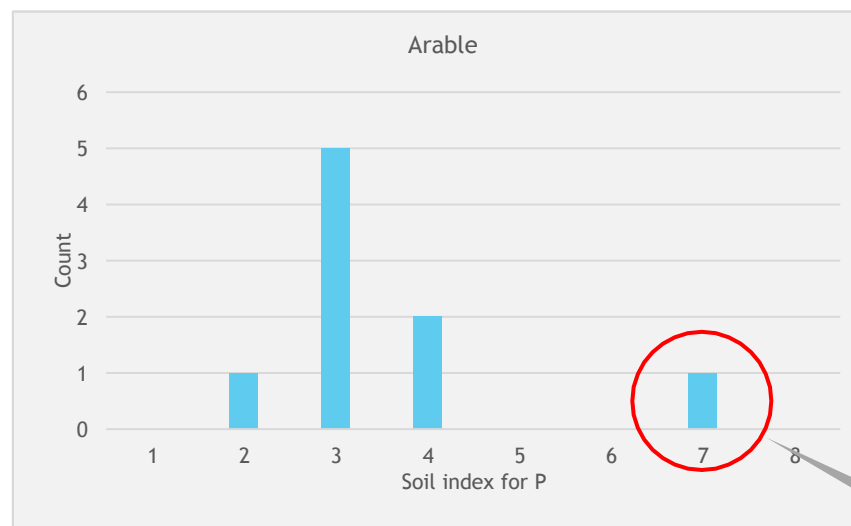
- ▶ average 54 mg/l
- ▶ Same as 2007
- ▶ 8/9 locations above target for crop (wheat, o/s rape, oats, maize)

## ▶ Grassland

- ▶ Average 48 mg/l
- ▶ 17 mg/l increase from 2007
- ▶ 8/12 locations above target

## ▶ Orchard

- ▶ 1 site at Index 1



Note  
4 outliers

Target  
index





# Conclusion

- ▶ Arable land is well above target index, but appears stable
- ▶ Grassland is the principal challenge (as found by RePhOKUs)
  - ▶ Mean Olsen-P increased from 31 mg/l (index 3) in 2007 to 48 mg/l (index 4) in 2022
  - ▶ Livestock farmers have a lot of manure to dispose of
  - ▶ A high concentration of IPU adds significantly to this burden
- ▶ 4 sites at index 5-7 correlate with IPU locations and spreading practices
  - ▶ These result are consistent with spreading at NVZ maximum rates for 15-20 years
- ▶ To reduce diffuse phosphorus pollution we need to reduce soil phosphorus:  
... therefore we must measure it