

State of play: Pesticides in water

BCPC Congress 2023
Richard Reynolds



WaterUK Catchment Network




- 20 Water companies
- Sampling programmes differ based on risk and resource
- Report regularly to VI, Pesticide Forum and Grassland Forum

Objectives

- 1: Raise industry **awareness of actual trends** observed at abstraction
- 2: Partner to develop stewardship programmes to **safeguard actives**
- 3: Work with farmers to identify and implement **effective local solutions**



Regulatory Landscape

- Drinking Water Directive
- Water Framework Directive 



- Drinking Water Protected Areas
 - Statutory area required by **DWD** and **WFD** to protect raw water supplied which are abstracted for human consumption
- Drinking Water Safeguard Zones (surface and groundwater)
 - Non-statutory areas defined by EA and Water companies to target specific pollution challenges (WFD Article 7.3)
- Source Protection Zones
 - Tiered classification by EA of high risk land surrounding large and public potable groundwater abstraction sites



Treatability

High
↑
Difficulty of Removal
↓
Low

Glyphosate,
Bentazone

Chlorination

Mecoprop, MCPA,
Carbetamide,
Propyzamide

Ozone, GAC, SSF

Quinmerac,
Clopyralid

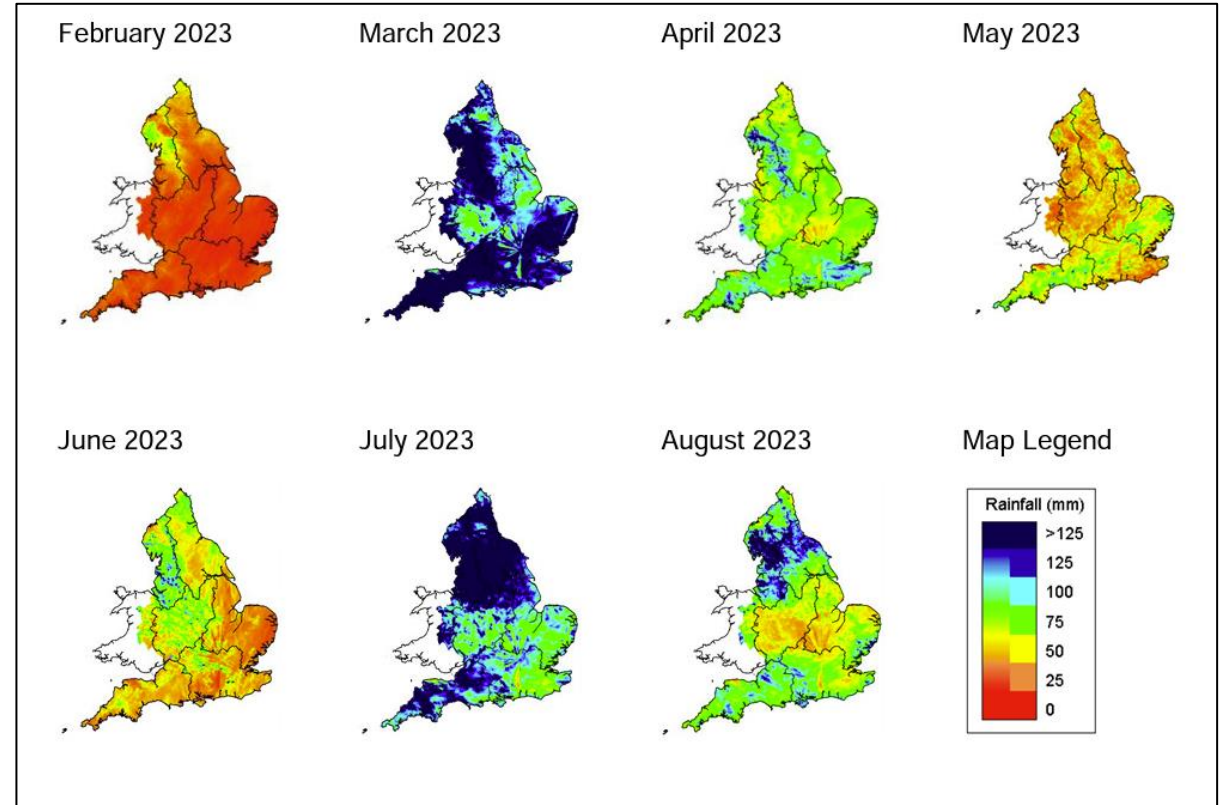
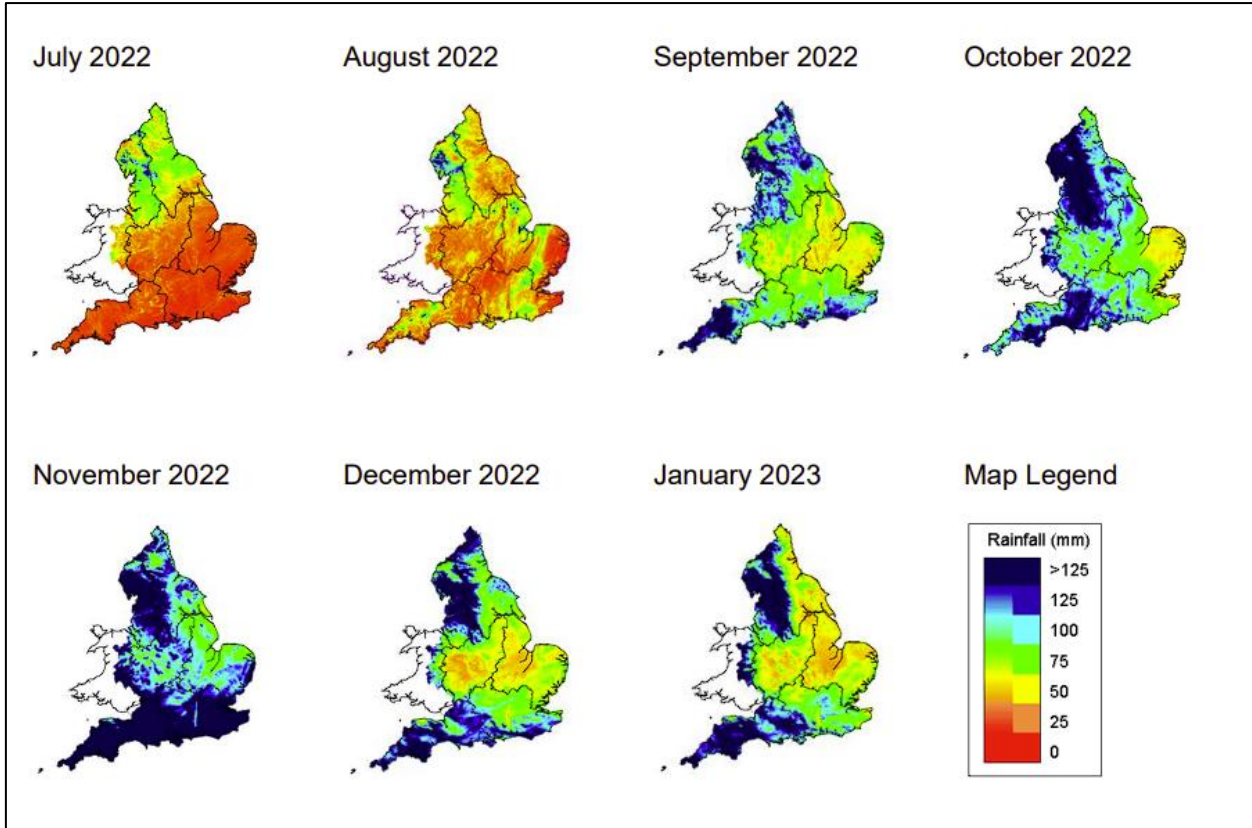
Fresh GAC

Metaldehyde

UV and Advanced
Oxidation



Weather



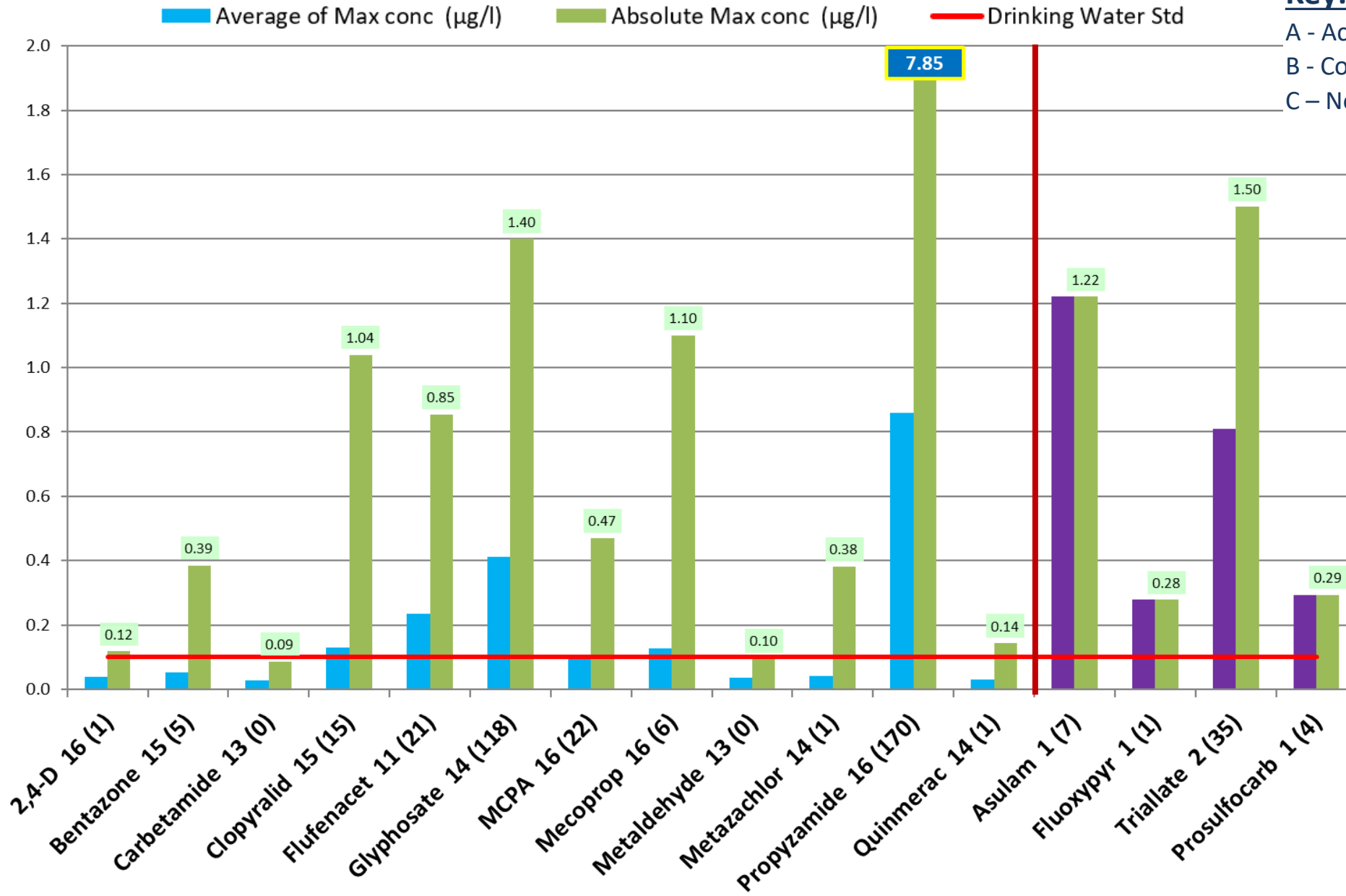
WINTER: Combined WC detections – Oct – Jan 23

Key: A B (C)

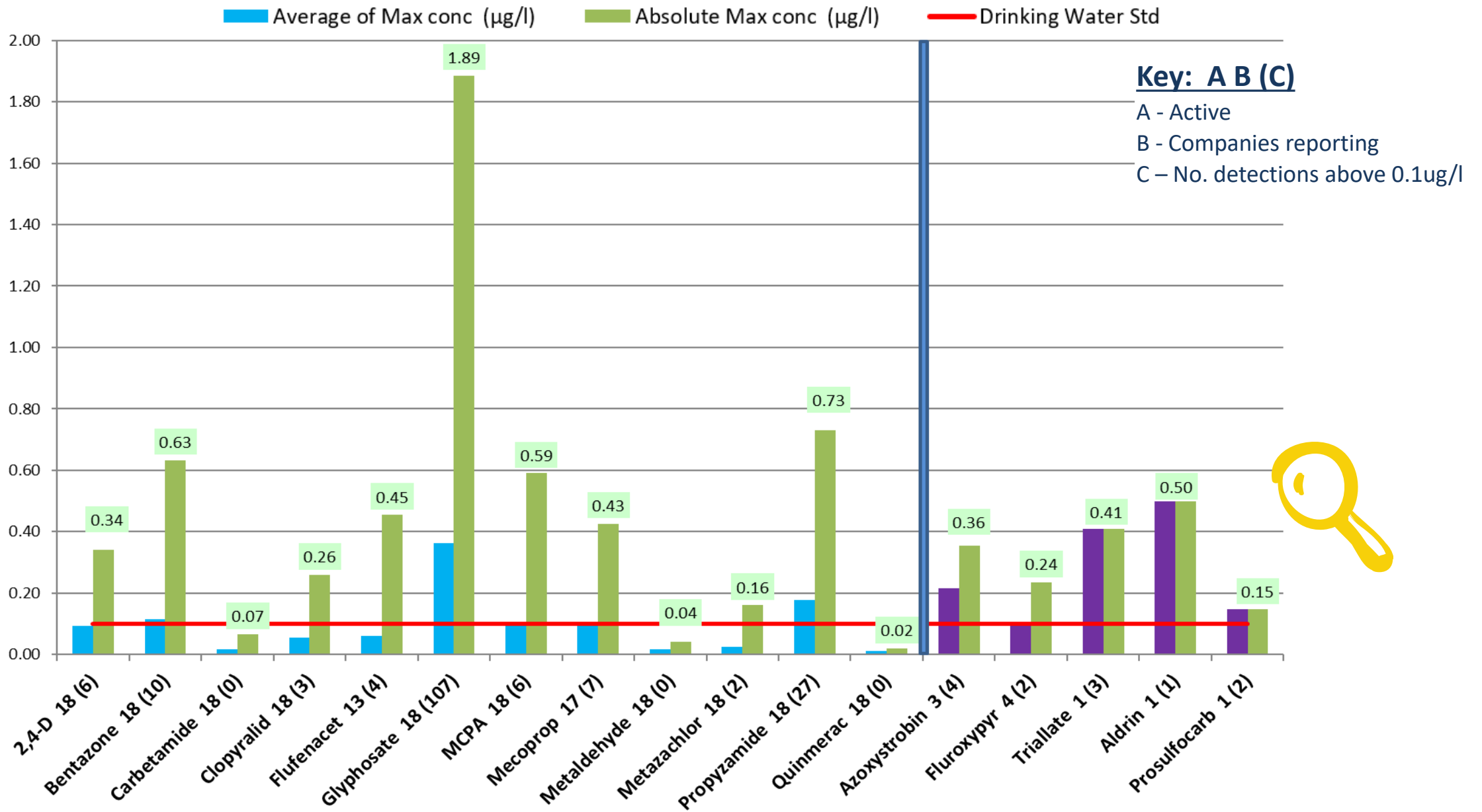
A - Active

B - Companies reporting

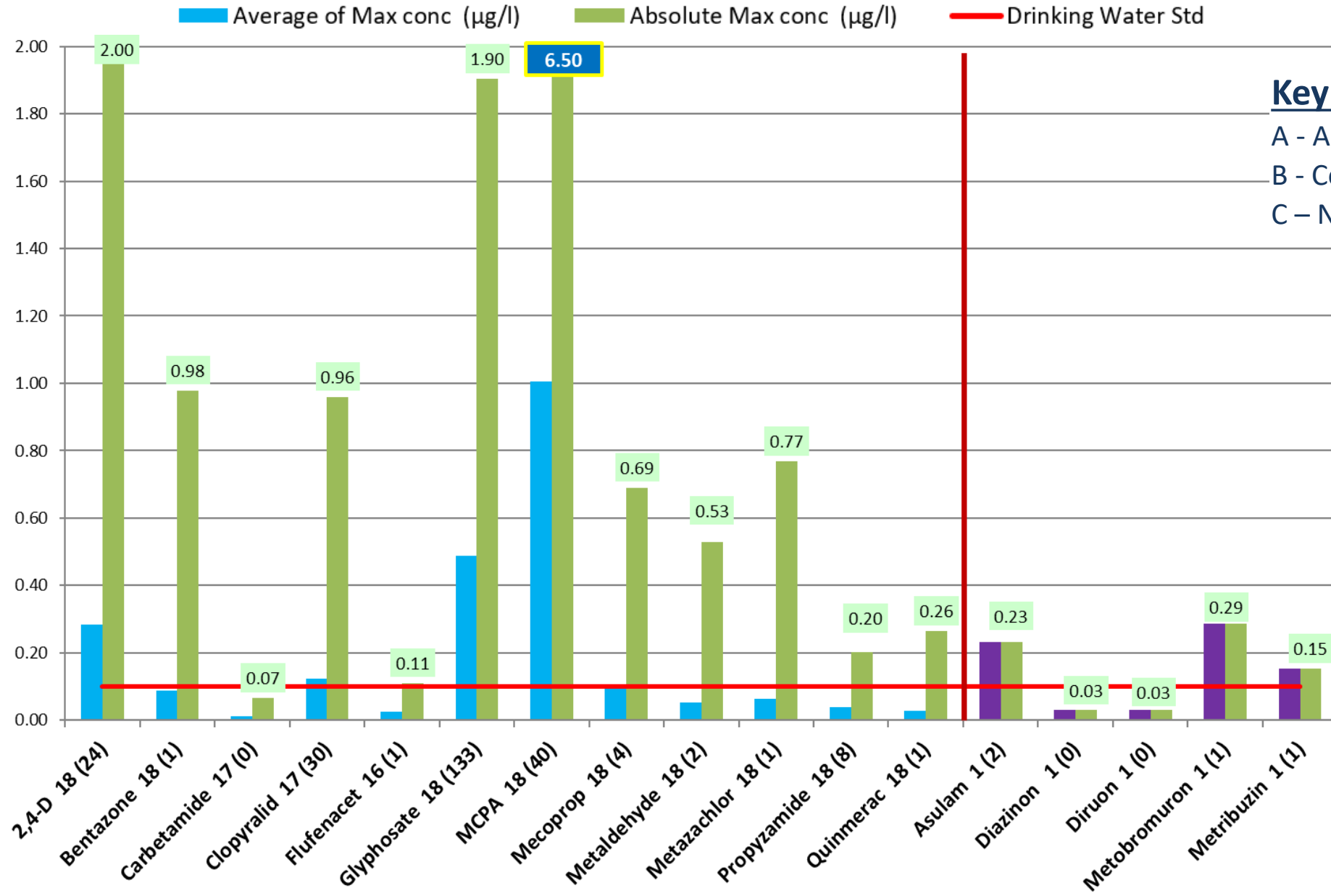
C – No. detections above 0.1ug/l



SPRING: Combined WC detections: Feb – May 23



SUMMER: Combined WC detections: June - Sept 23



Key: A B (C)

A - Active

B - Companies reporting

C - No. detections above 0.1µg/l



Grassland Trends (2023)



- **MCPA**

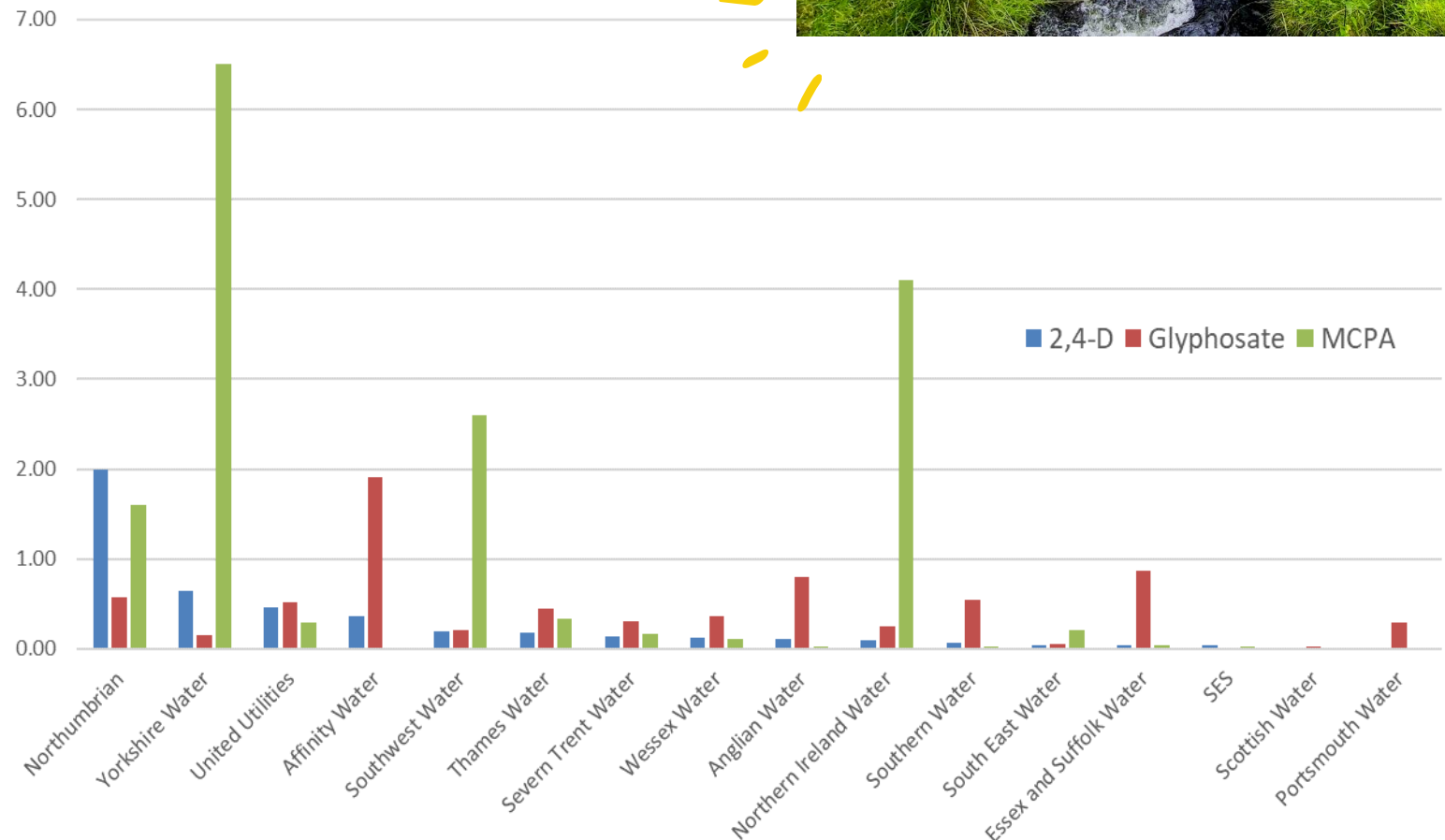
1068 Samples (3.7% over PCV)
MAX: 6.50µg/l
Avg Max: 1.00µg/l

- **2,4-D**

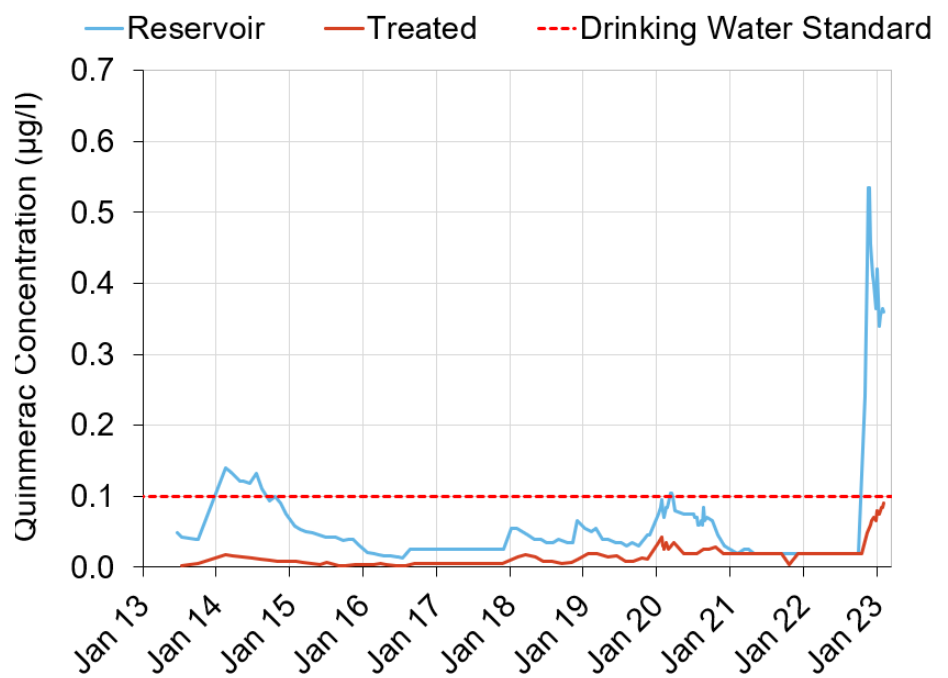
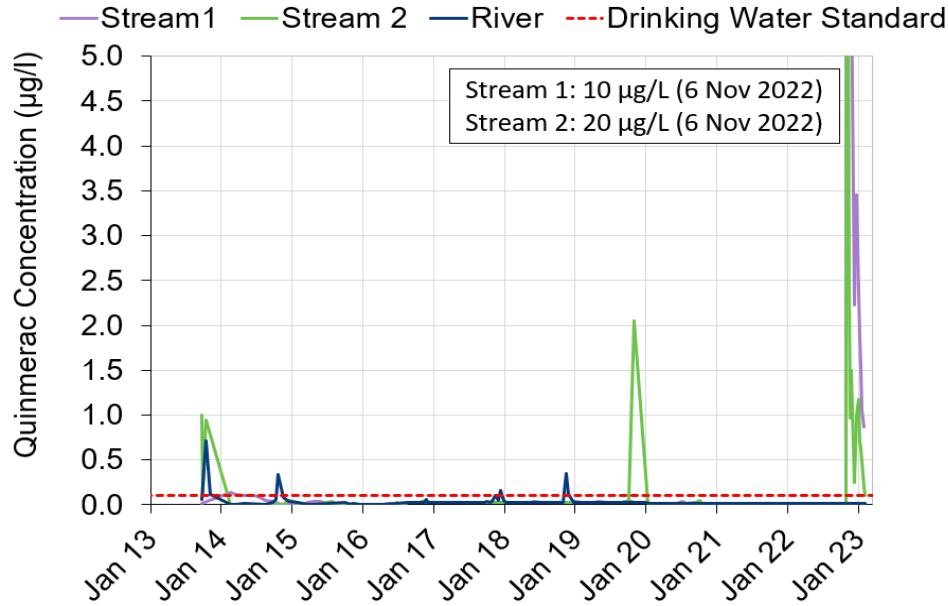
989 Samples (2.4% over PCV)
MAX: 2.00µg/l
Avg Max: 0.28µg/l

- **Glyphosate**

598 Samples (22.2% over PCV)
MAX: 1.90 µg/l
Avg Max: 0.49 µg/l



Case Study: Quinmerac



- Catchment 10-20x above standard
- Reservoir 5x above drinking water standard
- GAC available but at capacity

Investigations

- Clearfield OSR in catchment
- Heavy rainfall

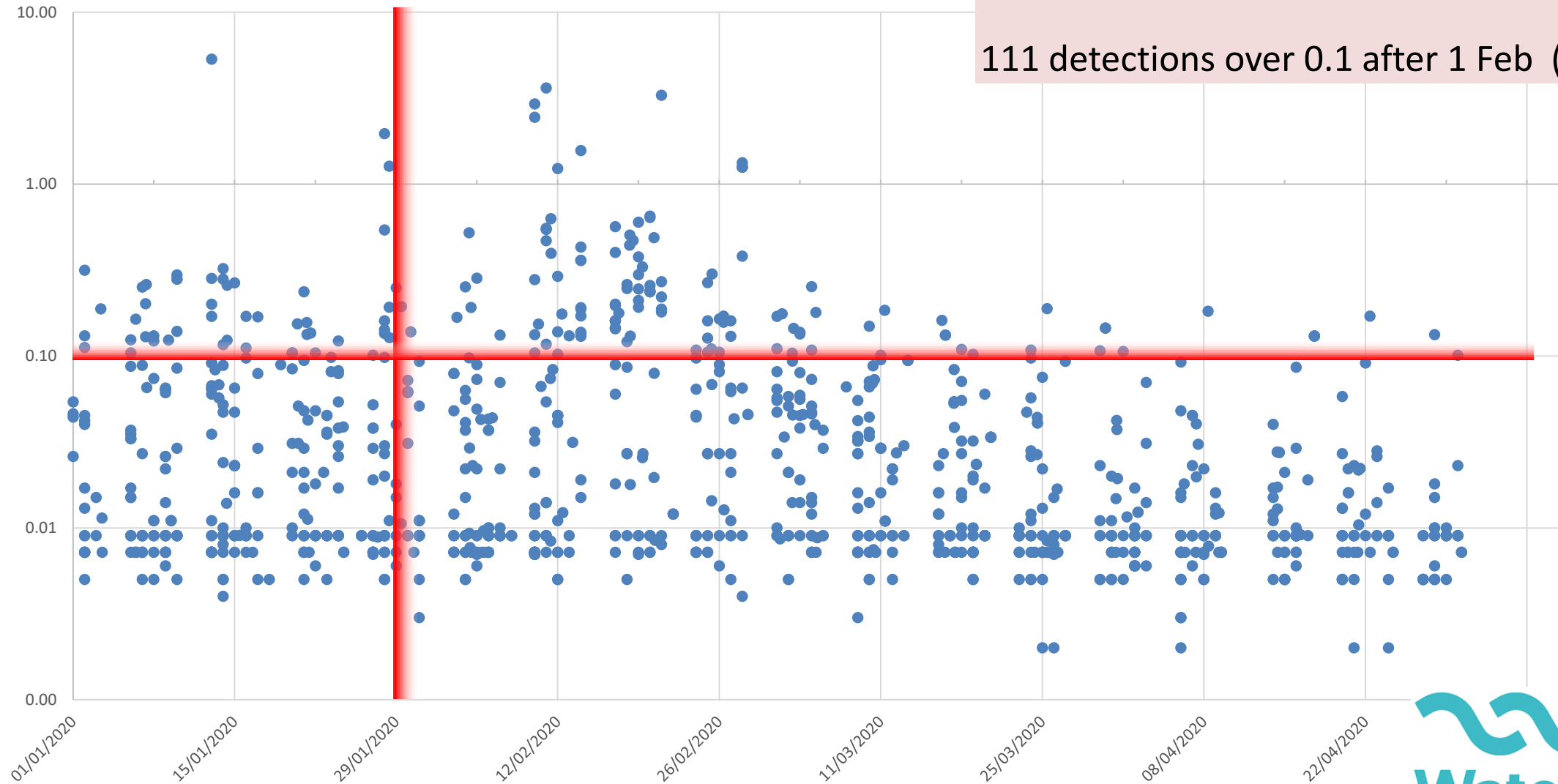


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Propyzamide 2020

1123 detections (1 Jan to 30 April 2020)
161 (15%) above 0.1ug/l
729 (65%) after 1 February

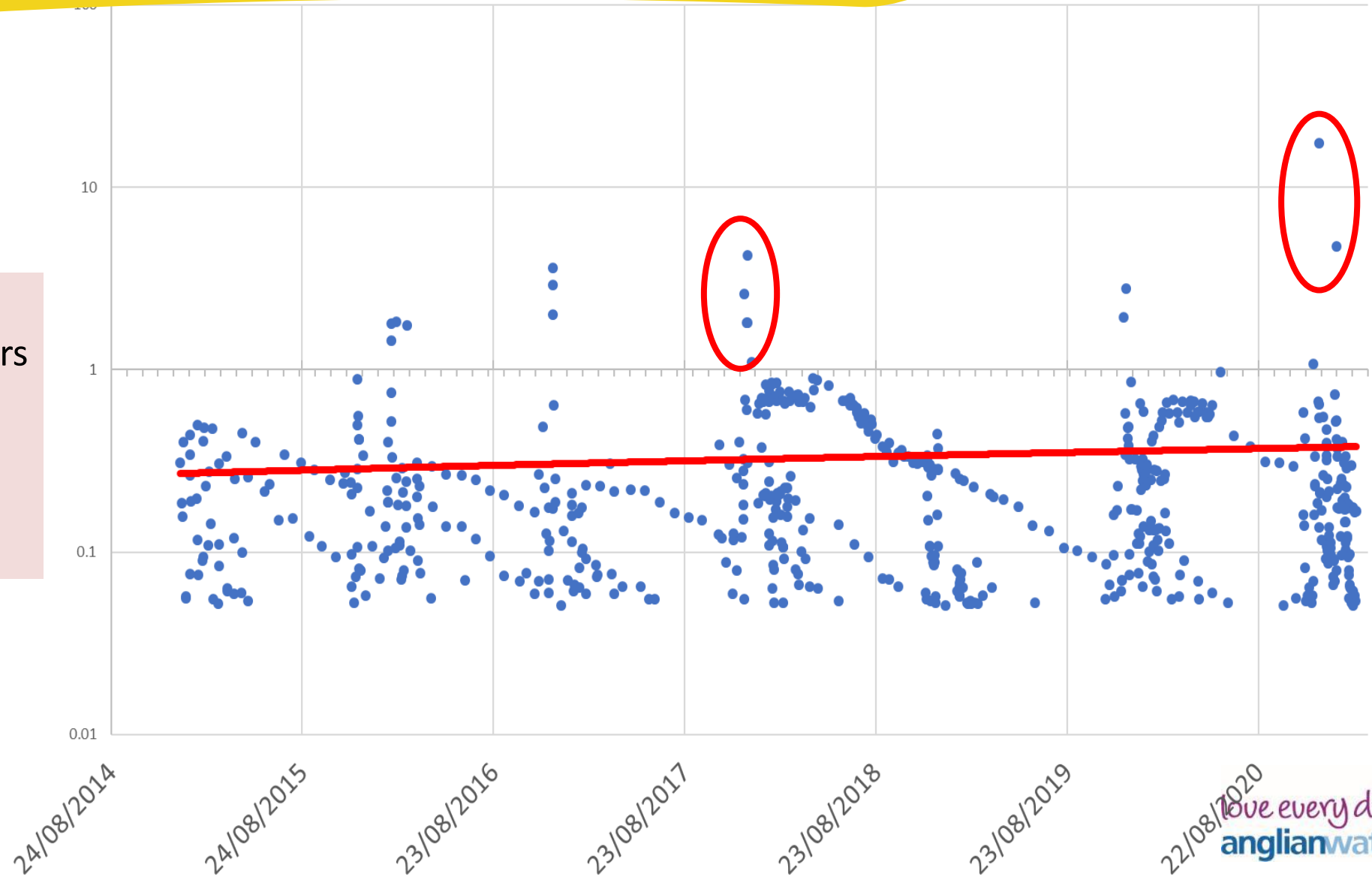
111 detections over 0.1 after 1 Feb (10%)



Propyzamide Trend 2014-2020

Steadily increasing trend over past 6 years

Average moved from 0.221 ug/l (2015) to 0.437 (2020)



Mitigation

- Field Trials
 - Farmer led
 - Manufacturers or Distribution Partners
- Communication
 - VI and Partners
 - National and regional events
- Grants & Training
 - IMP initiatives
 - Regenerative Farming approaches





Closing Points

- Local context
- Climate awareness
- Build Partnerships



Any questions?

