

Drinking water protected areas and pesticides

Claire Bell
WRc pesticide forum
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➔ Water Framework Directive

➔ Drinking water protected areas
and safeguard zones

➔ River basin management plans

Water Framework Directive - WFD

- Water framework – covers wide variety of aspects of water management
- Water body status - fundamental element within WFD
- Good status as an overall objective
- In England over 3500 surface water bodies and 271 groundwater bodies
- Pesticides can compromise water body status either directly (exceed environmental quality standards) or by impacting on ecology



Surface water body status under WFD

⇒ 2015 Directions updates standards

⇒ 35 pesticides with standards

2,4-D, Aclonifen, Alachlor, Aldrin, Atrazine, Bifenox, Carbendazim, Chlorfenvinphos, Chlorothalonil, Chlorpyrifos, Cybutryne, Cypermethrin, DDT, Diazinon, Dicofol, Dichlorvos, Dieldrin, Dimethoate, Diuron, Endosulfan, Endrin, Glyphosate, Heptachlor, Hexachlorocyclohexane, Isodrin, Isoproturon, Linuron, Mecoprop, Methiocarb, Pendimethalin, Permethrin, Quinoxyfen, Simazine, Terbutryn, Trifluralin

⇒ Includes those newly added

Aclonifen, Bifenox, Carbendazim, Chlorothalonil, Cybutryne, Dicofol, Dichlorvos, Glyphosate, Heptachlor, Methiocarb, Pendimethalin, Quinoxyfen, Terbutryn

Water body status under WFD

- ➔ The status of 12 of the >3500 surface water bodies are currently compromised by elevated pesticide levels
- ➔ Groundwater status is measured in different ways to surface waters. 7 of the 271 ground water bodies are at poor chemical status due to pesticides

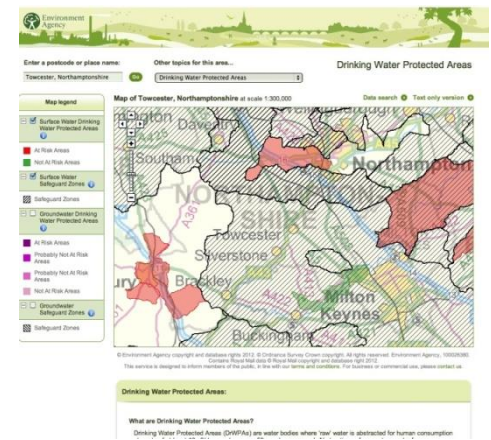
Drinking Water Protected Areas

- The Water Framework Directive also introduces the concept of Drinking Water Protected Areas (DrWPAs) and has the following objectives:
 - ensure that, under the water treatment regime applied, the drinking water produced meets the requirements of the Drinking Water Directive; and
 - ensure necessary protection of the DrWPA with the aim of avoiding deterioration in water quality in order to reduce the level of purification treatment required in producing drinking water.



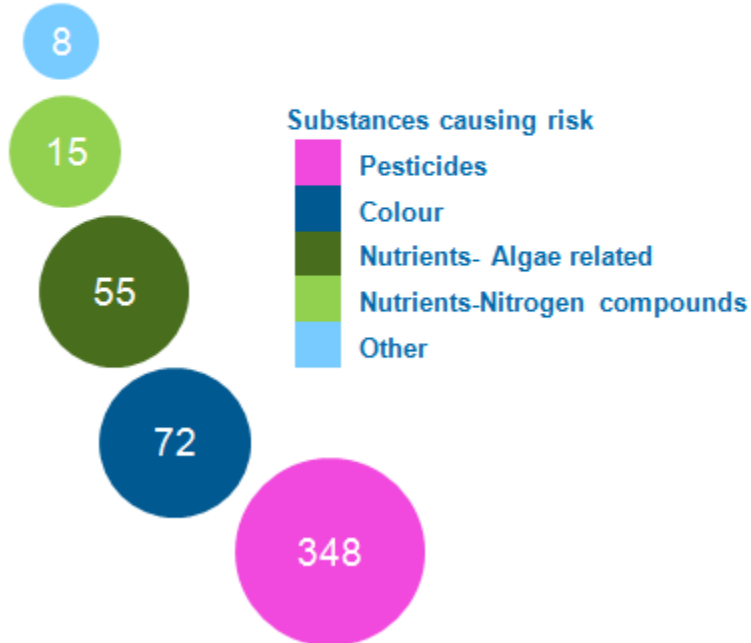
Drinking Water Protected Areas

- ➔ 486 WFD surface water bodies are identified as DrWPAs
- ➔ 122 surface waters considered 'at risk' from pesticides
- ➔ All 271 groundwater bodies are DrWPAs
- ➔ 22 groundwater bodies have Safeguard Zones established for pesticides
- ➔ Managing water supplies to avoid water contaminated with pesticides getting into supply can be costly

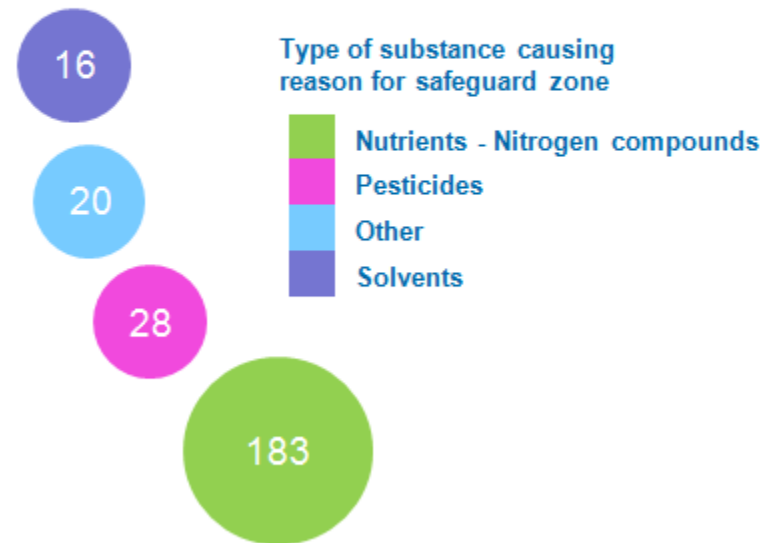


Reasons for risk in SW DrWPAs and reasons for identifying GW SgZs

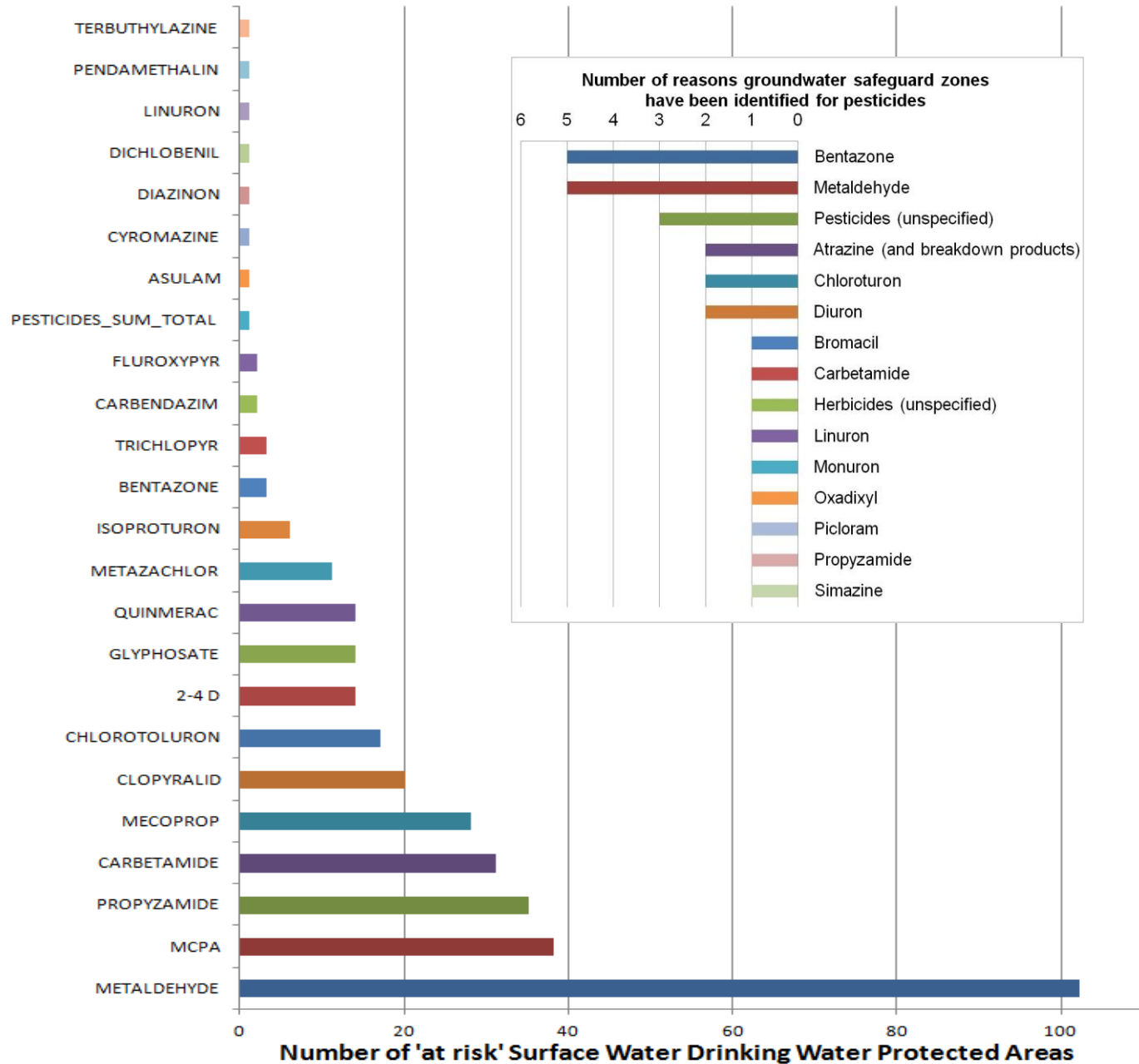
Numbers of reasons for surface water Drinking Water Protected Areas (DrWPA'S) being 'at risk'



Numbers of reasons for identifying groundwater safeguard zones

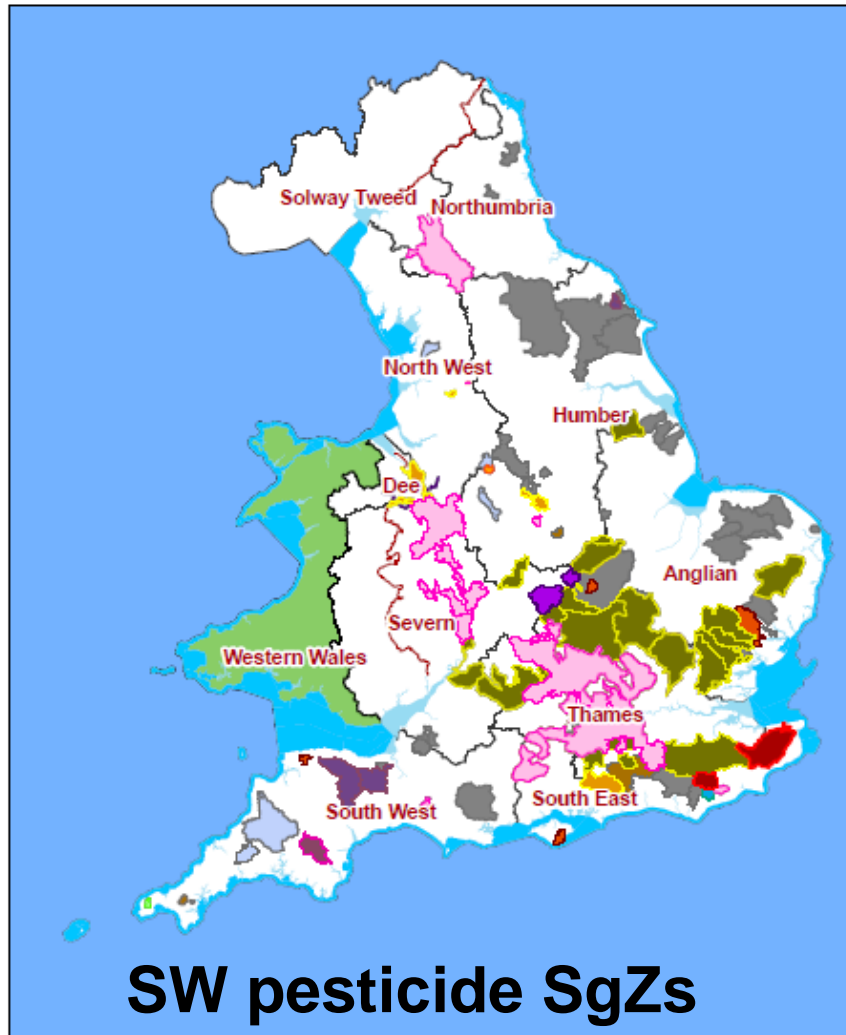


Number of Surface Water Drinking Water Protected Areas 'at risk' for Pesticides



Safeguard zones and action plans

- Non statutory safeguard zones (SgZs) are established for those DrWPAs that are 'at risk'
- Usually based on:
 - the catchment upstream of a surface water abstraction
 - the source protection zone for a groundwater abstraction
- Means of targeting where additional measures are needed to protect water quality
- Pesticides: 96 SW SgZ and 22 GW SgZs
- SgZ action plans: information on risks and measures



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River Basin Management Planning

- ➔ Six-year cycles
- ➔ First cycle plans published Dec 2009
- ➔ Next plans are due to be published in December 2015
- ➔ Consultation on draft plans closed in April
- ➔ Associated narratives on DrWPAs and chemicals
- ➔ A key focus of plans is on the status of water bodies and programmes of measures to meet these
- ➔ Other measures include those relating to Drinking Water objectives



Summary

- ➔ Pesticides are a problem in the water environment, particularly in drinking water supplies
- ➔ Pesticides are the biggest issue for SW DrWPAs
- ➔ Pesticides are also found to a lesser extent in GW DrWPAs
- ➔ Need to identify a way to effectively manage pesticides in drinking waters
- ➔ Metaldehyde is currently the biggest issue