



Managing pests in a changing world



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	One Health
	Glue traps
	Warming cities (study)
	Rodent resistance
	Insecticide resistance
	Other mice species

One Health

One Health is an integrated, unifying approach that aims to sustainably balance and optimise the health of people, animals and ecosystems.



How does this apply to us?

What forms part of One Health?

- Antimicrobial Resistance (AMR)
- Zoonotic diseases,
- Vector-borne diseases, food safety and foodborne diseases
- Environmental concerns.



Glue Traps (also known as Glue Boards)

England



Glue Traps (Offences) Act 2022 – Class and Individual Licence can now be applied for following approval.

Wales



October 2023, banned under The Agriculture (Wales) Act 2023.

Scotland



From 1 July glue board use will be illegal under the Wildlife & Muirburn act.

Northern Ireland



No bans considered currently.

Warming cities, rising rats:

Climate change and urbanisation fuelling rat increases by
Jonathan L Richardson from the University of Richmond



Most cities studied showed significant increases in rat numbers. Cities that experienced greater rises in average temperatures over time also saw the most significant increases in rat activity.

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Rapid urbanisation, particularly the loss of green space, was linked to faster rat population growth. Higher human population density was linked to more rats from increased food waste and shelter.

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The wealth of a city did not seem to affect rat trends, with both affluent and less affluent cities experiencing growth.

Rodent Resistance

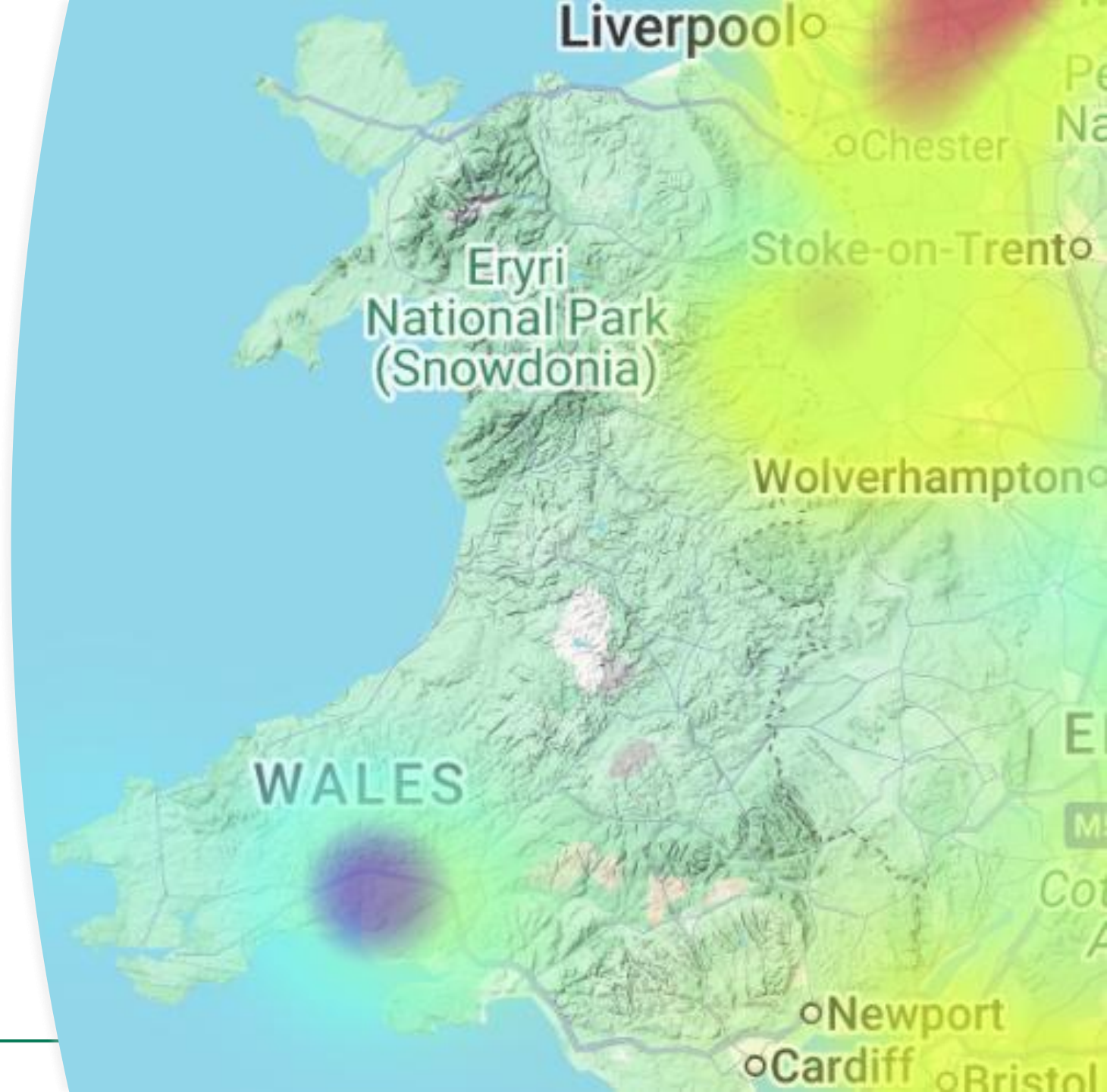
- Behavioural

AND

- Metabolic.



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Insect resistance - What is it?



Target site resistance

In this type of resistance, a mutation in the resistant insect blocks the pesticide from binding to its “target-site” within the insect.

Insect resistance - What is it?



Metabolic resistance

Insects with this type of resistance make greater amounts of enzymes that break down or wrap up (sequester) insecticide molecules before they reach their target sites.

Insect resistance - What is it?



Penetration resistance

This occurs when the insect's outer cuticle develops barriers which can slow absorption of the chemicals into their bodies.

Other mice species



Wood mice
(*Apodemus Sylvatica*)



Yellow-necked mice
(*Apodemus Flavicollis*)

Questions?
And thank you!

