***­­­environmental SCIENTIST* journal: Learning Resource Notes**

The purpose of these educational resource notes is to provide a format for informal, seminar-style discussions of the topics explored in the latest edition of the journal of the Institution of Environmental Sciences.

Through discussion of the ideas and issues presented within the journal, they aim to supplement and enhance students’ knowledge and understanding of a broad range of environmental science issues and provide insights into the professional concerns of practising environmental scientists.

**Articles in focus**

The below articles have been selected as particularly relevant for in-depth discussion, allowing for wider debate of the key elements of the article topic. Some specific questions you may wish to consider when reading and discussing these articles are outlined.

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| Learning outcomes | * Understand the main ideas discussed in the publication * Describe the main conclusions and their relevance to the environmental science sector * Critically reflect on the main concepts discussed |
| Format | * Articles of particular interest are to be selected and shared with the group to read ahead of the discussion. Suggestions of focus articles are attached here * Small group discussions of articles that closely relate to programme content to supplement learning * Discussions can be led by participants or the tutor, using the ‘articles in focus’ resource to prompt debate and aid the conversation * The suggested discussion points and questions provided in this pack for selected articles can be used as a starting point to guide the discussion * Students can be encouraged to choose to discuss any of the other articles within the issue |

**A cover of a magazine

Description automatically generated**e*nvironmental SCIENTIST* **Unearthing Global Megatrends in Land Condition**Vol 32, issue 2

<https://www.the-ies.org/resources/unearthing-global-megatrends>

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| **Topic overview** | * No profession operates in a vacuum and it is imperative that we pay attention to emerging drivers of change. This edition of environmental SCIENTIST explores how the European Environment Agency's eleven global megatrends are influencing the work of the land condition community. Tackling diverse topics from microplastics and antimicrobial resistance through to climate change, the journal suggests how we should be developing approaches to accommodate these momentous changes. In this way, land condition professionals, and other environmental disciplines that interact with land, can be prepared for future conditions and contribute meaningfully to sustainable development. |
| **Articles in focus** | |
| **Microplastics: an increasing threat to global soil health?**  **Paul Dumble, Diogenes Antille and Robert Earl (p.78)** | **Article overview:** This article considers the growing impacts of microplastics pollution on soil health. |
| * Discuss the key differences between primary and secondary microplastics. * How do the 98% of microplastics captured in wastewater treatment plants make it back into the wider environment, and into the soil? Discuss the different ways this can take place. * Why might marine microplastic pollution have had more attention (in the media, research, public awareness contexts) than microplastic soil pollution? * How do you think climate change is impacting/will impact how microplastics behave in the soil? What are the key risk factors of climate change to microplastic soil pollution? |
| **Tackling Scotland’s legacy of vacant and derelict land**  **Hamish Trench**  **(p. 20)** | **Article overview:** This article explores how both economic growth and governance changes can improve the prospects of derelict lands in Scotland. |
| * How does the author suggest the number of VDL sites may change in the future, with the changing economic climate? What risks could be involved with this changing trend? * Discuss and summarise the different ways that VDL (vacant and derelict land) could have adverse effects on the health of individuals and communities in Scotland. * The author states that communities should play a key role in prioritising and choosing which sites should be remediated. How do you think communities can/should be integrated into this decision-making process? |
| **We must farm organically to save the UK’s threatened soil ecosystems**  **Gareth Morgan**  **(p. 70)** | **Article overview:** This article advocates for an agroecological approach to farming in order to preserve soil health. |
| * How much soil is at risk of erosion in England and Wales, and what are the factors that have led to soil erosion in UK environments? * Analyse one of the arguments that the author puts forward for the adoption of an agroecological system: what are the benefits of adopting this system, and what are the possible risks? * Evaluate the references used to support the facts included in the article. Are there any sources that might be less reliable, or scientifically rigorous? If so, why? |