***­­­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
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| 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
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****e*nvironmental SCIENTIST* **Ecosystem restoration: securing biodiversity, complexity and resilience**Vol 31, Issue 3

<https://www.the-ies.org/resources/ecosystem-restoration-securing>

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| **Topic overview**  | * The case for ecological restoration goes way beyond reasons of biodiversity recovery for the sake of biodiversity alone; it is also fundamental for our health, wellbeing and economy, and tackling climate change. Inspired and guest-edited by the Restoring Resilient Ecosystems project, this edition of *Environmental Scientist* brings together scientists, policy-makers and practitioners to discuss our approaches to ecological restoration and address the need for securing ecological complexity and connectivity to establish ecosystems and landscapes that are well-functioning and resilient under ongoing environmental change.
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| **Articles in focus** |
| **The challenges of ecosystem restoration****Kirsty Park, Jim McCarthy and Ben Harris (p.8)** | **Article overview:** This article examines the drivers and challenges of setting and achieving ecosystem restoration goals. |
| * How do ‘biological time lags’ inhibit effective restoration efforts?
* Referring to Figure 1., what are some further examples of socio-economic drivers and external drivers of change that influence the success of restoration goals?
* Give an example of when public perceptions might interfere with (or be at odds with) a designated restoration site.
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| **Supporting climate resilience for nature in our network of protected sites****Simon Duffield, Humphrey Crick, Mike Morecroft and Kim Owen (p.38)** | **Article overview:** This article looks at the role of protected sites in tackling climate change. |
| * Sites of Special Scientific Interest (SSSIs) protect a representative sample of species and habitats. Aside from the fact that all will be impacted by climate change, why could this approach be suboptimal?
* Thinking about climate resilience, give two reasons why a ‘network’ of protected sites is wise to aim for.
* Looking at Figure 1., what is the overall trend in the distribution of priority cells from ‘Recent’ to ‘Future’, and what might this say about the changing climate?
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| **Rewilding Knepp Castle Estate****Isabella Tree (p.80)** | **Article overview:** This article looks at how the Knepp rewilding project differs from conventional ecosystem restoration efforts. |
| * Can Knepp’s ‘natural process’ approach - whereby fauna return to a site of their own accord - reconcile with methods of ecosystem conservation or restoration mentioned elsewhere in the journal (for example the use of SSSIs)? Does your answer justify both methods being used, or should one become the blueprint for all restoration efforts?
* What can the story of nightingales at Knepp tell us about a ‘wait and see’ policy to restoration?
* Highlight a few barriers to landowners following Knepp’s example. How could these be overcome financially, politically or otherwise?
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