***­­­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* **Evolving together: 50 years of environmental science and the IES**Vol 31, Issue 2

<https://www.the-ies.org/resources/evolving-together-50-years>

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| **Topic overview**  | * 1972 represents a watershed moment in human history, with recognition that our activities were not only impacting ecosystems but also feeding back directly into human wellbeing and future prospects. This pivotal year saw several key events that brought the environment into the public and political consciousness for the first time, and was also the founding year of the IES. Half a century on from the events of 1972, this issue of Environmental Scientist looks back at 50 years of environmental science and explores how both the environmental sector and the IES have evolved in this time, as well as looking ahead to the next 50 years.
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| **Articles in focus** |
| **What does good look like?****Sara Parkin (p.10)** | **Article overview:** This article is an opinion piece examining the environmental progress of the last 50 years. |
| * Does ‘business as usual’ look different now to how it did in 1972?
* The article questions: ‘Have we underestimated the opposition?’. Who **are**the opposition to progression of the ‘green dream’ and why?
* On 14th October 2022 it was reported that animal populations have experienced a decline of around 70% since 1970 – roughly the same year (1972) that environmental sciences rose into public consciousness. From Sara’s 3 suggestions of where the environmental movement has ‘got it wrong’ (p.13), which resonates most strongly with this finding?
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| **Best practice in mitigating shifting environmental problems****Craig Love (p.35)** | **Article overview:** This article considers how engineering and natural solutions can work together to combat climate change. |
| * Why might finding nature-based and engineering solutions become more important in the future?
* When we think about nature-based solutions, many of us will first consider tree planting. Can you think of how a nature-based solution might be deployed in a marine or freshwater environment?
* What is your view on carbon offsetting? Does it represent effective climate action as a standalone approach, and why?
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| **Stockholm 50 years on: what role have non-governmental organisations played in the development of the environmental agenda?****Paul Johnston, David Santillo and Simon Black (p.58)** | **Article overview:** This article looks at the impact of NGOs on decision-making across environmental issues. |
| * The Stockholm Declaration stated that ‘individuals in all walks of life as well as organizations in many fields, by their values and the sum of their actions, will shape the world environment of the future’. Do you believe this is accurate?
* Who do environmental NGOs speak for? Are they at risk of being non-participatory?
* The article has a relatively strong focus on Greenpeace, which often undertakes ‘peaceful direct action’ such as blocking sewers, [occupying oil rigs and more.](https://www.greenpeace.org.uk/news/six-greenpeace-non-violent-direct-actions/) Do you think these more expensive actions are more effective than written or verbal output campaigning, and what effect might they have had, if any, over the past 50 years?
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