Galvanising Change via Natural Capital

Newsletter

September 2025

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Welcome

This is the seventh newsletter for the Galvanising Change via Natural Capital project. Every newsletter introduces someone on the team, and this time we introduce you to Karolina Trdlicova, a researcher working at the James Hutton Institute who has joined our work exploring the potential to link natural capital into policy. In this newsletter Karolina proposes the benefits of understanding socio-technical systems, using Aberdeen as an interesting example. We also have a feature by Sam Poskitt, who explains a new toolset for appraising Natural Capital with stakeholders, aiming to incorporate diversified knowledge into representations of Natural Capital. Kerry Waylen offers a forward-looking perspective on the inclusion of local government within the Natural Capital conversation and as always we finish by providing you with some interesting papers, resources and events to look out for.

In case you are not already familiar with our project, you can download a 1-page summary, visit our webpage, or contact Kerry Waylen: Kerry.Waylen@hutton.ac.uk

Our project runs for 5 years and this newsletter comes out every 6 months: do forward to any colleagues or contacts that may be interested. They can subscribe via this link.

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Meet a team member

Karolina Trdlicova

Dr Karolina Trdlicova recently joined the Social, Economic and Geographical Sciences department of the James Hutton Institute as a research scientist. Before this she worked for a year in the Institute's Ecological Sciences department as a citizen science coordinator. Outwith the 'Galvanising Chage via Natural Capital' project, she's currently working on several projects, one on Scotland's Land Use Transformation, another focuses on mapping the state of soil and increasing soil literacy across Europe.

In her PhD in Science and Technology Studies, which she attained from the University of Nottingham, Karolina conducted a comparative analysis of shale gas and bioenergy with carbon capture and storage discourses within the context of the UK's net zero transition. The interest in energy technologies and energy transitions then extended beyond the scope of her PhD. Shortly before joining the JHI, Karolina was a Visiting Fellow with the Climate Citizens project at Lancaster Environment Centre at the University of Lancaster. During this fellowship she focused on researching how the net zero transition was represented and written about in the newspapers of the 'oil capital of Europe', Aberdeen. She also holds an MA in Social Science Research (Sociology) from the University of Nottingham.

Karolina enjoys working in interdisciplinary environments, particularly on projects which straddle the boundary between social and technical systems related to the environment, climate change, energy and nature. Throughout her work, she has paid particular attention to the language and discourses that arise within these boundaries and enjoys analysing them using different methods, ranging from discourse analysis to corpus linguistics. Although she is new to the concept of Natural Capital, she enjoys working on it precisely for these reasons, as it is a way of thinking about and (linguistically) framing nature in a way that can ensure its long-term protection. Learn more about Karolina here

Why is it useful to think of nature services and natural capital in 'socio-technical' terms?

Karolina Trdlicova

It has been suggested that bringing socio-technical systems thinking into the conversations around natural capital is important. Not least because socio-technical dynamics and systems underlie a lot of environmentally destructive practices; but also, because technologies have the power to fundamentally change how we relate to the world around us, including the natural world. Therefore, looking at socio-technical systems can help us understand the interconnectedness between human activities and the natural environment.

The 'socio-technical systems' approach is used to describe the interconnected relationship between humans and technology and to capture the way in which they mutually impact and influence each other. It highlights how systems, which are very technologically complex, like energy technologies, are inherently intertwined with not only material realities, but also social practices, policies, social systems, institutions, regulations and cultural values (Rosenbloom, 2019). An example, which illustrates this quite well is the city of Aberdeen – a.k.a the 'oil capital of Europe' – which is faced both with the technological complexity of the net zero transition, but also with the social impact of de-transitioning from the fossil fuel industry, which it has been economically and socially tied to for many decades. Identifying what the transition could look like – let alone achieving it – cannot be done solely by thinking about the technology of oil rigs and wind turbines.

When technology enhances and transforms human capacities it changes our temporal and spatial, qualitative, and quantitative relationship to our environment. One example that is used in the literature to illustrate this, is the replacement of horse carts by cars (Ahlborg et al., 2019), which may have contributed to driving economic growth in many aspects and changed the way in which people can move through the world. Cars are often referred to in the literature as a 'lock-in technology'(Foreman-Peck, 1996). This means that our everyday infrastructures are geared towards individuals owning a car. Car use then impacts the environment in a number of ways, from emissions causing air pollution to wider car road infrastructure changing landscapes, to tyre residues causing micro-plastic pollutions in soil, etc. Apart from making cars electric, some of these impacts on natural capital are difficult to change because of the depth of which this technology is embedded, or 'locked-in' to society. So, in other words, whilst technology can transform our human power and agency it can also dictate the scale of impact we have on the natural world and the capacity we have to change the impact.

It is therefore important to include technology in our analyses of natural capital because of the way that technologies can impact our socio-ecological relations by changing the scale at which we are impacting nature both in positive (e.g. renewable energy technologies) and negative ways (e.g. fossil fuel dependent technologies). Both natural resources and technologies are embedded in a space and place, they do not exist in an a-societal and a-historical vacuum. The same way in which technologies and society impact each other, natural capital is impacted by human activities which can in turn affect the social or economic functions of natural capital. Ecosystem services are co-created and co-dependent on human activities. And so, thinking in socio-technical systems way can help us capture the interconnected relationships between society, nature and technology.

If you pick just one piece to look into further, have a look at Ahlborg et al (2019) which delves more in depth into why the socio-technical systems perspective is a useful way to think about ecology in particular and why the inclusion of technology within ecology research is so important.

What have we learned about integrating diverse knowledges for understanding natural capital?

Sam Poskitt, Simone Martino, Katy Joyce, Maria Nijnik

In the project 'Bringing in participatory approaches to broaden the scope of natural capital valuation', we are exploring approaches for integrating diverse ways of knowing and valuing nature. We'd like to share some lessons about how diverse knowledges can be effectively integrated into appraisal of natural capital, and then reflect on what this might mean for decision-making. Our reflections here are primarily based on two recent activities. Firstly, in May 2025, Sam Poskitt participated in an international workshop, organised by the Inter-governmental Panel on Biodiversity and Ecosystem Services (IPBES). This explored how local and indigenous knowledge could be incorporated in future scenarios for assessing biodiversity and ecosystem services. Additionally, this June, we conducted a workshop with national and local-level stakeholders to use and review a 'toolset' for understanding values for natural capital.

Not all types of knowledge are respected equally in decision-making

There are many different ways of knowing, relating to and valuing nature, far beyond economic and functional benefits derived from discrete 'natural assets'. This includes cultural aspects, worldviews and belief systems, but can also include information about how people depend on nature for their health, wellbeing, and livelihoods. For example, the perspectives of many local and indigenous peoples, around the world, centre the interconnectedness of people and nature as integral to their worldviews and livelihoods, and thus have relationships with nature that are based on careful stewardship, rather than extraction. Local and indigenous perspectives need to be given due respect and consideration in decision-making, to draw on a full range of knowledge and values for nature.

Testing the toolset with stakeholders at Glensaugh

Credit: Chen Wang

However, different ways of knowing and valuing nature may not be perceived as equally valid or important in making decisions, often as a consequence of historical social, economic and political marginalisation. Indigenous and local knowledge is often not easily represented within dominant decision-making and economic frameworks, and typically carries less political influence in decision-making than knowledge derived from formal science, despite also being based upon 'empirical' observation of the natural world over long periods of time, in many cases. Representations of local and indigenous worldviews may sometimes be ideologically-influenced, or emphasised for political gain, but arguably the same may be said of any approach to valuing natural capital. We therefore need to find ways of appropriately representing *all* types of knowledge and critically reflect on how we interpret and use them.

Approaches for incorporating different types of knowledge in decision-making

In our project, we developed an approach for assessing natural capital that aims to promote equitable inclusion of different kinds of knowledge and values. It includes a toolset for practitioners to use for appraisal of natural capital with stakeholders at the landscape scale (e.g. landowners, land managers, farmers, communities, etc) including tools for mapping, grouping, planning, and dialogue. We have learned, through developing and testing the toolset with stakeholders, that not all tools are always appropriate for different types of knowledge, or for every decision-making context. For example, tools for quantifying natural capital values may not be suitable for understanding local and indigenous worldviews and relationships with nature. In cases where this is important, qualitative and narrative-based tools that represent past, present and possible future relationships with nature may be more suitable. The types of knowledge, values, and people involved in decisions about natural capital will affect the combination of tools that should be used to inform those decisions. It's important to involve people who are affected by a decision early on, to help ensure toolsets are appropriate.

Ways forward

Appropriately and equitably integrating diverse knowledges and values into decision-making about natural capital is far from easy. However, we do think it is important, for transparency, inclusion, and fairness, as well as understanding natural capital and making decisions that benefit both people and nature. We believe that our toolset may work best when working together with stakeholders in a specific context, to address a particular issue at a small scale. Trialling it at a small scale would help to develop learning, experience, and good practice that could then be upscaled and mainstreamed. At a higher level, policy-makers can help by creating an environment that enables space and resources for dialogue and co-creation, and that accepts there are no 'one-size-fits-all' solutions. Training and funding for skilled facilitators would be one way to help integrate diverse knowledges and values into decision-making about natural capital.

In the near future, we are hoping to trial an application of the toolset to support deliberation over a real-world issue. Please get in touch if you would like to know more, or to keep in touch with our project.

The project Bringing in participatory approaches to broaden the scope of natural capital valuation' is supported by the Scottish Government RESAS 2022-27 Strategic Research Programme, project KJHI-D5-1.

The Plock of Kyle –where Sam is working with local knowledge to help inform decisions about land use. Credit: Sam Poskitt

Contact SamPoskit@Hutton.ac.uk for further information

Local government – a missing puzzle piece in the natural capital debate?

Kerry Waylen

Working with natural capital is motivated by trying to get more actors from across sectors involved in valuing and restoring nature. However, in all the talk about widening the set of groups involved (the idea of 'mainstreaming'), perhaps local government is not given enough attention.

Much of the zeitgeist these days is focused on private sector actors. This is also true in this project, where part of our research focuses on how to encourage and enable businesses to get involved in managing and working with nature. We do also look at national-level policy making, but we don't focus on local government in this project.

However, we are seeing increasing warnings that the role and resources of the public sector actors are always going to remain crucial: so we should not solely focus on the private sector. Therefore, we need to consider all parts of the public sector.

Local government is responsible for providing services to their communities. It therefore makes sense that local authorities have the mandate and resources to be involved in coordinating and resourcing nature management, so that can provides public services such as recreation, health benefits, flood risk alleviation. And there are certainly some really interesting examples of local government doing that, especially in urban spaces – see the work of Local Governments for Sustainability (ICLEI) . In the UK, Birmingham is famous for working with ecosystem services and natural capital ideas for over a decade, recently becoming the City of Nature.

Image of the webinar "The role of local government in shaping nature markets" taken with thanks from the EKN website at https://ecosystemsknowledge.net/resources/webinar-library/part-1-the-role-of-local-government-in-shaping-nature-markets/

A recent Ecosystem Knowledge Network webinar explored more about the role of local government in nature markets https://ecosystemsknowledge.net/resources/webinar-library/part-1-the-role-of-local-government-in-shaping-nature-markets/ It was based on 2 years of work by a cohort of 4 local authorities, supported by a Local Investment in Natural Capital (LINC) programme trying to enable private finance to help them meet their duties to provide services to local people. The local authorities were seen to have 'legitimacy and convening power' to help direct local finance, but independent oversight and expertise was still needed to enable private investments.

Unfortunately, local authorities across the UK are presently very stretched in their resources, with cuts to environment-related budgets and loss of staff (see for example, this recent academic study of the effect of this on local collaboration for nature restoration). This reduces their capacity and capability to consider all sorts of problems (see for example, this analysis of how austerity is constraining efforts to tackle deprivation in the south of Scotland). This includes acting to restore and manage nature, even though this should offer long-term benefits. For more commentary from local authorities themselves – what they see as their role and challenges in managing nature - see this 2024 briefing 'Delivering nature recovery through local action' written by the UK Local Government Association.

In recent years in Scotland, there has been an understandable focus on empowering local communities. This is shaping our initiatives and policies. However, I think we also need to ask what role we expect our democratically elected local government to play – could and should their activity be key to seeing future restoration of natural capital?

Events and resources

Here are a few outputs and events that we find interesting and might also interest you!

- **New reading material** A new report by Dialogue matters for Natural England "**Enabling positive landscape change to deliver landscape resilience: the role of landscape governance and landscape justice"** looks valuable for emphasising the details of project design, process and partnership working that are essential for any nature or landscape management. The full report is at can be found here and a graphical slideshow summary is also available here. It's based on findings from a literature review and a survey of 33 landscape projects. It elegantly links and summarises a number of different ideas and recommendations, articulating these in terms of (1) Regenerative governance (2) Co-design and co-delivery, (3) Procedural justice, (4) Systems thinking and (5) Reflective learning. These ideas are also relevant to supporting inclusive change in other contexts.

- **New resource** A really interesting new resource has been released on the Ecosystem Knowledge Network (EKN) – **the NEIRF Project Directory** Established by Defra and the Environment Agency in partnership with Natural England, over 130 Natural Environment Investment Readiness Fund (NEIRF) projects were supported. Each had a grant of up to £100,000 to stimulate nature markets and associated investment, and they involved land managers in the private, public, and third sector, along with advisors and enablers. Explore NEIRF Projects. Readers in Scotland may be more familiar with the Facility for Investment Ready Nature in Scotland (FIRNS) scheme, which have a similar ethos of trying to encourage and enable restoration projects to diversify their funding. Looking across all these projects must offer great opportunities for learning about when and how it is feasible to diversify the funding and partners involved in restoration.

- **New reading material** The UK is a hot bed of work to create different mechanisms that encourage different sectors to value and resource nature. However, it definitely is not the only place where there is activity to incentivise private sector involvement. In July **The European Commission has recently published a 'EU Roadmap to nature credits'**. This specifies a process for developing clear and reliable standards that intend to build confidence from would-be users, whilst minimise administrative costs. This is just a first step of course, though they do have pilot projects and international experience to build on, including Horizon Europe research projects (which we might come back to in a future issue...). We spotted a very nice commentary summarising the approach and potential challenges for the Roadmap in the 'The Nature Intelligence Newsletter'.

- **Upcoming Webinar** Staying on values, a 'Counting on Nature webinar' in May 2025 gave a really interesting overview of different approaches to understanding and representing values of nature in decision-making, the shortcomings of some conventional approaches. You can watch the webinar here or read an accompanying explainer here - which in this case focused on agriculture and food systems.

- **New reading material** Remember the Dasgupta report? Partha Dasgupta now has a new book: On Natural Capital: The Value of the World Around Us which is about how to price nature. "*There's no ifs and buts about it but the market got it wrong, because many of these [natural] goods don't have prices,"* he says. Cost doesn't have to be monetary, he explains, but it needs to be something that will deter companies and people from using up or polluting natural resources more than they otherwise might. "*You look for the services that natural capital provides, and find ways to put a price on them. The price is a way of putting a value on it."* On that note, we see that The Capitals Coalition has recently launched an Integrated Decision-making Framework (which includes the Capitals Protocol and Governance for Valuation). The 'old' natural capital protocol is part of this – but the new launch emphasises the shift to considering all capitals concurrently. It highlights the importance of consider the values of nature for a business's operations, regardless of whether or not the choice is made to price it.

Upcoming events

- We have three upcoming events to highlight, before we sign off. Firstly, on the evening of 1st October 2025 Kate Raworth will be delivering the 46th TB Macaulay Lecture. Professor Raworth is an ecological economist and created the 'doughnut of social and planetary boundaries' concept. The lecture is free and takes place at the Edinburgh International Conference centre. At the time of writing registration is still open here. Kerry has suggested that the catering for this year's lecture should be include doughnuts – sustainably sourced, of course - let's see if that idea is adopted!

- Secondly, the Nature Finance UK conference, organised by the Ecosystem Knowledge Network will be on the 25th of November this year. More details and registration is available here. It isn't free, but is a good place to meet key people and organisations trying to create high-integrity nature markets.

- Lastly, looking in 2026, the Call for sessions is open for the 6th ESP Europe Conference, set to take place 18-23 May 2026 in Prague, Czechia. ESP stands for the Ecosystem Services Partnership and this network is a key venue for developing thinking and methods related to ecosystem services and natural capital. It might seem a long way ahead, but session proposals need to be submitted by 30 September 2025, then a call for abstracts will open in October. Find out more here.

For more information contact Kerry.waylen@hutton.ac.uk or visit the project website https://www.hutton.ac.uk/research/projects/galvanising-change-natural-capital.
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