



Visions and plausible pathways for positive lake futures in the English Lake District, UK.

Report on the introductory PLURALAKES workshop in the Lake District National Park, UK. 20th May 2025.

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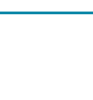
1. Executive Summary

This report details the discussions and narratives which emerged following an introductory workshop in the English Lake District National Park carried out by the PLURALAKES project team on the 20th of May 2025. A local graphic illustrator Bethan Thorsby, Sporadic illustration joined the day to capture the discussions.

The PLURALAKES project seeks to improve the health of lake ecosystems, by including the multiple values and perspectives involved in lake ecosystem management, moving towards shared future visions for the lakes and the pathways on how to reach them.

This workshop was the first in a series, centred on activities and discussions supported by two frameworks: (1) the Nature Futures Framework and (2) the X-curve. The Nature Futures Framework (NFF) is a tool to guide exploration of the diverse values people hold towards nature and test and develop scenarios which incorporate these values and future visions. The X-curve is a tool used to support discussions on navigating the pathways or changes to these futures. At the start of the day, attendees were asked to share memories or their connections to a lake or lakes in the Lake District National Park. Following an introduction to the NFF, participants identified where within the framework their values most aligned resulting in three groups, associated with different values with nature. Discussion sessions on visioning positive lake futures, describing “seeds of change” or examples of positive practice and navigating tensions were then conducted, with notes and illustrations capturing the dialogue of the three groups. This report describes these discussions in more detail.

Shared visions for positive lake futures included values of respect, responsibility and connection with restored shoreline and standing water habitats and increased diversity and abundance of lake species. However, as visions and pathways were further explored it became clear that tensions exist between two sets of the Nature Futures Framework values. The first, ‘nature for nature’, focusses on valuing nature



for its own sake and having space for nature to function naturally in a way that increases resilience to pressure. The second, 'nature for society', emphasizes the importance of increasing human integration and activity, to promote connection and allow society to continue to utilise the resources and services needed from nature. It brought into question how, where and when can nature exist in the absence of human influence in a region such as the Lake District National Park which seeks to promote a prosperous economy, world class visitor experiences and vibrant communities, whilst sustaining its ecosystems (see [Lake District National Park - The Lake District Foundation - Charity of the Lake District](#)).

Continued dialogue and investigation of pathways to the future using different scenarios for change will help to identify where compromise is most needed. Exploring these pathways and scenarios of change will form the next steps planned in the PLURALAKES project. Finally, it should be recognised that some important local voices were missing from the workshop, despite efforts to engage with these groups, including landowners, tourist, recreational and agricultural representatives, meaning a full diversity of perspectives are not included in these findings. The PLURALAKES team will continue to try and engage with members from these sectors/communities in future workshops.



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2. Introduction to the PLURALAKES project

2.1 PLURALAKES: Co-creating pathways to desirable nature futures of temperate lakes

PLURALAKES is a research consortium of European partners trialling the real world implementation of the IPBES Nature Futures Framework in the context of freshwater ecosystems across three case study areas in England, the Netherlands and Finland. The project is funded by the Water4All Joint Transnational call on Aquatic Ecosystem Services. The goal of the project is to improve lake management outcomes by more effectively integrating all the different values and perspectives involved in lake ecosystem management. As part of this objective, the project will 1) explore how different stakeholders imagine desirable futures for the lakes in the case studies and 2) identify pathways to realize them. This will be occurring alongside and influencing data-driven investigations into current and future ecosystem states of the lakes, which will address the viability of these transformative pathways to desirable futures. The first PLURALAKES introductory workshop aimed to primarily explore future scenarios, as well as touch on pathways to the future and navigating change which will be explored more deeply in future workshops. The introductory workshop was shaped by the project's broader interest in supporting inclusive, value-based management of change through dialogue and ecosystems thinking.

This report documents the first PLURALAKES workshop, held on the 20th May 2025 at the Windermere Jetty Museum, which focused on the English Lake District case study. Included are the reasons for selecting the Lake District National Park as a case study (Section 2.2), the approaches and activities used in the workshop (Section 3), and the outcomes and discussions which evolved throughout the workshop (Section 4). Finally, reflections on the workshop synthesise the experiences of the day (Section 5) and the themes which emerged (Section 6), finishing with the next steps for the PLURALAKES project (Section 6).



2.2 Case studies: Why the Lake District National Park, UK?

The English Lake District offers a rich case study for PLURALAKES due to its globally recognised cultural landscape, complex governance context, and the multiple, often contested, values attached to its lakes. As a UNESCO World Heritage Site, a national park and a rural area with many natural water bodies, it embodies tensions between conservation, tourism, water resource management, and rural livelihoods. Over the last two centuries, the Lake District National Park has been a landscape shaped by mining, agriculture, and tourism, all of which have extracted ecological resources and services to varying degrees and modified the aesthetics of the landscape (Ferguson, 2023). More recently, in 2017, the UNESCO World Heritage designation has brought to the fore the conflict between land-management and the natural-cultural heritage of the park, despite stated aims to preserve these elements (Ferguson, 2023). In recent years, the water quality of Windermere has gained national notoriety, within a broader discourse on wastewater regulation in the UK. Alongside these historical and contemporary tensions surrounding the landscape, the management of, and responsibility for the health of the lakes within the Lake District National Park are also contested, despite attempts by stakeholder partnerships to bring together multiple organisations in a collaborative space. There is, therefore, a need to try new approaches within partnerships to move towards shared and positive nature futures.



3. Methodology: Introductory workshop in the Lake District National Park, UK.

3.1 The objectives of the workshop

This report describes the outcomes of an introductory workshop held with a multisectoral group of local participants. The workshop was designed as a structured, one-day process to support collective exploration of desirable nature futures for the lakes of the English Lake District. It aimed to create space for diverse voices and experiences to be shared and woven into a pluralistic vision of the future, while grounding discussion in participants' lived relationships with local lakes. The specific objectives of the workshop were to:

- Surface and share diverse values and connections to the Lake District's lakes.
- Co-envision desirable lake futures grounded in these connections.
- Identify local initiatives, practices, and ideas ("seeds") with potential to contribute to those futures.
- Reflect on how these seeds might navigate through, or intervene in, the systems that currently shape the status quo.

The workshop design drew on two core frameworks: the Nature Futures Framework (NFF), which provided a structured way to explore diverse relationships with nature (Activity 1); and the X-curve, a visual tool to enable reflection on the dynamics of change and transition (Activity 2).

3.2 The attendees

Participants were invited from a range of governmental bodies, non-governmental organisations, campaign groups and the private sector including the water industry, with the aim to represent the numerous sectors interested in the management of not



only the lakes but the National Park itself. Individuals from the Lake District National Park Partnership - Future of Farming and Forestry, Nature Recovery and Climate Change group were invited, alongside contacts from the UKCEH Aquatic Ecosystem Group's local network. The participants were not involved in the design of the workshop and had no prior knowledge or experience of working with the frameworks described below. The workshop was facilitated by the PLURALAKES project team. All participants were informed about the purpose of the workshop and gave prior consent for their participation; ethical considerations were addressed in accordance with institutional guidelines to ensure voluntary participation, data protection, and respectful dialogue.

The 11 participants who attended the workshop had expertise in water quality and/or lake ecosystem and catchment management. Despite an effort to incorporate a diversity of voices, missing from the workshop were those involved in the tourism and agricultural sectors, as well as key landowners and other campaign groups in the region. Barriers to participation included limited time availability, particularly from volunteer and NGO groups, visioning fatigue among groups associated with water quality on Windermere and an unwillingness to participate in projects alongside water industry and water regulatory agencies. Visioning fatigue refers to the frustration from participating in stakeholder meetings and lake management plans, with little support or agreement between partners, preventing or blocking consensus and action. Therefore, we recognise that the results presented below are not a complete representation of the plurality of values invested in the health of the lakes in the Lake District National Park. They do, however, provide a broad representation of values within ecosystems and ecological knowledge, and water governance.

3.3 Graphic interpretation

A local illustrator, Bethan Thorsby – Sporadic Illustration, was invited to capture an interpretation of the discussions and activities throughout the day. Bethan sketched and took notes as she listened to the different group discussions. Her final pieces follow reflection and ingestion of the facilitator notes from each of the groups.



3.4 Activity 1: Nature Futures Framework.

The workshop began by grounding participants in their own lived relationships with the lakes of the Lake District. Participants were invited to share a memory, story, or personal connection to a lake that captured what made these places meaningful to them. This activity also served as an icebreaker. Through a guided imagination exercise, participants envisioned a future in which their connection had deepened and shaped the surrounding world. This reflective exercise aimed to surface diverse values and experiences as an entry point into value-based conversations and exploring desirable futures.

To support this exploration, the Nature Futures Framework (NFF) was introduced (Figure 1). Developed under the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), the NFF is a tool designed to map and understand the diversity of values and complexity of relationships people hold with nature (Pereira et al. 2020; IPBES 2023). The aim of this framework is that it becomes a tool with which to cultivate visions, scenarios and models which promote desirable futures for people and nature (Schmitt et al. 2025).

The NFF triangle captures diverse, positive values for human-nature relationships. It positions three main ways of relating to nature (or 'value perspectives') in the three vertices, opening an interior space where plural values can be explored, revealing both contrasts and common ground in how people relate to nature (IPBES 2023):

- In the **nature for nature** perspective, people view nature as having intrinsic value, and value is placed on the diversity of species, habitats, ecosystems and processes that form the natural world, and on nature's ability to function autonomously.
- The **nature for society** perspective highlights the utilitarian benefits and instrumental values that nature provides to people and societies.



- The **nature as culture/one with nature** perspective primarily highlights relational values of nature, where societies, cultures, traditions and faiths are intertwined with nature in shaping diverse bio-cultural landscapes.

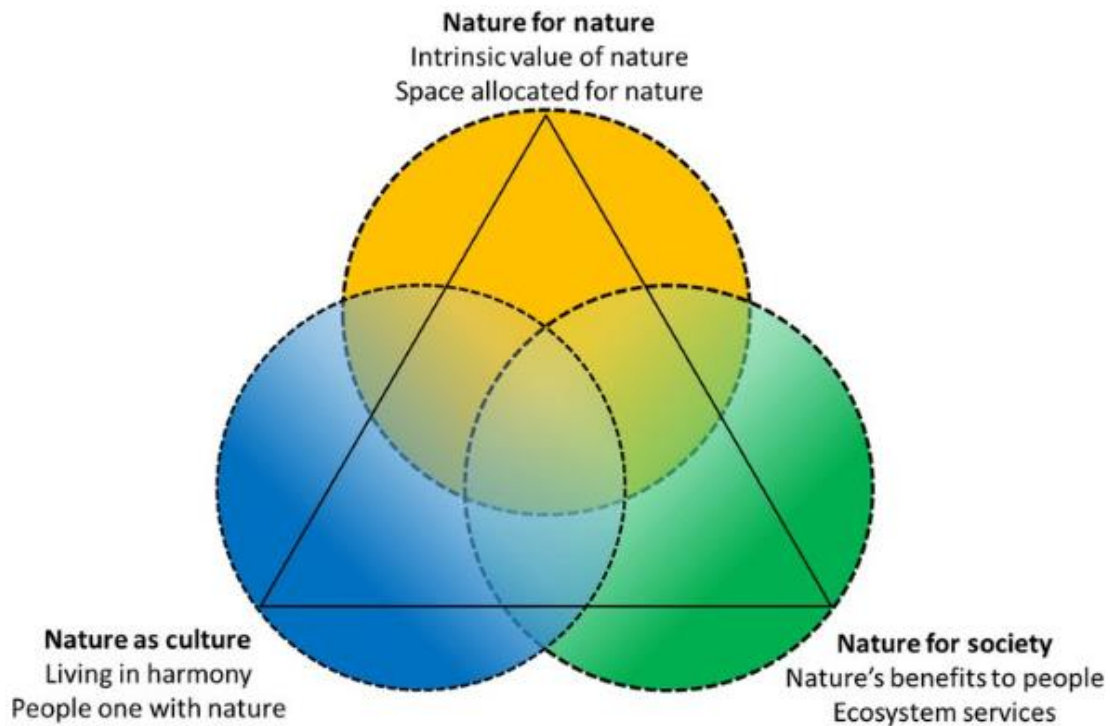


Figure 1. The Nature Futures Framework. Taken from Pereira et al. (2020).

This framework requires applications to case studies to better understand its viability in developing future visions and transformative pathways that can inform local policy and management (Pereira et al. 2020; Mayer et al. 2023; Kuiper et al. 2022; Rana et al. 2020). This introductory workshop makes a valuable contribution by applying the framework to freshwater ecosystems — a context where it has so far seen limited use.

In the introductory workshop, participants were asked to position themselves within a physical triangular space according to the values that they felt best aligned with, or represented, their future vision for the lakes of the Lake District. This demonstrated



visually the diversity of values and aspirations present in the room. A triangular space was created using rope and signs at each corner to mark the three value perspectives. Once positioned, participants were invited to speak with the participants closest to them on why they felt their vision fit within this value space. By joining those who occupied the closest proximity to their space in the triangle, three groups were formed in which participants continued sharing their individual visions and collaboratively build richer, pluralistic futures for the Lake District's lakes. This group dialogue allowed for the identification of common themes, points of alignment, and tensions, culminating in a group name which represented their shared values and a future news headline which reflected their future vision. The intention was not to achieve consensus, but rather to weave together diverse aspirations into shared, pluralistic visions that reflected multiple ways of valuing and relating to the lakes.

3.5 Activity 2: The X-Curve.

The second part of the workshop introduced the X-curve framework as a tool to support discussions on system change and transitional dynamics (Silvestri et al. 2022; Figure 2). Described in the simplest terms, the top right represents the future vision and the optimal outcome a community wishes to achieve. To achieve these visions, bottom-up practices or 'seeds of change' which support these positive outcomes need to be built up (bottom left). In the top-left of the X-curve are those practices or norms which need to be phased out in order to achieve the vision and where the two points meet is where 'navigating change' occurs and where transformative practices must engage with the dominant drivers and structures which currently shape unsustainable trajectories for the environment.



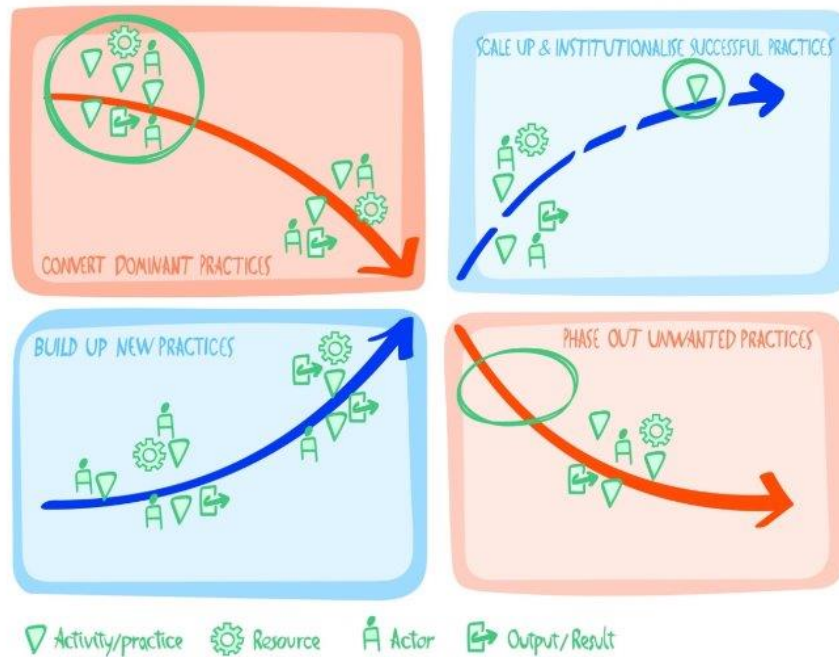


Figure 2. The X-curve. Taken from Silvestri et al. 2022.

In the workshop, three discussion sessions centred around populating the X-curve to support pathway thinking toward desirable lake futures. The first session built directly on the preceding Nature Futures Framework activity by further imagining and detailing shared desirable futures, shaping the top-right space of the curve where values, institutions, and practices are sustained systemically. The second session focused on the bottom-left of the curve, identifying current ‘seeds of change’—local initiatives, practices, policies, or ideas with transformative potential. Groups considered how these seeds could grow to support their envisioned futures, including what enabling conditions would be needed, who should be involved, and which institutional or normative shifts would help them thrive. The final session turned to the middle of the X-curve, exploring how these seeds must engage with and help shift the dominant structures, behaviours, and drivers that currently maintain unsustainable trajectories. This step encouraged participants to reflect on strategic tensions and opportunities for transformation. The workshop closed with a moment



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of personal reflection, asking each participant: “*What inspiration or action can you take away from today to help support you or your organisation in transforming towards a positive future for the lakes?*”.



4. Results.

1.1 Icebreaker: sharing memories and connections

The workshop opened with all participants and facilitators introducing each other and sharing their connection to a lake in the Lake District National Park through a memory or an object (Figure 3). Most connections were very personal and touched on time with families and loved ones. Many participants described how these experiences then sparked a fascination with either the landscape or the ecology, and a drive to pursue a career in freshwater research and practice. These experiences set the context for the workshop, where participants were not introduced according to the organisation they worked for, but on an individual and personal level. This approach was designed to minimise biases and perceptions of following organisational agendas.



Figure 3. Illustrations depicting the memories and connections of the PLURALAKES workshop attendees by Bethan Thorsby-Sporadic Illustration. © 2025 Bethan Thorsby, Sporadic Illustration. These illustrations are licenced under a [Creative Commons Attribution-NonCommercial-NoDerivatives](#) licence, which enables users to copy and distribute the material in any medium or format in unadapted form only, for non-commercial purposes only, and only so long as attribution is given to the creator.

1.1 Nature Futures Framework: group names and news headlines.

Two of the three groups were distinctly aligned with Nature for Nature and Nature as Culture, respectively. The final group, referred to as Nature for Society, occupied the most diverse space in the NFF triangle, in that participants expanded into spaces in the middle as well as closer to the Nature for Society vertex.

The Nature for Nature Group came up with the name “Functioning Fells, Living Lakes” and developed a series of headlines, with the most well received by other workshop participants being “*The hills are alive, and so are the lakes!*”. Their most pragmatic headline, “*New vision for Windermere swaps looks for function*”, describes their focus on ecosystem functioning, which arose throughout the activities (Figure 4).



Figure 4. Graphic representation of the group name selected by members who aligned most closely with Nature for Nature. Created by Bethan Thorsby, Sporadic Illustration. © 2025 Bethan Thorsby, Sporadic Illustration. These illustrations are licenced under a [Creative Commons Attribution-NonCommercial-NoDerivatives](#) licence, which enables users to copy and distribute the material in any medium or format in unadapted form only, for non-commercial purposes only, and only so long as attribution is given to the creator.



The Nature as Culture group came up with the name “Harmonious Lakes” to reflect the interconnectedness between humans and nature and the balance of both that they wanted to see in the future (Figure 5). The future news headline they wanted to see was “*Visitors and locals take responsibility for lakes’ future*”.



Figure 5. Graphic representation of the group name selected by members who aligned most closely with Nature as Culture. Created by Bethan Thorsby, Sporadic Illustration. © 2025 Bethan Thorsby, Sporadic Illustration. These illustrations are licenced under a [Creative Commons Attribution-NonCommercial-NoDerivatives](#) licence, which enables users to copy and distribute the material in any medium or format in unadapted form only, for non-commercial purposes only, and only so long as attribution is given to the creator.

The final group, who expressed the most diverse values but most closely aligned with Nature for Society, came up with the name “Reconnecting People to Restored Nature” expressing the human and natural elements within their values (Figure 6). The group couldn’t decide on a single headline, but all the headlines they had created centred around the need to encourage societal change towards improving nature, with humans as facilitators of change. The headlines included: “*Channelling ambition*



into action”, “Holistic approach to empowering people for nature”, “Changing the flow” and “Challenging norms to facilitate change”.



Figure 6. Graphic representation of the group name selected by members who aligned most closely with Nature for Society. Created by Bethan Thorsby, Sporadic Illustration. © 2025 Bethan Thorsby, Sporadic Illustration. These illustrations are licenced under a [Creative Commons Attribution-NonCommercial-NoDerivatives](#) licence, which enables users to copy and distribute the material in any medium or format in unadapted form only, for non-commercial purposes only, and only so long as attribution is given to the creator.

4.1 The X-Curve, Part 1: Future Visions.

The described future visions for the lakes of the Lake District differed by group but all shared the same aspiration to have nature at their heart. This was the key word in word clouds generated from the groups’ post-it notes (Figures 7-9). The groups also shared values of “recognition”, “responsibility” and “respect”. Among group differences in future visions were mainly concerned with the focal aspect or characteristic of each vision. For instance, the Harmonious Lakes group focussed on describing behaviours, values, sentiments and sensations, as well as governance and the communication approaches and cultural values used to support it. The Functioning Fells, Living Lakes group to some extent described similar behaviours and values but had a greater focus on the description of the ecosystem itself, and



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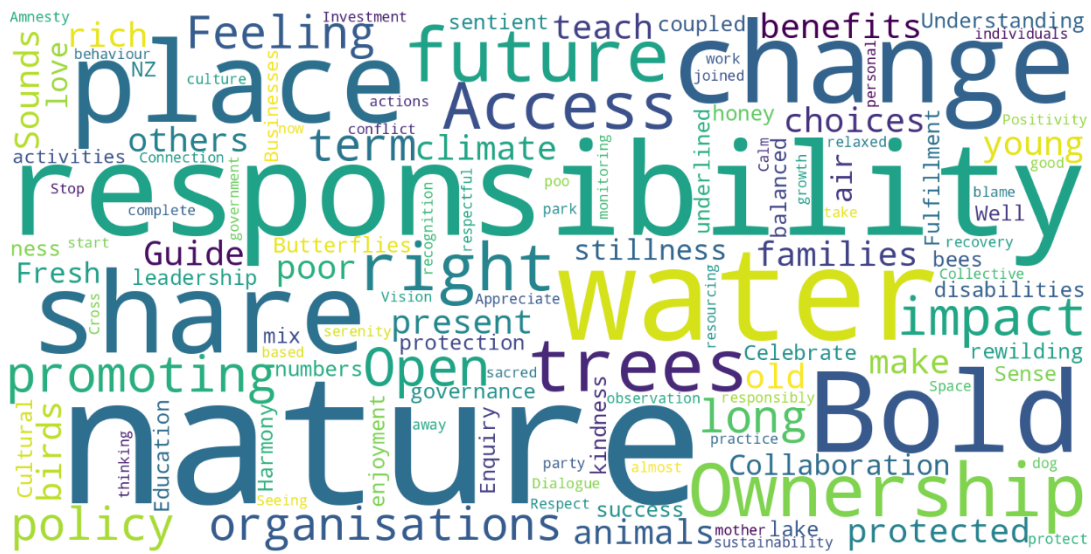


Figure 8. Future visions for the lakes of the Lake District word cloud. Composed from the post-it notes of the “Harmonious Lakes” group from the Lake District introductory workshop, on the 20th May 2025.

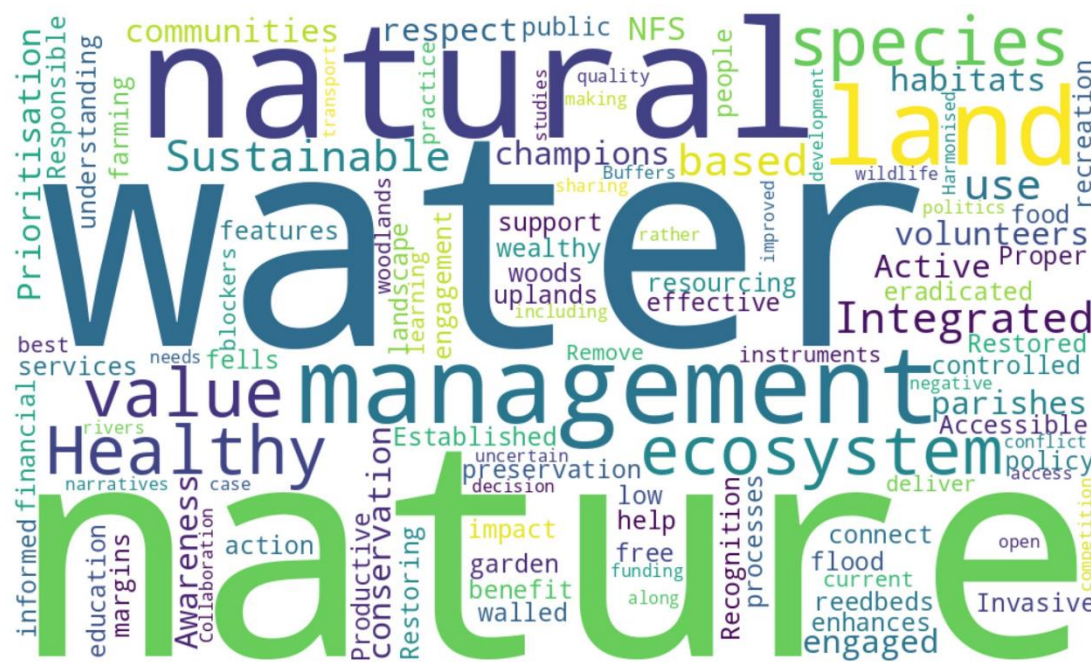


Figure 9. Future visions for the lakes of the Lake District word cloud. Composed from the post-it notes of the “Reconnecting People to Restored Nature” group from the Lake District introductory workshop, on the 20th May 2025.



4.2 Shared Future Visions of the Lakes of the Lake District

Personal and Cultural Values, Sentiments and Sensations

The Harmonious Lakes group focussed on the feelings, behaviours and sensations of their future vision for the lakes, which revolved around harmony, peace and serenity. The Functioning Fells, Living Lakes group shared the same visions and added the idea of wilderness, pointing to the desire to have space for nature with no human impact. However, all groups described the need for a cultural shift in how nature is valued, describing attitudes and behaviours of respect, awareness and collaboration towards nature and what it provides. The Harmonious Lakes and Functioning Fells, Living Lakes groups however, described these behaviours in a context of nature as its own right and entity, whereas the Reconnecting People to Restored Nature described these from a viewpoint of what nature provides to society such as through improving consideration and value of ecosystem services.

The Ecosystem

Interestingly, whilst all groups shared notions of ecological abundance and terms such as “wild” and “healthy”, some tensions between nature for nature and nature for society emerged with respect to what the lake ecosystems of the future would look like. The groups who each aligned with these values both focussed the most on describing the ecosystems and agreed that the future lakes would exhibit restored natural functioning, a diversity of marginal habitats and improved hydrological integrity, but differed in their views on the level of human activity. Specifically, Reconnecting People to Restored Nature described a vision of sustainable access, transport and low-level farming whereas Functioning Fells Living Lakes pointed to the concept of land sparing versus land sharing, with more space for nature minimising human access and activity in some areas.



Governance

All three groups shared similar visions for how lakes and nature should be governed. These centred around greater investment and collaboration, with education used as a tool to improve responsibility and care. All groups suggested that these changes needed to come from the top-down, with a call for a shift in the current status quo. Specifically, it was noted that resourcing and policies are too short-term and reactionary according to the timescales and agendas of governments in power. Visions expressed environmentally focussed governance where nature is higher up the political agenda and is used to influence public attitudes, policies are informed by experts and longer-term policy and resourcing from cross-party politics. There was a desire to move away from the blame culture often used in national and local politics, towards shared responsibility. All three groups want to see increased and sustainable funding for environmental research, monitoring and management in their positive lake futures to apply, learn and adapt.

Communication

The Functioning Fells, Living Lakes and Harmonious Lakes groups delved into what communication of lake management should look like in the future, and how to achieve more positive outcomes. The Functioning Fells, Living Lakes group focussed more on the practical agenda of the communication and the Harmonious group on the emotive agenda. For instance, the Functional Fells, Living Lakes group described the use of data and evidence to dispel myths, the need to improve ecological literacy and the promotion of ecosystem functioning over aesthetics. Whereas the Harmonious Lakes groups descriptions centred around affirmative relational vocabulary such as positivity, openness, amnesty, celebration and promotion.



4.3 The X-Curve, Part 2: Seeds of change.

All three groups were able to describe examples of practices, projects, and behaviours that could be described as “seeds of change”, and which, if given the correct leverage, may help achieve positive futures for the lakes of the Lake District National Park.

Collaboration

The Harmonious Lakes and Functioning Fells, Living Lakes groups described examples of collaboration, using lake partnership approaches as examples, such as the Bassenthwaite Shoreline Restoration Partnership and the Love Windermere Partnership. Here multiple agencies, businesses and residents have come together to consider lake management. Other examples included the increase in local community groups who are campaigning for improvements to water quality and the recognition from regulatory agencies of the increase in public awareness of water quality in the lakes. This has promoted investment in public dialogue and engagement, with projects such as the Environment Agency’s “Hello lamppost” scheme, which encourages lake users to find out more about the water quality of the local waterbody or report issues. There were also examples from research where projects include multiple disciplines, countries and partners outside of academia, as funding bodies recognise the value of increasing impact and real-life application of science. There was a recognition that even though collaborations can be difficult to navigate, the willingness and drive to be involved and work together represents the right move towards positive lake futures.

Engagement and connection

All groups noted why and how, with examples, community engagement and connection are important to the lakes as seeds of change. There was a recognition that this improved appreciation of the landscape and literacy in ecology and science. Reconnecting People to Restored Nature touched on youth engagement, citing the Duke of Edinburgh (DoE) Award Scheme, which involves undertaking a field expedition, with many schools electing to do this in the Lake District. They noted,



however, the restricted access to such schemes (i.e. not all schools participate in the DoE) and queried whether they do increase respect towards the natural landscape or are just experiential? The Functioning Fells, Living Lakes group noted the growth in popularity of non-fiction nature-based literature with authors such as Lee Schofield, George Monbiot and James Rebanks informing and adding to narratives on landscape and ecological management in the Lake District National Park. They stated that art is an important mechanism to increase connection, and touched on a momentum between researchers and artists to collaborate and use novel artistic media to convey complex scientific theories and investigations. This group, and the Harmonious Lakes group, also noted that wild swimmers have become agents for change and are now a strong public voice in water quality discourse. The rising popularity of this pastime has increased the connection between people and the lakes and, as such, has driven the public interest in the water quality of freshwaters here and elsewhere nationally. All three groups noted the importance of accessibility of monitoring data, showcasing values of transparency and increasing public engagement with water quality science. Improving collective connection, respect and responsibility for the lakes through various forms of engagement was seen as an important seed of change towards positive lake futures.

Informed policy

Interestingly, it was only the Reconnecting People to Restored Nature group who noted down examples of different policies which they felt promoted improvements to lakes and their catchments. This could be because the group was more aligned with societal interactions with nature and therefore, more acknowledging of the governance of natural land-use and resources as part of our contemporary society. Examples of policies that they provided included:

- Nutrient Neutrality, which is an environmental strategy aimed to reduce impacts of new development on aquatic ecosystems. Specifically, planners and developers must evidence no net increase of phosphate and nitrate into local waters in protected areas (Natural England, 2022). It is a regulatory measure designed to increase the implementation of nutrient mitigation



measures and protect sensitive habitats such as Special Areas of Conservation (SACs) and Special Protected Areas (SPAs) (Natural England, 2022).

- Biodiversity Net Gain (BNG), which is a mandatory requirement for developers, planning authorities and land managers to ensure the creation and improvement of habitat following a new development, compared to conditions prior to development. Its goal is to ensure that habitats and wildlife are left at 10% improved condition following development and assessed via biodiversity units which consider the size, type, quality and location of the habitat in question (DEFRA, 2025).
- Farming in Protected Landscapes (FiPL), which comprises grants for which farmers from National Parks can apply to undertake sustainable farming practices. These practices have to enhance nature, build resilience against climate change, protect the cultural heritage of farming and improve access (DEFRA Farming, 2025). In the Lake District National Park, this scheme has supported 245 projects worth £4.9 million over 4 years since 2021 (LDNP, 2025). There have been projects which have focussed on flood management and slowing the flow, as well as on-farm measures which aim to improve water quality and reduce run-off (LDNP, 2025). These schemes have taken place in the lake catchments of Windermere and Coniston, and the river catchments of the Kent, Ehen, Eden and Derwent (LDNP, 2025).

The group noted certain protocols adopted within policies, such as the polluter pays principle and the UK Carbon Code of Conduct. The first is an example of principles which were originally designed to guide and inform policy, and which seek to place responsibility for costs and mitigating environmental damage upon the polluters (DEFRA, 2023). The Environment Act of 2021, however, has since embedded this and four other principles into its legislation with the aim to protect and enhance England's natural assets (DEFRA, 2023). The four other principles are the integration principle which refers to embedding environmental protection and enhancement across all policy, the prevention principle which means policy should prevent



environmental harm, the rectification at source principle which dictates that environmental damage be dealt with at the source and the precautionary principle which means that where there is scientific uncertainty, management is still focussed on reducing serious risk or harm to the environment (DEFRA, 2023). The UK Carbon Code of Conduct is another set of standards or pillars which seek to drive investment into nature-based solutions and the carbon market, and is currently voluntary (UKCarbonCode, 2025).

The group also recognised the use of catchment modelling as a tool to inform policies, such as the SAGIS-SIMCAT model or Farmscoper used by the Environment Agency. The SAGIS-SIMCAT model is used to track nutrient inputs into watercourses and waterbodies from different sectors, it has served as a key evidence base for wastewater treatment mitigation to control phosphorus discharge (UKWIR, 2025). Farmscoper is a Microsoft Excel-based decision-support modelling tool which aims to determine diffuse agricultural pollution loads, including phosphorus, and the impacts of mitigation measures such as establishing riparian buffer strips, reducing fertiliser use etc. on these loads (ADAS, 2025). The group pointed to a need to address and acknowledge model uncertainty to improve the value and extent to which they can support evidence-driven policy and management.

Example projects

The Functioning Fells, Living Lakes group referenced multiple projects within the Lake District which were focussed on improving the natural functioning of river and lake catchments. These included infrastructure removal and other naturalisation measures at Crummock, Overwater and Ennerdale (see [Our long-term plans for Crummock, Overwater and Chapelhouse Reservoirs](#) for more), restoring natural river processes on the River Ehen (see [River Ehen — West Cumbria Rivers Trust](#) for more) and shoreline restoration at Bassenthwaite (see [Bassenthwaite Project Banks Point : Lake District National Park](#) for more), now proposed at Ullswater following success of its catchment restoration programme (see [Case study:Ullswater Catchment Restoration - RESTORE](#) for more). The group noted the value of lessons learnt from past projects, with an acknowledgement of the importance of monitoring



and research conducted by UKCEH and others in the region to ensure measures are fit-for-purpose. The Reconnecting People to Restored Nature group focussed again on projects which promoted societal and cultural connections to nature. These included citizen science programmes such as INNS mapper (e.g. <https://innsmapper.org/>), and LakeFly (e.g. [Lakefly | Citizen Science — Freshwater Biological Association](#)). They also noted other bottom-up community schemes using the Wye Valley as an example, where local residents, businesses, regulators and water industry have campaigned and worked together to improve water quality, whether through agricultural mitigation measures or regulatory designations (see [River Wye Water Quality | Environment Agency](#) for more). Farming networks which focus on bringing farmers together to support one another in sustainable and nature-friendly farming practices include Pastures for life ([Pasture for Life](#)), and the Nature Friendly Farming Network ([Home | Nature Friendly Farming Network, NFFN](#)) were also recognised by this group.

Financial investment

The Functioning Fells, Living Lakes and Reconnecting People to Restored Nature groups noted how grant schemes and changes to payments to farmers had led to greater uptake of sustainable and environmental-friendly agricultural land-use.

4.4 The X-Curve, Part 3: Confronting drivers, enabling futures.

The final session of the day looked at the space within the centre of the X-curve in which the ‘seeds of change’ must engage with the drivers and structures which support or encourage unsustainable trajectories. It looked at how these forces could be shifted or displaced, enabling the ‘seeds of change’ to grow and flourish and become the new dominant forces. First the groups were asked to identify what dominant forces the ‘seeds of change’ must navigate for the desired futures to become possible.



Identifying dominant forces, narratives and structures that promote unsustainable trajectories and are barriers to change

Cultural norms highlighted by the groups as supporting unsustainable trajectories and threats to positive futures included disposal culture, with disposable camping equipment given as an example. Social media was recognised as a key driving force behind the rise in individualism, capitalism, blame culture, populist, fake news and post-truth, and the polarisation of society. In terms of water quality governance, unsustainable and short-term funding, heavy bureaucracy, siloed and risk averse policies and cuts to resources and monitoring were seen as diverting resources from priority areas and ultimately preventing the action and conversations needed to enable positive lake futures. Long-term funding and policies were seen as integral to address the long-term timescales of nature restoration. “*Who pays?*” was a question raised by the groups, given the scale of the challenge and decline of conventional funding sources. Suggestions for tourist taxes or entrance fees for visitors were raised as mechanisms to manage demand; however, they were recognised as potentially divisive. Some participants felt that, while technological advancements in how we monitor our environment are occurring at a pace, and these innovations add to our knowledge of ecosystems, they may be distracting from investment and focus on the current ecosystem pressures of which we are already aware. Interestingly, the Functioning Fells, Living Lakes group focussed mainly on the direct local scale drivers of unsustainable lake ecological change such as sewage, livestock grazing or wider intensity of herbivory and the deterioration of the supporting capacities of lakes and their catchments from human activity.

Following this, the groups were asked how the ‘seeds of change’ might facilitate or transform these tensions and enable change. The groups touched on the different aspects of their visions and which ‘seeds’ and how these ‘seeds’ might encourage new pathways to positive lake futures.

Behavioural change



All three groups touched on the need to influence behaviour and societal value towards improving the natural health and function of lake ecosystems, but with disparity as to how this could be actioned. The Functioning Fells, Living Lakes group described the need to communicate sensitively, giving the example of avoiding terms such as “rewilding” which can have associations with land abandonment, and move away from celebrating the aesthetics of the landscape to celebrating its function. The Harmonious Lakes group suggested that combined encouragement and enforcement would be needed to transition society away from damaging environmental practices such as disposable culture. The Reconnecting People to Restored Nature group focussed on “*reconnection*”, with the need to promote engagement whether through standardised citizen science or education. They also touched on a need to “*reconnect*” with each other through transparency of case studies and best practice in natural restoration, as well as moving away from the politization of narratives around water. Much like the Functioning Fells, Living Lakes group, they wanted to see different habitats celebrated, namely freshwaters outside of National Parks and in urban areas, which perhaps aren’t as aesthetically pleasing but are important for nurturing connection and respect for nature.

Governance

The three groups focussed on different governance approaches that should be promoted to transform lake futures. The Harmonious Lakes group described “*explorative*” and “*iterative*” governance, whereby restorative action and management is monitored and occurs in a continuous cycle. This ‘circles’ back to the groups’ notion of reducing blame culture and risk averse decisions, in which practice is prioritised and mistakes are learnt from and inform the next steps, but without fear of public criticism. The Functioning Fells, Living Lakes group touched on a “*revolutionary*” shift in governance, focussed on increasing space for nature in areas of minimal human influence. They described the need to redefine the UNESCO heritage status which is seen by environmentalists as stifling restoration (Hutcheson, 2021), restricting tourism to the main urban areas of Windermere and Ambleside and increased investment into action which promotes natural function of ecosystems.



They touched on the “Levelling up and Regeneration Act” to support such work, with grants designed to promote sustainable improvements to public spaces and revitalise local economies (GOV UK, 2024). Interestingly, such applications could generate tension if the public space then has restricted access. The groups’ call for “*revolution*” speaks to a desire to confront these tensions head-on. The Reconnecting People to Restored Nature group spoke of a need to transform policy and the politics of water management. They called for cross-party policies, more regionally bespoke agri-environmental schemes, clarity of delegation and decision-making and investment in measures that are evidence-driven rather than politically appealing.

Monitoring

Interestingly, all three groups expressed the importance of monitoring to navigate and transform unsustainable trajectories but again described differing intentions for freshwater monitoring. The Functioning Fells, Living Lakes group focussed on monitoring restorative measures, and this was also highlighted by the Harmonious Lakes group, detailing its usefulness to evaluate and evolve practice, whilst also being integral for accountability and regulation. The Harmonious Lakes group emphasised the need to undertake Horizon Scanning and assess whether we are prioritising monitoring on the correct pressure and what in the future might present greater risk to our freshwaters. The Reconnecting People to Restored Nature group again identified monitoring as a tool to increase engagement with nature, from citizen science to open-access databases.

Finance

The Functioning Fells, Living Lakes and Reconnecting People to Restored Nature groups referred to the ‘seeds of change’ of green finance and tourism tax to invest in the transition to positive lake futures. The Functioning Fells, Living Lakes group made it explicit that profits or income from these approaches should be used to directly fund action and statutory agencies. While the Reconnecting People to Restored Nature group also touched on tourism as a source of funding, they questioned whether a tourist tax would be the correct approach. Similar to the Functioning Fells, Living



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Lakes group they did suggest land owners should be paid for providing ecosystem services and green finance may be an appropriate tool in this regard (e.g. [Cumbria | Green Finance Community Hub](#)).



5. Reflections on the workshop

The Nature Futures and X-curve frameworks identified many shared visions and pathways for the future of the lakes in the Lake District National Park yet touched on the conflict that exists in this space. All the groups wanted to see a more positive future for nature, with values of respect and responsibility at the heart of these futures, both toward nature and each other, despite their plurality of values to nature itself. Yet, there existed one clear conflict between the intrinsic value for nature and nature for society and culture. Specifically, how can providing more space for nature to function, isolated from human activity, occur alongside better integration of humans within the landscape to foster connection and respect? This tension has been identified in other applications of the Nature Futures Framework (see Schmitt et al. 2025).

Nearly all participants of the workshop came from freshwater disciplines, whether as practitioners or researchers. This is reflected in the knowledge and experiences expressed throughout the workshop, from freshwater and catchment relevant policies to identification of existing tensions in the space of water management. The expression of value in water quality monitoring by all three groups points to the awareness and routine application of such data by the participants too. Whether or not adding further plurality to these visions and pathways from other voices would harmonise or amplify these tensions remains to be seen. Notwithstanding, the Nature Futures Framework advocates such plurality to help identify more innovative and radical visions and pathways (Schmitt et al. 2025).





Figure 10. Graphic notes from illustrator Bethan Thorsby – Sporadic Illustration. © 2025 Bethan Thorsby, Sporadic Illustration. These illustrations are licenced under a [Creative Commons Attribution-NonCommercial-NoDerivatives](#) licence, which enables users to copy and distribute the material in any medium or format in unadapted form only, for non-commercial purposes only, and only so long as attribution is given to the creator.

The activities of the workshop were designed to minimise organisational bias and allow for personal values to be expressed in an open, safe space. It was hoped this would allow for greater freedom and creativity of expression, and a positive re-framing of narratives which typically surround water quality in the region. Having a local artist as a reflective presence in the groups created a tangible, visible link to the visions and pathways that the groups could interact with and added another approach with which to express and re-frame the narratives in this space. The more radical and sometimes opposing views within and between the groups reflect the openness and freedom the workshop offered to explore and express these perspectives. Such opportunities to express so openly do not typically arise in the day-to-day activities of participants. And it was here, in the methods and delivery of the workshop, where most participants reflected positively at the end of the day. Again, would adding the voices which represent sources of conflict in the participants' day-to-day activities result in the same openness and freedom, or would historic tensions prevent such open expression? The tensions that did arise in this introductory workshop process were met with sympathy and were fostered by an explorative rather than confrontational approach which perhaps came from shared experiences, knowledges



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and visions, although the organisers hope this also came from the workshop design. Again, advocates for the Nature Futures Framework encourage confronting the discomfort of diverse perspectives, with such imperative to achieve radical transformation to positive futures and accepting it as part of the co-creation pathway (Figure 10).

The PLURALAKES project team recognise that workshops are not always comfortable or safe spaces for expression regardless of their focus and intention for some participants. Therefore, we plan to offer different avenues for feeding into the project, whether through 1-2-1 discussions or surveys.



6. Emerging insights

Workshop attendees were invited to share feedback and reflect on their experience in a post-workshop survey. The following responses provided valuable reflections for the PLURALAKES Team on the methods used and will guide future workshops:

- Attendees felt the participatory activities were effective and engaging and allowed them to reflect on their values and connections to the lakes. They also felt that the workshop provided a safe and respectful space to explore these values and appreciated the forward-focussed, solution visioning approach.
- There was a recognition that perspectives were not as diverse and were missing some important representatives such as those from tourism, agriculture and the large landowners, as well as those from swimming and campaign groups.
- Not all participants left feeling more confident in discussing or influencing the future of the Lake District Lakes which again might reflect hesitance in engaging with the tensions and conflicts in this space. Hearing examples of success from other catchments was recommended as a tool for learning and encouraging confidence.
- Participants found most value in engaging with one another and hearing different perspectives both locally and internationally from the PLURALAKES Finnish and Dutch representatives.
- Participants would have liked more time at the end to listen to the summaries and reflections of the different groups. This part of the day became rushed and distracted. It is hoped that this report can provide the deeper reflection that was missed on the day. The workshop also represents the starting point for our work as part of a series of workshops that will allow more time for developing conversations around visions between attendees and identify future pathways for change.



- Many attendees wanted to see actionable outcomes following the workshop, from influencing policy, to engaging partnerships and committees working in this space. It is hoped that this report might be one such tool to do so, in that it is an example of novel frameworks (Figure 11) and activities, providing different opportunities to explore lake management. See below for the future project work which will hopefully help guide us closer to mapping and discussing the pathways to future lake visions.



Figure 11. Graphic notes from illustrator Bethan Thorsby – Sporadic Illustration. © 2025 Bethan Thorsby, Sporadic Illustration. These illustrations are licenced under a [Creative Commons Attribution-NonCommercial-NoDerivatives](https://creativecommons.org/licenses/by-nc-nd/4.0/) licence, which enables users to copy and distribute the material in any medium or format in unadapted form only, for non-commercial purposes only, and only so long as attribution is given to the creator.

7. Next steps for PLURALAKES

The next steps for the English Lake District case study area include a variety of research activities, which are focussed on contextualising the current state of the



lakes in the Lake District National Park. Through these activities, we hope to investigate and evaluate the socio-ecological condition of the lakes in this landscape. This will involve:

- Compiling relevant water quality datasets from long-term, regulatory and water industry monitoring, as well as undertaking a policy inventory of water-relevant policies.
- Numerical modelling of lake(s) and their catchments in the Lake District. This will be undertaken to summarise the current environmental condition of the lakes in the Lake District National Park and form the basis for modelling of future pathways for change.
- Creation of causal loop diagram(s) on the ecosystem services of the lakes of the Lake District to describe system dynamics and where positive (amplifying) and negative (balancing) loops occur.

We also hope to continue expanding our stakeholder network and have already reached out to different organisations and partnerships working in this space. We also encourage any interested organisations and individuals to get in touch with us.

Our next participatory workshop will focus on pathways for future change and identifying indicators which can be modelled and used to test future scenarios. This will take place in late 2025/early 2026. We will also share and encourage feedback on the activities described above, which are centred on contextualising the current state of the lakes in the Lake District National Park.

Elsewhere in the PLURALAKES project, visioning workshops and activities to understand the current condition and future changes in lakes will take place in the Koitere and Friese Boezem lake regions of Finland and the Netherlands, respectively.



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