

Regaining Paradise

EYEC6005

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AI Statement:

I confirm that I have used <https://copilot.microsoft.com> for research and proof-reading purposes only. I confirm I have copies of my drafts, notes and other resources I used before and after the use of any AI tool which I may be asked to provide in evidence.

Introduction

Good afternoon, my name is Kirstie Harding. Today's presentation is for module ECEY6005. The first part of this presentation will be an overview of my John Muir Award scrapbook, sharing my reflections on the experience and what I have gained from exploring and connecting with the natural environment. In the second part of this presentation, I will go on to discuss one of the leading sustainability challenges - declining biodiversity, particularly in urban areas. I will examine what is currently being done to address this issue and explore how these approaches align with early years education, linking back to the site I chose for my John Muir Award. Thank you for taking the time to watch my presentation.

Part 1 - Reflection

For my John Muir Award, I chose to explore Lisvane and Llanishen Reservoirs, a place that holds both ecological importance and personal meaning, as it is somewhere I have known since childhood. I remember visiting with my family, walking through the woodlands, chasing our dog through the long grass with my siblings and even spending time on the water learning to sail. To the child in me, it was a special place full of adventures with friends and family. Since reopening to the public, returning as an adult has given me the chance to reconnect with those memories and relive some of them with my own children.

Situated on the northern edge of Cardiff, the reservoirs form a peaceful pocket of nature surrounded by local neighbourhoods. Despite being close to busy roads and housing estates, the moment you step onto the paths, the atmosphere shifts. The noise fades, the air feels fresher and the hundred things on your to-do list are replaced by the calming sound of wind and rippling water. As part of the John Muir Award, I planned to visit the reservoirs several times on different days of the week and at different times. Through this, I discovered that my new favourite time to visit is a Tuesday evening, just before closing, when the site is at its quietest, but the wildlife appears at its most active with ducks feeding, birds calling to one another and the whole place feeling alive.

Creating my scrapbook encouraged me to look more closely, slow down and pay attention to details I might otherwise have walked past. I found myself noticing the

variety of birds, the colours of the wildflowers along the water's edge and even insects resting on leaves or hiding along the pathways. It made me realise how much nature thrives when it is given space and protection.

Learning about the reservoirs' conservation story also had a strong impact on me. For many years, Llanishen Reservoir faced the possibility of being drained and turned into a large housing development. Plans were submitted to build more than 300 homes, which would have destroyed the reservoir's unique habitats and erased a beloved green space. Local residents, conservationists and the Reservoir Action Group fought tirelessly against the proposals. After years of campaigning and legal challenges, the development was finally overturned. The reservoirs were saved and their ecological value was recognised. Knowing this history struck a chord within me and made my exploration feel even more significant. I wasn't just walking around a beautiful place, I was walking through a landscape that people had fought to protect, much like John Muir himself.

Another part of my exploration was discovering the variety of birds that use the reservoirs throughout the year. I had always known the site attracted birds, but I didn't realise how many species visit or breed there. Garden birds such as blue tits, robins, finches and crows nest in the surrounding hedgerows and trees. Wildfowl including ducks, swans, coots and moorhens can often be seen on the water, along with seasonal visitors like sand martins, swallows, kingfishers and herons. On one visit, I was lucky enough to capture a heron patiently stalking and catching a fish. I had never seen this happen before and watching the heron's slow, deliberate movements was fascinating. It reminded me that even in familiar places, extraordinary moments are happening all the time if you take the time to look.

Exploring the reservoirs also taught me a lot about the importance of insects. The water's edge is lined with wildflowers, creating a colourful and vital habitat for insect life. During my visits, I saw bees, butterflies, dragonflies and snails making use of these plants. Before this project, I hadn't fully appreciated how essential insects are to healthy ecosystems. They pollinate flowers, break down organic matter, provide food for birds and bats and help maintain the balance of nature. Without insects, the entire food chain would collapse. Seeing them up close made me realise how much life depends

on these small creatures. It also made me think about how simple actions like planting wildflowers or avoiding pesticides can make a big difference. The reservoirs show that when insects are supported, everything else benefits too.

Creating my scrapbook helped deepen my connection to the site. I chose to make it digitally for two main reasons. Firstly, it allowed me to include videos and recordings from my visits, including the heron catching its fish. Being able to share that moment felt special because it captured natural behaviour many people never get to see. Secondly, a digital scrapbook was easier to share with others. I showed it to family and friends who live locally, as well as those who have moved away but still have fond memories of the reservoirs. Sharing it felt like a way of reconnecting people with a place they care about. I also included information on how to become a volunteer with Friends of Cardiff Reservoirs, so anyone inspired by the scrapbook can join me in signing up to help protect the site.

Reflecting on my own childhood experiences and sharing new ones with my children has highlighted how important it is for children today to have access to places like this, where they can explore freely, be curious and develop a sense of responsibility for the environment. Nature inspires wonder and that sense of wonder often begins in childhood. It made me question why the John Muir Award is not recommended for young children in the early years and how unfortunate it is that charities such as Friends of Cardiff Reservoirs don't accept volunteers under the age of 18. I believe there is a place for everyone in conservation.

Part 2 – Sustainability

Seeing how well an ecosystem can thrive when the right conditions are in place leads directly into the wider issue of sustainability.

Sustainability is commonly understood as the balance between human development and environmental protection. *The United Nations Brundtland Commission (1987)* defines sustainable development as “meeting the needs of the present without compromising the ability of future generations to meet their own needs.” Earth.org (n.d.)

illustrates this clearly with their example of: if resources such as timber are taken from a forest faster than they can regenerate, the forest will eventually disappear; however, if extraction matches the rate of growth, the forest can be sustained indefinitely. This highlights the core challenge of sustainability, ensuring human progress does not undermine the ecological systems that support life.

The United Nations emphasises that sustainability requires an integrated approach combining environmental protection with economic and social development (United Nations, no date a). In 2015, all UN Member States adopted the *2030 Agenda for Sustainable Development*, introducing the 17 Sustainable Development Goals (SDGs). These goals form a global blueprint for peace, prosperity and environmental protection, recognising that ending poverty must go hand in hand with improving health, education, reducing inequality, tackling climate change, and protecting oceans and forests (United Nations, no date b). However, there are limitations on SDG's, With the goals being extremely broad and not legally binding, the UN acknowledges that it is reliant on voluntary commitment from countries and stakeholders and relies on reliable data for progress reporting. Furthermore, the UN notes that the SDGs depend on long-term global cooperation and stability, drawing on decades of international agreements, meaning political changes or crises can disrupt momentum (United Nations, no date b)

In Wales, sustainability is embedded in law through the *Well-being of Future Generations (Wales) Act 2015*. This legislation requires public bodies to work in ways that protect long-term wellbeing, ensuring that decisions made today do not compromise future generations. Its seven wellbeing goals, including a resilient Wales, a healthier Wales and a globally responsible Wales align closely with both the Brundtland definition and the SDGs (Welsh Government, 2015). Education plays a central role in achieving these aims. Education for Sustainable Development and Global Citizenship (ESDGC) helps learners understand how global issues such as climate change, resource depletion, human rights and social justice are interconnected. These principles are embedded within the Curriculum for Wales, whose four purposes include developing ethical, informed citizens who understand their impact on the natural world (Welsh Government, 2022).

One of the most urgent sustainability challenges is biodiversity loss — the decline in the variety of life on Earth, from the disappearance of entire species to shrinking wildlife populations and degraded ecosystems (IPBES, 2019; UNEP, 2022; Scienceinsights, 2026). In the UK and across Europe, biodiversity continues to decline (Dimitrova, 2026; Caspar *et al.*, 2020). IPBES identifies land-use change, particularly urban development, as one of the biggest drivers of biodiversity loss. Newbold *et al.* (2016) argue that expansion of urbanisation has pushed biodiversity in many ecosystems below safe ecological limits. Aronson *et al.* (2017) add that urban nature is often undervalued in planning decisions, despite its ecological importance. International policy reflects this concern: under SDG 15, the UN recognises the importance of healthy land ecosystems and the Kunming- Montreal Global Biodiversity Framework aims to halt and reverse nature loss by 2030 (UNEP, 2022).

My John Muir Award experience demonstrated how these global issues manifest locally. Lisvane and Llanishen Reservoirs are a clear example of how urban ecosystems can be threatened by development pressures. Without sustained community action, the reservoirs could have been lost to housing development, mirroring global trends of habitat loss. This local case reflects the wider crisis described by IPBES (2019) as “rapid, accelerating and largely caused by human actions” Global research reinforces this: Ceballos *et al.* (2017) argue that Earth is experiencing a “biological annihilation,” with up to one million species now threatened with extinction. The WWF Living Planet Report (2020) found an average 68% decline in monitored wildlife populations since 1970. These global patterns help contextualise the pressures faced by urban nature sites like the reservoirs.

Insects provide a particularly concerning example. Although they make up three-quarters of animal and plant species, only 80 insect species are protected under the *Wildlife and Countryside Act 1981*. This limited protection is reflected in the *Habitat Regulations Wales 2017*. However, many species can benefit indirectly from habitat protection, (Everist, 2026). Everist (2026) further argues that although the *Natural Environment and Rural Communities Act 2006* offers the potential to protect many more species, it has been difficult to regulate or monitor effectively. This legislative gap is worrying, given research showing a 75% reduction in flying insects in certain areas

(Hallmann et al., 2017) and up to 40% of insect species threatened with extinction (Sánchez-Bayo & Wyckhuys, 2019). As insects are essential for pollination, nutrient cycling and food webs, their decline threatens global food security and ecosystem stability (van der Sluijs, 2020; Diaz et al., 2018).

Addressing biodiversity decline requires transformative change. IPBES (2019) emphasises the need for sustainable land-use practices, protected areas, restoration efforts and stronger environmental governance. However, large-scale policy change must filter down to community-level action and education is essential for achieving this (UNESCO, 2019; Welsh Government, 2008/2015). Early childhood education is particularly important because attitudes toward nature begin forming in the early years (Chawla, 2020).

Research shows that early experiences in nature strongly influence lifelong attitudes toward conservation (Chawla, 2020). Froebel believed that everything in the universe is connected and that children learn through direct engagement with nature (Froebel Trust, no date). Montessori similarly argued that hands-on experiences with nature support environmental awareness and empowers children to care for the world around them (Bruce, 2015). Montessori practice embeds eco-friendly habits such as recycling, conserving water and caring for plants and animals into daily routines, helping children understand their role within a wider ecosystem (Project Montessoroui, 2026).

However, my experience of the John Muir Award revealed a critical contradiction: the award is not recommended for very young children, as it requires sustained reflection, independent exploration and environmental responsibility that align better with older learners (John Muir Trust, no date). Yet early years theory and the Curriculum for Wales emphasise that children should develop care, empathy and responsibility for their environment from the earliest stages. Wales' four purposes explicitly include developing ethical, informed citizens who understand their impact on the natural world (Welsh Government, 2022). This raises an important question: if young children are expected to develop environmental citizenship, why are they excluded from formal conservation programmes? These opposing perspectives suggest that while structured awards may be unsuitable, early years settings should still provide meaningful, age-appropriate opportunities for environmental stewardship.

Teaching children about local species, ecosystems and simple conservation actions fosters ecological awareness and responsibility (Barratt Hacking *et al.*, 2019; WWF, 2016). Creating green spaces with children such as school gardens or community nature areas and engaging in activities like gardening, observing animals and insects and nature-based learning helps children develop a sense of responsibility and stewardship (Project Montessoroui, 2026; Waite *et al.*, 2016). These approaches ensure that even the youngest learners can contribute to sustainability in developmentally appropriate ways.

Conclusion

My exploration of Lisvane and Llanishen Reservoirs demonstrated how personal experiences in nature can deepen understanding of global sustainability challenges. The reservoirs' conservation history reflects wider issues of biodiversity loss, land-use pressure and the need for strong community action. At the same time, early childhood theory and the Curriculum for Wales highlight the importance of nurturing environmental citizenship from the earliest years even though formal programmes like the John Muir Award are not designed for young children.

Protecting biodiversity requires coordinated action across policy, community and educational levels. By engaging children, supporting urban conservation, and advocating for sustainable land-use, we can help safeguard ecological resilience and ensure that future generations inherit a thriving natural world. My John Muir Award experience has strengthened my belief that everyone regardless of age has a role to play in caring for the environment.

Reference List

Aronson, M.F.J. (2017) 'Biodiversity in the city: key challenges for urban green space management', *Frontiers in Ecology and the Environment*, 15(4), pp. 189–196. Available at: <https://esajournals.onlinelibrary.wiley.com/doi/full/10.1002/fee.1480> (Accessed: 10 July 2026).

Barratt Hacking, E., Barratt, R. and Scott, W. (2019) 'Children as active citizens: environmental education and sustainability', *Environmental Education Research*, 25(4), pp. 1–15. Available at: <https://www.tandfonline.com/doi/full/10.1080/13504622.2018.1450847> (Accessed: 10 July 2026).

Bruce, T. (2015) *Early Childhood Education*. London: Hodder Education.

Brundtland Commission (1987) World Commission on Environment and Development. *Our Common Future*. Oxford: Oxford University Press.

Caspar et al. (2020) *European biodiversity trends*.

Ceballos, G., Ehrlich, P.R. and Dirzo, R. (2017) 'Biological annihilation via the ongoing sixth mass extinction', *PNAS*, 114(30), pp. E6089–E6096. Available at: <https://www.pnas.org/doi/10.1073/pnas.1704949114> (Accessed: 11 July 2026).

Chawla, L. (2020) 'Childhood nature connection and environmental stewardship: A review', *People and Nature*, 2(3), pp. 619–642. Available at: <https://besjournals.onlinelibrary.wiley.com/doi/full/10.1002/pan3.10138> (Accessed: 08 July 2026).

Conservation of Habitats and Species Regulations (Wales) 2017. Available at: <https://www.legislation.gov.uk/wsi/2017/1013/contents> (Accessed: 09 July 2026).

Díaz, S. (2018) 'Assessing nature's contributions to people', *Science*, 359(6373), pp. 270–272. Available at: <https://www.science.org/doi/10.1126/science.aap8826> (Accessed: 11 July 2026).

Dimitrova (2026) *Biodiversity decline in Europe*. Available at: <https://www.bbc.co.uk/news/article/c2gpl0l545o> (Accessed: 12 July 2026).

Dŵr Cymru Welsh Water (no date) *Lisvane & Llanishen Reservoirs – Nature Reserve Information*. Available at: <https://www.dwrcymru.com> (Accessed: 08 July 2026).

Earth.org (n.d.) *What is sustainability?* Available at: <https://earth.org/sustainability/> (Accessed: 12 July 2026).

Everist, L. (2026) *Insects and the Law: Exploring gaps in terrestrial invertebrate protection on Britain*. Available at: <https://www.royensoc.co.uk/antenna-50-1-insects-and-the-law/> (Accessed 10 July 2026).

Froebel Trust (no date) *Froebelian principles*. Available at: <https://www.froebel.org.uk/about-us/froebelian-principles> (Accessed: 09 July 2026).

Hallmann, C.A. (2017) 'More than 75 percent decline over 27 years in total flying insect biomass', *PLOS ONE*, 12(10), pp. 1–21. Available at: <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0185809> (Accessed: 12 July 2026).

IPBES (2019) *Global Assessment Report on Biodiversity and Ecosystem Services*. Available at: <https://ipbes.net/global-assessment> (Accessed: 08 July 2026).

John Muir Trust (no date) *About John Muir*. Available at: <https://www.johnmuirtrust.org/about-us/about-john-muir> (Accessed: 09 July 2026).

Natural Environment and Rural Communities Act 2006. Available at: <https://www.legislation.gov.uk/ukpga/2006/16/contents> (Accessed: 11 July 2026).

Newbold, T. et al. (2016) 'Has land use pushed terrestrial biodiversity beyond the planetary boundary?', *Science*, 353(6296), pp. 288–291. Available at: <https://www.science.org/doi/10.1126/science.aaf2201> (Accessed: 12 July 2026).

Project Montessoroui (2026) *Montessori and Sustainability Education*. Available at: <https://www.projectmontessori.com/pages/cultivating-a-love-for-nature-montessori-environmental-education> (Accessed: 11 July 2026).

Sánchez-Bayo, F. and Wyckhuys, K.A.G. (2019) 'Worldwide decline of the entomofauna', *Biological Conservation*, 232, pp. 8–27. Available at: <https://www.sciencedirect.com/science/article/pii/S0006320718313636> (Accessed: 09 July 2026).

UNEP (2022) *Kunming–Montreal Global Biodiversity Framework*. Available at: <https://www.unep.org/resources/kunming-montreal-global-biodiversity-framework> (Accessed 08 July 2026).

UNESCO (2019) *Education for Sustainable Development: Towards Achieving the SDGs*. Paris: UNESCO. Available at: <https://unesdoc.unesco.org/ark:/48223/pf0000368820> (Accessed: 10 July 2026)

United Nations (no date a.) *Academic Impact: Sustainability*. Available at: <https://www.un.org/en/academic-impact/sustainability> (Accessed: 09 July 2026).

United Nations (no date b) *United Nations Sustainable Development Goals (SDGs)*. Available at: <https://unric.org/en/united-nations-sustainable-development-goals> (Accessed: 09 July 2026).

van der Sluijs, J.P. (2020) 'Insect decline, an emerging global environmental risk', *Current Opinion in Environmental Sustainability*, 46, pp. 1–7. Available at: <https://www.sciencedirect.com/science/article/pii/S187734352030004X> (Accessed: 12 July 2026).

Waite, S. et al. (2016) 'Outdoor learning and sustainability education', *Education 3–13*, 44(2), pp. 155–165. Available at: <https://www.tandfonline.com/doi/full/10.1080/03004279.2015.1020654> (Accessed: 12 July 2026).

Welsh Government (2008) *Education for Sustainable Development and Global Citizenship (ESDGC)*.

Welsh Government (2015) *Well-being of Future Generations (Wales) Act 2015*. Available at: <https://www.legislation.gov.uk/anaw/2015/2/contents/enacted> (Accessed: 10 July 2026).

Welsh Government (2022) *Curriculum for Wales Guidance*. <https://hwb.gov.wales/curriculum-for-wales/> Accessed: 10 July 2026).

Wildlife and Countryside Act 1981. Available at: <https://www.legislation.gov.uk/ukpga/1981/69> ([legislation.gov.uk in Bing](https://www.legislation.gov.uk/ukpga/1981/69)) (Accessed: 12 July 2026).

WWF (2016) *Connecting children with nature*. Available at: <https://www.wwf.org.uk/updates/connecting-children-nature> (Accessed: 10 July 2026).

WWF (2020) *Living Planet Report 2020*. Available at:

<https://www.worldwildlife.org/pages/living-planet-report-2020> (Accessed: 10 July 2026).