

NBS EduWORLD - Project Education Learning Unit Template - DRAFT

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Learning Unit (LU) Planning Template - High Level Overview

Name of Learning Unit (LU) Topic		Ecosystem Restoration: EU Policy and Principles to Heal and Project Landscapes with Nature					
NBS Context (e.g. urban rural, coastal)	NBS keywords complete checklist at the end of the document	Other Keywords (topics other than NBS) add in Other below	Linked or complementary concepts to NBS (to assist curriculum integration)	Prior learner knowledge of NBS (high, moderate, low/none)	Prior instructor knowledge/ skills/ competences of NBS or equivalent	Key EU NBS resources used (for instructor preparation) include link	Type of LU - lecture, workshop, field trip/site visit
any			Urban/rural development	low	Low		Lecture
Target academic subject / discipline / professional area or group	Target learners/ groups [age range of learners] if applicable	Min/ Max # of learners (if applicable)	Sector (e.g, professional, higher education, community)	Prerequisites required of learners if applicable (education)	EQF (European Qualifications Framework) level (or Irish NFQ) indicative only	Time for LU (aim is 50 minutes per learning unit)	Course delivery format (e.g. in-person, hybrid, online)
Rural development, Sustainability.	Higher education	n/a	Higher education	None	EQF 6 - Irish NFQ 7/8 Ordinary/H	50 minutes	Online
Overall Purpose	To introduce Ecosystem Restoration as a concept to show ways to protect and heal landscapes with nature and the implications of the new EU Nature Restoration Law.						
LU Summary (2-3 sentences)	Ecosystems have been disturbed by human interventions, such as logging, damming rivers, intense grazing or by natural disasters like hurricanes, fires and floods. This learning unit introduces the concept of Restorative Ecology using NBS as a way to protect and heal urban, rural and coastal landscapes. Learners will be introduced to principles to guide ecosystem restoration as part of the UN Decade of Ecosystem Restoration (to 2030) and to the EU Nature Restoration Law enacted in 2024. Learners debate the benefits of the practice to protect, restore and heal ecosystems and consider the implications in their own personal or professional contexts and to their local						
Learning Outcome 1	Recognise the elements of ecosystem restoration as it pertains to rural, urban and coastal landscapes.						
Learning Outcome 2	Present and analyse the Principles for Ecosystem Restoration to guide the United Nations Decade on Ecosystem Restoration in their own local context.						
Learning Outcome 3	Consider the EU Nature Restoration Law 2024 as a means to support ecosystem restoration using NBS.						
Learning Outcome 4	Apply elements of ecosystem restoration to support the healing or protection of their own urban, rural or coastal communities.						

Activities and Elements of Learning

Aim that each learning unit include at least 4 activities for an interactive learning experience

Time (duration of activity)	Aims - linked to NBS concepts or topics)	Link to Learning Outcome	Learning Activity [PPT Slide # - if applicable]	Teacher action/activity (Learner action/activity)	Confirmation of learner's learning (assessment of learning)	Link to online NBS resources (and/or academic resources with DOI as relevant)	Offline resources and materials (e.g. post-its,)
00:00 (5 min)	Introduction	1,4	Introduction to NBS and definitions of ecosystem restoration	Present definitions	Open discussion on what learners thought of restorative ecology (assumptions)		Chat function on Zoom/Teams
00:05:00 (15 minutes)	Introduce Principles for Ecosystem Restoration to guide the United Nations Decade on Ecosystem Restoration	2, 4	Exploring principles - ASK: Which principle resonates with you/your field of academic study? Why? Principle 3 - Continuum ASK: What point on the continuum resonates with your own urban, rural or coastal context? Offer	Work with learners to explore these ideas in small groups and report back to the large group	Learners consider what aspects of ecosystem restoration could be applied (or have been applied) in their own urban, rural or coastal communities. Consider why these continuum restoration practices were/ were not applied in their own contexts		Break-out room function
00:20 (15 minutes)	Present and discuss EU Nature Restoration Law 2024	3	Listing and exploring examples of how EU Nature Restoration Law can apply NBS ASK: Why now? What is this law important?	Work with learners to explore these ideas in small groups and report back to the large group	Learners debate why a new law was enacted and what elements will be easy or difficult to implement (and debate why). Consider this discussion in small groups and report back to the large group.		Break-out room function

00:35:00 (15 minutes)	Ecosystem Restoration and NBS final reflection - learners' professional / personal context	4	Exploring own professional/personal contexts of healing or protecting ecosystems with nature - ASK: What do you see as the links to your academic discipline? How can you link NBS and ecosystem restoration ideas and benefits in your area of study?	Teacher if the facilitator or an initial discussion and explains the pair/share activity and facilitate a final takeaway reflection. ASK: What is your key takeaway on ecosystem restoration? What new information will you share with others?	Pair and share activity - 2 learners share their own professional context or personal experiences in their communities of ecosystems that need protecting or healing; What do you see as the links to your academic discipline? How can you link NBS and ecosystem restoration ideas and benefits in your area of study? Return to large group and share experiences in the chat box - teacher summarises the responses.	Break-out room function and Chat function
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NBS- Application of Curriculum, Trends and Skills

Curriculum integration (how it may connect to curriculum)						
<u>Teaching & Learning Trends employed</u> <u>Highlight all that apply</u> (Source)	Project-based learning: e.g., students work in groups on a research project on greenhouses and the greenhouse effect, alternatives to waste management or investigate what are the views of their peers on climate change.	Peer learning: e.g., students work in groups, evaluate the work of their peers, or develop assessment questions to assess peers.	Problem-based Learning: e.g., students are introduced to a problem and challenged to find a solution together based on the information provided to them.	Student-centred learning: the learning scenarios are not based on classical instruction by the teacher, but they are expected to actively engage students in the lessons.		

<p>21st Century Skills</p> <p><u>Highlight all that apply</u></p> <p>(Source)*</p>	<p>Creativity: e.g., students think of various solutions for promoting a better lifestyle in their communities or encourage greener solutions to their schools' issues.</p>	<p>Information/ Media literacy: students explore examples of NBS, research similar solutions in other communities.</p>	<p>Collaboration: e.g., students work in groups and engage in task division to produce outputs.</p>	<p>Critical thinking: e.g., students learn that a debate on deforestation or climate change does not consist of two opposing camps only but involves many stakeholders with different perspectives.</p>	<p>Communication: e.g., students present their work to the whole class and learn to put forth strong arguments based on facts.</p>
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*Gras-Velázquez, À., Mulvik, I. B., Campodonio, A., Nada, C. & Pocze, B. (2020) *Nature-Based Solutions in education - Validation report, European Commission, August 2020* [accessed on 25/03/2024 <https://files.eun.org/NBS/NBS-pilot-validation-report-final.pdf>] p.8.

<p>GreenComp - European Sustainability Competency Framework</p> <p><u>Highlight all that apply</u></p> <p>(Source) 1- Embodying Sustainability Values and 2 - Embracing Complexity in Sustainability (see pp.13-14)</p>	<p>1.1 Valuing Sustainability: To reflect on personal values; identify and explain how values vary among people and over time, while critically evaluating how they align with sustainability values</p>	<p>1.2 Support Fairness: To support equity and justice for current and future generations and learn from previous generations for sustainability</p>	<p>1.3 Promoting Nature: To acknowledge that humans are part of nature; and to respect the needs and rights of other species and of nature itself in order to restore and regenerate healthy and resilient ecosystems</p>	<p>2.1 Systems Thinking: To approach a sustainability problem from all sides; to consider time, space and context in order to understand how elements interact within and between systems.</p>	<p>2.2 Critical Thinking: To assess information and arguments, identify assumptions, challenge the status quo, and reflect on how personal, social and cultural backgrounds influence thinking and conclusions.</p>	<p>2.3 Problem Solving: To formulate current or potential challenges as a sustainability problem in terms of difficulty, people involved, time and geographical scope, in order to identify suitable approaches to anticipating and preventing problems, and to mitigating and adapting to already existing problems</p>
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<p>GreenComp - European Sustainability Competency Framework</p> <p><u>Highlight all that apply</u></p> <p>(Source) 3- Envisioning sustainable futures and 4 - Acting for Sustainability (see pp.13-14)</p>	<p>3.1 Futures Literacy: To envision alternative sustainable futures by imagining and developing alternative scenarios and identifying the steps needed to achieve a preferred sustainable future.</p>	<p>3.2 Adaptability: To manage transitions and challenges in complex sustainability situations and make decisions related to the future in the face of uncertainty, ambiguity and risk. and learn from previous generations for sustainability</p>	<p>3.3 Exploratory Thinking: To adopt a relational way of thinking by exploring and linking different disciplines, using creativity and experimentation with novel ideas or methods.</p>	<p>4.1 Political Agency: To navigate the political system, identify political responsibility and accountability for unsustainable behaviour, and demand effective policies for sustainability.</p>	<p>4.2 Collective Action: To act for change in collaboration with others.</p>	<p>4.3 Individual Initiative: To identify own potential for sustainability and to actively contribute to improving prospects for the community and the planet</p>
<p>Author and organisation to credit when using the LU</p>	<p>Centre for Social Innovation, Trinity Business School, Trinity College Dublin</p>					

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NBS Keywords Checklist (tick here below)

	Forest Preservation
x	Forest Restoration

<p>Teacher Resources (If 'Notes' are used in the related PowerPoint presentation please indicate here)</p>	<p>Learner Resources (e.g. academic articles or links) for advanced reading or review (citation in individual cells)</p>
	<p>UN Thematic Brief on NBS http://www.un.org/sustainabledevelopment/</p> <p>Clever Cities Solutions Catalog</p>

	<i>Forest enhanced management for woodfuel harvest</i>
	<i>Forest Production</i>
	<i>Grassland Preservation</i>
x	<i>Grassland Restoration</i>
x	<i>Grassland grazing management</i>
	<i>Coastal Preservation</i>
	<i>Coastal Restoration</i>
	<i>Coastal maintenance of slope vegetation</i>
x	<i>Maintenance of coastal, floodplain and riverine vegetation</i>
	<i>Agroforestry</i>
x	<i>Reduce tillage and carbon restoration practices</i>
	<i>Agricultural intensification</i>
	<i>Urban forests and green spaces</i>
	<i>Urban green roofs</i>
	Climate-change adaptation and mitigation
	Sustainable cities/ sustainable communities
x	Re-naturing cities/ re-naturing communities
	Urban regeneration
	Coastal resilience
	Multi-functional watershed management
	Enhancing the insurance value of ecosystems
	Sustainability of the use of matter and energy
x	Sustainable development
x	Innovating with nature
x	Biodiversity
	Nature-based enterprises
	Nature-based entrepreneurship
	NBS and new business and investment models
	Citizen participation, stakeholder/community consultation
	Disaster risk reduction
	Risk management and resilience
	NBS policy development and implementation
	NBS research
	Green infrastructure
	Green finance / sustainable finance
x	Ecosystem services and ecosystem-based approaches

Nature-based solutions for eco:
Gann GD, Walder B, Gladstone
FAO, IUCN CEM and SER.

EU Web page: Nature Needs Y
European Commission (2022) I

x	Rural municipal/local authority/government planning	
	Coastal municipal/local authority/government planning	
	Urban municipal/local authority/government planning	
	Improving well-being and quality of life	
	NBS and new business and investment models	
	NBS and CCAM (Connected, Cooperative and Automated Mobility)	
	Other 1: (Please specify)	Restorative Ecology
	Other 2: (Please specify)	
	Other 3: (Please specify)	

Keywords Source 1: United Nations Environment Programme (2020). *The Economics of Nature-based Solutions: Current Status and Future Priorities*. United Nations Environment Programme Nairobi., p.5. (keywords above in italics)

Keywords Source 2: Faivre N, Fritz M, Freitas T, de Boissezon B, Vandewoestijne S. (2017)'Nature-Based Solutions in the EU: Innovating with nature to address social, economic and environmental challenges.' *Environ Res.* 2017 Nov;159:509-518. doi: 10.1016/j.envres.2017.08.032. Epub 2017 Sep 8. PMID: 28886502.

Keywords Source 3: European Commission (2015). *Towards an EU Research and Innovation policy agenda for Nature-Based Solutions & Re-Naturing Cities: Final Report of the Horizon 2020 Expert Group on 'Nature-Based Solutions and Re-Naturing Cities' Full Version*. Luxembourg: Publications Office.

↻ J, Manirajah SM, Roe S (2022). Restoration Project Information Sharing Framework. Society for Ecological Restoration and Climate Focus. Washington, D.C. PDF: <https://c>

Factsheet on EU Nature Restoration Law <https://ec.europa.eu/commission/presscorner/api/files/attachment/872899/Factsheet%20on%20Nature%20Restoration%20Law.pdf>

cdn.ymaws.com/www.ser.org/resource/resmgr/publications/restoration-project-informat.pdf