

POLICY BRIEF

# Reconnecting Europe with Nature through Taxonomy and Citizen Science

Source: Image courtesy of APCADE

## Executive summary

Successful implementation of the EU Nature Restoration Regulation depends not only on ecological measures, but also on citizens' understanding, acceptance and participation in restoration processes. Experience from the TETTRIS project shows that rebuilding people's connection to nature through inclusive biodiversity observation, supported by taxonomic expertise and scientific institutions, can strengthen biodiversity and restoration monitoring, public legitimacy, and long-term stewardship.

The European Commission can provide templates and tools to help national authorities integrate these approaches into national restoration plans, monitoring guidance, and funding instruments to enhance both ecological and social outcomes.

## The implementation risk for the Nature Restoration Regulation

Across Europe, long-term urbanisation, reduced access to biodiversity, and changing lifestyles have weakened people's everyday relationship with nature dramatically (e.g. 60% decrease in connection to nature over the past 200 years, Richardson, 2025). Many citizens are no longer able to recognise common species or understand local ecosystems. This weakens environmental empathy and reduces willingness to accept land-use changes, public investment, and long-term stewardship required by restoration policy (Pocock et al, 2023).

For EU institutions, this is not primarily a communication issue, but an implementation risk:



Reduced public acceptance of restoration targets



Limited citizen participation in monitoring and stewardship



Difficulty demonstrating social benefits of restoration



Missed opportunities to extend monitoring capacity through citizen involvement

Rebuilding nature connectedness is therefore directly relevant to the sustainability of restoration efforts.

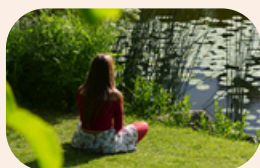
## Novel engagement strategies

TETTRIs piloted citizen engagement models (see box 1.) in Denmark and Greece that go beyond traditional citizen science focused on data collection.

The model built on previous knowledge that biodiversity observation and increased stewardship are most effective when accompanied by activities that rebuild emotional and cognitive connections, including arts-based and experimental approaches (Pritchard et al, 2020). Crucially, TETTRIs links these engagement activities directly to taxonomic expertise and scientific institutions such as museums and botanical gardens. These institutions provide:

- Authoritative species/taxonomic knowledge and training
- The opportunity for the public to observe the taxonomists' passion and real-time species identification which can change people's perspectives on biodiversity.
- Links to research infrastructures and European biodiversity data standards.

This bridges the gap between the public and the researchers and creates opportunities where citizens, including underrepresented groups in citizen science such as urban residents, young people and socio-economically disadvantaged communities, can meaningfully participate in biodiversity observation and monitoring relevant for policy indicators.



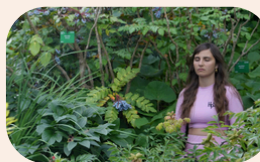
Natural History Museum Denmark tested a scalable engagement model to increase young people's participation in citizen science by combining nature immersion, species identification, and creative facilitation during guided excursions. The approach targets individuals with low prior interest in nature and aims to increase "nature connectedness" as a pathway into biodiversity observation and stewardship.



- A guided excursion led by a **biologist/taxonomist and a musician/creative facilitator**, combining scientific learning with sensory and emotional engagement



- Use of **species recognition apps** to support active biodiversity discovery and learning in situ



- Structured activities including **quiet reflection, sensory observation, and group discussion** to strengthen personal connection to nature

- Measurement of impact using a **pre/post Nature Connectedness scale** and/or creating a piece of art (music, a drawing or short story).

- Designed for **young participants (15–25)** and adaptable to urban or semi-natural environments



This model links citizen engagement directly with taxonomic expertise and demonstrates a potential practical method for increasing both participation in citizen science and long-term environmental awareness. The model was adapted in Stuttgart and Crete.

## Policy entry points for DG ENV and Member States

DG ENV can integrate these insights into existing restoration governance mechanisms:

### WITHIN NATIONAL RESTORATION REGULATION:

- ↘ Encourage inclusion of citizen engagement and biodiversity observation as enabling measures for restoration. Promote actions that improve species literacy and participation in biodiversity recording.
- ↘ Recognise citizen science biodiversity observation as a complementary monitoring resource
- ↘ Encourage Member States to measure nature connectedness alongside ecological indicators to assess societal impacts of restoration.

### WITHIN EU FUNDING INSTRUMENTS:

- ↘ Use LIFE, Horizon Europe/FP10, ERDF and ESF+ to support long-term citizen biodiversity observation, with a focus on nature connectedness and with clear requirements for inclusion, equity and long-term participation.
- ↘ Support hybrid engagement models combining arts, culture, education, and citizen science, particularly in urban and underserved areas.

### FOR INSTITUTIONAL CAPACITY:

- ↘ Recognise museums, botanical gardens and related research infrastructures as trusted intermediaries between citizens and policy-relevant biodiversity data that require long-term support.

## Implementation enablers

Effective delivery requires coordination across DG ENV, DG RTD, and education and culture portfolios, working with networks such as CETAF, ECSA, and research infrastructures such as GBIF and DiSSCo. Alignment with European and global biodiversity data standards ensures interoperability and policy usability of citizen science data.

Source: Image from Asstels/ Adobe Stock

### Conclusion

The Nature Restoration Law offers opportunities not only to restore ecosystems, but also to rebuild European's relationship with nature. TETTRIs demonstrates that inclusive citizen biodiversity observation, supported by taxonomic expertise and scientific institutions, can strengthen restoration monitoring, sincerity, and long-term societal support for Europe's biodiversity goals.

Embedding these approaches into restoration implementation will help ensure ecological restoration is matched by societal engagement and ownership.

### References

- Pocock, M., Hamlin, I., Christelow, J., Passmore, H. A., & Richardson, M. (2023). *The benefits of citizen science and nature-noticing activities for well-being, nature connectedness and pro-nature conservation behaviours.* *People and Nature*, 5. <https://doi.org/10.1002/pan3.10432>
- Pritchard, A., Richardson, M., Sheffield, D., et al. (2020). *The relationship between nature connectedness and eudaimonic well-being: A meta-analysis.* *Journal of Happiness Studies*, 21, 1145–1167. <https://doi.org/10.1007/s10902-019-00118-6>
- Richardson, M. (2025). *Modelling nature connectedness within environmental systems: Human–nature relationships from 1800 to 2020 and beyond.* *Earth*, 6(3), 82. <https://doi.org/10.3390/earth6030082>



Transforming European Taxonomy through training, research and innovations



Funded by the European Union

TETTRIs Grant Agreement 101081903

**Duration:** December 2022 - May 2026

**Budget:** € 5,997.636

**Type:** HORIZON IA - Innovation Action



Catalogue of Life

ecsa

