

Mapping EU Nature-based Solutions Projects (2011–2024): Preliminary Evidence from an Updated Database

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INTRODUCTION

Nature-based Solutions (NbS) are a central pillar of EU strategies for climate adaptation, biodiversity, and the green transition. While multiple EU programmes (including FP7, Horizon 2020, LIFE, etc.) have financed hundreds of NbS-related initiatives since 2011, evidence regarding their actual interpretation and implementation remains scattered. Specifically, their thematic focus, environments, and NbS typologies have not been systematically compared across the various programmes. This poster presents preliminary findings from an updated mapping of 471 EU Research and Innovation (R&I) projects funded between 2011 and May 2024. This mapping uses the NetworkNature database. The overall research effort also utilizes two additional datasets: a database of NbS case studies and a subset applying a Life Cycle–based methodology, although their analysis is not reported in this summary

METHODS

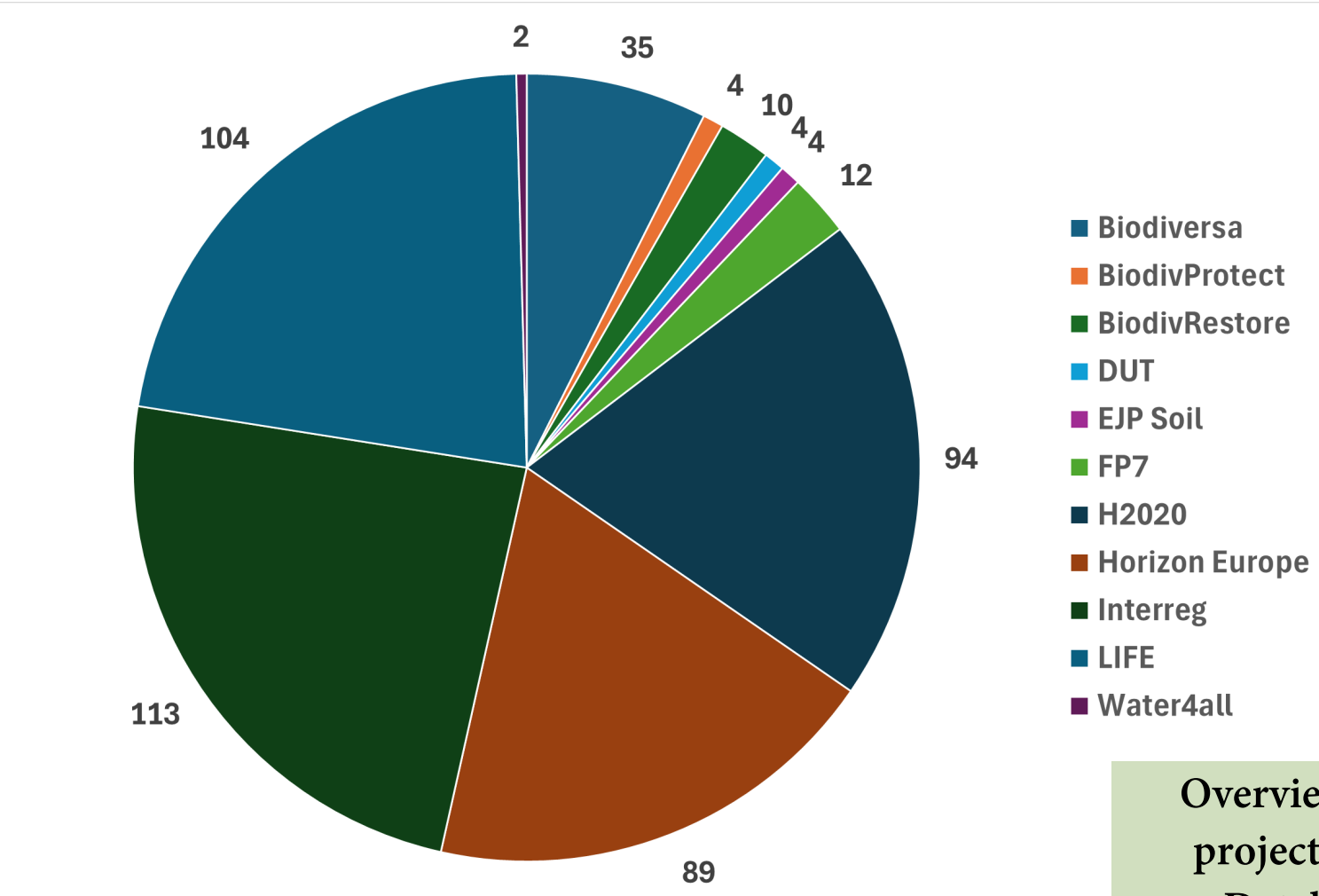


Sources and classification. This work is based on the description of the Nature Network platform and the classification framework developed by Durieux & Harrak (2024), which provides a structured method for classifying specific items for projects and case studies, such as “Societal challenges”, “NBS types” or “Environment”.Classification. For each validated project, the descriptive fields and NbS categories of Durieux & Harrak (2024) were retained and aligned across programmes (NbS type, main environment/context, main objective/policy area, funding programme/year). When project information was incomplete, the original category was retained and flagged for future review. **Additional datasets.** The overall study consists of two additional databases: (i) a database of NbS case studies collected from European projects/platforms and (ii) a smaller database of NbS case studies where a life cycle-based methodology was applied. The overall analysis of the three databases is still in its early stages, so for time constraints, only some results from the first dataset are shown. **Definitions adopted.** Definitions for the NBS item (i.e., NBS type, approach, environment and societal challenges) are derived from the report of Durieux and Harrak.

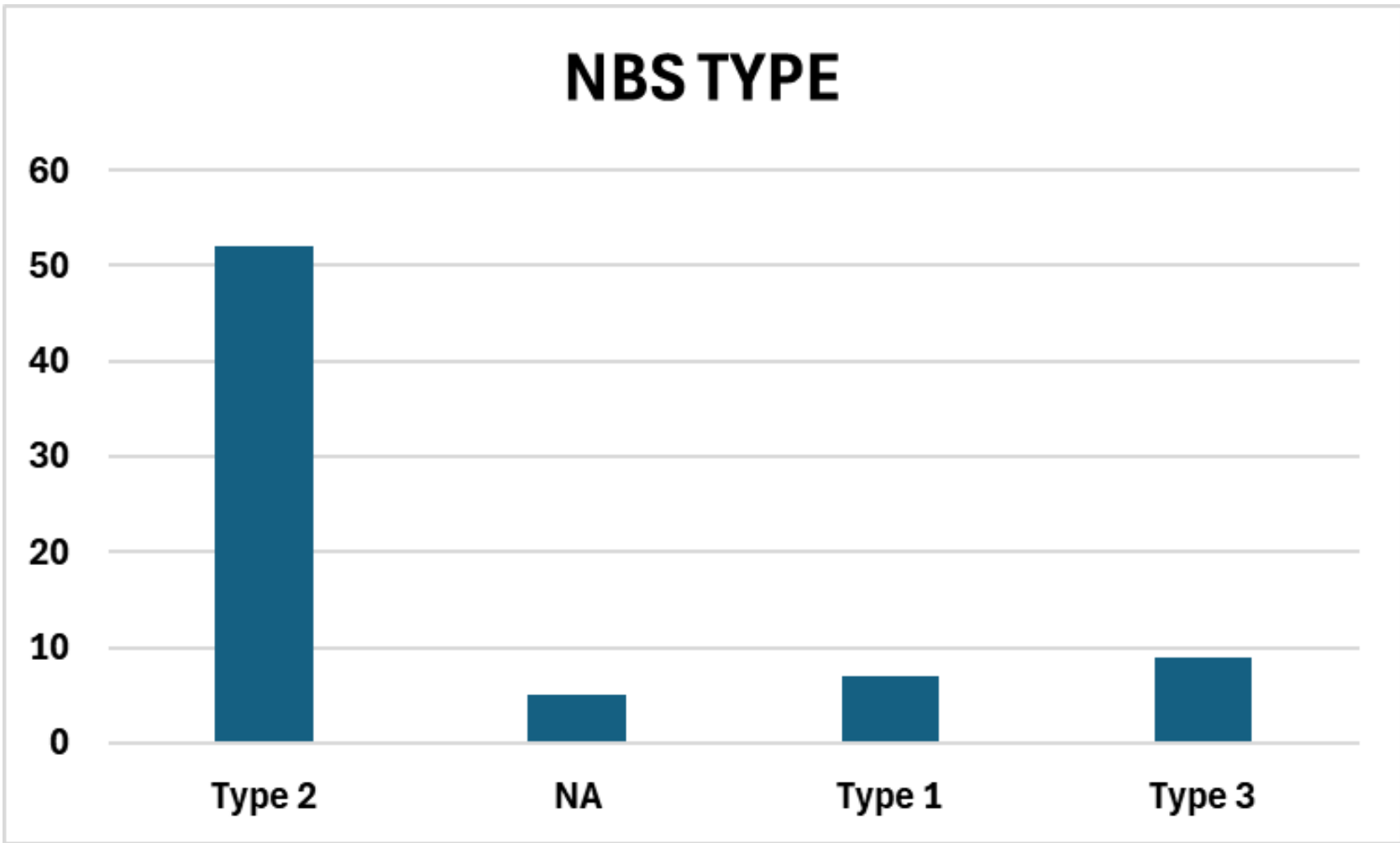
PREMILINARY RESULTS AND DISCUSSIONS

ID	TITLE	FUNDING PROGRAM	PROJECT ID	ACRONYM	LEAD ENTITY	LEAD COUNTRY	LEAD MACRO-AREA	LEAD ACTIVITY TYPE	PARTICIPANTS	PARTICIPANT COUNTRIES	PARTICIPANT MACRO-AREA	PARTECIPANT ACTIVITY TYPE
1	Urban Biodiversity and Ecosystem Services	BiodivERsA	PR-BIO-2010-07 RIDB_2001	URBES	Stockholm Resilience Centre, Stockholm University	Sweden	Northern Europe	Research Organisation	•KUNGL. VETENSKAPSAKADEMIEN KVA •ERASMUS UNIVERSITEIT ROTTERDAM •Humboldt Universität zu Berlin •INSTITUT FUER WELTWIRTSCHAFT •CHALMERS TEKNISKA HOGSKOLA AB •UNIVERSITAT AUTONOMA DE BARCELONA •CHRISTIAN-ALBRECHTS-UNIVERSITAET ZU KIEL •PARIS-LODRON-UNIVERSITAT SALZBURG •DUTCH RESEARCH INSTITUTE FOR TRANSITIONS BV •ICLEI - LOCAL GOVERNMENTS FOR SUSTAINABILITY EV •ICTA – Institute of Environmental Science and Technology (UAB) •International Union for Conservation of Nature - IUCN Europe Regional Office •TECHNISCHE UNIVERSITAET MUENCHEN	•Sweden •Netherlands •Germany •Germany •Sweden •Spain •Germany •Austria •Netherlands •Germany •Spain •Belgium •Germany	•Northern Europe •Western Europe •Western Europe •Western Europe •Northern Europe •Southern Europe •Western Europe •Western Europe •Western Europe •Western Europe	Non-governmental organisation Higher or secondary education establishment Higher or secondary education establishment Research Organisation Higher or secondary education establishment Higher or secondary education establishment Higher or secondary education establishment Higher or secondary education establishment Other Non-governmental organisation Higher or secondary education establishment Research Organisation Higher or secondary education establishment
2	Pathogenic Vibrio bacteria in the current and future Baltic Sea waters: mitigating the problem	BiodivERsA	PR-BIO-2019-03 RIDB_2004	BaltVib	LEIBNIZ-INSTITUT FUR OSTSEEFORSCHUNG WARNEMUNDE	Germany	Western Europe	Research Organisation	•EESTI MAULIKOOL •ABO AKADEMI •KOBENHAVNS UNIVERSITET •HELMHOLTZ-ZENTRUM FUR OZEANFORSCHUNG KIEL (GEOMAR) •KLAIPEDOS UNIVERSITETAS •MORSKI INSTYTUT RYBACKI - PANSTWOWY INSTYTUT BADAWCZY •KUNGLIGA TEKNISKA HOEGSKOLAN	•Estonia •Finland •Denmark •Germany •Lithuania •Poland •Sweden	•Northern Europe •Northern Europe •Northern Europe •Western Europe •Northern Europe •Eastern Europe •Northern Europe	•Higher or secondary education establishment •Higher or secondary education establishment •Higher or secondary education establishment •Research Organisation •Higher or secondary education establishment •Research Organisation •Higher or secondary education establishment

Example of the structure of the database: for each project were collected information about leader, participant, NBS adopted, environment of implementation, etc.



Overview of the projects in the Database 1



NBS Type. Type 1 represent minimal intervention in the ecosystem; type 2 represents the restoration of the actual ecosystem; type 3 represent new NBS. The label NA (e.g., Not Applicable) were adopted for project in which it was not present a physical implementation of NBS

- EU leadership & organisation type: coordination concentrated in Western/Northern Europe and mainly led by universities/research institutes → highlights strong research interest and capacity in the field.
- NbS type: clear prevalence of Type 2 (ecosystem management/restoration) → restoration is prioritised over creating new ecosystems (Type 3) or leveraging existing ones (Type 1).
- Areas & goals: strong presence of cropland and urban ecosystems, many multi-environment projects; climate resilience is the primary objective → consistent with CAP and Paris Agreement agendas.

REFERENCES

Eggermont, H.; Balian, E.; Azevedo, J. M. N.; Beumer, V.; Brodin, T.; Claudet, J.; Fady, B.; Grube, M.; Keune, H.; Lamarque, P.; Reuter, K.; Smith, M.; van Ham, C.; Weisser, W. W.; Le Roux, X. "Nature-based solutions: new influence for environmental management and research in Europe." GAIA-Ecological perspectives for science and society 24.4 (2015): 243-248. Durieux, Cloé, Harrak, Mariem. "EU Research and Innovation projects on NbS database update - Methodology and results ". Cohen-Shacham, E., Walters, G., Janzen, C. and Maginnis, S. (eds.) "Nature-based solutions to address global societal challenges." IUCN: Gland, Switzerland 97.2016 (2016): 2036. Maes, Joachim, et al. "Mapping and assessment of ecosystems and their services: an EU wide ecosystem assessment in support of the EU biodiversity strategy." EUR (2020). Adina, D.; Wendling, L. Evaluating the impact of nature-based solutions: A handbook for practitioners. European Commission EC, 2021. IUCN. "Global standard for nature-based solutions. A user-friendly framework for the verification, design and scaling up of NbS." Gland, Switzerland (2020).

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