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Data Paper

Development of the "SELINA Super-Query" in a pan-European Horizon Europe project: A systematic literature search on Ecosystem Condition, Ecosystem Services and Ecosystem Accounting

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Abstract

This data paper introduces the "SELINA Super-Query," a comprehensive systematic search query developed within the EU-Horizon project SELINA. This framework serves as a foundational tool for subsequent literature reviews and it is accompanied by an open-access database containing 108,064 potentially relevant literature items. The SELINA Super-Query is designed to efficiently identify English-language, peer-reviewed research articles published between 2018 and 2022 in the fields of ecosystem condition, ecosystem services and ecosystem accounting. By employing this unified systematic

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search strategy in the initial phase of a large research project, follow-up research tasks can effectively build on a consistent, well-defined knowledge base, thereby enhancing the project's overall research cohesion and productivity.

Keywords

literature review, systematic mapping, ecosystem assessment, search algorithm, Web of Science, Scopus, common database

Related research articles

- Walther F, Barton DN, Schwaab J, Kato Huerta J, Immerzeel B, Adamescu M, Andersen E, Arámbula Coyote MV, Arany I, Balzan M, Bruggeman A, Carvalho-Santos C, Cazacu C, Geneletti D, Giuca R, Inácio M, Lagabrielle E, Lange S, Le Clec'h S, Lim ZYV, Mörtberg U, Nedkov S, Portela AP, Porucznik A, Racoviceanu T, Rendón P, Ribeiro D, Seguin J, Šmid Hribar M, Stoycheva V, Vejre H, Zoumides C, Grêt-Regamey A (2025) Uncertainties in ecosystem services assessments and their implications for decision support – a semi-systematic literature review. *Ecosystem Services* 73: 101714.
- Nicholson Thomas I, Bernado F, Cazacu C, Černecký J, Cortinovis C, Czúcz B, Duchkova H, Kičić M, Lange S, Lecomte X, Lim ZYV, Lotan A, Mörtberg U, Parretta C, Rendón P, Roche P, Tanács E, Vuletić D, Zoumides C, Grêt-Regamey A (Under review) Towards a standardised monitoring of ecosystem condition: a review on indicators and their data sources. *Ecological Indicators*: Manuscript Number ECOLIND-46889.
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Introduction and Background

In recent years, the importance of healthy ecosystems and the concept of ecosystem services has increasingly gained attention in academia and various decision-making contexts (Burkhard and Maes 2017, Costanza et al. 2017, IPBES et al. 2019, Maes et al. 2020). Ecosystem Services (ES) refer to the multitude of benefits that humans derive from

natural ecosystems, encompassing provisioning, regulating and cultural ES (MA (Millennium Ecosystem Assessment) 2005, Burkhard et al. 2012, Maes et al. 2020). ES are critical for human well-being and economic prosperity and understanding them is vital for addressing global challenges such as climate change, land degradation and urbanisation (IPBES et al. 2019). A closely connected approach is the assessment of Ecosystem Condition (EC), which involves evaluating the quality, state or health of an ecosystem. This is crucial for understanding how ecosystems are changing over time and how those changes impact the capacity of an ecosystem to yield ES (Potschin-Young et al. 2018, Rendon et al. 2019, Vallecillo 2022). The latest developments in EC and ES assessment and valuation converge in Ecosystem Accounting, a coherent and integrated approach to measure ecosystem assets, EC and the flows of ES into human activity, which is gathered and presented in a comprehensive statistical framework provided by the System of Environmental Economic Accounts (SEEA) Ecosystem Accounting (Maes et al. 2018, United Nations et al. 2021). Considering EC, ES and Ecosystem Accounting (EA) together provides a holistic approach to understanding and managing ecosystems and offers a robust framework to guide effective and sustainable ecosystem management. By integrating EC and ES assessments and their outcomes into policy and management cycles, stakeholders can make better informed decisions promoting sustainable practices that enhance ecological resilience and human welfare at the same time.

The EU Horizon Research and Innovation Action “Science for Evidence-based and sustainabLe declsions about NAtural capital” (SELINA*[1]) aims to provide robust information and guidance that can be harnessed by different stakeholder groups to support transformative change in the EU, to halt biodiversity decline, to support ecosystem restoration and to secure the sustainable supply and use of essential ES in the EU by 2030. As recent literature reviews showed that the documentation of uptake and the uptake itself of the assessment of ES findings in decision-making remains limited (Barton et al. 2022, Termansen et al. 2022), one motivation is to improve the assessment design and communication of results tailored to stakeholder needs in order to increase the uptake in decision-making. The project builds upon the Mapping and Assessment of Ecosystems and their Services (MAES) initiative that, in the context of the EU Biodiversity Strategy 2020, has provided the conceptual, methodological, data and knowledge base for comprehensive assessments on different spatial scales, including the EU-wide assessment (Maes et al. 2020) and assessments in EU Member States*[3](i.a. Burkhard et al. (2018)).

Knowledge and data for different ecosystem types in various conditions supplying ES are increasingly available. The growing body of literature is driven by increasing concerns over environmental degradation and biodiversity loss, prompting a need to understand how natural ecosystems contribute to human well-being and how these contributions can be sustained. Within the SELINA project, a significant effort has been dedicated to conducting three large systematic literature reviews aimed at achieving different objectives:

1. derive a minimum set of key ecosystem condition indicators per ecosystem type (Nicholson Thomas et al. 2024, Nicolson Thomas et al. In press);
2. reveal how uncertainties in ES assessments relate to the likelihood of uptake of ES in decision-making (Walther 2025);
3. identifying indicators integrating information on ecosystem condition and services (Seguin et al. In press).

To ensure consistency in terminology and understanding and to base all reviews on the same set of scientific literature, a collaborative effort between SELINA project Task leads was initiated to establish a so-called "Super-Query". Unlike common large queries, which are often tailored to specific research questions, the Super-Query was designed to be a broad, yet precisely structured search strategy that serves multiple systematic reviews simultaneously. It ensures that all three review tasks listed above draw from a harmonized and comprehensive dataset. Thus, this comprehensive search query was designed to harvest a common paper population from relevant scientific literature databases encompassing a wide range of topics that are relevant to the respective SELINA review tasks. Each of the individual literature reviews will deploy their own focused, more specific research query on the here-identified population of papers. The development of the SELINA Super-Query was a pivotal achievement within the project and involved a collaborative effort amongst various researchers from the SELINA consortium. The common underlying query plays a crucial role in supporting the comprehensive literature reviews for the three distinct research objectives building upon it. Furthermore, it aims to gather the current state of knowledge for the time period 2018 - 2022 on ecosystem condition (indicators), ecosystem services, their integration as well as their application in an ecosystem accounting in order to enable the identification of gaps and challenges in the field and to propose future directions for research and policy development.

Method

In order to create a common meta-database of most recent, potentially relevant ES and Ecosystem Condition (EC) studies, as well as applications in the ecosystem accounting context, the task force needed to agree on a unified query approach. Therefore, a series of methodological steps was carried out that were based on a slightly modified PRISMA protocol (Moher et al. 2015).

1. Creation of a task force;
2. Definition of the scope of the search query;
3. Identification of key concepts, pertinent keywords and synonyms;
4. Development of the query string;
5. Fine-tuning and testing the query;
6. Running and recording of the final query to ensure transparency and reproducibility;

7. Processing, organisation and management of harvested literature items to create a final literature database as well as supporting material.

Step 1: Creation of a task force

The task force, consisting of eight members, was composed of the review leads from the three systematic literature review tasks outlined above as well as of contributors from the SELINA Task “Knowledge and data flows” team. The task force members brought in a range of expertise from various fields such as environmental science, landscape ecology, landscape planning, physical geography and evironmental economics.

Early in 2023, prior to the start of the individual review tasks, a series of meetings was convened, involving members of the task force. These collaborative sessions played a pivotal role in the joint development, ongoing refinement and finalisation of the search query, as they allowed us to incorporate invaluable insights from all task force members and different perspectives.

Step 2: Definition of the scope of the search query

The task force decided to develop a comprehensive search query as a common foundation for the three individual review tasks. As an overarching search query, it was referred to as the SELINA 'Super-Query' (Fig. 1). It was agreed that the SELINA Super-Query was applied to two prominent scientific literature databases, Web of Science and Scopus, both of which offer extensive coverage in the field (Pranckutė 2021). To ensure the inclusion of the latest and most pertinent peer-reviewed literature, the search query spanned the time period from 2018 to 2022, covering the entire five-year period. This update aimed to capture the most recent developments in this scientific field since the conclusion of the preceded ESMERALDA EU Horizon 2020 project*[2](2015-2018; Burkhard et al. (2018)). The query was tailored to select English-language literature items only.

It is essential to emphasise that the development of an effective search query is an iterative process. Throughout the series of online meetings, the query underwent multiple rounds of refinements, which were informed by the collaborative input of the team and their impact on the quality and quantity of the retrieved results. The extensive co-creation sessions were conducted to ensure that the search query would meet the unique requirements of each review task while maintaining consistency across the board.

Step 3: Identification of key concepts, pertinent keywords and synonyms

The collaborative work on the development of the list of relevant keywords and the search query was facilitated by working on cloud-based shared documents (details are outlined below). To achieve the research objectives outlined above, it was agreed that the concepts of: (1) ecosystem services (ES; Burkhard et al. (2012)) and nature's contributions to people (NCPs;Díaz et al. (2018)); (2) ecosystem condition (EC;Vallecillo

(2022)); and (3) ecosystem accounting (EA; United Nations et al. (2021)) were addressed. Thus, in a first collection general keywords and search terms on ES, NCPs, EC and EA were listed. Hence, further relevant synonyms and spelling considerations were added (e.g. for SEEA EA). As alternative terms for EC, for example, various terrestrial and aquatic ecosystem types were added. In a following step, truncation and wildcards were applied to capture word variations. The collection of truncated keywords grouped by concept can be found in Table 1. Furthermore, for ES and EC, controlled vocabulary and restrictive terms were included with the aim of limiting the findings to genuine ES/EC assessments. The restrictive terms for ES list various ES assessment methods and were adopted from the IPBES values assessment (Barton et al. 2022) and extended by adding 36 methods identified in the ESMERALDA project (Brander et al. 2018, Santos-Martín 2018, Vihervaara et al. 2018).

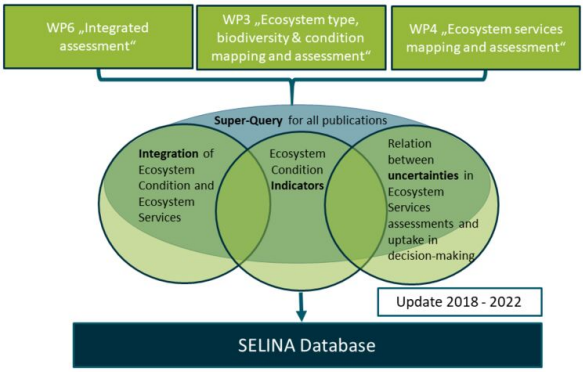

Figure 1.

The Super-Query forms a common ground for individual review tasks in the SELINA project. The green shapes outline the collaboration of three work packages (boxes) with their different review tasks (circles), while the blue shapes display the Super-Query as common ground (circle) that ultimately feeds into the common database (box).

Step 4: Development of the query string

An online tabular spreadsheet with multiple tabs and semi-automated functionality was established to facilitate the collaborative progress and changes to the list of keywords and the search query. Different tabs were dedicated to the three different general concepts outlined above and the development of the respective section of the query, involving multiple versions covering, if applicable, different search term selections (Table 1), synonyms, spelling considerations, wildcards and Boolean operators. We applied Boolean operators AND, OR, NEAR/10 to establish logical combinations of keywords (see details below). In the overview spreadsheet, the individual sections were automatically merged through predefined formulae that systematically combined different keyword groups and logical operators into structured search queries. This automation

ensured that all possible variations of the search terms were generated without manual effort, improving consistency and efficiency. The resulting query combinations were dynamically updated whenever individual keyword sets were modified, allowing for real-time refinement of the search strategy. As different experts worked on the individual sections, this approach was useful to ensure the overview of the overall result. Additionally, the overview spreadsheet provided an estimate of the potential volume of literature items that could be retrieved from the Web of Science database per combination. This information served as a valuable reference point to the task force, responsible for further refining the Super-Query and allowed us to further narrow down the search query. Besides, supplementary tabs were included in the file giving additional information, for example, including the identification of issues and corresponding solutions. Moreover, to faciltate cross-database searches, an automated translation mechanism was integrated into the spreadsheet, enabling the conversion of Web of Science query syntax into the corresponding Scopus format (cf. Suppl. material 3). This functionality systematically adjusted field tags (e.g. 'TI=' to 'TITLE', 'TS=' to 'TITLE-ABS-KEY') and operators to match Scopus's requirements (e.g. 'NEAR/10 =' 'W/10'). Although both Web of Science and Scopus provide combined search fields that include titles, abstracts and keywords, there are notable differences in how these fields are defined. In Web of Science, the 'TS' (Topic Search) field includes Author Keywords and KeyWords Plus®*[5] — terms generated from the titles of cited references using a proprietary Clarivate algorithm. These terms often do not appear in the article's title itself, but enhance cross-disciplinary discovery by linking articles through shared references. In contrast, Scopus's 'TITLE-ABS-KEY' field includes Author Keywords, Index Terms, Trade Names and Chemical Names*[6], leading to differences in the scope and nature of results retrieved from each database. Logical connectors and proximity operators were also adapted accordingly to maintain semantic accuracy. This automated process minimised the need for manual modifications, improving efficiency and ensuring consistency across database queries.

Table 1.

Final list of search terms. Terms are truncated by an asterisk (Due to their extensive length, the restrictive terms for ecosystem services are excluded from this table and listed in Suppl. material 1).

Ecosystem services	**Ecosystem accounts**	**Ecosystem service synonyms - Part A**	**Ecosystem service synonyms - Part B**	**Restrictive terms for ecosystem services**	**Ecosystem condition and synonyms – Part A**	**Ecosystem condition and synonyms – Part B and C**	**Restrictive terms for ecosystem condition**
ecosystem* service*	ecosystem* account*	ecosystem*	service*	see table caption	ecosystem*	condition*	assess*
nature's contribution* to people	natural capital	landscape*	disservice*		ecologic*	state*	map*

Ecosystem services	Ecosystem accounts	Ecosystem service synonyms - Part A	Ecosystem service synonyms - Part B	Restrictive terms for ecosystem services	Ecosystem condition and synonyms – Part A	Ecosystem condition and synonyms – Part B and C	Restrictive terms for ecosystem condition
regulat* service*	SEEA EA	ecolog*	dis-service*		environment*	status	valuation
cultural service*	SEEA-EEA	environment*	valu*		biologic*	health	quantif*
provisioning service*	SEEA-EA	biologic*	benefit*		conservation	integrity	value*
	SEEA EEA	habitat*	capacit*		habitat*	function*	account*
	SEEA-(E)EA	natur*	function*		urban*	qualit*	indicator*
	SEEA (E)EA		disbenefit*		agroecosystem*	resilien*	index*
					crop*	capacit*	variable*
					agricultur*	conservation	indices
					grassland*	naturalness	
					woodland*	wilderness	
					forest*	wildness	
					heathland*	hemeroby	
					shrub*		
					wetland*		
					sparsely vegetated		
					freshwater*		
					river*		
					lake*		
					transitional water*		
					marine		
					coast*		
					ocean*		

Step 5: Fine-tuning and testing the query

After having identified all relevant keywords, search terms, wildcards and truncations, the fine-tuning of the search query was further optimised to enhance the precision of the query. This process involved modifying the grouping of synonyms, the Boolean operators used to connect them and applying the search filters to different database fields to be queried. For the latter, we varied between: (1) title (TI); (2) title, author and keywords (TI OR AK); or (3) topic (TS) additionally including the abstract (see query below). While skimming through the entries, it was noticed that many papers used the above-mentioned concepts in their keywords without properly addressing them in terms of content, for example conducting an ecosystem service assessment. As the search terms for the general ES and EC concepts initially yielded an excessive number of results (Fig. 2), additional restrictive terms were introduced to enhance specificity (Table 1 Column E and H, Suppl. material 1). The restrictive terms for ecosystem services relate to methods (Barton et al. (2022), MAES Methods Explorer*[4]), whereas the restrictive terms for ecosystem condition relate to specific measurement and evaluation keywords. For example, only querying #5 with terms related to ecosystem condition resulted in more than 1 million entries, while adding the restrictive terms #6, aimed at making sure that the paper addresses a 'proper' EC assessment and not just drops the term, reduced the number of entries to one tenth. Several loops of testing, refinement, discussion and agreement within the task force helped to iteratively adjust and improve the Super-Query, focusing on balancing inclusivity and relevance by evaluating the quantity and composition of retrieved results.

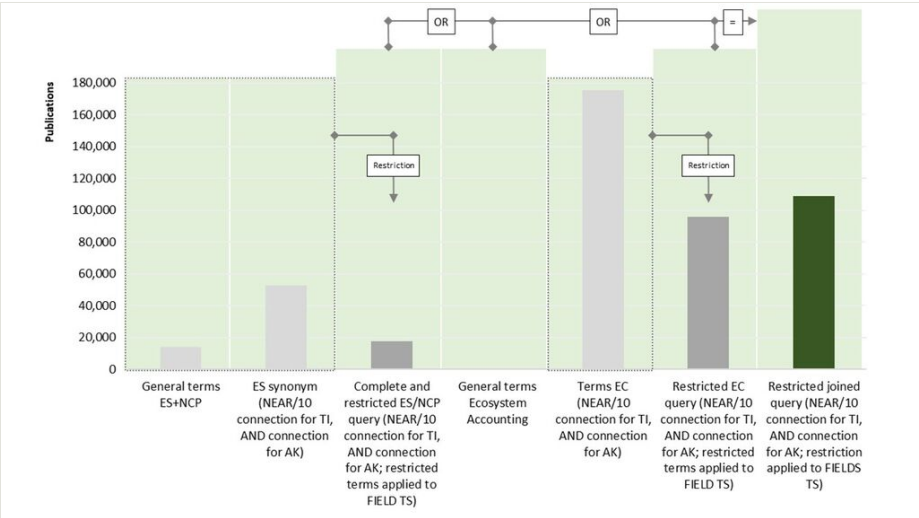

Figure 2.

Excerpt from the joint work and decision-making process on the selection of most useful search terms. The diagram shows expected proportions of literature items for different parts of the search query. For general ES and EC terms (dashed boxes), it was decided to add restrictive terms to narrow down the results.

The final search string was composed of six search units: (#1) ES/NCPs, (#2) ES synonyms, (#3) ES restrictions, (#4) ecosystem accounting, (#5) EC and (#6) EC restrictions. All six units were connected using the Boolean operator AND. The terms within each unit were generally connected using OR. In unit #2, the NEAR/10 connection was applied to connect the synonyms for 'ecosystem' (Part A) to analogies for 'services' from Part B (Table 1). In unit #5, the NEAR/10 connection was applied to connect 'ecosystem types' from Part A to analogies of 'condition' from Part B (see Table 1)

Step 6: Running and recording of the final query

Once the final version of the Super-Query was agreed upon, it was systematically applied to Web of Science and Scopus on 27.01.2023. The exact search query is provided in the section below (cf. Chapter "Final search query") to ensure transparency and reproducibility. While the results reflect the database status on the date of execution, minor deviations may occur as databases are updated with newly-indexed articles from earlier periods. The retrieved literature datasets were exported from both databases in their native formats. At this stage, raw literature records remained unchanged, serving as the foundational dataset for subsequent steps, including merging, duplicate removal and structuring, which are detailed in the processing section.

Step 7: Processing, organisation and management

After executing the final search query in both Web of Science and Scopus, the resulting literature lists were processed with the Software R, notably using the "litsearchr" package. The code is available in Suppl. material 2. It has to be mentioned that the database was slightly corrected once in February 2023 due to a typing error to include entries related to "shrub*". Subsequently, the database underwent the removal of unnecessary variables*[9], merging of results from both databases and the elimination of duplicates based on the DOI. The database originally comprised 182,323 article entries, which was refined to 108,064 entries after duplicate removal. However, it is important to note that approximately 6,200 entries without a DOI still remain in the database. Thus, users are advised to perform an additional duplicate removal, based on identical titles after sub-querying the database for their needs (see also Suppl. material 4). The provided code in Suppl. material 2 can be adapted accordingly.

For the follow-up work in the SELINA project, a successive ID-number was generated for each entry to facilitate the retrieval and check matches amongst the three individual reviews. The final version of the database includes 12 variables, such as the internal ID, article type, author information, title, publication year, journal details, DOI, abstract, author keywords, indexed keywords from Scopus*[6], keywords generated by Web of Science*[5], information about duplicates and the database origin (Scopus, Web of Science or both). The final database version was saved as a csv file and stored in the Zenodo respository. Additionally, a readme file was compiled including information on the background, content and structure of the csv file to facilitate the work with the database (Suppl. material 4).

Final search query

Here, we provide the final search query using the Web of Science syntax. This query can be typed into the Advanced Search function; the language needs to be set to 'English' and the Publication Years need to be set to 2018 - 2022. On 27.01.2023, 83,950 entries were obtained. The Scopus syntax can be found in Suppl. material 3. On 27.01.2023, it originally yielded 98,574 entries.

(((TI=("ecosystem* service*" OR "nature's contribution* to people" OR "regulat* service*" OR "cultural service*" OR "provisioning service*") OR AK=("ecosystem* service*" OR "nature's contribution* to people" OR "regulat* service*" OR "cultural service*" OR "provisioning service*")) OR (TI=(("ecosystem*" OR "landscape*" OR "ecolog*" OR "environment*" OR "biologic*" OR "habitat*" OR "natur*") NEAR/10 ("service*" OR "disservice*" OR "dis-service*" OR "valu*" OR "benefit*" OR "capacit*" OR "function*" OR "disbenefit*")) OR AK=(("ecosystem*" OR "landscape*" OR "ecolog*" OR "environment*" OR "biologic*" OR "habitat*" OR "natur*") AND ("service*" OR "disservice*" OR "dis-service*" OR "valu*" OR "benefit*" OR "capacit*" OR "function*" OR "disbenefit*")))) AND (TS=(Valuation OR WTP OR "willingness to pay" OR "willingness to accept" OR WTA OR "preference assessment" OR "preference*" OR "benefit transfer*" OR "value transfer*" OR "non-monetary valuation" OR "monetary valuation" OR "elicitation method*" OR "value elicitation" OR PA-BAT OR "Trade-offs" OR "discourse analysis" OR "stakeholder workshop*" OR "interview*" OR "questionnaire*" OR "mental model*" OR "focus group*" OR "concept mapping" OR "Q methodology" OR "Q-methodology" OR "Q study" OR "Q-study" OR "bayesian belief network*" OR BN OR BBN OR "participatory GIS" OR "PPGIS" OR "PGIS" OR "narrative method*" OR "narrative approach*" OR ARIES OR "InVEST model*" OR "biophysical model*" OR "bio-physical model*" OR "biophysical valu*" OR "bio-physical valu*" OR "global environmental flow" OR Mapnat OR "MARXAN" OR "MEB" OR "Ecosystem service map*" OR "ES map*" OR "Ecological importance" OR "Spatial proxy model*" OR ESTIMAP OR GISCAME OR "Cultural Health Index" OR "Environmental importance" OR "POLYSCAPE" OR "ecosystem service quantification" OR "ES quantification" OR "ecosystem service modeling" OR "ES modeling" OR "service providing unit" OR "ecosystem service supply" OR "ES supply" OR "ecosystem service delivery" OR "ES delivery" OR "species richness" OR "biodiversity index" OR "species diversity" OR "ecosystem accounting" OR "contingent valuation" OR "choice experiment*" OR "conjoint analysis" OR "random utility" OR "RUM" OR "Marginal Utility" OR "Lancasters Characteristics demand theory" OR "Marginal rate of substitution" OR "choice model" OR "stated preferences" OR "deliberative valuation" OR "role playing game*" OR "social assessment for protected areas" OR "socio-cultural valuation" OR "expert * elicitation" OR "Afrocentric metho*" OR "Biocultural Methods" OR SAPA OR "participatory mapping" OR "social importance" OR "socio-economic importance" OR "socio-cultural importance" OR "social preferences" OR "Hypothetical policy scenario" OR "Willingness to pay" OR "Willingness to accept" OR "Compensation" OR " Nonmarket valuation survey" OR "Individual welfare change" OR "Equivalent variation of welfare" OR "Compensatory variation of welfare" OR "Multiattribute model*" OR "multi-attribute model" OR "Discrete choice modelling" OR " Final mixture model" OR "Latent Class Model" OR "LCM" OR

"Random Parameter Logit Model" OR RPLM OR "Mixed Logit Model" OR " alternative specific conditional logit" OR "hedonic" OR "travel cost" OR "cost-based" OR "cost-effectiveness" OR "production function" OR "shadow pric*" OR "Health valuation" OR "Photo Elicitation" OR "Photo-Elicitation" OR "replacement cost*" OR "averting behavior" OR "economic importance" OR "livelihood assess*" OR "market price*" OR "market valu*" OR "time use" OR "mitigating cost*" OR "preventive expenditure*" OR "cost of illness" OR "participant observation" OR "observe behavior" OR "observe practice*" OR "ritua*" OR "ceremon*" OR "cost-benefit" OR "cost benefit" OR "benefit cost" OR "benefit-cost" OR "MCA" OR "multicriteria analysis" OR "MCDA" OR "multicriteria decision analysis" OR "integrated valuation" OR "deliberative decision making" OR "business accounting" OR "corporate accounting" OR "profit and loss account*" OR ESG OR "Consensus analysis" OR "Natural Capital Accounting" OR "SolVES" OR "inclusive valuation" OR "integrated model*" OR "participatory decision*" OR "Deliberative integration" OR "Alternative cost* method*" OR "Conceptual model*" OR "Corporate Ecosystem Service* Review*" OR "Damage cost* avoided" OR "Defensive expenditure*" OR "Deliberative assessment*" OR "earth observation*" OR "Ecological Connectivity model*" OR "Ecosystem Service* Account*" OR "Ecosystem service* assessment*" OR "Ecosystem service* card game*" OR "Field Observation*" OR "Geo-tagged photo-series analysis" OR "habitat model*" OR "Input-Output analysis" OR "Integrated modelling framework*" OR "landscape function model*" OR "Macro-ecological model*" OR "Narrative assessment*" OR "Net factor income" OR "Opportunity cost*" OR "Participatory scenario planning" OR "participatory valuation*" OR "Phenomenological model*" OR "Process-based model*" OR "Public pric*" OR "Remote sensing" OR "residual value* method*" OR "Restoration cost*" OR "Social Cost* of Carbon" OR "socio-economic data" OR "State and transition model*" OR "statistical data" OR "Statistical model*" OR "survey*" OR "Trait-based model*"))) OR (TI=("ecosystem* account*" OR "natural capital" OR "SEEA EA" OR "SEEA-EEA" OR "SEEA-EA" OR "SEEA EEA" OR "SEEA-(E)EA" OR "SEEA (E)EA") OR AK=("ecosystem* account*" OR "natural capital" OR "SEEA EA" OR "SEEA-EEA" OR "SEEA-EA" OR "SEEA EEA" OR "SEEA-(E)EA" OR "SEEA (E)EA")) OR ((TI=((("ecosystem*" OR "ecologic*" OR "environment*" OR "biologic*" OR "conservation" OR "habitat*" OR "urban*" OR "agroecosystem*" OR "crop*" OR "agricultur*" OR "grassland*" OR "woodland*" OR "forest*" OR "heathland*" OR "shrub*" OR "wetland*" OR "sparsely vegetated" OR "freshwater*" OR "river*" OR "lake*" OR "transitional water*" OR "marine" OR "coast*" OR "ocean*") NEAR/10 ("condition*" OR "state*" OR "status" OR "health" OR "integrity" OR "function*" OR "qualit*" OR "resilien*" OR "capacit*" OR "conservation" OR "naturalness" OR "wilderness" OR "wildness")) OR ("hemeroby")) OR AK=((("ecosystem*" OR "ecologic*" OR "environment*" OR "biologic*" OR "conservation" OR "habitat*" OR "urban*" OR "agroecosystem*" OR "crop*" OR "agricultur*" OR "grassland*" OR "woodland*" OR "forest*" OR "heathland*" OR "shrub*" OR "wetland*" OR "sparsely vegetated" OR "freshwater*" OR "river*" OR "lake*" OR "transitional water*" OR "marine" OR "coast*" OR "ocean*") AND ("condition*" OR "state*" OR "status" OR "health" OR "integrity" OR "function*" OR "qualit*" OR "resilien*" OR "capacit*" OR "conservation" OR "naturalness" OR "wilderness" OR "wildness")) OR ("hemeroby"))) AND (TS=("assess*" OR "map*" OR "valuation" OR "quantif*" OR "value*" OR "account*" OR "indicator*" OR "index*" OR "variable*" OR "indices")))

Dataset description

The database contains the results of the systematic literature review carried out on 27.01.2023 in the Web of Science and Scopus databases. It can be accessed via the Zenodo repository*[8]. The file contains 108,064 literature entries and is structured through 15 columns ("X", "type", "author", "title", "year", "journal", "volume", "pages", "doi", "abstract", "author_keywords", "indexed_keywords_scopus", "keywords_plus_WoS", "n_duplicates", "origin"). Explanations on the structure can be found in Suppl. material 4.

Language

English

License

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Repository name and location

Zenodo (DOI: 10.5281/zenodo.15194599)

Conclusion

The profound collaboration of review task leads in this early phase of the SELINA project led to the successful compilation of the operational SELINA Super-Query database. This comprehensive database, containing 108,064 entries, is a fundamental resource for the succeeding literature reviews in the project. It forms the basis for ensuring consistency in the selection of research publications and will support the achievement of specific objectives within each review task. Review task leads will continue to use the SELINA Super-Query database to sub-query relevant literature and proceed with their specific review objectives. Furthermore, the agreement on a consistent terminology laid an important foundation for further collaboration within the SELINA project. The co-creation process and collaborative efforts within the project consortium have been instrumental in creating a valuable resource to be used by the project and beyond.

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Author contributions

The first two authors should be regarded as joint first authors.

Conflicts of interest

The authors have declared that no competing interests exist.
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Supplementary materials

Suppl. material 1: Restrictive terms for ecosystem services (extension Table 1)

doi

Authors: Joana Seguin, Sabine Lange
Data type: doc with query terms
Brief description: This document provides a list of various methods for ecosystem services assessments following the IPBES values assessment (Barton et al. 2022) and the MAES Methods Explorer (https://database.esmeralda-project.eu/home). These were used as restrictive terms for "ecosystem services" in the search query.
Download file (105.84 kb)

Suppl. material 2: SuperQueryR doi

Authors: Joana Seguin, Sabine Lange
Data type: R Code
Brief description: This is the R code that was used to process, merge, clean and export literature items for the Super-Query database.
Download file (17.17 kb)

Suppl. material 3: Scopus Query doi

Authors: Sabine Lange
Data type: query text
Brief description: This is the query that was used in the scopus.com advanced search.
Download file (6.82 kb)

Suppl. material 4: Readme doi

Authors: Joana Seguin, Sabine Lange
Data type: txt file
Brief description: This file provides a short overview on the meta data, the procedure, most importantly the data structure of the Super-Query database and the extent of identified literature items.
Download file (2.23 kb)

Endnotes

*1 www.project-selina.eu
*2 www.esmeralda-project.eu
*3 An overview on the MAES-related developments in the EU Member States can be found here: https://biodiversity.europa.eu/europes-biodiversity/ecosystems/maes
*4 https://database.esmeralda-project.eu/home
*5 https://webofscience.help.clarivate.com/en-us/Content/wos-core-collection/woscc-search-field-tags.htm
*6 https://schema.elsevier.com/dtds/document/bkapi/search/SCOPUSSearchTips.htm
*7 http://opendatacommons.org/licenses/by/1.0/
*8 10.5281/zenodo.15194599
*9 During the acquisition of search entries from the platforms, there were 60 variables recorded for the Scopus entries and 20 variables for the Web of Science entries. However, the vast majority was neither needed for the review nor for correctly referencing the entries and was thus removed (i.a. "publication_stage", "source", "note", "number", "art_number", "research_area", "author_email", "affiliation", "funding_acknowledgement", "times_cited", "document_type", "filename"). See Suppl. material 2 for more details.