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CENTRE DE SYNTHÈSE ET D'ANALYSE
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La synthèse des connaissances sur la biodiversité : introduction aux méta-analyses et revues systématiques – 2024

Reporting standards for Systematic Evidence Syntheses



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CNRS • SORBONNE UNIVERSITÉ
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Bienvenue



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The needs

- Transparency, rigor and traceability are key objectives of systematic maps
- In the “ classic ” reviews the details of the stages and volumes are only very rarely exposed, sometimes deductible but most often totally hidden. Decisions are not tracked.

Without reporting:

- ⇒ The review is not replicable
- ⇒ The reader cannot understand how the final result is obtained (missing of studies primary ? high rate of inaccessible pdfs , etc.)



TRACEABILITY

Light pollution: A review of the scientific literature

GeneralSearch&SID=F5ZJLB669fH5Bx5kkcR&preferencesSaved=) from the beginning of the database (2003) to 2019. **A total of 8051 publications were obtained on October 3, 2020.** It needs to be pointed out the authors of this review paper collectively can work in English, German, Spanish and French languages. However, we restricted our search on publications written in English only for the general scientific community, considering English as a vehicular language (Clouet, 2017; Gordin, 2015). During the literature selection, all the abstracts were assessed to select the only ones containing the information about light pollution in the introduction, methods, results or conclusions. Books were not included and only one PhD thesis, indexed in this database, was taken into account. **In the end, 621 publications were used.** Therefore, there may be valuable information published in other literature finders (e.g. Google Scholar), other different publication formats or distinct languages that were not considered.

The information was organised and classified in an Excel datasheet under the following criteria:

Rodrigo-Comino et al., 2021

The Anthropocene Review => AI: 3.682

- ⇒ **What happened between the export and the final corpus?**
- ⇒ **How many articles are excluded and on what criteria?**
- ⇒ **How many pdfs not found?**

A synthesis of two decades of research documenting the effects of noise on wildlife

II. LITERATURE REVIEW METHODOLOGY

We conducted a detailed literature search using Thompson's *ISI Web of Science* within the following subject areas 'Acoustics', 'Zoology', 'Ecology', 'Environmental Sciences', 'Ornithology', 'Biodiversity Conservation', 'Evolutionary Biology', and 'Marine Freshwater Biology' from 1990 to 2013. The specific search terms were ([WILDLIFE or ANIMAL or MAMMAL or REPTILE or AMPHIBIAN or BIRD or FISH or INVERTEBRATE] and [NOISE or SONAR]), which returned a total of **2205 scientific peer-reviewed articles.** These papers were filtered so only empirical studies focussed on documenting the effects of anthropogenic noise on wildlife were included in the final **data set (N = 242).** Reviews, syntheses, method papers (N = 32), and studies dealing solely with natural acoustic sources (N = 22) were excluded.

Shannon et al., 2016

Biological Reviews => AI: 14,350

CEESAT form for overviews CEEDER assessment

4.3 Are eligibility decisions transparently reported? *

Rationale: Listing all articles that were screened for eligibility and indicating whether each was included or excluded in a synthesis (usually as supplementary material), makes it clear whether potentially relevant studies have been omitted according to the eligibility criteria or were not captured by the search. Documenting the reasons for article exclusion at a text level is essential for transparency.

Mark only one oval.

- 4 - Gold: The number of unique articles found during the searches (after removal of duplicates) is presented AND The number excluded at each stage of the screening process is fully presented (e.g. in a flow diagram or table) AND Reasons for exclusion of each article/study considered at full-text are presented (e.g. in an appendix) AND A list of eligible (included) articles/studies is presented as a separate list or in tables (not just included in reference list)
- 3 - Green: The number of articles excluded at each stage of the screening process is reported but some aspects missing (e.g. number of unique articles or articles unobtainable) AND Reasons for exclusion of each article/study considered at full-text are presented (e.g. in an appendix) AND A list of eligible (included) articles/studies is presented as a separate list or in tables (not just included in reference list).
- 2 - Amber: The number of articles excluded during the screening process is reported (or inferable) but some aspects missing (e.g. number of unique articles or articles unobtainable) AND A list of eligible (included) articles/studies is presented as a separate list or in tables (not just included in reference list)
- 1 - Red: No to either or both of the amber criteria above

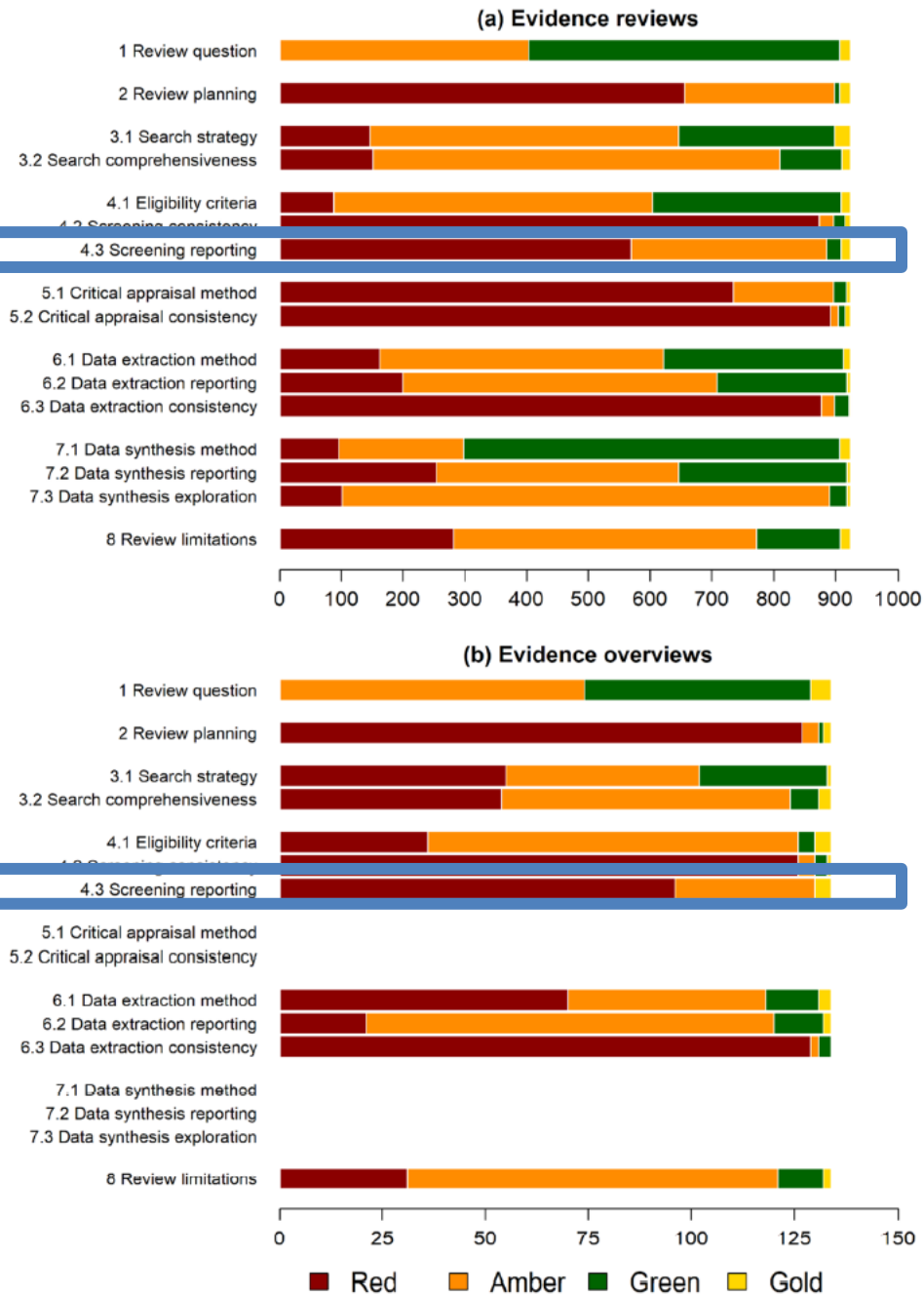


Fig. 2 The distribution of CEESAT ratings for each criterion for evidence reviews (n=924, top) and evidence overviews (n=134, bottom) published between 2018 and 2020. Note, no red category is included for Criterion 1 as this is an eligibility criterion for inclusion in the CEEDER database (red articles for criterion 1 are excluded from CEEDER). CEESAT criteria 5 and 7 are not applied to overviews



- ROSES = **RepOrting standards for Systematic Evidence Syntheses**
- Forms designed specifically for systematic reviews and maps in the field of conservation and environmental management have been produced by the EEC
- ROSES was created by a team of researchers with experience in systematic reviews in the environmental field.
- From pre-existing tools in other fields (like PRISMA in the medical field)

Aims and scope

Fees and funding

Language editing services

Copyright

▼ **Preparing your manuscript**

Systematic Review

Systematic Review Protocol

Systematic Map

Systematic Map Protocol

Methodology

Commentary

Letter to the Editor

Research Article

Evidence in Action

Prepare supporting information

Conditions of publication

Editorial policies

Peer-review policy

Manuscript transfers

Promoting your

Systematic Review

Criteria

A systematic review is a review of evidence relevant to a clearly formulated question that uses systematic and explicit methods to identify, select and critically appraise relevant research, and to collect and analyse data from the studies that are included within the review. Authors should note that all systematic reviews published in Environmental Evidence will have been conducted according to the CEE process, including registration and publication of a protocol. Please contact the Editors at an early stage of planning your review. Full guidelines and standards can be [accessed here](#) and should have been read carefully at the protocol stage.

Note that Environmental Evidence considers it mandatory for all submitting authors to complete the relevant ROSES forms as part of their submission to demonstrate that they have included all relevant methodological details in their documents. Authors should also use the ROSES template for a flow diagram to report inclusion/exclusion process and included literature sources.

Templates for ROSES forms can be accessed [here](#) and the for flow diagram [here](#). ROSES forms and flow diagram should always be downloaded from the ROSES website as it contains most up-to-date templates. Please note the formatting of your submission should follow our [guidelines](#) and not the ROSES template. The ROSES forms should be uploaded along with the submitted manuscript as a single-page supplementary file in a PDF format. Failure to do so could result in your manuscript being returned before review. In order to convert your completed ROSES form from a spreadsheet to a single-page PDF document, please scale the ROSES sheet to fit A4 landscape size.

For systematic reviews to be relevant to policy and practice they need to be as up-to-date as possible. Consequently, at the time of acceptance for publication, the search should normally be less than two years old. We therefore recommend that systematic reviews should be submitted

Official journal of



Submit manuscript

Editorial Board

Instructions for Editors

Sign up for article alerts and news from this journal

CEE Guidelines and Standards

Article Collections

Annual Journal Metrics

Citation Impact

3.734 - [2-year Impact Factor \(2021\)](#)

5.827 - [5-year Impact Factor \(2021\)](#)

1.322 - [Source Normalized Impact per Paper \(SNIP\)](#)

Environmental Evidence considers it mandatory for all authors to complete ROSES forms as part of their submission to demonstrate that they have included all relevant methodological details in their papers. Authors should also use the ROSES template for a flow chart to indicate the inclusion/exclusion process and the literature sources included.

Methodology | [Open Access](#) | [Published: 19 March 2018](#)

ROSES RepORting standards for Systematic Evidence Syntheses: *pro forma*, flow-diagram and descriptive summary of the plan and conduct of environmental systematic reviews and systematic maps

[Neal R. Haddaway](#), [Biljana Macura](#) , [Paul Whaley](#) & [Andrew S. Pullin](#)*Environmental Evidence* **7**, Article number: 7 (2018) | [Cite this article](#)**14k** Accesses | **214** Citations | **34** Altmetric | [Metrics](#)

Abstract

Reliable synthesis of the various rapidly expanding bodies of evidence is vital for the process of evidence-informed decision-making in environmental policy, practice and research. With the rise of evidence-base medicine and increasing numbers of published systematic reviews, criteria for assessing the quality of reporting have been developed. First QUOROM (Lancet 354:1896–1900, 1999) and then PRISMA (Ann Intern Med 151:264, 2009) were developed as reporting guidelines and standards to ensure medical meta-analyses and systematic reviews are reported to a high level of detail. PRISMA is now widely used by a range of journals as a pre-submission checklist. However, due to its development for systematic reviews in

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Sections

References

[Abstract](#)[Background](#)[PRISMA and environmental reviews](#)[Aims and objectives](#)[Methods](#)[Key differences between ROSES and PRISMA](#)[Distinction between checklist and meta-data](#)[Digitisation of ROSES](#)[Benefits of ROSES](#)[Conclusions](#)[References](#)[Authors' contributions](#)<https://doi.org/10.1186/s13750-018-0121-7>



- This is a form to fill out, with a list of details about the review/map process (number of databases, volumes, etc.)
- It is to be included as the first additional file of the manuscript (protocol & map/review), in PDF format
- The ROSES form :
 - makes manuscript writing easier for authors by allowing them to ensure they have included the right information with the right level of detail
 - ⇒ writing assistance, can avoid manuscript returns
 - ensures that all necessary content required by the CEE guidelines is present and described when submitting the manuscript
 - ⇒ EEJ control tool (“checklist”)
 - is a guarantee and information support for future readers and users of a map/magazine
 - ⇒ guarantee of transparency and rigor





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- Q

- GUIDELINES FOR AUTHORS
- CEE CRITICAL APPRAISAL TOOL
- ROSES REPORTING STANDARDS
- CADIMA SYNTHESIS TOOL
- REGISTER YOUR PROTOCOL IN PROCEED
- STAKEHOLDER ENGAGEMENT

ROSES



Reporting standards for Systematic Evidence Syntheses

ROSES is a collaborative initiative with the aim of improving the standards of reporting in evidence syntheses. At the core of ROSES is a set of detailed state-of-the-art forms for ensuring evidence syntheses report their methods to the highest possible standards.

The ROSES initiative is relevant for anyone conducting or reviewing a systematic review or systematic map. ROSES forms will help review authors to ensure that all relevant methodological information is reported in their review, and will help editors and peer-reviewers to critique the reliability and validity of a review.

ROSES was introduced to the evidence synthesis community by Neal Haddaway, Biljana Macura, Paul Whaley and Andrew Pullin in their article in Environmental Evidence in early 2018 (Haddaway et al. 2018).

CEE now considers it mandatory for all submitting authors of systematic review and map protocols

Resources for Authors

Guidelines for Authors

- Aims and Scope
- Table of Contents
- Updates and Corrections
- 1. Process Summary
- 2. Need for Evidence, Synthesis Type and Review Team
- 3. Planning a CEE Evidence Synthesis
- 4. Writing and Registering a Protocol
- 5. Conducting a Search
- 6. Eligibility Screening
- 7. Data Coding and Data Extraction
- 8. Critical appraisal of study validity (SRs)
- 9. Data Synthesis

!/ Always re-download forms to make sure you have the latest versions (regular updates)



Collaboration for Environmental Evidence

CEE now considers it mandatory for all submitting authors of systematic review and map protocols to complete the ROSES checklist as part of their submission to demonstrate that they have followed the methodological standards. The checklist is submitted with the submitted manuscript as a supplementary file. Failure to do so could result in your manuscript being returned before review. Completion of the ROSES forms does not require a considerable time commitment, but if done early, could save considerable resources by avoiding your manuscript being bounced by editorial staff prior to peer-review.

CEE encourages authors to read ROSES checklists for reviews and maps as soon as they begin a new project to facilitate completion of the forms at the submission stage. The information and support in the ROSES forms could also make the job of conducting a review and drafting the protocol and report documents much easier.

Authors are encouraged to check the ROSES website to ensure they are using the most up-to-date version of the ROSES forms.

Below are direct links to information about ROSES and ROSES forms for all CEE review authors.

ROSES for systematic map protocols

ROSES for systematic map reports

ROSES for systematic review protocols

ROSES for systematic review reports

ROSES template for flow diagram of review activities

ROSES website

Haddaway et al. 2018 ROSES RepOrting standards for Systematic Evidence Syntheses: pro forma, flow-diagram and descriptive summary of the plan and conduct of environmental systematic reviews and systematic maps. Environmental Evidence



9. Data Synthesis

10. Interpreting findings and reporting

SERVICES FOR EVIDENCE USERS ▾

WORKING GROUPS ▾



References

CEE Critical Appraisal Tool

ROSES reporting standards

CADIMA Synthesis Tool

PROCEED

Stakeholder Engagement

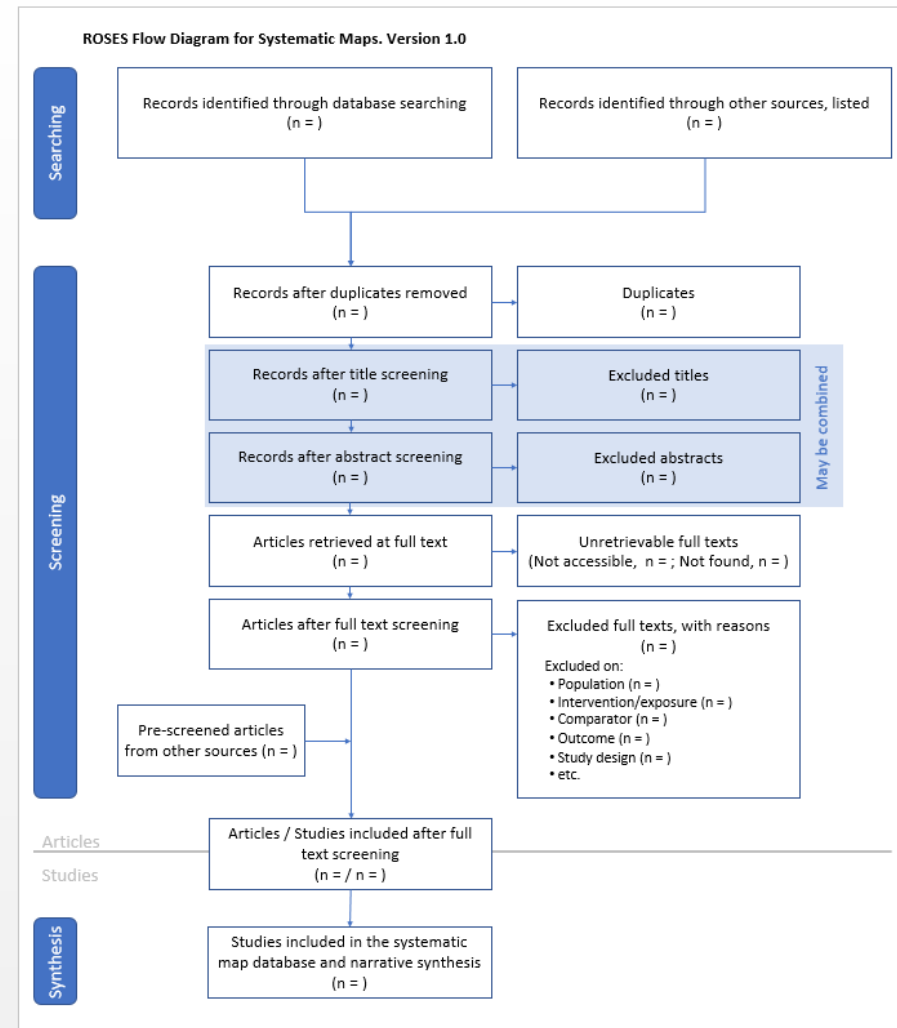
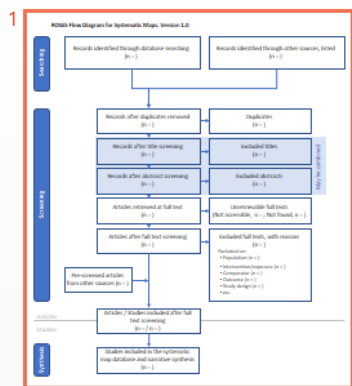
!/ Always re-download forms to make sure you have the latest versions (regular updates)



ROSES Flow diagram for systematic maps

A flow diagram is a tree structure that allows you to quickly see the entire map or review process and the evolution of volumes over the stages.

It is to be included as a figure in the manuscript of a map/review





Options

Synthesis type:

review

Include prescreened records:

yes

Title and abstract screening:

combined

Select type of synthesis:

narrative

ROSES
Online tool for
producing ROSES
flow diagrams for
systematic maps
and reviews
https://estech.shinyapps.io/roses_flowchart/

Data sources

Database results:

Other sources results:

Prescreened records:

Additional description of prescreened studies

Deduplication

Deduplicated records:

Duplicates removed:

Screening

Included titles and abstracts:

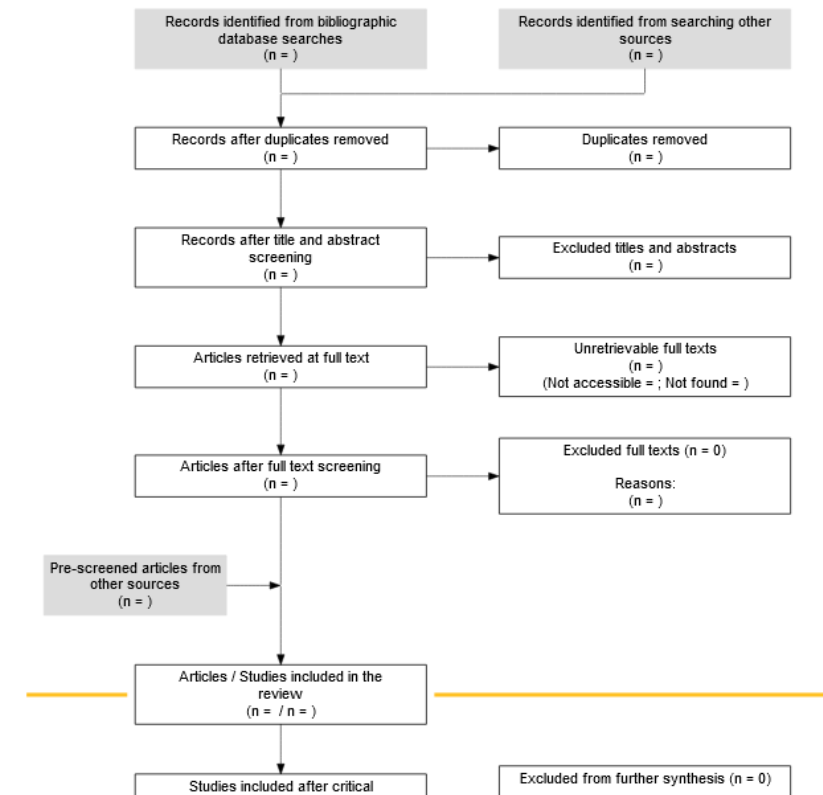
Excluded titles and abstracts:

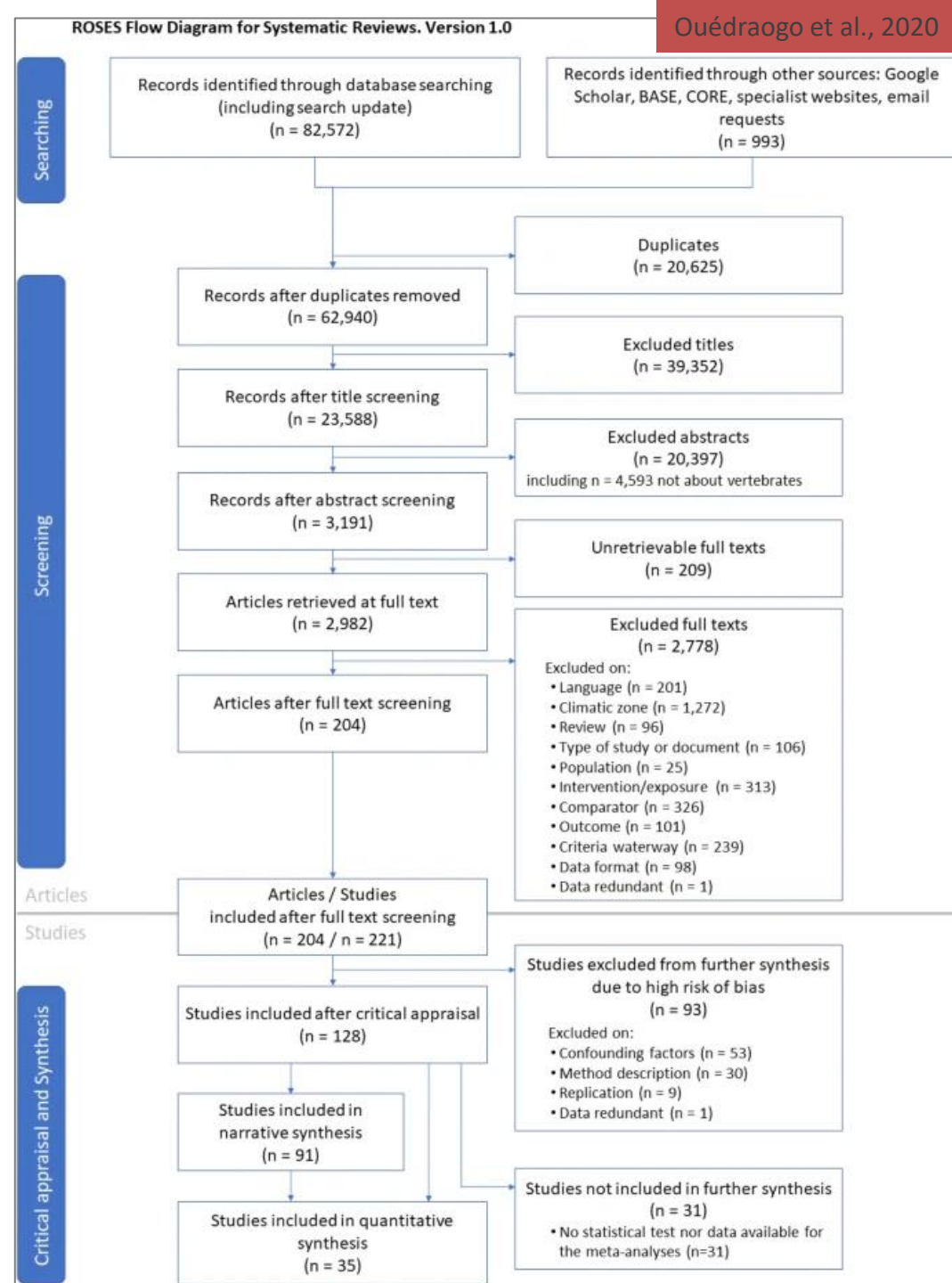
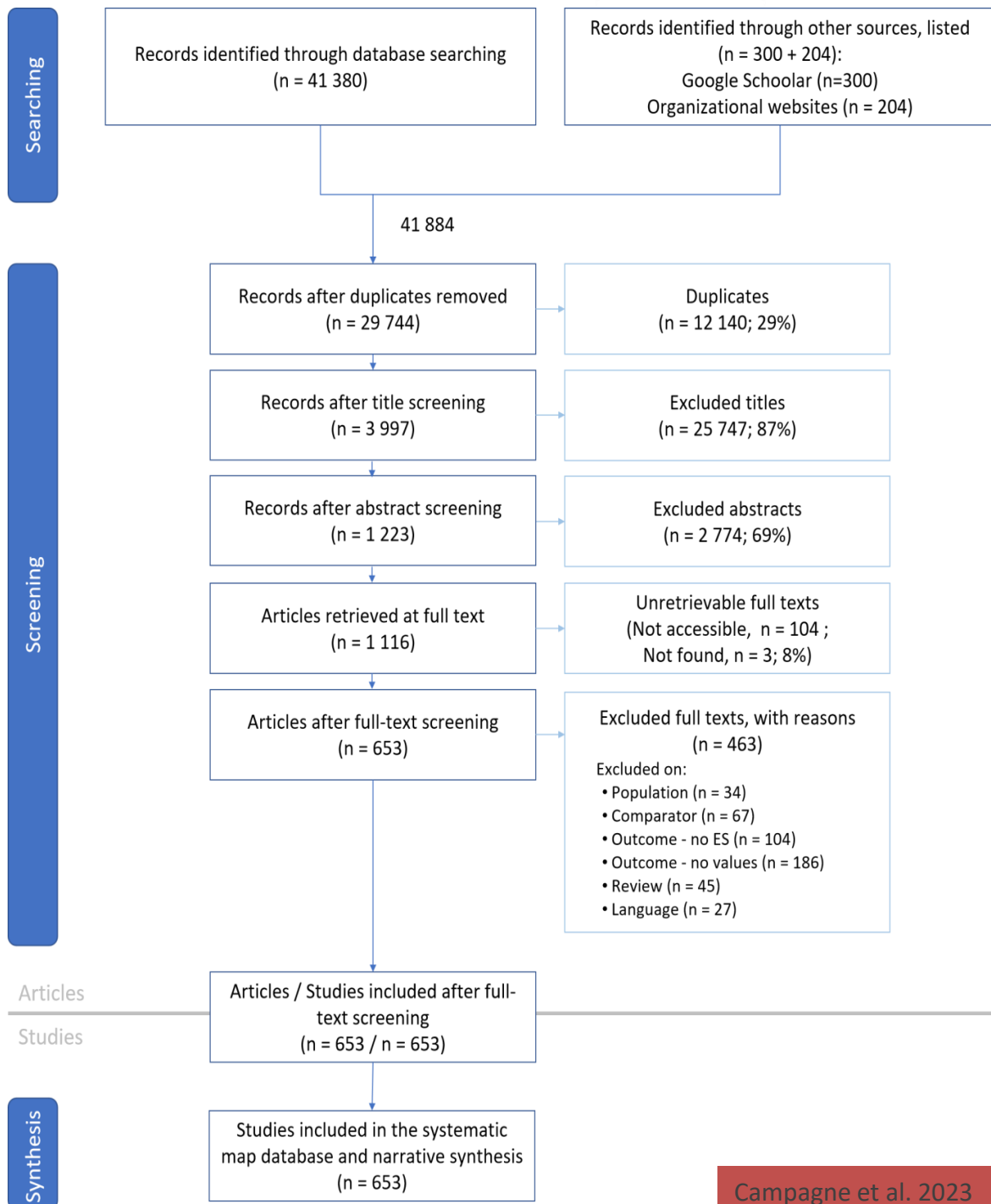
Retrieved full texts:



ROSES

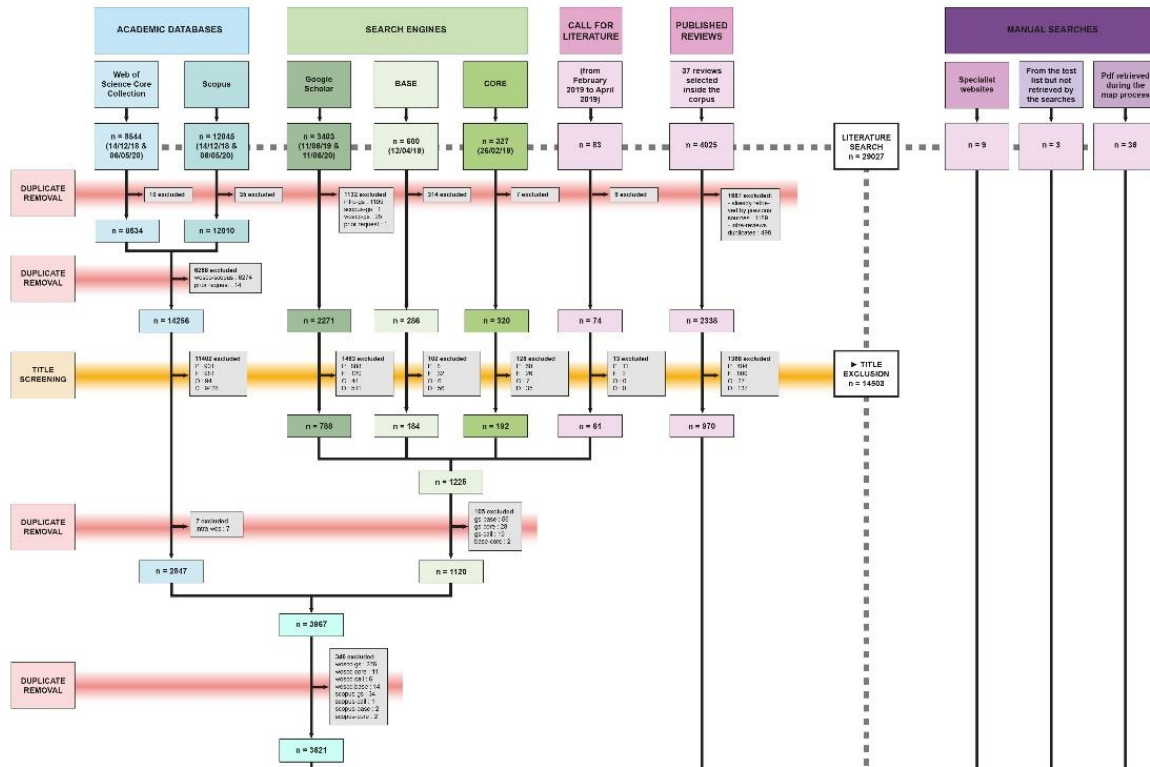
RepOrting standards for Systematic Evidence Syntheses



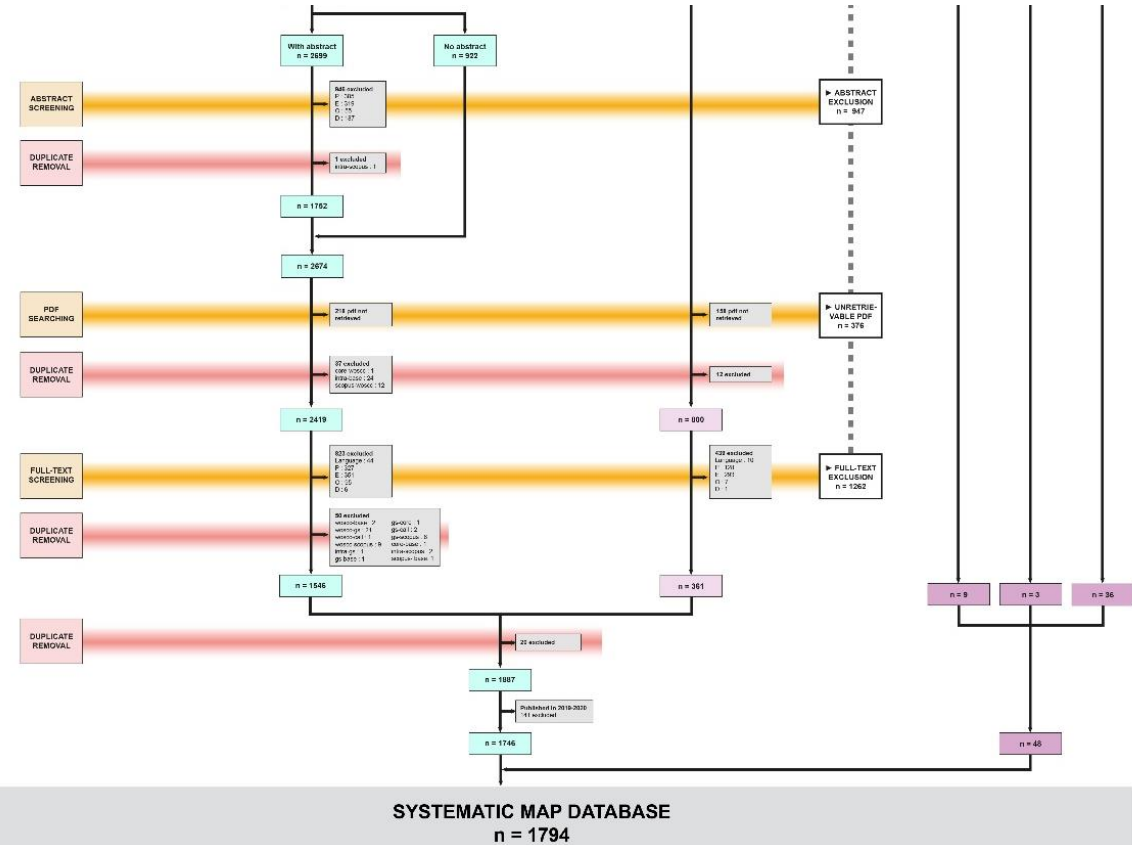


More detailed flow diagram

SEARCHING



SCREENING



Sordello et al., 2020 (additional file)

ROSES: the form for systematic reviews



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A	B	C	D	E	F	G		
1	Item number	Section/sub-section	Topic	Description	Further explanation	Checklist/meta-data	Author response	Comments
2	1	Title	Title	The title must indicate that it is a systematic review, and should indicate	The title should normally be the same or very similar to the review	Meta-data		
3	2	Type of review	Type of review	Select one of the following types of review: systematic review,	See CEE Guidance on amendments and updates [1]	Meta-data		
4	3	Authors' contacts	Authors' contacts	The full names, institutional addresses and email addresses for all		Checklist		
5	4	Abstract	Structured summary	The abstract of the manuscript must not exceed 500 words and must be		Checklist		
6	5	Background	Background	Describe the rationale for the review in the context of what is already	A theory of change and/or conceptual model should be presented that	Checklist		
7	6	Stakeholder engagement	Stakeholder engagement	The actual role of stakeholders throughout the review process (e.g. in		Checklist		
8	7	Objective of the review	Objective	Describe the primary question and secondary questions (when	The primary question is the main question of the review. The secondary	Checklist		
9	8		Definition of the question	Provide reference to the question key elements, e.g. population(s),	For other question types see [3,4]	Meta-data		
10	9	Methods	Protocol	Provide citation, DOI or open-access link to published protocol.	The protocol should be peer-reviewed and publicly available online	Meta-data		
11	10		Deviations from protocol	Describe any ways in which the final methods of the review deviate from		Checklist		
12	11	Searches	Search strategy	Detail the search strategy used, including: database names accessed,		Checklist		
13	12		Search string	Provide Boolean-style full search string and state the platform for which		Meta-data		
14	13		Languages - bibliographic	List languages used in bibliographic database searches		Meta-data		
15	14		Languages - grey literature	List languages used in organisational website searches and web-based		Meta-data		
16	15		Bibliographic databases	Provide the number of bibliographic databases searched		Meta-data		
17	16		Web-based search engines	Provide the number of web-based search engines searched		Meta-data		
18	17		Organisational websites	Provide the number of organisational websites searched		Meta-data		
19	18		Estimating comprehensiveness of	Describe the process by which the comprehensiveness of the search		Checklist		
20	19		Search update	Describe any update to searches undertaken during the conduct of the	Compulsory (if update performed). A search update is good practice if	Checklist		
21	20	Article screening and study	Screening strategy	Describe the methodology for screening articles/studies for relevance.		Checklist		
22	21		Inclusion criteria	Describe the inclusion criteria used to assess relevance of identified		Checklist		
23	22	Critical appraisal	Critical appraisal strategy	Describe here the method used for critical appraisal of study validity		Checklist		
24	23		Critical appraisal used in synthesis	Describe how the information from critical appraisal was used in		Checklist		
25	24	Data extraction	Meta-data extraction and coding	Describe the method for meta-data extraction and coding for studies,	Optional, a map database can be included within a systematic review	Checklist		
26	25		Data extraction strategy	Describe the method for extraction of qualitative and/or quantitative		Checklist		
27	26		Approaches to missing data	Describe any process for obtaining and confirming missing or unclear		Checklist		
28	27	Potential effect modifiers/reasons	Potential effect modifiers/reasons	Provide a list of and justification for the effect modifiers/reasons for		Checklist		
29	28	Data synthesis and presentation	Type of synthesis	State the type of synthesis conducted as part of the systematic review		Meta-data		
30	29		Narrative synthesis strategy	Describe methods used for narratively synthesising the evidence base in		Checklist		
31	30		Quantitative synthesis strategy	If data are appropriate for quantitative synthesis, describe methods for	Compulsory (if quantitative synthesis performed)	Checklist		
32	31		Qualitative synthesis strategy	Describe methods used for synthesising qualitative data and justify your	Compulsory (if qualitative synthesis performed)	Checklist		
33	32		Other synthesis strategies	Describe any other approaches used for synthesising data or combining	Compulsory (if other synthesis performed)	Checklist		
34	33		Assessment of risk of publication	Describe methods for examining the possible influence of publication	This may be done for quantitative syntheses using diagnostic plots or	Checklist		
35	34		Knowledge gap and cluster	Describe the methods used to identify and/or prioritise key knowledge	Optional	Checklist		
36	35		Demonstrating procedural	Describe the role of systematic reviewers (who have also authored	Reviewers who have authored articles to be considered within the	Checklist		
37	36	Results (review findings)	Description of review process	Describe the review process including the volume of evidence identified		Checklist		



ROSES: the form for systematic reviews



ROSES for Systematic Review Reports.xlsx - Excel

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FICHIER ACCUEIL INSERTION MISE EN PAGE FORMULES DONNÉES RÉVISION AFFICHAGE

Calibri 12 A A Renvoyer à la ligne automatiquement Standard

Couper Copier Reproduire la mise en forme Presse-papiers Police Alignement Nombre Style

Normal Insatisfaisant Neutre Satisfaisant Insérer Supprimer Format Somme automatique Remplissage Effacer Trier et Rechercher et filtrer sélectionner

	C	D	E	F	G	H
1	Topic	Description	Further explanation	Checklist/meta-data	Author response	Comments
2	Title	The title must indicate that it is a systematic review, and should indicate if	The title should normally be the same or very similar to the review	Meta-data		
3	Type of review	Select one of the following types of review: systematic review, systematic	See CEE Guidance on amendments and updates [1]	Meta-data	systematic review	
4	Authors' contacts	The full names, institutional addresses and email addresses for all authors		Checklist	Yes	
5	Structured summary	The abstract of the manuscript must not exceed 500 words and must be		Checklist	Yes	
6	Background	Describe the rationale for the review in the context of what is already	A theory of change and/or conceptual model should be presented that	Checklist	Yes	
7	Stakeholder engagement	The actual role of stakeholders throughout the review process (e.g. in		Checklist	Yes	
8	Objective	Describe the primary question and secondary questions (when applicable).	The primary question is the main question of the review. The secondary	Checklist		
9	Definition of the question	Provide reference to the question key elements, e.g. population(s),	For other question types see [3,4]	Meta-data		
10	Protocol	Provide citation, DOI or open-access link to published protocol.	The protocol should be peer-reviewed and publicly available online (open	Meta-data		
11	Deviation from protocol	Describe any ways in which the final methods of the review deviate from		Checklist		

Please enter only 'yes' or 'no'



- **PRISMA = Preferred Reporting Items for Systematic Reviews and Meta-Analyses**
- PRISMA is an evidence-based minimum set of items for reporting in systematic reviews and meta-analyses
- Développement des reporting dès les années 1990 : Moher D, Cook DJ, Eastwood S, Olkin I, Rennie D, et al. for the QUOROM group (1999) Improving the quality of reporting of meta-analysis of randomized controlled trials: The QUOROM statement. Lancet 354: 1896-1900.
- En 2009, mise à jour des guidelines pour tenir compte de plusieurs avancées conceptuelles et pratiques dans le domaine des revues systématiques et a été rebaptisée PRISMA (Preferred Reporting Items of Systematic reviews and Meta-Analyses).

=> PRISMA Flow diagram (équivalent du ROSES Flow diagram)

● => PRISMA checklist (équivalent du ROSES Form)



Welcome to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) website!

PRISMA is an evidence-based minimum set of items for reporting in systematic reviews and meta-analyses. PRISMA primarily focuses on the reporting of reviews evaluating the effects of interventions, but can also be used as a basis for reporting systematic reviews with objectives other than evaluating interventions (e.g. evaluating aetiology, prevalence, diagnosis or prognosis).

Who should use PRISMA?

- Authors: PRISMA aims to help authors improve the reporting of systematic reviews and meta-analyses.
- Journal Peer reviewers and editors: PRISMA may also be useful for critical appraisal of published systematic reviews, although it is not a quality assessment instrument to gauge the quality of a systematic review.

News Feed

PRISMA Website re-design

The PRISMA website underwent a much-needed update in October 2015 to update the content of the website. We have updated the look of the site and added the PRISMA extensions, translations, and information about review protocols.

PRISMA Extensions!

Several [PRISMA extensions](#) have been published in 2015 so far.

- [PRISMA-P](#) for developing review protocols was published in January 2015 in *Systematic Reviews* and the *BMJ*.
- [PRISMA-IPD](#) (individual patient data) was published in *JAMA* in April
- [PRISMA-NMA](#) (Network Meta-Analyses) was published in *Annals of Internal Medicine* in June

These are in addition to the PRISMA Abstract and Equity extensions, all found on the PRISMA website, [here](#).

[Read more...](#)

Key Documents

- [PRISMA 2020 Checklist](#)
- [PRISMA 2020 flow diagram](#)
- [PRISMA 2020 Statement](#)
- [PRISMA 2020 Explanation and Elaboration](#)



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Chris Pritchard @chriscritchard · Jul 3

If you want to check out the newest features, head on over to: estech.shinyapps.io/PRISMA_flowdia..., we now support reporting of individual databases and registers, meaning you can produce #PRISMA-S compliant flow diagrams! [@PRISMAsearch](#) [@nealhaddaway](#) [@mcguinlu](#) [@mjpages](#)

PRISMA Flow Diagram

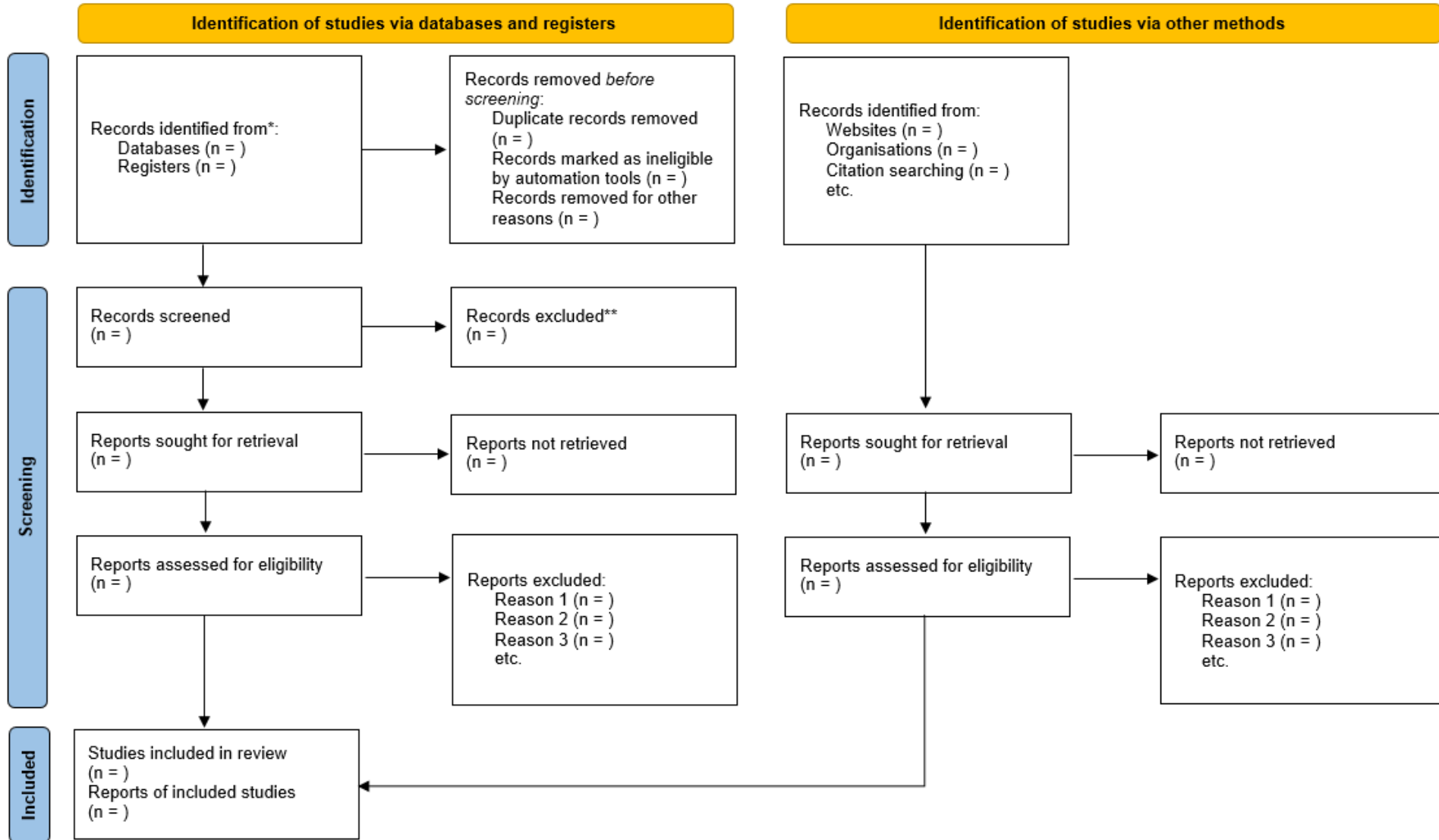
The flow diagram depicts the flow of information through the different phases of a systematic review. It maps out the number of records identified, included and excluded, and the reasons for exclusions. Different templates are available depending on the type of review (new or updated) and sources used to identify studies.

-  [PRISMA 2020 flow diagram for new systematic reviews which included searches of databases and registers only](#)
-  [PRISMA 2020 flow diagram for new systematic reviews which included searches of databases, registers and other sources](#)
-  [PRISMA 2020 flow diagram for updated systematic reviews which included searches of databases and registers only](#)
-  [PRISMA 2020 flow diagram for updated systematic reviews which included searches of databases, registers and other sources](#)

Flow diagrams can also be generated using a Shiny App available at <https://www.eshackathon.org/software/PRISMA2020.html>

For more information about citing and using PRISMA click [here](#).

PRISMA 2020 flow diagram for new systematic reviews which included searches of databases, registers and other sources



*Consider, if feasible to do so, reporting the number of records identified from each database or register searched (rather than the total number across all databases/register).

**If automation tools were used, indicate how many records were excluded by a human and how many were excluded by automation tools.

Systematic reviews should be described in a high degree of methodological detail. [The PRISMA Statement](#) calls for a high level of reporting detail in systematic reviews and meta-analyses. An integral part of the methodological description of a review is a flow diagram.

This tool allows you to produce a flow diagram for your own review that conforms to [the PRISMA2020 Statement](#). You can provide the numbers in the data entry section of the 'Create flow diagram' tab. Alternatively, to allow for more customisation, you can use the template file below.

This tool also allows you to download an interactive HTML version of the plot, alongside several other common formats.

We also provide an R package: [PRISMA2020 flow diagram R package on Github](#).

Please let us know if you have any feedback or if you encounter an error by creating an [issue on GitHub](#)

[Download the template CSV file](#)

Upload your edited file here:

Choose CSV File

Browse...

No file selected

Please cite as:

Haddaway, N. R., Page, M. J., Pritchard, C. C., & McGuinness, L. A. (2022). PRISMA2020: An R package and Shiny app for producing PRISMA 2020-compliant flow diagrams, with interactivity for optimised digital transparency and Open Synthesis Campbell Systematic Reviews, 18, e1230. <https://doi.org/10.1002/cl2.1230>

[Download citation \(.ris\)](#)

Credits:

Neal R Haddaway (creator, author)

Luke A McGuinness (coder, author)

Chris C Pritchard (coder, author)

Matthew J Page (advisor)

Jack Wasey (advisor)



Created November 2020, Updated June 2022

Main options

Previous studies Not included **Other searches for studies** Included

Individual databases Not included **Individual registers** Not Included

[Click to reset](#)

Identification

Databases **Registers**

Websites **Organisations**

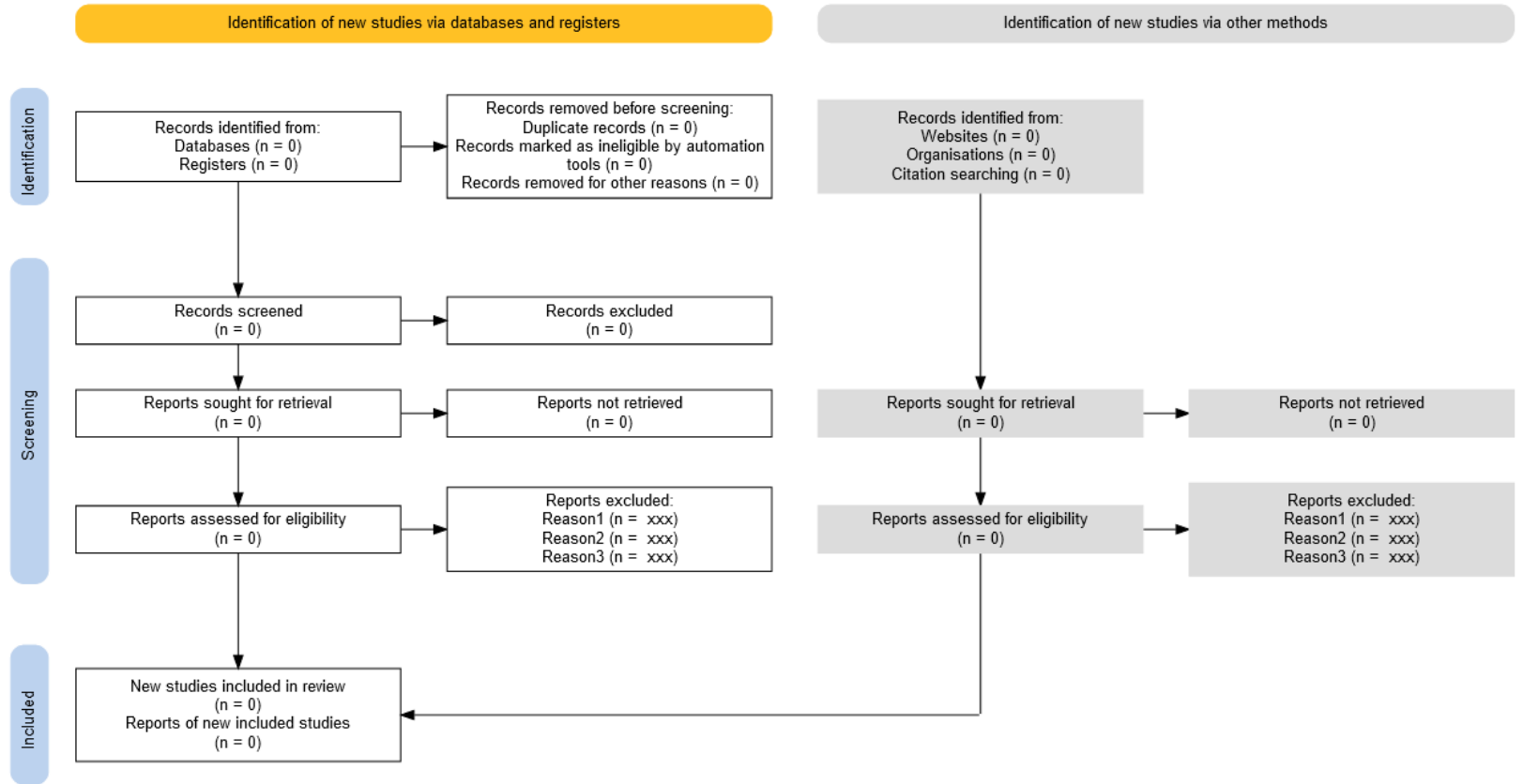
Citations

Duplicates removed

Automatically excluded **Other exclusions**

Screening

Records screened **Records excluded**



https://estech.shinyapps.io/prisma_flowdiagram/



PRISMA Checklist

The PRISMA 2020 statement comprises a 27-item checklist addressing the introduction, methods, results and discussion sections of a systematic review report.



[PRISMA 2020 Checklist \(PDF\)](#)



[PRISMA 2020 Checklist \(Word\)](#)

The checklist can also be completed using a Shiny App available at <https://prisma.shinyapps.io/checklist/>

An expanded checklist, which comprises an abridged version of the reporting recommendations presented in the Explanation and Elaboration paper, with references and some examples removed, is also available.



[PRISMA 2020 Expanded Checklist \(PDF\)](#)

For more information about citing and using PRISMA click [here](#).



PRISMA 2020 Checklist

Section and Topic	Item #	Checklist item	Location where item is reported
TITLE			
Title	1	Identify the report as a systematic review.	
ABSTRACT			
Abstract	2	See the PRISMA 2020 for Abstracts checklist.	
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of existing knowledge.	
Objectives	4	Provide an explicit statement of the objective(s) or question(s) the review addresses.	
METHODS			
Eligibility criteria	5	Specify the inclusion and exclusion criteria for the review and how studies were grouped for the syntheses.	
Information sources	6	Specify all databases, registers, websites, organisations, reference lists and other sources searched or consulted to identify studies. Specify the date when each source was last searched or consulted.	
Search strategy	7	Present the full search strategies for all databases, registers and websites, including any filters and limits used.	
Selection process	8	Specify the methods used to decide whether a study met the inclusion criteria of the review, including how many reviewers screened each record and each report retrieved, whether they worked independently, and if applicable, details of automation tools used in the process.	
Data collection process	9	Specify the methods used to collect data from reports, including how many reviewers collected data from each report, whether they worked independently, any processes for obtaining or confirming data from study investigators, and if applicable, details of automation tools used in the process.	
Data items	10a	List and define all outcomes for which data were sought. Specify whether all results that were compatible with each outcome domain in each study were sought (e.g. for all measures, time points, analyses), and if not, the methods used to decide which results to collect.	
	10b	List and define all other variables for which data were sought (e.g. participant and intervention characteristics, funding sources). Describe any assumptions made about any missing or unclear information.	
Study risk of bias assessment	11	Specify the methods used to assess risk of bias in the included studies, including details of the tool(s) used, how many reviewers assessed each study and whether they worked independently, and if applicable, details of automation tools used in the process.	
Effect measures	12	Specify for each outcome the effect measure(s) (e.g. risk ratio, mean difference) used in the synthesis or presentation of results.	
Synthesis methods	13a	Describe the processes used to decide which studies were eligible for each synthesis (e.g. tabulating the study intervention characteristics and comparing against the planned groups for each synthesis (item #5)).	
	13b	Describe any methods required to prepare the data for presentation or synthesis, such as handling of missing summary statistics, or data conversions.	
	13c	Describe any methods used to tabulate or visually display results of individual studies and syntheses.	
	13d	Describe any methods used to synthesize results and provide a rationale for the choice(s). If meta-analysis was performed, describe the model(s), method(s) to identify the presence and extent of statistical heterogeneity, and software package(s) used.	
	13e	Describe any methods used to explore possible causes of heterogeneity among study results (e.g. subgroup analysis, meta-regression).	
	13f	Describe any sensitivity analyses conducted to assess robustness of the synthesized results.	
Reporting bias assessment	14	Describe any methods used to assess risk of bias due to missing results in a synthesis (arising from reporting biases).	
Certainty assessment	15	Describe any methods used to assess certainty (or confidence) in the body of evidence for an outcome.	

Traceability of decisions : details of exclusion

**At the very least: the list of excluded full-texts with the reason.
If possible, include all items and decisions at all sorting stages.**

A	B	C	D	E	F	G	H
1	Additional File 7						
2							
3	Inclusion/exclusion decisions at the three screening stages and extraction of rejected full-texts						
4							
5	Sordello et al. 2020						
6							
7	How to read the different columns is explained in the CodeBook sheet						
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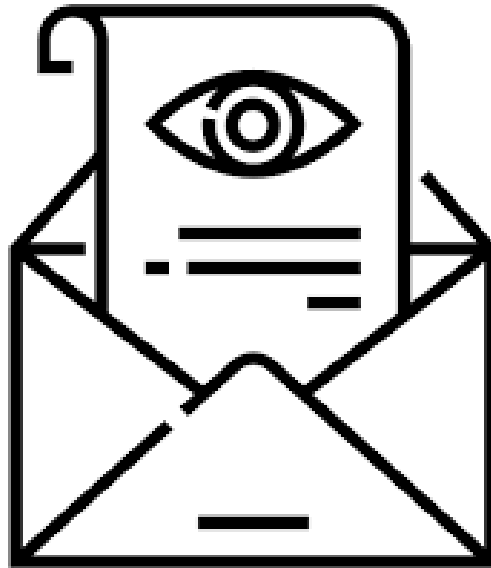
A	B	C	D	E	F	G	H	
1	biblio_internat	biblio_pid	biblio_authors	biblio_cor	biblio_title	biblio_ye	exclusion_justif	justif_peco_details
2	31	10.1002/aqc.1015	Currey, RJC; Dawson	AQUATIC CO	Survival rates for a declining population of bottlenose dolphins in Dou	2009	PECO	E
3	39	10.1002/aqc.2416	Pleslic, G; Gospic, N	AQUATIC CO	The abundance of common bottlenose dolphins (<i>Tursiops truncatus</i>) in	2015	PECO	E
4	44	10.1002/aqc.2833	Braulik, GT; Kasuga	AQUATIC CO	Cetacean rapid assessment: An approach to fill knowledge gaps and ta	2018	PECO	E
5	77	10.1002/ece3.1847	Koper, N; Leston, L	ECOLOGY AN	Effects of ambient noise on detectability and localization of avian song	2016	PECO	P
6	78	10.1002/ece3.2335	Vaugoyeau, M; Adri	ECOLOGY AN	Interspecific variation in the relationship between clutch size, laying d	2016	PECO	E
7	84	10.1002/ece3.2699	Donovan, CR; Harris	ECOLOGY AN	A simulation approach to assessing environmental risk of sound expos	2017	PECO	E
8	94	10.1002/ecs2.1905	Wang, JW; Poh, CH	ECOSPHERE	Building biodiversity: drivers of bird and butterfly diversity on tropical u	2017	PECO	E
9	115	10.1002/JEMT.10185	Gesi, M; Lenzi, P; Fo	MICROSCOP	Effects of loud noise exposure on mouse myocardium: A comparison wit	2002	PECO	P
10	135	10.1002/jwmg.21179	Green, AW; Aldridge	JOURNAL OF	Investigating impacts of oil and gas development on greater sage-grou	2017	PECO	E
11	159	10.1002/ps.4619	Mazzoni, V; Gordon	PEST MANAG	Design of a candidate vibrational signal for mating disruption against t	2017	PECO	E
12	173	10.1002/we.2160	Hu, CC; Albertani, R	WIND ENER	Wind turbine sensor array for monitoring avian and bat collisions	2018	PECO	E
13	178	10.1002/wsb.546	Rosa, P; Swider, CR	WILDLIFE SO	Disentangling Effects of Noise from Presence of Anthropogenic Infrastru	2015	PECO	E
14	197	10.1006/anbe.1999.1278	Nelson, BS	ANIMAL BEH	Avian dependence on sound pressure level as an auditory distance cue	2000	PECO	E
15	203	10.1006/appe.1996.0015	Krebs, H; Macht, M	APPETITE	Effects of stressful noise on eating and non-eating behavior in rats	1996	PECO	P
16	247	10.1007/978-1-4419-7311-1	Patricio, S	EFFECTS OF	Underwater Noise Effects From Wave Energy Devices on Marine Mamma	2012	PECO	P
17	248	10.1007/978-1-4419-7311-1	Wright, AJ	EFFECTS OF	Noise-Related Stress and Cumulative Impact Assessment	2012	PECO	O
18	250	10.1007/978-1-4419-7311-1	Breitzke, M; Bohlen	EFFECTS OF	Modeling Cumulative Sound Exposure Along a Seismic Line to Assess th	2012	PECO	P
19	257	10.1007/978-1-4419-7311-1	Mountain, DC; Ande	EFFECTS OF	The ESME Workbench: Simulating the Impact of Anthropogenic Sound or	2012	PECO	P
20	266	10.1007/978-1-4419-7311-1	Mueller-Blenkle, C	EFFECTS OF	A Novel Field Study Setup to Investigate the Behavior of Fish Related to	2012	PECO	O
21	272	10.1007/978-1-4939-2981-1	Bolgan, M; Picciulin	EFFECTS OF	Is the Venice Lagoon Noisy? First Passive Listening Monitoring of the Ve	2016	PECO	E
22	282	10.1007/978-1-4939-2981-1	Roberts, L; Breithau	EFFECTS OF	Sensitivity of Crustaceans to Substrate-Borne Vibration	2016	PECO	E
23	286	10.1007/978-1-4939-2981-1	Sebastianutto, L; St	EFFECTS OF	Communicating the Issue of Underwater Noise Pollution: The Deaf as a	2016	PECO	P
24	287	10.1007/978-1-4939-2981-1	Sidorovskaia, NA; A	EFFECTS OF	Passive Acoustic Monitoring of the Environmental Impact of Oil Explorat	2016	PECO	E
25	304	10.1007/978-1-4939-2981-1	Willis, KL	EFFECTS OF	Underwater Hearing in Turtles	2016	PECO	E
26	306	10.1007/978-1-4939-2981-1	Zhang, XG; Guo, HG	EFFECTS OF	Noise-Dependent Fish Distribution in Kelp Beds	2016	PECO	E
27	309	10.1007/978-1-4939-2981-1	Lewandowski, J; Luc	EFFECTS OF	Summary Report Panel 3: Gap Analysis from the Perspective of Animal B	2016	PECO	O
28	311	10.1007/978-1-4939-2981-1	Aerts, LAM; Streever	EFFECTS OF	Modeled and Measured Underwater Sound Isoleths and Implications	2016	PECO	P
29	320	10.1007/978-1-4939-2981-1	Eggleston, DB; Lillis	EFFECTS OF	Soundscapes and Larval Settlement: Larval Bivalve Responses to Habita	2016	PECO	E
30	345	10.1007/978-1-4939-2981-1	Nehls, G; Rose, A; D	EFFECTS OF	Noise Mitigation During Pile Driving Efficiently Reduces Disturbance of	2016	PECO	E
31	361	10.1007/978-3-319-25658-1	Jennett, C; Cognetti	PARTICIPATC	Usability and Interaction Dimensions of Participatory Noise and Ecolog	2017	PECO	P
32	362	10.1007/978-3-319-27721-1	Roderick A. Suthers	VERTEBRATE	Vertebrate Sound Production and Acoustic Communication	2016	PECO	E
33	446	10.1007/BF00614503	ROMER, H; BAILEY, W	JOURNAL OF	INSECT HEARING IN THE FIELD .3. MASKING BY NOISE	1989	PECO	E
34	454	10.1007/BF01651380	Bergen, F; Abs, M	JOURNAL FU	Etho-ecological study of the singing activity of the Blue Tit (<i>Parus caerule</i>	1997	Language	-
35	463	10.1007/BF02242027	Kusters, E; van Rade	ZEITSCHRIFT	On the influence of military shooting ranges on the birds of the Wadde	1998	Language	-
36	470	10.1007/BF02465629	Rheindt, FE	JOURNAL FU	The impact of roads on birds: Does song frequency play a role in deter	2003	PECO	E
37	477	10.1007/BF03160888	Holland, CC; Honea	WETLANDS	Wetland degradation and loss in the rapidly urbanizing area of Portlan	1995	PECO	E
38	480	10.1007/s00018-015-1919-1	De Iriarte Rodrigue	CELLULAR AN	C-Raf deficiency leads to hearing loss and increased noise susceptibili	2015	PECO	P
39	532	10.1007/s00265-006-0188-8	Brumm, H; Slater, PJ	BEHAVIORAL	Ambient noise, motor fatigue, and serial redundancy in chaffinch song	2006	PECO	E
40	539	10.1007/s00265-013-1625-1	Penna, M; Zuniga, D	BEHAVIORAL	Strong responsiveness to noise interference in an anuran from the sout	2014	PECO	E
41	547	10.1007/s00267-001-0065-1	Forman, RTT; Reine	ENVIRONME	Road traffic and nearby grassland bird patterns in a suburbanizing land	2002	PECO	E
42	553	10.1007/s00267-010-0473-1	Smith, LA; Gray, Fr	ENVIRONME	Impacts of Aircraft Lead Up and Isolation on Marsh Bird Communica	2010	PECO	E

Traceability of decisions : details of included studies

The list of included full-texts is mandatory

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
ID_doc	Reference	Publication type	Lang.	Question address	Country	Region	GPS coordinate	Biological groups	LTI	LTI verge	Comparison	Study design	Outcomes	Susceptibility to bias	Narrative synthesis	Meta analysis
1	WOS_879 Anderson BS, Hunt JW, Phillips BM, Nicely PA, Vlaming V d., Connor V, et al. Integrated assessment of the impacts of agricultural drainwater in the Salinas River (California, USA). <i>Environ Pollut.</i> 2003;124:523-32.	Article	Eng.	Q1	United States of America	California, Salinas river	/	Benthic macroinvertebrates	Waterway	River sediments	- Upstream and downstream of the mouths of the agricultural drains	CI or CE	Abundance Species richness	Medium	Not included	Not included
2	WOS_1235 Armitage PD, Lattmann K, Kneebone N, Harris I. Bank profile and structure as determinants of macroinvertebrate assemblages - seasonal changes and management. <i>Regul Rivers Res Manag.</i> 2001;17:543-56.	Article	Eng.	Q1	United Kingdom	River Frome, Dorchester town	/	Macroinvertebrates	Waterway	River/water interface	- shallow vegetated bank - stepped bank - vertical earth bank - reveted bank	CI or CE	Abundance Species richness Community similarity	Medium	Not included	Not included
3	WOS_4888 Cavallé P, Dommangeat F, Daumergue N, Loucougaray G, Spiegelberger T, Tabacchi E, et al. Biodiversity assessment following a naturalness gradient of riverbank protection structures in French prealps rivers. <i>Ecol Eng.</i> 2013;53:23-30.	Article	Eng.	Q1	France	Rhône-Alpes region	See table 1	Carabidae (Coleoptera)	Waterway	Riverbank	- Vegetal embankment - Mixed embankment (vegetal and mineral) - Mineral embankment	CI or CE	Species richness	Medium	Included	Not included
4	WOS_5114 Chapman DS, Oxford GS, Dytham C. Process from pattern in the distribution of an endangered leaf beetle. <i>Ecography.</i> 2009;32:259-68.	Article	Eng.	Q1	United Kingdom	England, River Ouse, York city	/	<i>Chrysolina graminis</i> (Coleoptera)	Waterway	Riverbank	- Municipal management (sown grass managed by mowing) - Cattle-grazed - Sheep-grazed	CI or CE	Patch occupancy	Medium	Not included	Not included
5	WOS_8279 Dymitrzsyn I. The effect of the construction and renovation of a highway bypass in Central Poland on the carabid beetle fauna (Coleoptera: Carabidae). <i>Eur J Entomol.</i> 2014;111:655-662.	Article	Eng.	Q1	Poland	Kujawsko-Pomorskie province, Skępe town, main road n° 10	/	Carabidae (Coleoptera)	Road	Roadside partly covered by plants	Before and after road renovation and roadsides reconstruction (widening of the road and its shoulders, replacement of the substratum and partial paving of the shoulders)	BACI	Abundance Species richness, Shannon index Community similarity Dominance, species traits	Low	Included	Not included
6	WOS_8853 Evrard M, Micha J-C. Relation entre la diversité du substrat et la diversité faunistique dans un bief belge de la rivière Meuse. <i>Ann Limnol - Int J Limnol.</i> 1995;31:93-103.	Article	Fr.	Q1	Belgium	Meuse river	/	Benthic macroinvertebrates	Waterway	Riverbank	- Natural substrates banks reinforcing - Artificial substrates banks reinforcing	CI or CE	Abundance Family richness, Shannon index	Medium	Not included	Not included
7	WOS_9124 Fell PE, Warren RS, Curtis AE, Steiner EM. Short-term Effects on Macroinvertebrates and Fishes of Herbiciding and Mowing <i>Phragmites australis</i> -dominated Tidal Marsh. <i>Northeast Nat.</i> 2006;13:191-212.	Article	Eng.	Q1	United States of America	Connecticut state, New London county, Lieutenant River	41°19'30"N, 72°	Macroinvertebrates	Waterway	Riparian marsh	- Untreated sites colonized with <i>Phragmites</i> - Treated sites: herbicide and mowing of <i>Phragmites australis</i>	CI or CE	Abundance Bray-Curtis similarity	Medium	Included	Not included
8	WOS_10923 Gollan JR, Reid CAM, Barnes PB, Wilkie L. The ratio of exotic-to-native dung beetles can indicate habitat quality in riparian restoration: Dung beetles in riparian restoration. <i>Insect Conserv Divers.</i> 2011;4:123-31.	Article	Eng.	Q1	Australia	Upper Hunter Valley	32°S, 151°E	Dung beetles (Coleoptera)	Waterway	Riparian habitat	- Unplanted (exotic herbs and pasture grasses) - 1-3 year old revegetated (trees and shrubs) riparian vegetation - 7-10 year old revegetated (trees and shrubs) riparian vegetation	CI or CE	Abundance Species richness Bray-Curtis similarity Ratio of the exotic-to-native beetles	Medium	Not included	Not included
9	WOS_10921 Gollan JR, Bruyn LL de, Reid N, Smith D, Wilkie L. Can ants be used as ecological indicators of restoration progress in dynamic environments? A case study in a revegetated riparian zone. <i>Ecol Indic.</i> 2011;11:1517-25.	Article	Eng.	Q1	Australia	New South Wales, Upper Hunter region	32°30'0"S, 151°	Ants (Hymenoptera)	Waterway	Riparian vegetation	- Riparian unplanted grassland - Riparian young revegetation - Riparian older revegetation	CI or CE	Abundance Species richness Bray-Curtis similarity, functional groups dissimilarity	Medium	Included	Not included
10	ZR_12929 Gonseth Y. Rhopalocères et structure du paysage. La faune des lépidoptères diurnes (Rhopalocera) des talus routiers et ferroviaires du Jura neuchâtelois. Université de Neuchâtel; 1996. http://doc.rero.ch/record/5267 .	PhD thesis	Fr.	Q1	Switzerland	Jura mountains of Neuchâtel	/	Butterflies (Lepidoptera)	Road and railway	Embankment	- Mowing - Grazing - No management	CI or CE	Species richness, Shannon index, Hill index Community composition, species traits	Medium	Not included	Not included
11	ZR_3357 Greenwood MT, Bickerton MA, Castella E, Large AR, Petts GE. The use of coleoptera (arthropoda: insects) for floodplain characterization on the River Trent, UK. <i>Regul Rivers Res Manag.</i> 1991;6:321-332.	Article	Eng.	Q1	United Kingdom	England, River Trent	/	Carabidae and Staphylinidae (Coleoptera)	Waterway	Riparian habitat	Flood regulation	CI or CE	Abundance Community composition	Medium	Not included	Not included
12	ZR_3421 Grzybkowska M. Development and habitat selection of chironomid	Article	Eng.	Q1	Poland	The River Widawka	Grabia: 52°31'	Macrobenthos	Waterway	Channel margins	- Stream with channel enlargement	CI or CE	Density	Medium	Not	Not

**A vous de jouer !
Soyez rigoureux et transparents !**



Faire des revues systématiques c'est n'avoir rien à cacher....



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SUR LA BIODIVERSITÉ

Thank you for your attention !!!

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Diapo de Romain Sordello



Bienvenue



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