

| Section / sub-section              | Topic                                | Description                                                                  | Furth  | Checklist/Meta-data | Author response   | Comments |
|------------------------------------|--------------------------------------|------------------------------------------------------------------------------|--------|---------------------|-------------------|----------|
| Title                              | Title                                | The title must indicate that it is a systematic review protocol, and must    | The    | Meta-data           | Yes               |          |
| Type of review                     | Type of review                       | Select one of the following types of review: systematic review, systematic   | See    | Meta-data           | systematic review |          |
| Authors contacts                   | Authors contacts                     | The full names, institutional addresses, and email addresses for all authors |        | Checklist           | Yes               |          |
| Abstract                           | Structured summary                   | Abstract must not exceed 350 words and must include two sections 1)          |        | Checklist           | Yes               |          |
| Background                         | Background                           | Describe the rationale for the review in the context of what is already      | A      | Checklist           | Yes               |          |
| Stakeholder engagement             | Stakeholder engagement               | The planned/actual role of stakeholders throughout the review process        |        | Checklist           | Yes               |          |
| Objective of the review            | Objective                            | Describe the primary question and secondary questions (when applicable).     | The p  | Checklist           | Yes               |          |
|                                    | Definitions of the question          | Break down and summarise question key elements e.g. population,              | For    | Meta-data           | Yes               |          |
| Methods                            |                                      |                                                                              |        |                     |                   |          |
| Searches                           | Search strategy                      | Detail the planned search strategy to be used, including: database names     | Detail | Checklist           | Yes               |          |
|                                    | Search string                        | Provide Boolean-style full search string and state the platform for which    |        | Meta-data           | Yes               |          |
|                                    | Languages – bibliographic            | List languages to be used in bibliographic database searches.                |        | Meta-data           | Yes               |          |
|                                    | Languages – grey literature          | List languages to be used in organizational websites searches and web-       |        | Meta-data           | Yes               |          |
|                                    | Bibliographic databases              | Provide the number of bibliographic databases to be searched.                |        | Meta-data           | Yes               |          |
|                                    | Web – based search engines           | Provide the number of web – based search engines to be searched.             |        | Meta-data           | Yes               |          |
|                                    | Organisational websites              | Provide the number of organisational websites to be searched.                |        | Meta-data           | Yes               |          |
|                                    | Estimating the comprehensiveness     | Describe the process by which the comprehensiveness of the search            |        | Checklist           | Yes               |          |
|                                    | Search update                        | Describe any plans to update the searches during the conduct of the          | Optio  | Checklist           | n/a               |          |
| Article screening and study        | Screening strategy                   | Describe the methodology for screening articles/studies for                  |        | Checklist           | Yes               |          |
|                                    | Consistency checking                 | Describe clearly the process for checking consistency of decisions including |        | Checklist           | Yes               |          |
|                                    | Inclusion criteria                   | Describe the inclusion criteria used to assess relevance of identified       |        | Checklist           | Yes               |          |
|                                    | Reasons for exclusion                | State that you will provide a list of articles excluded at full text with    |        | Checklist           | Yes               |          |
| Critical appraisal                 | Critical appraisal strategy          | Describe here the method you propose for critical appraisal of study         |        | Checklist           | Yes               |          |
|                                    | Critical appraisal used in synthesis | Describe how the information from critical appraisal will be used in         |        | Checklist           | Yes               |          |
|                                    | Consistency checking                 | Describe how repeatability of critical appraisal of study validity will be   |        | Checklist           | Yes               |          |
| Data extraction                    | Meta-data extraction and coding      | Describe the method for meta-data extraction and coding for studies          |        | Checklist           | Yes               |          |
|                                    | Data extraction strategy             | Describe the method for extraction of qualitative and/or quantitative study  |        | Checklist           | Yes               |          |
|                                    | Approaches to missing data           | Describe any processes for obtaining and confirming missing or unclear       |        | Checklist           | Yes               |          |
|                                    | Consistency checking                 | Describe how repeatability of the meta-data/data extraction process will     |        | Checklist           | Yes               |          |
| Potential effect modifiers/reasons | Potential effect modifiers/reasons   | Provide a list of and justification for the effect modifiers /reasons for    | The    | Checklist           | Yes               |          |
| Data synthesis and presentation    | Type of synthesis                    | State the type of synthesis conducted as part of the systematic review       |        | Meta-data           | Yes               |          |
|                                    | Narrative synthesis strategy         | Describe methods to be used for narratively synthesising the evidence        | Vote-  | Checklist           | Yes               |          |
|                                    | Quantitative synthesis strategy      | If data are appropriate for quantitative synthesis, describe planned         | Com    | Checklist           | Yes               |          |
|                                    | Qualitative synthesis strategy       | Describe methods to be used for synthesising qualitative data and justify    | Com    | Checklist           | Yes               |          |
|                                    | Other synthesis strategies           | Describe any other approaches to be used for synthesising data or            | Com    | Checklist           | Yes               |          |
|                                    | Assessment of risk of publication    | Describe planned methods for examining the possible influence of             | For    | Checklist           | Yes               |          |
|                                    | Knowledge gap identification         | Describe the methods to be used to identify and/or prioritise key            | Optio  | Checklist           | Yes               |          |
|                                    | Demonstrating procedural             | Describe the role of systematic reviewers (who have also authored articles   | Revie  | Checklist           | Yes               |          |
| Declarations                       | Competing interests                  | Describe of any financial or non-financial competing interests that the      |        | Checklist           | Yes               |          |

## References

- [1] Bayliss, H.R., Haddaway, N.R., Eales, J., Frampton, G.K. and James, K.L., 2016. Updating and amending systematic reviews and systematic maps in environmental management. *Environmental Evidence*, 5(1), p.20.
- [2] Haddaway, N.R., Kohl, C., da Silva, N.R., Schiemann, J., Spök, A., Stewart, R., Sweet, J.B. and Wilhelm, R., 2017. A framework for stakeholder engagement during systematic reviews and maps in environmental management. *Environmental Evidence*, 6 (1), p.11.
- [3] Collaboration for Environmental Evidence. 2018. Guidelines and Standards for Evidence synthesis in Environmental Management. Version 5.0. [www.environmentalevidence.org/information-for-authors](http://www.environmentalevidence.org/information-for-authors).
- [4] Leeds Institute of Health Sciences. [https://medhealth.leeds.ac.uk/info/639/information\\_specialists/1500/search\\_concept\\_tools](https://medhealth.leeds.ac.uk/info/639/information_specialists/1500/search_concept_tools). Accessed 12/11/2017.