Nature-based Solutions Task Force 1

Shared Data Management Plan

Version 1.2 – March 2022

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Introduction

This shared Shared Data Management Plan is being developed to support collaboration between research and innovation projects funded under the Horizon 2020 and Horizon Europe programmes supported by the European Commission. The plan has been co-produced by members of the NBS Cluster Task Force 1: Data and Knowledge Sharing.

The plan is intended to support collaboration rather than be prescriptive, and it is intended to work alongside the individual data management plans developed by individual projects.

The plan supports the principles that data should be findable, accessible, interoperable and reusable (FAIR) as a framework to follow when designing a Data Management Plan.

This plan is a live document that will be improved and enhanced by members of the Task Force.

The draft plan includes principles promoting open data; sharing case studies of NBS implementation; sharing metadata; defining levels of access; documenting the provenance of data; using free and open-source software; and ensuring long term availability of data.

Open data and knowledge

Principle: NBS projects should share data and knowledge under open licences where possible.

Open data will help to increase knowledge and understanding of the benefits of nature-based solutions. Where knowledge and data is shared it should be accessible without the need for specialised protocols.

Not all data has to be made open. It may be necessary to restrict access to some data due to privacy issues, commercial interests or other reasons. However, even if the full content is not made openly available, the data must be as findable as possible. See the section of this plan on metadata for more information.

It is important that data and knowledge is shared with a clear licence to explain it can be reused. Creative Commons licences are often used for knowledge products, while Open Data Commons licences can be more suited to datasets.

Creative Commons

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Open Data Commons has developed a set of legal tools and licenses to support projects to publish, provide and use open data. There are different licences that can be used to allow different levels of access.

The Open Data Commons Attribution License (ODC-By) allows users to share, create derived data and adapt the data as long as attribution is given to the creator.

The Open Data Commons Open Database License (ODbL) allows users to share, create derived data and adapt the data as long as attribution is given to the creator, any adapted data used publicly is shared under the same licence and that data is kept open.

Nature-based Solutions Case Studies

Principle: NBS projects should share case studies that describe the implementation of nature-based solutions.

A shared repository for case studies has been developed and is stored within Oppla, the EU Repository for Nature-based Solutions. The case studies can also be accessed via the NetworkNature platform and they can also be integrated into other platforms via the Oppla API.

Two main case study templates are available capturing NBS information: at the project level and for an overview of the city.

NBS City Overview Case Studies

This case study template provides a systemic view of the effect of nature-based solutions for a whole city. The template was developed by the European Commission DG R&I. See for example: Ljubljana: NBS for Urban Regeneration and Wellbeing.

NBS Project Case Studies

This case study template captures individual examples of nature-based solutions in a specific area. This is more at the scale of an individual NBS. This template was developed by the NBS Task Force1 when facilitated by ThinkNature. See for example: Park Spoor Noord, Antwerp.

Sharing metadata

> *Principle: NBS projects should create metadata that clearly describes the scope, structure and content of any shared datasets.*

Metadata that describes the structure and content of any shared datasets is important to ensure that users of the data understand it properly and it supports appropriate reuse and adaption of the data.

A common metadata structure is currently being developed by NBS Task Force 1. This structure is being tested by projects and will be adopted as a common standard.

The metadata structure is intended to:
- identify the presence of indicators and measurements collected to monitor a NBS case study;
- know how to access and use the historical measurements;
- evaluate the usability of the data in specific application contexts;
- know the systems and procedures used for data production; and
- know the methods and frequency of data updating.

Each project is responsible for the management of the data and information collected and updated.

The draft structure is available at this link.

Documenting provenance

Principle: NBS projects should clearly document the processing methods that were used to create data and knowledge.

It is important when producing data and knowledge that there is clear documentation that describes how data was collected and processed. This documentation will assist the future use and adaption of the data and knowledge.

The provenance information should include details about how data was sourced. If published datasets are used then the date and version should be documented. If raw data has been collected then the methods for recording data should be documented, together with the technical information about any sensors used.

Processing steps to create derived data and knowledge from the source data should be documented, including details of any algorithms used and the software products and versions that were employed.

Technical reports that record the provenance should be stored in a permanent repository and referenced in the metadata that is circulated alongside the data.

Defining levels of access

Principle: NBS projects should identify in their data management plans the level of access to data and knowledge products.

When planning the development, sharing and reuse of data and knowledge it is helpful to clearly identify the appropriate level of access to the data. This builds on the FAIR principle that data should be as "as open as possible, as closed as necessary.

The following levels provide examples of levels of access that that could be adopted by projects:

- **Public and open**: data or knowledge is shared in a publicly accessible repository and shared using an open licence (Creative Commons or Open Data Commons).

- **Public and commercial**: data or knowledge is shared in a publicly accessible repository and shared using a commercial licence.

- **Restricted**: data or knowledge is shared in a publicly accessible repository and shared using a commercial licence.

- **Shared openly within project**: data or knowledge is shared with all project partners. This category may be time limited and the data or knowledge shared publicly at a later date.

- **Shared with selected partners**: data or knowledge is shared with as subset of project partners working on a particular project activity.

- **Confidential**: data or knowledge contains confidential information and must be stored in a secure system. This could include personal information governed by the General Data Protection Regulation (GDPR). Data may need to be destroyed securely when it is no longer needed.

Using free and open-source software

Principle: NBS projects should consider whether free and open-source software can be used and developed to support innovation.

Free and open-source software increases the accessibility and availability of technology to all parts of society. Although the type of software used is separate to data management there is a clear relationship between the two issues. Where it is possible to use free and open-source software this should be considered.