

Case Study - Norway

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Introduction

Norway is not a member of the European Union and reporting on the EU directives for environment data at the country level remains limited. National reporting from Norway to the Water Framework Directive (WFD) is maintained by the Norwegian Water Resources and Energy Directorate (NVE). Reporting on the WFD includes data on species occurrences for assessing environmental disturbances and status for water bodies in Norway.

Species information in Norway is largely coordinated through the Norwegian Species map Service (Artskart) as the official national data portal for primary biodiversity information for policy reporting purposes. The Norwegian Biodiversity Information Centre (NBIC) maintains Artskart in close coordination and collaboration with the Norwegian GBIF Node, ensuring that all datasets are continuously made available on both Artskart and in the GBIF network. Biodiversity data for the WFD reporting is not yet coordinated with Artskart nor GBIF-Norway, however a positive dialogue is in progress.

An online survey was conducted in March 2018. The survey has not yet resulted in any complete survey answers, however partly answered through email responses. Late responses to the survey will be included to this case study if received before the final Bireme report.

Key players

- Norwegian Water Resources and Energy Directorate (NVE), <https://www.nve.no/english/>
- Norwegian Environment Agency, <http://www.miljodirektoratet.no/en/>
- Norwegian Mapping Authority (Kartverket), www.kartverket.no
- Norwegian Biodiversity Information Centre (NBIC), <https://www.biodiversity.no/>

 NORWEGIAN BIODIVERSITY INFORMATION CENTRE	 NORWEGIAN ENVIRONMENT AGENCY	 NVE	 Kartverket	 GBIF.NO
www.biodiversity.no	www.miljodirektoratet.no	www.nve.no	www.kartverket.no/en/	www.gbif.no

Data-flows

National information for the Water Framework Directive (WFD) from Norway is reported from the [Vann-Nett data portal](#) maintained by the [Norwegian Water Resources and Energy Directorate \(NVE\)](#). Species and environmental data for the WFD reporting is imported into Vann-Nett from the [Vannmiljø portal](#) maintained by the [Norwegian Environment Agency](#).

Reporting for the EU INSPIRE directive from Norway is made from the national [GeoNorge](#) map catalogue maintained by the [Norwegian Mapping Authority](#) (Kartverket). Reporting includes environment dataset metadata and interfaces to species data from the Norwegian Biodiversity Information Centre (NBIC), however, the individual species occurrence data points are not reported. Which means that the complete set of species occurrences reported from Norway in GBIF are reported together as one single dataset for the EU INSPIRE directive. In addition to the NBIC dataset (identical to the species occurrence set reported in GBIF), the Norwegian EU INSPIRE reporting includes species occurrence datasets from the Norwegian Environment Agency and the Institute of Marine Research ([IMR](#)) that are (mostly) not yet reported in GBIF.

Strengths/weaknesses

Alternative national species occurrence data reporting pathways results in incomplete data in the alternative national data portals. Species occurrence data is partly overlapping between data services and portals creating data duplication when species data is merged. The lack of common and shared persistent identifiers for individual species occurrences across data services and data portals further hinders interoperability and identification of data duplicates between services and portals. Data nodes (including university museums) are requested to maintain multiple data export and reporting services for the different national data portals based on different reporting formats and standards causing a undesired complexity and duplication of efforts locally at the data nodes.

Services and portals are well described and documented. Services and portals have good performance and stability.

GBIF Node involvement

The Norwegian GBIF-node maintain a very close collaboration with the Norwegian Biodiversity Information Centre (NBIC) ensuring full interoperability between services and datasets. The lack of widely used persistent object identifiers sometimes cause challenges for identifying the same species occurrence record in the Norwegian Species Map Service (Artskart) and the international GBIF data portal, even if harmonized data pathways ensures that the identical same data records are included in both portals.

The GBIF-node (together with NBIC) are in a very positive dialogue with stakeholders for other national data services and portals including species occurrence data including the Norwegian Environment Agency. The prospects for further harmonization of national data reporting pathways inside Norway are very good.

Data content/types/services

Vann-Nett data portal, <https://vann-nett.no/portal/>

Vannmiljø portal, <http://vanmiljo.miljodirektoratet.no/>

Norwegian Species Map Service (Artskart), <https://artskart.artsdatabanken.no>

GBIF Norway data publishing toolkit (IPT), <https://data.gbif.no/ipt/>

GeoNorge Map Catalog, <https://www.geonorge.no/en/>

Planned/future developments

Further harmonization of national species data reporting pathways are planned and in progress. Initial planning for a possible national networking project between relevant data nodes to initialize automatic digital machine generated EU reporting supporting tools eg. as part of the NextGEOSS platform.