



Work plan for Living Norway Ecological Data Network 2022

The work plan for Living Norway 2022 is based on the present funding situation, as of January 2022. Living Norway received network support funding for 2021-2023 from the Research Council of Norway. This support will, in accordance with the project description, be allocated to network activities (WP2), educational workshops (WP5) as well as support to project administration (WP1). Additional activities, including development of e-infrastructure (WP3), is funded by in-kind contributions.

The work plan is organized around five work packages (WPs), each subdivided into a number of specific tasks. Each WP has a WP leader, and each task has a designated responsible. To ensure that the work is well coordinated across WPs, the WP leaders will meet on a bi-weekly basis. Meeting schedules within in each WP will depend on the work and need for that specific WP.

The following WPs and tasks have been identified for the 2022 work program for Living Norway Ecological Data Network:

1: Project administration

WP-leader: Erlend B. Nilsen

The key role is to ensure efficient flow of information within the network, to represent the network in various settings, and to ensure that milestones and deliverables are being fulfilled.

Key activities in 2022:

- **Task 1.1 [Erlend B. Nilsen]:** Consortium and network governance
- **Task 1.2 [Anette Havmo]:** Maintain a structure for efficient communication internally in the network
 - Use Teams and SharePoint for official documents,
 - Maintain Google Drive and OSF for folders/workspace
- **Task 1.3 [Erlend B. Nilsen / Anette Havmo]:** Bi-weekly meeting in the WP-leader group
- **Task 1.4 [Erlend B. Nilsen / Anette Havmo]:** Arrange bi-monthly meetings in the network group
- **Task 1.5 [Signe Nybø / Anette Havmo]:** Arrange two meetings in the steering board
- **Task 1.6 [Erlend B. Nilsen]:** Keep links to tangential and relevant research projects
- **Task 1.7 [Erlend B. Nilsen]:** Maintain link to relevant NINA work
- **Task 1.8 [Erlend B. Nilsen / Dag Endresen]:** Ensure Living Norway and the Norwegian GBIF node is well coordinated
 - Erlend B. Nilsen is on GBIF Norway steering board
- **Task 1.9 [Erlend B. Nilsen]:** Make plan for Living Norway beyond 2022

2: Network and outreach

WP-leader: Chloé Nater

To make sure Living Norway is well known in the community, and that Living Norway become a go-to partner for issues related to FAIR management of ecological data are key success factors at this stage. We will therefore invest in both growing the network and improving communication and exchange within the network.

Key activities in 2022:

- **Task 2.1 [Chloé Nater]:** Initiate and advertise the «Living Norway Open Science Lab»
- **Task 2.2 [Chloé Nater / Erlend B. Nilsen / Anette Havmo]:** Plan and run the «Living Norway Open Science Lab» (monthly meetings)
- **Task 2.3 [Chloé Nater / Matt Grainger]:** Bring an active Slack community to life, and introduce its use for the Open Science Lab, future Living Norway colloquia, and as the primary communication tool for the network

- **Task 2.4 [Anette Havmo]:** Keep the webpage updated (news items, blog, etc.) and the Twitter account alive
 - **Task 2.4.1 [Anette Havmo]:** Keep the webpage updated, including publication of news items and semi-regular blog entries (the latter to be written by a variety of people)
 - **Task 2.4.2 [Variable]:** Post on twitter about news, events, methodological / tool updates, etc.
- **Task 2.5 [Erlend B. Nilsen / Anette Havmo / et al.]:** Arrange the “Living Norway Colloquium 2022” in Trondheim
- **Task 2.6 [Variable]:** Keep track of, communicate across the network, and participate in / contribute to relevant events (webinars, conferences, workshops, etc.)

3: Data standards development

WP-leader: Anders G. Finstad

In Living Norway we have an ambition to contribute to the international development of biodiversity standards. In particular for some areas, such as sampling based time series data and camera trap data, there is a need for such development.

Key activities in 2022:

- **Task 3.1 [Anders G. Finstad]:** Participate in relevant international setting through GBIF and TDWG and ensure that information on current developments and announcements of opportunities are shared with the LivingNorway network
- **Task 3.2 [Matt Grainger / Matteo De Stefano / Joe Chipperfield]:** Make sure the work is well aligned with NINA metadata work
- **Task 3.3 [Dag Endresen]:** Test (eventual) proposed domain model modifications, new terms and/or application schema through mapping for use case datasets with the GBIF IPT data publication toolkit.

4: e-infrastructure

WP-leader: Matthew Grainger

The key mission of Living Norway is to prepare software to assist in a FAIR management of ecological data. This work will continue in 2022, and key milestones will be the publication of

the Living Norway data portal (collaboration with GBIF through the hosted portal program) and a formal launch of the LivingNorwayR tool.

Key activities in 2022:

- **Task 4.1 [Roald Vang]:** Update technical architecture documentation
- **Task 4.2 [Siw Elisabeth Berge]:** Release of the Living Norway data portal version 1.0
- **Task 4.3 [Matt Grainger]:** Release of LivingNorwayR - R-based tool for producing Darwin Core archives, data wrangler & quality control tool version 1.0
 - **4.3.1 [Joseph Chipperfield]:** Finish the new metadata implementation
 - **4.3.2 [Joseph Chipperfield]:** Add functionality to validate and publish a Darwin Core archive from R using the IPT's API
 - **4.3.3 [Matt Grainger]:** Publication of the R package through CRAN (The Comprehensive R Archive Network) and/or ROpenSci with a companion journal article in the Journal of Open Science (JOSS).
 - **4.3.4 [Matt Grainger] [Links to Task 4.2 and to WP2]:** Further develop vignettes and tutorials for specific use-cases of LivingNorwayR publish these via the portal.
- **Task 4.4 [Benjamin Cretois]:** R-based tool: Visualizing data from a Darwin Core Archive version 1.0
 - **4.4.1 [Matt Grainger/Benjamin Cretois]:** Integrate Darwin Core Viewer with LivingNorwayR (**Task 4.3**) to ensure ongoing compatibility
 - **4.4.2 [Benjamin Cretois]:** Deploy Darwin Core Viewer to NINA R-Shiny Server.
 - **4.4.3 [Matt Grainger]:** Add function in LivingNorwayR to launch Darwin Core Viewer locally for a user
- **Task 4.5 [Matt Grainger/Siw Elisabeth Berge]:** Keep tidy/updated GitHub and GitLab for technical documentation for the portal and R-tools
- **Task 4.6 2 [Joseph Chipperfield/Matt Grainger/Benjamin Cretois]:** Ensure close alignment with NINA Data science group (Joe/Ben/Matt)
- **Task 4.7 [GBIF Norway]:** Develop and maintain persistent identifier resolver and annotation software tools and services for ecological datasets.

5: Education and training

WP-leader: Erlend B. Nilsen

Improving data management and making data FAIR is not only about technical implementation of new infrastructure, but also require a cultural shift. In 2022, Living Norway will host a number of workshops related to FAIR data management, open science and reproducible workflows for researchers in ecology and related fields. The workshops under task 5.1 and 5.2 are partly funded by the RCN network support grant. Members of the Living Norway network will also participate in development of relevant university curriculum.

Key activities in 2022:

- **Task 5.1 [Matthew Grainger]:** Workshop on FAIR management and ethical publication and use of open data from ecology and monitoring.
 - Arranged together with GBIF Norway and NINA-Miljødata
 - Including guidance in publishing participants data sets
 - Potentially new workshop fall 2022 – if interest is in place
- **Task 5.2 [Erlend B. Nilsen]:** Workshop on teaching OS and FAIR data
- **Task 5.3 [Chloé Nater]:** Workshop on reproducible workflows
- **Task 5.4 [Erlend B. Nilsen]:** Partner up with UoH sector in courses