GBIF Norway after 2019?
Hosted by the UiO Natural History Museum since 2005

Funded by the Research Council, NHMO and NBIC

Node staff at NHMO (since 2005) & NBIC (since 2018)

Project funding through 4 project periods (2005-2019)

Node data publishing services are well integrated in operational national decision making systems

Node funding after 2019 is not (yet) in place!!!
TIMELINE FOR GBIF NORWAY

1999 – OECD Science Forum recommends creating a GBIF
2001 – GBIF.org is operational (and the first member countries join)

2003 Nov – seminar in Oslo recommends to join GBIF
2004 February – Norway signs the MoU with GBIF
2005-2019 – Node at NHMO in Oslo operational
  o annual GBIF.no Node budget was ~ 300k Euro
  o 2 Node staff members: Node Manager & IT developer

2020 – Proposed permanent GBIF.no infrastructure
  o The funding status after 2019 still remains uncertain!!
NODE BUDGET (2005 - 2019)

Overall investment (15 years, 50 MNOK = 5 M€)

- 2005-2007 (3 years -- 5,6 MNOK = 0,6 M€)
- 2008-2011 (4 years -- 12,1 MNOK = 1,2 M€)
- 2012-2016 (5 years -- 20,0 MNOK = 2 M€)
- 2017-2019 (3 years -- 12,1 MNOK = 1,2 M€)
- 2020 → permanent long-term infrastructure??
GBIF GOVERNANCE GUIDELINES

expectation    reality
GBIF PARTICIPANT NODE

Participant Node (min 4 people)

• Node Manager (coordination)
• IT developer (informatics)
• Data scientist (science support)
• Biodiversity informatics officer
Node team at NHMO, University of Oslo

Dag Endresen, *Node Manager*
Rukaya Johaadien, *IT developer*
Vidar Bakken, *part-time (30%)*
Fridtjof Mehlum, *Head of delegation*

Norwegian Biodiversity Information Centre

Nils Valland, *node board member*
Stein Hoem, *IT Manager NBIC*
Knut Hovstad, *data portal contact*
Wouter Koch, *open data contact*

NTNU University Museum

Solveig Bakken, *node board member*
Anders Finstad, *GBIF Science committee*
GBIF NORWAY NODE CONSORTIUM (2020)
Towards formalized sharing of Node responsibilities

UiO - Natural History Museum
University of Oslo

NTNU - University Museum

NORWEGIAN BIODIVERSITY INFORMATION CENTRE

NINA - Norsk institutt for naturforskning
LANDSCAPE – STATUS AND PLANS

Global Biodiversity Information Facility – Norway (since 2004)
ForBio – Research School in Biosystematics (2010)
Norwegian Barcode of Life network (2012)
DiSSCo Norway (2019)

NIBIGEN (RCN Infrastructure) – proposed
Living Norway (RCN Infrastructure) – proposed
DiSSCo Norway (RCN ESFRI Prepare) – under development
NIBIGEN NATURE BIOBANK (RCN INFRASTRUCTURE)

Nature biobank of digitized material samples *in silico*

11 M€ – 5 years
UiO coordination
Distributed infrastructure

Builds on museum collections, DNA barcoding, genome sequencing and DiSSCo RI
### Living Norway (RCN Infrastructure)

**Data mobilization**
- Institute sector
- Ecology data
- Observation data

**9 M€ – 5 years**
- NINA coordination
- Distributed infrastructure

**Builds on BioAtlas Sweden 
& Living Atlas community**

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<table>
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<th>Component</th>
<th>Description</th>
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<tr>
<td>Legacy data</td>
<td>Data without active maintenance, lost provenance etc.</td>
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<tr>
<td>Contemporary research data</td>
<td>Actively managed, but unstructured data from contemporary research stored in unstructured repositories. Custody of data remains with current owner.</td>
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<tr>
<td>National thematic infrastructures</td>
<td>Thematic databases maintained by organisations or large research projects.</td>
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**Living Norway technical components**

- **Legacy-data archiving service**
  - Archiving service for unstructured legacy data (Task 5.1)

- **Living Norway index, storage and API**
  - ALA web-service layer, DBs, indexes and filesystem storage (Task 5.1-5.3).

- **Data-mapping tools**
  - Lightweight distributed tools for data-mapping and pre-IPT quality control (Task 6.1).

- **GBIF Integrated Publishing Toolkit (IPT)**
  - Distributed publishing tool used by GBIF / NBIC and compatible infrastructures. Operated by individual data-providers or NBIC (Task 2.2)

- **Other services and portals**
  - Other national and international index services and portals. e.g. EOL Trait bank, OBIS, NorDataNet

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**Distributed retrieval tools**

- Distributed tools for data discovery and retrieval developed in R, QGIS and Python (Task 6.2).

- **Living-Norway research portal(s)**
  - Web based discovery and data retrieval based on ALA frontend apps (Task 5.3).

- **Living-Norway Mirrorreum**
  - R based cloud-computing and visualization platform for open reproducible research (Task 6.2)

- **GBIF index, API and portal**
  - Search and retrieval portal maintained by GBIF global secretariat (Norwegian representation by Task 2.1)

- **NBIC base-maps**
  - Web based search and retrieval. Management and society at large as main end-users.
DISSCO NORWAY (RCN & ESFRI INFRASTRUCTURE)

Distributed System of Scientific Collections – DiSSCo RI

DiSSCo Prepare (ESFRI) to be launched in 2020

DiSSCo Norway consortium MoU signed (by the 4 university museums)

Align/integrate GBIF Norway with DiSSCo Norway??
NODE SUSTAINABILITY

Securing the Node budget is a challenge also for operational nodes…

Project-based funding remains a major obstacle to long-term planning!