



## **GBIF-Sweden: Work plan 2014**

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### ***Introduction***

2014 constitutes the second year during the third phase of development towards a fully functioning global biodiversity informatics initiative. The theme of the current five-year period is “Seizing the future”. The aim is to build a more regionalized GBIF organization with greater efficiency in data handling procedures and better quality in the services offered.

GBIF-Sweden’s Strategic plan for the period 2012-2016 outlines how the Swedish node will contribute to reaching these internationally defined goals during the current project period. It defines five focus areas. This Work plan details the activities and deliverables in each of these focus areas during 2013 in qualitative terms. By 2014 a set of quantitative deliverables based on provider and user statistics will also be provided.

### ***Plan for 2014; Focus areas***

#### **1. Data publication**

The primary objective of GBIF-Sweden is to make all Swedish biodiversity information available on the Internet. By offering improved services and support to Swedish database providers, and by the integration of the DINA system for collection management we expect to be able to reach full coverage of the digitized natural history collections in Sweden in 2014 or 2015.

- We intend to update and reorganize the labeling and presentation of existing databases in the Swedish GBIF repository in accordance with international standards and up-to-date logic concerning providers, collections and subcollections.
- The TAPIRLink (Access Protocol for Information Retrieval) used for some of the major data providers is currently replaced by IPT (Integrated Publishing Toolkit) software for automatic updating of their content to GBIF servers. This process will continue during 2014 but we will also continue to provide technical support for those institutions that do not have the means or incentive to apply IPT (minor providers).

- Fine tuning of Lifewatch web services linking the Species Gateway (Artportalen) to GBIF-Sweden has taken place by the end of 2013, and data be automatically updated daily before being sent further to gbif.org via IPT.
- We will continue to support the incorporation of data from regional vegetation inventories made throughout Sweden during recent decades.
- We will continue to search for hitherto unrecognized collection or observational databases, which once found will be included in the offerings of GBIF-Sweden.
- In collaboration with cultural heritage institutions, we will continue to explore the possibility of combined presentation of GBIF data and cultural heritage data through the “K-samsök” portal and by connecting to Europeana via OpenUp.

## 2. Digitization effort

Data from biological collections represent a fundamentally important resource to basic and applied research, but such information is still to a considerable extent hidden in the enormous backlog of un-digitized specimens kept at various institutions. Only 10-20% of an estimated 27 (– 100) million objects in Sweden have been digitized and their data made available through the GBIF network at present. It is of utmost significance to the utility of GBIF-Sweden’s services that the information represented by this backlog is made public through large-scale digitization projects.

- We will invite appropriate major data providers to form a planning team for a major Swedish digitization effort focused on natural history specimens.
- We will investigate existing technology for mass digitization of museum specimens, and will explore the opportunities to form Swedish teams focused on developing new technology, where needed.
- We will submit an application to the SRC for the development of new digitization technology and for mass digitization of Swedish natural history collections using new and existing technologies and crowd-sourcing.
- We will intensify the exchange of knowledge in this field of biodiversity informatics at national and international levels. In particular, we will explore possible future collaboration with NCB Naturalis (Leiden), MNHN (Paris), MfN (Berlin), Digtarium (Joensuu), NHM (Oslo), DigiSam (Stockholm) and MKC (Fränsta).

## 3. Web Portal

Apart from offering a search facility for Swedish biodiversity data, the web site of GBIF-Sweden ([www.gbif.se](http://www.gbif.se)) contains general information on the project, simple tools for collection management and digitization aimed at small providers, and information from the biodiversity community and from the international GBIF organization. Intended to be the premier Swedish gateway to global biodiversity informatics the existing portal was developed in 2007. To meet increasing demands from several user categories, the web portal of GBIF-Sweden will now be made anew. This work was initiated in 2011 by inviting a user panel to comment on the functionality of the web site, and initial software development of the new node portal took place in 2012.

Thus a completely new portal based on a series of modules developed within Play Framework will be launched in 2014.

- Apart from the existing collaboration with GBIF-France on this issue, we have invited other national GBIF nodes to participate in the development of the new node portal software. This work runs parallel to the further development of the GBIF Nodes Portal Toolkit (NPT) launched in 2013, but will offer more advanced facilities than the NPT which was intended for use primarily by GBIF nodes lacking capacity to construct and maintain web portals of their own.
- We will fully employ synergies within the Bioinformatics and Genetics unit that may improve the development of the new portal (e.g. map services used in the Baltic diversity project).
- We will collect a second round of input from our user panel, and we will dispatch a user survey reaching over 1100 researchers interested in Biodiversity issues in Sweden after the launch of the first version of the portal...We will also to the extent possible analyze usage statistics for the current GBIF node portal.
- The first version of the new portal will be available for testing during the first half of 2014.

#### **4. Education and outreach**

Biodiversity informatics is still comparably new to many potential user groups, and apart from among bioinformaticians, and some environmental researchers the possibilities that lie in easy access to large data sets are not yet fully acknowledged. Among researchers taxonomists, systematists, biogeographers, evolutionary biologists, and ecologists will all benefit strongly from the work of organizations like GBIF, but in common with representatives from the education sector, civil servants and decision maker communities they generally need to be better informed of the resources offered by current biodiversity initiatives. This can only be achieved by continued and increasing participation in scientific seminars, workshops, conferences and meetings, and by arranging and taking part in educational activities. Collaboration with other biodiversity informatics initiatives is also crucial.

- We will continue to present GBIF resources at conferences and meetings, and we will approach potential users in university institutions, research groups, and official authorities, offering information about GBIF and training opportunities in biodiversity informatics.
- We will continue to be a part of the Taxonomic Research School funded by the Swedish Taxonomy Initiative.
- We will participate in the international Masters program (The Nordic Academy of Biodiversity and Systematics) by giving one of the course modules ("Curation and Biodiversity informatics").
- We will strengthen the collaboration with the informatics group at the Swedish Species Information Centre in Uppsala by arranging and attending regular meetings.
- We will formalize the management and technical cooperation between GBIF-Sweden and Swedish LifeWatch.

- By using existing networks we will increase the amount of popular presentations (orally and in writing) in order to further increase the public visibility of GBIF-Sweden outside the scientific community.

## **5. Support to biodiversity informatics in developing countries**

A large fraction of the data handled by GBIF-Sweden consists of information on organisms observed or collected in foreign countries (particularly in the tropics). In many countries access to data and information on indigenous biodiversity is restricted and repatriation of such information is among the most important tasks of GBIF internationally. GBIF-Sweden should also explore the possibilities of transferring biodiversity informatics knowledge and technology to developing countries in need of assistance.

- We will consider approaching Norsk institutt for naturforskning (NINA) for a mentoring project including the Wildlife Institute of India/INBIF,
- We will continue to explore additional opportunities for knowledge and technology transfer to developing countries.