

Capacity self-assessments for national biodiversity information facilities

Introduction

National biodiversity information facilities are networks of people and institutions that produce, manage and use biodiversity data, together supporting the needs of the country for biodiversity information. They are supported by organizational arrangements and informatics solutions, working to improve the availability and usefulness of biodiversity data for research, policy and decision-making. Countries participating in GBIF commit to establishing a GBIF Participant node, which is a coordinating team designated by the country to establish and further develop the national biodiversity information facility.

Capacity self-assessment is a tool to help countries with planning at any stage in the development of their national biodiversity information facility. This questionnaire-based approach is designed to assess capacities that underpin sustainable progress in four key areas:

1. Coordinating a national community of institutions, projects and initiatives relating to biodiversity, including making connections to the international GBIF network
2. Mobilizing biodiversity data so that as many sources as possible are freely and openly available
3. Reusing the available data to support biodiversity-related science and support decision-making for sustainable development
4. Improving biodiversity data management and data quality to support users' needs

Capacity self-assessment through dialogue between key stakeholders can help to identify national capacity strengths and needs, from which to plan capacity enhancement actions. When repeated, the questionnaire can also be used to monitor and evaluate progress in achieving the biodiversity information facility's capacity-related goals.

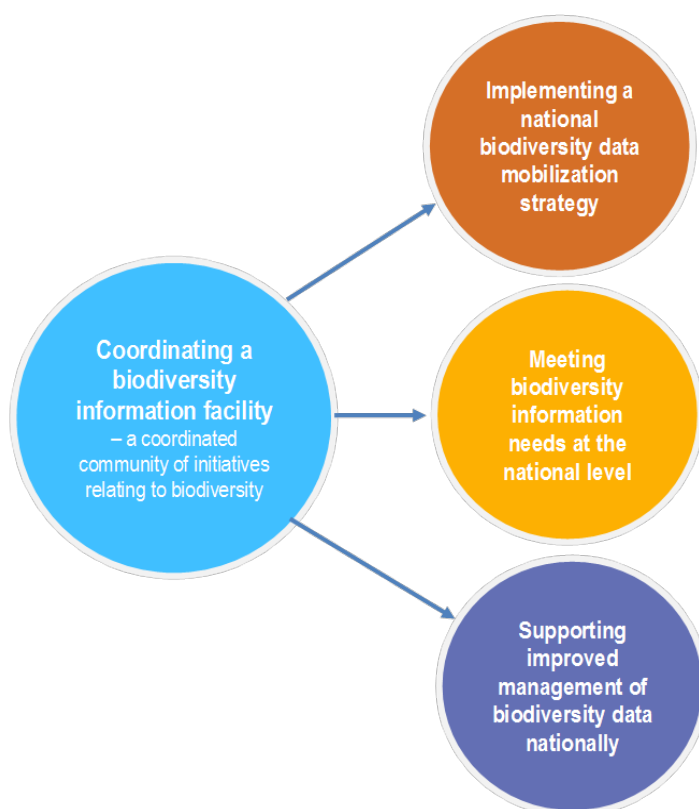


Figure 1: Main target areas for national biodiversity information facilities

Suggested process

Scoping and alignment

Capacity self-assessment should support and inform relevant planning processes, such as organizational planning, the preparation of funding proposals, and the monitoring and evaluation of progress. The questionnaire included in this guide can be adapted to best fit the national context and priorities for the national biodiversity information facility.

Who should be involved?

A lead should be assigned to coordinate the capacity self-assessment and report the results. The questionnaire should be completed by one or more of those most closely involved in the biodiversity information facility's activities (for example, for GBIF Participants, the Head of Delegation, the Node Manager and the Chair of the board for the biodiversity information facility).

Self-assessment questionnaire design

The questionnaire is structured in four sections to match the targets described in figure 1. The questions are organized as a series of steps outlining a simplified pathway for progress in each section. Progress will not always follow these pathways in a linear way, so it is important to respond to all of the questions in each section. There is a yes/no question for each step which is the basic indicator for tracking the level of progress along the pathways. When a 'yes' answer is given, two subsequent questions quantify the level of capacity for that step through the selection of one of three responses describing low, medium and high capacity. This allows more detailed tracking of progress by assigning scores to each step, which are summed to give an indicator of capacity levels at in each area and overall.

Analysis and documentation of results

The questionnaire is presented as a printable form that displays the results of the self-assessment using buttons and scores selected from drop-down menus. When a 'yes' answer is selected, there is a maximum score of 6 for that step, representing the highest capacity, and a minimum of 0, which should be assigned when a 'no' answer is selected for that step, or when there is insufficient information to make an assessment. Text boxes are also provided to capture any additional notes for each section. A template for a summary view of the results is provided on the final page in which the scores per step and overall total can be entered manually. The results should be analyzed to identify capacity strengths and prioritize capacity needs in line with the broader national priorities for the biodiversity information facility. These can be captured in the text boxes on the final page. Capacity self-assessment will be most useful when repeated, for example annually or at the start and end of a project or work programme, so that it can serve as a monitoring and evaluation tool. When using it in this way, further analysis will be needed to compare results captured over time, so it is recommended to also keep the scores in a spreadsheet.

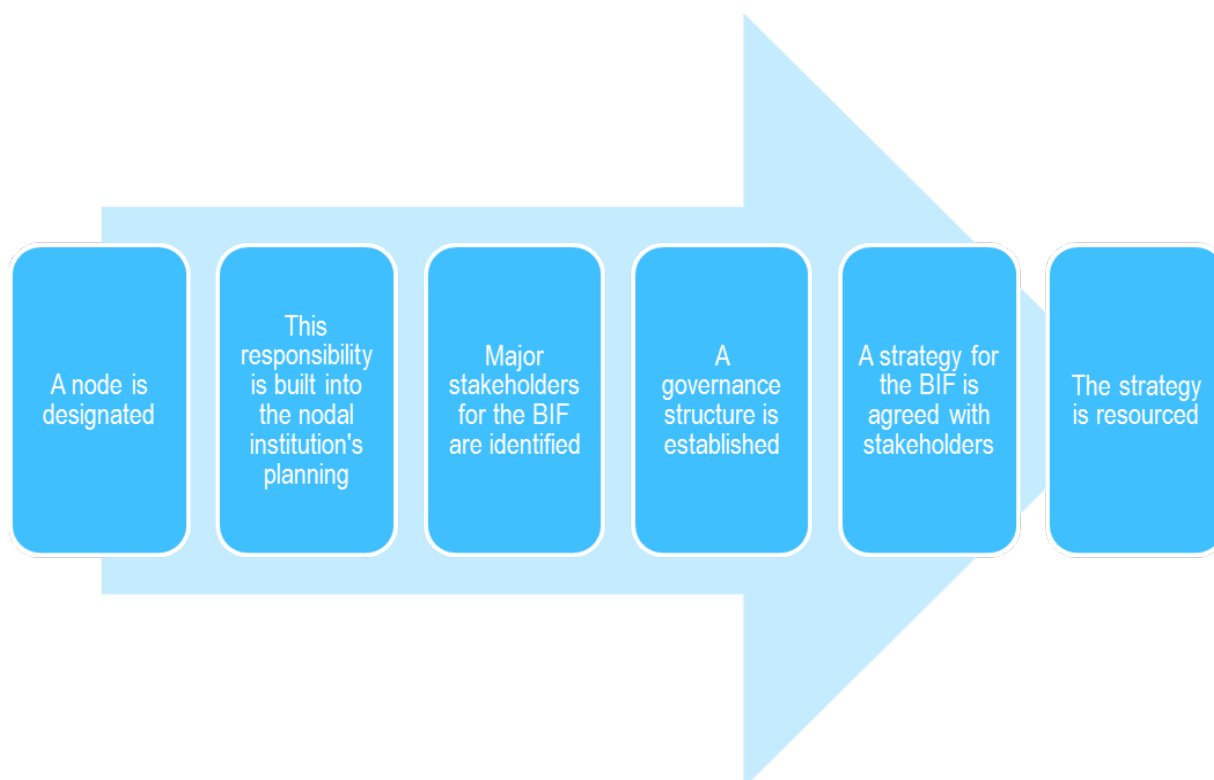
Further support for capacity self-assessments and planning

This template provides links to some key GBIF tools and resources targeting each of the four areas. Further resources are available from GBIF.org. The GBIF Secretariat staff are also available to provide guidance on capacity enhancement. Please contact us via email (nodes@gbif.org).



NATIONAL CAPACITY SELF-ASSESSMENT

Section 1: Coordinating a national biodiversity information facility



1. Has a node been designated to coordinate biodiversity data sharing activities nationally?

Yes **No**

1. a. Is the team or node recognized at the national level as responsible for coordinating biodiversity data sharing (e.g. through a mandate)?

1. b. Does the country participate in GBIF enabling the node to connect with global network?

Section 1: Step 1 total score

2. Has the institution hosting the node built this obligation into its planning?

Yes No

2. a. Has the hosting institution incorporated this obligation into its resource allocation?

2. b. Does the team leader or Node Manager have this role officially recognized as part of their work responsibilities?

Section 1: Step 2 total score

3. Have the major stakeholders for the biodiversity information facility been identified?

Yes No

3. a. Does the coordination team or node have a communications plan for the biodiversity information facility?

3. b. Are the necessary inter-institutional agreements in place to support stakeholder engagement in the biodiversity information facility (e.g. data sharing agreements, MOCs)?

Section 1: Step 3 total score

4. Has a board and/or other governance structure been established to support the work of the node with its stakeholders?

Yes No

4. a. Does the node's governance structure(s) provide the necessary expertise to guide the development of the biodiversity information facility?

4. b. Are the biodiversity information facility's activities monitored and evaluated?

Section 1: Step 4 total score

5. Has a strategy / set of priority activities for the node and biodiversity information facility been agreed with stakeholders?

Yes No

5. a. Have stakeholder needs been assessed to inform the strategy?

5. b. Does the strategy provide a long-term vision for the node and biodiversity information facility?

Section 1: Step 5 total score

6. Is this strategy resourced?

Yes No

6. a. Does the node or coordinating team have sufficient staff members to implement the strategy?

6. b. Does the node have stable funding sources (i.e. a dedicated budget and/or defined in-kind services provided by the host institution) to implement the strategy?

Section 1: Step 6 total score

Section 1: Overall score

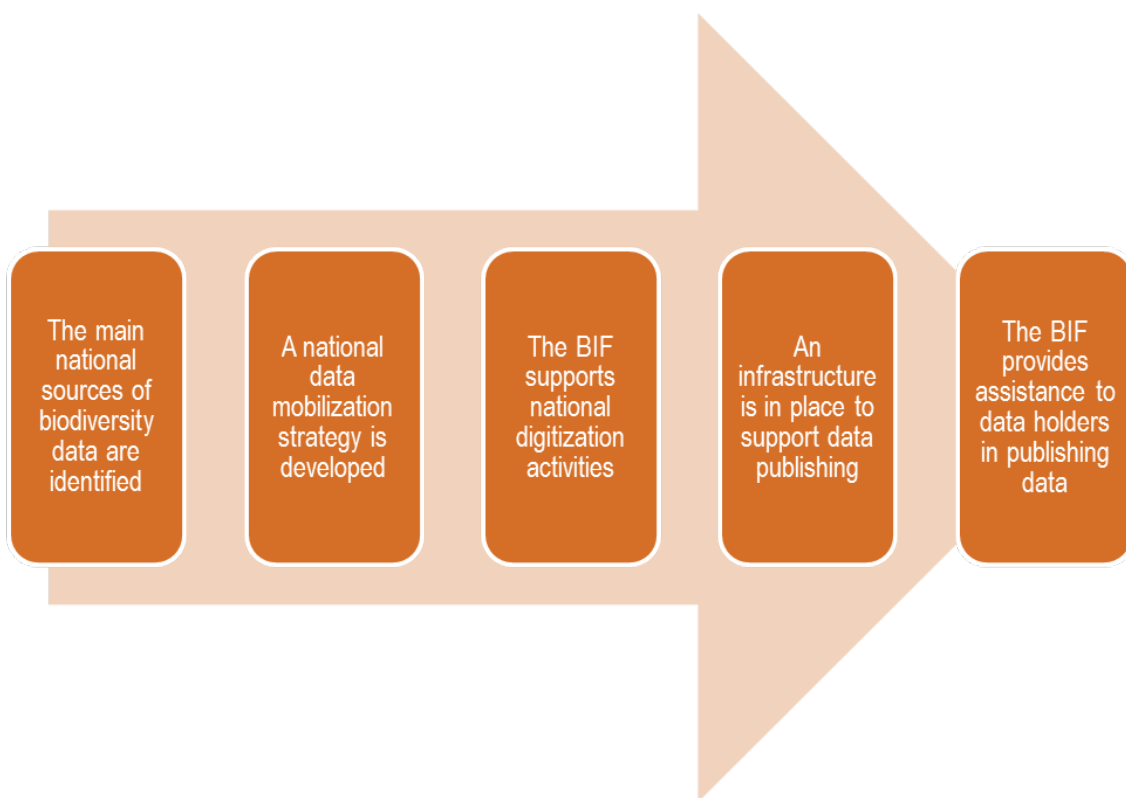
Additional notes on capacity for coordinating a national biodiversity information facility

Key support material

Establishing an Effective GBIF Participant Node: This guide draws on the experience of the GBIF network to offer guidance on establishing an effective Participant node. It is available in multiple languages.

GBIF Capacity Enhancement Framework: This framework presents a cycle for capacity enhancement actions, including a description of the main actors and examples of the types of techniques and approaches to capacity enhancement in the GBIF context.

Section 2: Implementing a national biodiversity data mobilization strategy



1. Have the main national sources of biodiversity data been identified?

Yes No

1. a. Have the national sources of biodiversity data been documented (e.g. in a metadata catalogue)?

1. b. Has the state of national data holdings been assessed (e.g. digital/non-digital format, approximate size and scope of collections, use of standards)?

Section 2: Step 1 total score

2. Has a strategy been developed to assist the biodiversity information facility in mobilizing national biodiversity data sources in a systematic way?

Yes No

2. a. Have data mobilization priorities for the biodiversity information facility been agreed with stakeholders?

2. b. Does the strategy assist data holders in making a case for investment in the mobilization of their data (e.g. through addressing known gaps or targeting specific use cases)?

Section 2: Step 2 total score

3. Does the node (and/or other members of the biodiversity information facility) provide support to national digitization activities?

Yes No

3. a. Are mechanisms in place for national biodiversity data holding institutions to share experience and expertise relating to digitization?

3. b. Does the node promote incentives for data publishing (e.g. through data management policies attached to public research grants, data paper publishing, use of licenses to share biodiversity information)?

Section 2: Step 3 total score

4. Is an informatics infrastructure in place to support the publishing of biodiversity data from the country's institutions to the Internet?

Yes No

4. a. Are data hosting facilities available to national holders of biodiversity data?

4. b. Are the data publishing tools provided by the nodal institution and the community kept up to date with the latest tools and software releases?

Section 2: Step 4 total score

5. Does the node (and/or other members of the biodiversity information facility) provide assistance to data holders in publishing their data?

Yes No

5. a. Does the node (and/or other members of the biodiversity information facility) organize training for data holders on the topic of data publishing?

5. b. Does the node provide a helpdesk service to assist data holders in publishing their data to the Internet?

Section 2: Step 5 total score

Section 2: Overall score

Additional notes on implementing a national biodiversity data mobilization strategy

Key support material

Data publishing section of the GBIF website: These pages provide an overview of the process of data publishing through the GBIF network, including the benefits of data publishing, publisher endorsement by nodes, and links to further resources.

iDigBio digitization resources - This web page provides resources and information for the series of digitization training workshops conducted by iDigBio. Included is a growing list of links to documents, websites, videos, presentations, and other important information related to biological collection digitization. In addition, iDigBio hosts frequent webinars that are open to all.

Initiating a Collection Digitisation Project: This guide describes how to plan digitization work. It focuses on natural history collections but can also be applied to other situations.

Towards Demand Driven Publishing: Approaches to the Prioritisation of Digitization of Natural History Collections Data: This article reviews the state of digitization of natural history collections and provides guidance on adopting a demand driven approach to planning digitization projects.

Section 3: Meeting biodiversity information needs at the national level



1. Have the needs of biodiversity information users been assessed at the national level?

Yes **No**

1. a. Are there mechanisms in place for users to provide feedback on the services provided by the node and biodiversity information facility?

1. b. Does the node track examples of the use of the data mobilized by the GBIF network and/or national biodiversity information facility?

Section 3: Step 1 total score

2. Does the node (and/or other members of the biodiversity information facility) perform analyses of the biodiversity data available through the GBIF network and/or national data services?

Yes **No**

2. a. Does the node (and/or other members of the biodiversity information facility) identify gaps in the available biodiversity data?

2. b. Does the node (and/or other members of the biodiversity information facility) provide information services based on analysis of the available data?

Section 3: Step 2 total score

3. Does the node (and/or other members of the biodiversity information facility) promote the use of biodiversity data available through the GBIF network and/or national data services?

Yes **No**

3. a. Does the node (and/or other members of the biodiversity information facility) organize regular training for data users on how to access and use the data available through the GBIF network and/or national data services?

3. b. Is the node in contact with key users, including decision-makers, to demonstrate how GBIF and/or national data services can be used?

Section 3: Step 3 total score

4. Does the node (and/or other members of the biodiversity information facility) maintain a website to support the user community in accessing biodiversity data?

Yes **No**

4. a. Is the website continuously developed to stay up to date with user needs?

4. b. Does the website complement other available biodiversity information websites to serve the needs of key user groups for the biodiversity information facility?

Section 3: Step 4 total score

5. Are services from the biodiversity information facility integrated into research and policy processes?

Yes **No**

5. a. Are data and services coordinated by the node incorporated into national biodiversity reporting, for example through the National Biodiversity Strategy and Action Plan (NBSAP) and National Reports to the Convention on Biological Diversity (CBD)?

5. b. Are data and services coordinated by the node recognized and used by research and/or national agencies dealing with economic sectors, for example in spatial planning, environmental impact assessment, agricultural policy and public health?

Section 3: Step 5 total score

Section 3: Overall score

Additional notes on meeting biodiversity information needs at the national level

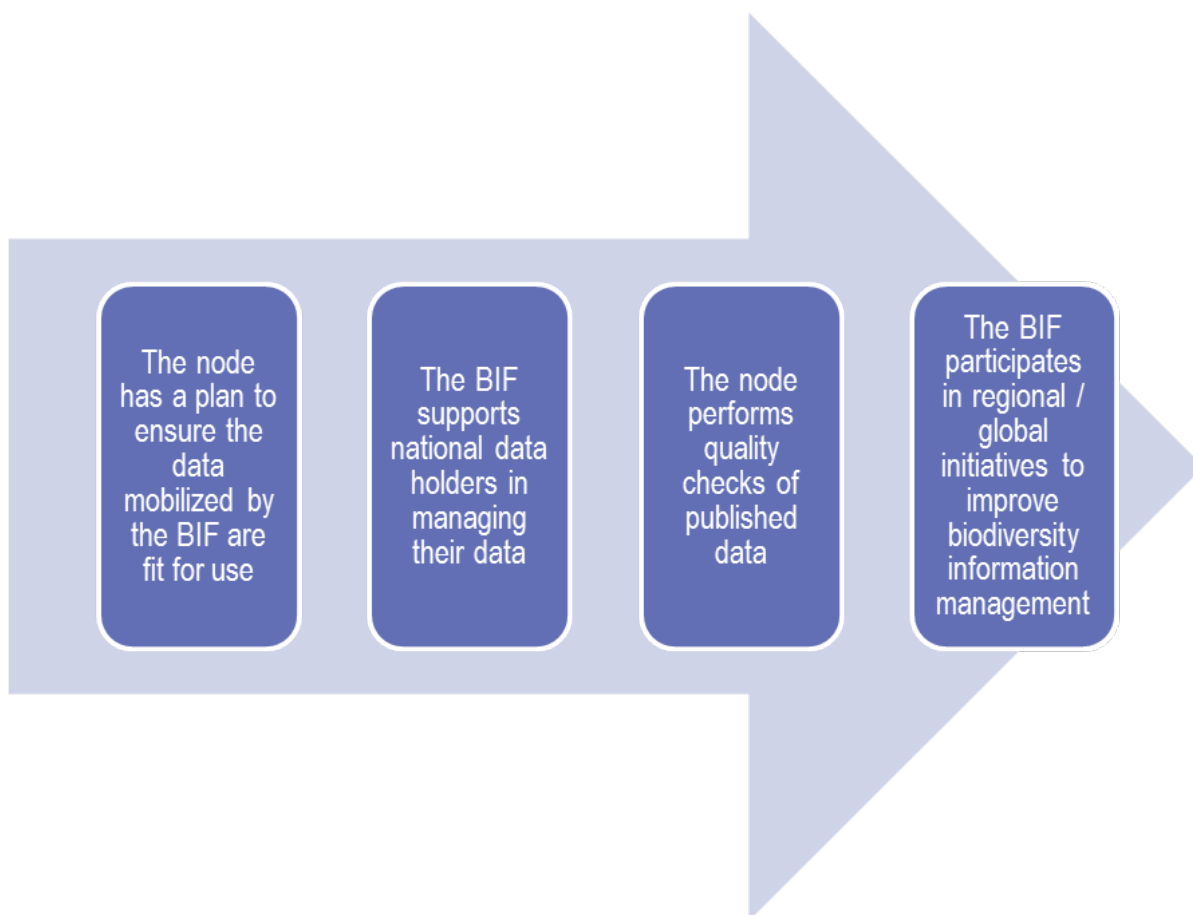
Key support material

GBIF Best Practice Guide for Content Needs Assessment of Stakeholder Communities: This guide reviews examples of content needs assessments to provide detailed information on how to plan this type of activity.

Uses of Primary Species-Occurrence Data: This document summarizes the many areas in which biodiversity data are used.

Section on Science Relevance on GBIF.org: GBIF-mediated data are used in a wide range of research projects addressing the key scientific questions relating to biodiversity. You will find a summary of the most commonly-used thematic areas in this section of the GBIF website.

Section 4: Supporting improved management of biodiversity data nationally



1. Does the node have a strategy to ensure the data mobilized by the biodiversity information facility are fit for use by as many user groups as possible?

Yes No

1. a. Does the node provide feedback to data publishers on data quality related issues?

1. b. Does the biodiversity information facility contribute to the maintenance of national and thematic checklists?

Section 4: Step 1 total score

2. Does the node (and/or other members of the biodiversity information facility) support national data holders in managing their data?

Yes No

2. a. Does the node (and/or other members of the biodiversity information facility) organize regular training for data holders on the topics of data management and quality?

2. b. The node provides a helpdesk service that efficiently assists data holders with data management issues

Section 4: Step 2 total score

3. Does the node perform quality checks of data published to the GBIF network and/or a national data platform?

Yes **No**

3. a. Does the node have a workflow using appropriate tools to contribute to improving the quality of the data published to the GBIF network and/or data platform?

3. b. How efficiently does the node deal with endorsement requests from data publishers wishing to publish to the GBIF network?

Section 4: Step 3 total score

4. Does the node (and/or other members of the biodiversity information facility) participate in regional and/or global initiatives to improve the management of biodiversity information?

Yes **No**

4. a. Does the node contribute to initiatives working on biodiversity information standards, taxonomy and information integration?

4. b. Does the node help to transfer the developments made on the regional and/or global level into national data management processes, e.g. through workshops, adaptation and translation of software or documents?

Section 4: Step 4 total score

Section 4: Overall score

Additional notes on supporting improved management of biodiversity data nationally

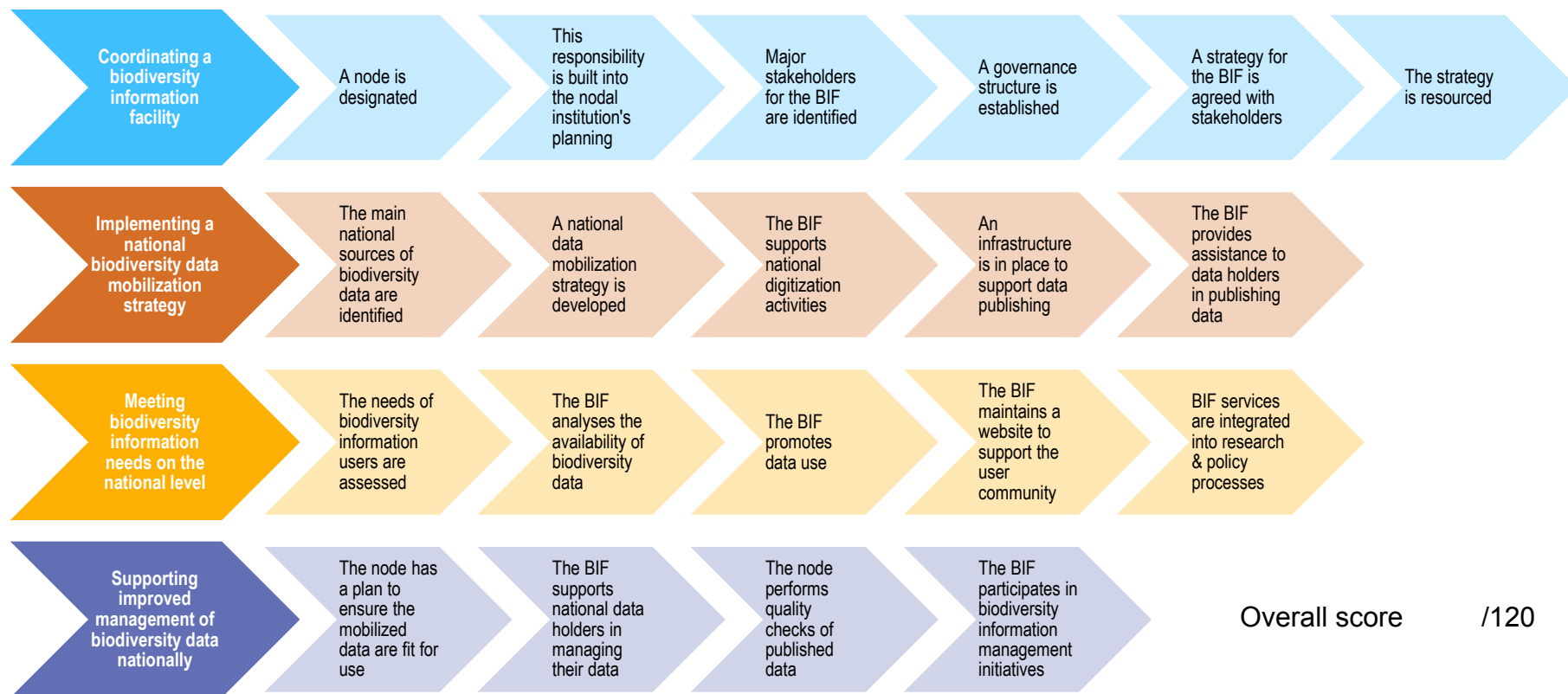
Key support material

Principles and Methods of Data Cleaning and Principles of Data Quality: These complementary guides are much-used reference material for those working with data quality and fitness for use.

Improving Wildlife Data Quality: This guide discusses how to deal with data quality issues within networks collecting biodiversity data and provides six practical case studies to illustrate different scenarios.

GBIF country reports: Available by selecting a country name from this list and then clicking on the blue download button at the top of each country page, these reports include a series of summary charts, statistics and other details about the mobilization and use of open-access species data through the GBIF network at global and national scales. They provide a good summary of the main trends in data mobilization and data quality for all countries.

GBIF data trends: These pages of the GBIF website provide summary trends and metrics on the biodiversity data available about any country and on the data published by a country's institutions. They can be used to define basic indicators associated with data quality and follow them over time.



Main capacity strengths

Prioritized capacity needs