DRAFT GBIF Work Programme 2024

Annual Update and Implementation Plan to the Strategic Framework 2023–2027

GBIF Secretariat

Version 0.1, 1 August 2023



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Introduction to consultation draft

The intention of this draft is to solicit the GBIF community's feedback on initial proposals for the Work Programme activities that the Secretariat will support and prioritize during 2024. The resulting document should be read as an update to the 2023 Work Programme and the second year of implementing the strategic priorities outlined in the 2023-2027 GBIF Strategic Framework.

As described in the previous work programme, the approach of the implementation plan is to address the strategic priorities through several multi-year activities, each with projected outcomes over the five years. As this document is drafted just over halfway through the first year of implementation, the identification of tasks for 2024 is necessarily tentative and based on current projections for the progress of the indicative tasks agreed for 2023.

Through this consultation draft, we will gather responses on the specific new tasks, emphasising year-on-year continuity. Based on the feedback received, the Secretariat will consolidate this draft into the Work Programme presented to the Governing Board for approval at the GB30 meeting in October 2023.

Please note that the final draft presented for approval at GB30 will also restore the list of ongoing tasks for each activity, which will not change greatly from 2023 (example).

The draft does not set out detailed budget proposals for each activity and task, but it indicates which activities are expected to be carried out primarily by salaried staff, and which through external contracts and/or non-salary expenses. For contracts and expenses, it further indicates whether costs would be met from core funds or from supplementary funds, identifying where possible the funding source.

The indicative budget for 2024 highlights expected income and expenses from Basic Financial Contributions (or Core) and Supplementary Funds. It also provides estimated expenses for the work programme, administration/governance and each priority area.

The Secretariat welcomes supplementary contributions from Participants to Special Purpose Funds (SPF) aligned to each Priority Area. Such funds enable us to go further and move faster towards GBIF's objectives, as shown with the example of Norway and Finland whose willingness to commit additional funds to the 2023 budget through a Special Purpose Fund for Priority Area 3 has enabled us to recruit a new regional support team for Europe and Central Asia. We encourage Participants who are able to commit funds beyond the basic financial contribution, to consider contributing to a Special Purpose Fund and accelerate GBIF's work in one or more of our Priority Areas.

Finally, in a departure from the practice in the previous strategic planning period, we have decoupled the process of soliciting and publishing details of the activities of GBIF nodes from the Work Programme drafting and consultation process. We do not intend for this to weaken the connection between nodes plans and activities and the global Work Programme. On the contrary, we hope to strengthen the alignment by providing a more logical sequence and structure. Following approval of the annual global Work Programme by the Governing Board, we will invite nodes to submit plans aligned with WP24 for inclusion in the annual Nodes Strategy. Reports on the previous year will then provide an input into the activities detailed in the updated annual report.

I look forward to receiving your feedback to this draft, which will help us build on the momentum of 2023 and further advance GBIF's progress towards the ambitious goals outlined in the Strategic Framework.

Joe Miller Executive Secretary

Priority Area 1: Science and Research

Improving biodiversity evidence for scientific research and understanding

Activity 1.1: Drive mobilization and use of biodiversity data to support priority thematic areas of relevance

Projected outcomes for 2027

- Knowledge gaps are reduced by consolidating data coverage across the thematic areas of relevance
- GBIF's relevance to research is enhanced, through increased recognition and uptake of GBIF mediated data among researchers across additional scientific disciplines

Indicative tasks for 2024

- Commission an update to the systematic review of GBIF use in research (Heberling et al. 2021) to identify trends in research uses for the 2020-2024 periods, deepen the analysis of methods and analytical approaches, and inform future support for priority thematic areas of relevance
- Advance collaborative activities across new thematic areas of relevance based on recommendations from the Science Committee (currently identified as invasive alien species and agrobiodiversity) with support of identified experts in these areas
- Strengthen and expand support and guidance on mobilizing DNA-derived data from a range of data holder types and scales, supported by data quality improvements, improved coverage of DNA-detected organisms in the GBIF taxonomic backbone, and alignment of guidance with the new GBIF data model
- Expand data flows relating to vectors of human disease, in particular malaria-related data through GBIF partnership in the Vector Atlas project, with additional data streams on non-malaria vectors as recommended by the GBIF task group on vectors of human diseases
 - Expected funding mechanisms and sources: Salaried staff time apart from: external contract for systematic review update (core funds); possible external contracts for new thematic areas of relevance (core funds, possible supplementary funds); contract for expanding data flows on human disease vectors (supplementary funds: Bill & Melinda Gates Foundation through the Vector Atlas project)

Activity 1.2: Advance GBIF's contribution to latest biodiversity modelling approaches

Projected outcomes for 2027

• GBIF supports the evolution of fundamental data-driven biodiversity research and its application across methods, scales and disciplines in life and environmental sciences

Indicative tasks for 2024

 Consolidate prototype digital twins dependent on and coordinated by GBIF through partnership on BioDT, support user-group testing of prototype twins and links to key biodiversity data infrastructures, and build connections between projects and initiatives through shared data and service dependencies (such as B-Cubed)

- Improve GBIF's capabilities to manage ecological data streams from key infrastructures and monitoring programmes, applying new data model to accommodate richer data (including absences based on complete species lists) while designing data flows and outputs in planned workshop on the TDWG Humboldt Extension
 - Expected funding mechanisms and sources: Salaried staff apart from: travel costs for Digital Twin activities (supplementary funds: Horizon Europe (BioDT); workshop costs for managing ecological data streams (core funds, supplementary funds expected from Cornell Lab for Ornithology)



Based on progress in 2023, The Secretariat proposes to conclude **Activity 1.3: Support open science principles** as a separate activity within Priority Area 1. Key milestones have been achieved through the recognition of GBIF as a Global Core Biodata Resource and the inclusion of GBIF in the list of core data infrastructures supporting the UNESCO Open Science Recommendation. Follow-up on related tasks, such as engagement with UNESCO, OECD and implementation of CARE principles, will be redistributed under Priority Area 2: Policy and Partnerships and Priority Area 3: Community and Capacity.

Priority Area 2: Policy and Partnerships

Developing partnerships that benefit policy and society

Activity 2.1: Support implementation of the post-2020 Global Biodiversity Framework

Projected outcomes for 2027

- GBIF-mediated data is consistently and transparently applied and cited across multiple indicators
 used to monitor progress towards the goals and targets agreed through the UN Convention on
 Biological Diversity (CBD)
- GBIF is recognized as a key implementation partner for biodiversity-related projects supported by the Global Environment Facility (GEF)
- GBIF-mediated data is fully integrated into national Clearing-House Mechanism (CHM) platforms as well as national reporting processes for the CBD

- Work with partners to ensure that GBIF contributes efficiently and transparently to the finalized monitoring framework of the Kunming-Montreal Global Biodiversity Framework (GBF), particularly headline indicators on invasive alien species (Target 6), business disclosures (Target 15) and availability of data, information and knowledge (Target 21), and including expanded regional mechanisms to support funding and capacity pipelines
- Explore the potential of 'data cube' delivery formats from GBIF to support further development of biodiversity indicators at national, regional and global levels
- Implement the partnership agreement with Group on Earth Observations Biodiversity Observation Network (GEO BON), including joint promotion at CBD meetings, development of guidance for alignment of nodes and Biodiversity Observation Networks, and application of the new data model to support standardized observations

- Support implementation of GBF Target 20 on capacity building and Target 21 on availability of data, information and knowledge through the Biodiversity Information for Development (BID) programme, enhancing capacity in the mobilization and use of biodiversity data in developing countries (see Activity 3.4: Develop capacity and skills)
- Consolidate GBIF's position as a service provider for implementing agencies of the Global Environment Fund (GEF)
- Improve GBIF connections and explore partnerships with other biodiversity-related conventions, such as the Convention on Migratory Species (CMS), the Convention on International Trade in Endangered Species of Wild Fauna and Fauna (CITES) and Ramsar Convention on Wetlands, including through better coordination between GBIF nodes and national focal points
 - Expected funding mechanisms and sources: salaried staff apart from: travel to relevant meetings including COP16 (core funds); travel to workshops relating to data cube delivery (supplementary funds: Horizon Europe B-Cubed project); workshops and travel related to the BID programme (supplementary funds: European Commission Directorate-General for International Partnerships).

Activity 2.2: Support the 2030 Agenda for Sustainable Development

Projected outcomes for 2027

- GBIF's value in supporting the UN Sustainable Development Goals (SDGs) is recognized and reinforced through strategic partnerships with relevant international organizations focused on climate change, food security, human health and well-being, and both terrestrial and marine biodiversity
- Relevance to multiple SDGs contributes to a broader funding base for GBIF both through projectbased support and national contributions
- National contributions and project-based support provide a broader funding base that increases GBIF's relevance to the 2030 Agenda for Sustainable Development and SDGs

Indicative tasks for 2024

- Consolidate formal partnerships with key agencies to support GBIF's relevance to the SDGs, in particular with regard to human health, food security and climate change
- Organize a joint meeting with the Ocean Biodiversity Information System (OBIS) to advance work on a marine biodiversity data strategy based on 2023 discussions
- Scope and commission an initial Environment, Social and Governance (ESG) report relating to GBIF's operational policies, including but not restricted to gender/diversity guidelines, carbon and environmental footprints, and diversity and inclusion
 - Expected funding mechanisms and sources: salaried staff apart from: workshop costs for marine meeting (core funds, possible supplementary funds to be identified); external contract for ESG report (core funds).

Activity 2.3: Support the science-policy interface

Projected outcomes for 2027

· GBIF's role in providing data infrastructure essential to the work of the Intergovernmental

Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) is fully recognized and communicated

 GBIF's use in policy and decision processes is enhanced through partnerships and better communicated

Indicative tasks for 2024

- Develop implementation plan for renewed partnership with IPBES, including involvement in task forces, data support for assessments, and mobilization of priority data in response to knowledge gaps
- Refine capture of additional citations of the use of GBIF-mediated data in policy implementation and communicate key illustrative examples
- · Consolidate partnerships with relevant organizations supporting the science-policy interface
 - Expected funding mechanisms and sources: Salaried staff apart from: possible external contracts for filling IPBES knowledge gaps via the BID programme (supplementary funds from European Commission Directorate-General for International Partnerships); external contract for student support to mine backlog from policy citation database (core funds).

Activity 2.4: Support nature-positive outcomes from decisions in the business, financial and productive sectors



The proposed changes to the wording of this activity, which previously referred only to the private sector, recognize that the same approach applies to publicly owned corporations, financial institutions, and organizations in the productive sectors including agriculture, aquaculture and forestry

Projected outcomes for 2027

- Lending agreements prepared by financial institutions and public development banks include clear and unequivocal requirements for sharing biodiversity data
- Private companies, trade associations and consultancies in all global regions recognize GBIF as the preferred platform to share primary biodiversity data gathered through impact assessments and monitoring

- Support implementation of the Data4Nature initiative by developing targeted outreach, communication and training resources to engage multilateral development banks (MDBs) and development funding agencies and increase flows of business-sector data from environmental impact assessments, monitoring programmes and funded projects
- Organize forum for MDBs and other potential Data4Nature partners to detail progress and encourage further participation at UN Biodiversity Conference (COP 16) or other relevant venue
 - Expected funding mechanisms and sources: Salaried staff apart from: external contract to coordinate Data4Nature initiative, meeting costs for forum (core funds, potential supplementary funds from Data4Nature partners)

Priority Area 3: Community and Capacity

Developing the GBIF network to meet future needs and challenges

Activity 3.1: Communicating the value of GBIF



The proposed change to Activity 3.1 (previously "Making the business case for GBIF"), consolidates the communication tasks needed to support activities across all Priority Areas under a single broader activity.

Projected outcomes for 2027

- The Secretariat, nodes and Heads of Delegation are equipped with robust materials to demonstrate GBIF's value for money
- Additional countries join or return to GBIF as Voting Participants
- Additional funding agencies or foundations commit supplementary funds to support GBIF activities as part of the resource mobilization strategy

- Update the GBIF Communications Strategy, revising and revisiting key audiences and messages to account for changes and developments since its publication in 2015
- Refresh messaging and materials across GBIF communication platforms to reflect and update key components of GBIF's value to the network's Participants, publishers, partners and stakeholders, including:
 - GBIF's value to science, research and innovation, particularly in the priority thematic areas identified under Activity 1.1
 - GBIF's role in supporting implementation and monitoring of the GBF and other biodiversityrelated conventions
 - GBIF's contribution to supporting the SDGs
 - The financial value of GBIF to science and society
 - The specific value that GBIF membership provides through exclusive services and opportunities for participating governments
 - GBIF's position as a data infrastructure and network that supports open data and open science
 - GBIF's record in managing effective capacity enhancement programmes that produce concrete results in mobilizing data demonstrating onward use through research citations, and documenting policy applications
- Prepare a second series of animated videos on additional areas of GBIF relevance aligned with priority thematic campaigns
- Produce an annual report summarizing progress toward implementing the new strategic framework in 2023
- Capture and communicate the value of work carried out by GBIF volunteers (mentors, trainers, translators, ambassadors and other unpaid roles) and report to national nodes and delegations on the value of uncharged work from volunteers in their countries
- · Develop branding, launch and promote use of the 'derived dataset' tool to support and encourage

more accurate citations and provide data publishers with more precise reporting on uses of their data in research and policy

 Expected funding mechanisms and sources: salaried staff apart from: external contracts for videos and other communication materials (core funding).

Activity 3.2: Support and strengthen GBIF nodes

Projected outcomes for 2027

- GBIF nodes provide a strong and stable foundation for data mobilization and use through the network
- The role of GBIF nodes as hubs for data mobilization and use is better understood and supported, especially at national level

Indicative tasks for 2024

- · Refine the Node Awards programme based on lessons learned from its first year of operation
- Update guidance and support materials for nodes, including:
 - Alignment with the Participation and Engagement strategy
 - Further development of the nodes training curriculum
 - Review of the capacity self-assessment tool for Participant nodes
 - Guidelines on applying the CARE principles on indigenous data governance, following 2023 consultation
 - Guidelines on national approaches to handling sensitive species data, following 2023 analysis
- Consolidate and improve Technical Support Hour for Nodes as a forum for community exchange and interaction, peer-to-peer training and problem-solving
- Develop materials on the new data model for nodes to reuse and repurpose in engaging data holders
- In consultation with nodes, explore opportunities to enable secondments and work exchange within the GBIF network
- Develop a process for replicating the survey of national nodes to capture information on the value of national investment in the GBIF network
 - Expected funding mechanisms and sources: salaried staff.

Activity 3.3: Expand and strengthen national participation

Projected outcomes for 2027

- GBIF national participation is expanded across currently under-represented regions, G20 economies and megadiverse nations
- Current Associate Participants have agreed pathways towards achieving or returning to voting participation

Indicative tasks for 2024

- Consolidate the nodes onboarding programme and scope possible onboarding actions for Heads of Delegation
- Maintain and consolidate the regional support teams to complement and supplement the work of national nodes, and scope development of regional-level node support through associate partners
- Organize an in-person engagement event with the regional support team to strengthen participation in underrepresented parts of the Europe and Central Asia region (e.g. Central Asia, Caucasus, Balkans, Baltics)
 - Expected funding mechanisms and sources: salaried staff apart from: external contracts for regional support teams (core funds, supplementary funding from Norway and Finland for Priority Area 3 Special Purpose Fund, European Commission Directorate-General for International Partnerships through the BID programme); ECA regional engagement meeting costs (supplementary funds from Priority Area 3 Special Purpose Fund).

Activity 3.4: Develop capacity and skills

Projected outcomes for 2027

- GBIF's ongoing capacity support programmes are successfully concluded, and new support programmes are scoped
- Additional training and guidance resouces are available to the community in multiple languages covering both data mobilization and data use

Indicative tasks for 2024

- Launch a continuation of the BID programme once contract is secured with DG-INTPA, explore
 additional funding sources, and organize regional meetings in target regions (co-located with
 regional nodes meetings, where possible)
- Reevaluate the impact of the GBIF Capacity Enhancement Support Programme (CESP) and develop recommendations for improvements
- Update materials within GBIF training courses aligned with the new data model, adding new materials and use cases as appropriate
 - Expected funding mechanisms and sources: salaried staff apart from: external contracts and BID regional meeting costs (supplementary funding from European Commission Directorate-General for International Partnerships).

Priority Area 4: Infrastructure and data products

Maintain and evolve infrastructure to advance biodiversity-related knowledge

Activity 4.1: Enhance robustness of the core GBIF infrastructure

Projected outcomes for 2027

 GBIF-maintained software and informatics infrastructure provides high, ongoing levels of availability and performance that keep pace with growth in data publication and use

Indicative tasks for 2024

- Retire the internal GBIF checklist database replace it with ChecklistBank, and deploy corresponding updates to public GBIF APIs
- Maintain deployments of hosted portals and hosted data repositories (IPTs)
- Maintain GBIF R (rgbif) and Python (pygbif) libraries to follow changes in GBIF public interfaces and support outcomes, including eDNA engagement activities
- Mature deployment and operation of software on the Kubernetes technology platform
- Review and test disaster recovery processes
- · Plan capacity and hardware procurement to accommodate growth in volume and use of data
- Provide environments for development and network-wide testing, particularly related to indexing under revised data standards
 - Expected funding mechanisms and sources: salaried staff apart from: external contracts for Checklistbank work, consultant for Kubernetes platform training, costs of hardware procurement (core funding).

Activity 4.2: Enhance support services for data publishers and users

Projected outcomes for 2027

- The expanding GBIF community of users are fully supported by a responsive help desk team and improved technical documentation
- The taxonomic and collections communities benefit from improvements in GBIF support to the Global Registry of Scientific Collections (GRSciColl) and the Catalogue of Life

- Establish ticketing system to manage, prioritize and monitor help desk support
- Replace the GBIF Backbone Taxonomy with the extended Catalogue of Life, produced using ChecklistBank
- Support content curation on GRSciColl and coordinate editor and user communities as well as data import and synchronisation processes
- Upgrade documentation by
 - Enhancing the understanding of data quality through consistent, accessible documentation of all related processes, tools and information products
 - Revising the documentation on record-quality requirements, including occurrence identifier stability, and use of standardized values, including vocabularies
 - ° Consolidating and expanding the technical documentation
 - Expected funding mechanisms and sources: salaried staff apart from: costs of ticketing system (core funding).

Activity 4.3: Enhance features and capabilities of the GBIF infrastructure

Projected outcomes for 2027

- · Improved user interface to GBIF.org
- · Improved capabilities for GBIF to handle ecological, collections, and phylogenetic data
- · Data reuse increased through more stable GBIF identifiers

Indicative tasks for 2024

- Align interfaces, functionality and software used in GBIF.org, hosted portals, the shared data pipeline project and the Living Atlases
- Improve ability for users to filter based on content types, including citizen science, eDNA and business sector
- Advance capabilities for event-based search based on prototype co-developed with the Atlas of Living Australia, and explore support for the forthcoming Humboldt core extension
- · Implement a material catalogue to capture specimen information exposed in the new data model
- Enrich GRSciColl through integration of collection description information, compatible with the Latimer Core schema, to support use cases, including priority-setting for data mobilization and digitization
- Develop new data download formats that offer configurable summaries of occurrence data
- Improve data quality by:
 - Integrating basic data quality checks into the IPT and implementing emerging publishing models and changes to Darwin Core
 - Continuing to explore approaches to annotation capabilities in GBIF.org focused on taxonomic and geographic combinations to detect suspicious records, piloting rule-based issue documentation with selected volunteer communities
 - Maturing the workflows that ensure stable GBIF occurrence identifiers and improving communication about identified issues and solutions
- Explore alternative platforms and methods for integrating and managing information from literature tracking
 - Expected funding mechanisms and sources: salaried staff apart from: external contract for UI contractor (core funding); external contract to support GRSciColl integration (core funding); travel to support development of data cube format for B-cubed project (supplementary funds from Horizon Europe).

Activity 4.4: Drive data standards development

Projected outcomes for 2027

- · The revised GBIF data model is matured and applicable for use
- · All controlled terms used in GBIF processing are managed in the vocabulary server

Indicative tasks for 2024

- Mature the unified data model aiming to become a candidate standard within Biodiversity Information Standards (TDWG)
- · Refine and test data publishing models for specimen data with community members
- Develop publishing models for monitoring data (abundance and absence) and structured events around targets to improve support of survey and monitoring data
- Advance data models for interaction data
- Encourage growth of the community of vocabulary editors accelerate the collection of community-curated vocabularies
- Complete the migration of content and associated code to use the vocabulary-server for all controlled terms
 - Expected funding mechanisms and sources: salaried staff apart from: external contract to support further development of the unified data model (core funding)

Indicative Budget for 2024

This draft budget offers a broad, preliminary overview of expected GBIF income and expenses in 2024. It includes funds for Work Programme activities as well as Secretariat administration and governance, and it delineates funding from basic financial contributions (core) and supplementary funds.

The WP24 budget includes supplementary contributions from Participants to Special Purpose Funds (SPF) Priority Area 3. We encourage Participants who are able to commit funds beyond the basic financial contribution, to consider contributing to a Special Purpose Fund and accelerate GBIF's work in one or more of our Priority Areas.

Work Programme 2024

In 2024, the Secretariat expects to receive 4.2 million euros in income from basic financial contributions, mainly from Voting Participants, and will earn 1.7 million euros in supplementary funds.

The expenses in the draft 2024 budget total 5.9 million euros, with nearly 5 million euros going towards Work Programme 2024 (Figure 1) and the remainder for administration and governance. This total includes both core and supplementary fund expenditures.

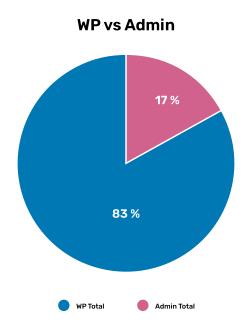


Figure 1. Expected Secretariat expenses for Work Programme and Secretariat administration and governance.

The draft 2024 budget includes expenses for staff salaries, external contractors, and non-salary expenses for meetings and travel. This total reflects expenditures from both core and supplementary funds. Supplementary funds enable 50 per cent more total WP activities. Two thirds of the 2024 expenses are staff salaries (Figure 2).

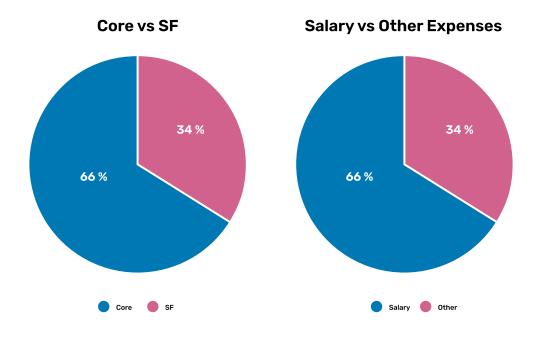


Figure 2. Expected breakdown of Work Programme expenses.

All four Priority Area budgets include costs for staff salary, external contracts, and non-salary expenses such as meetings and travel. The largest expense in all Priority Areas is staff salary. The expected of WP expenses are highest for Priority Area 3 and Priority Area 4 (Figure 3).

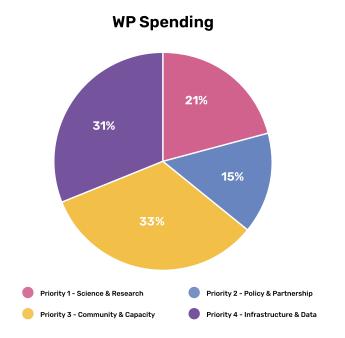


Figure 3. Work Programme 2024 expense breakdown across the four Priority Areas.

Colophon

Suggested citation

GBIF Work Programme 2024: Annual Update and Implementation Plan to Strategic Framework 2023–2027 (2023) GBIF Secretariat: Copenhagen. https://doi.org/10.35035/doc-b226-sb32

Persistent URI

https://doi.org/10.35035/doc-b226-sb32

Document control

v0.1 consultation draft: 1 August 2023