

Biodiversity Information Management Framework

WORK PLAN

Context Information

Project Title	Biodiversity Information Management Framework
Duration of the entire project	July 2007 to November 2010
Dates for which this work plan applies	June 2008 to May 2009

Project Team

Project Leader	Jim Croft
Host Organisation	Collections and Information Management, Australian National Herbarium Centre for Plant Biodiversity Research (CPBR)

Project Team

Member	Role in Project	Organisation	Expertise in Project	FTE
Jim Croft	Project Leader	Centre for Plant Biodiversity Research	Leader ANH Informatics	0.1
Margaret Cawsey	Project Coordinator	CSE, Gungahlin	Systems Analysis	0.6
Garry Jolley-Rogers	Researcher	Centre for Plant Biodiversity Research	Informatics	1.0
Jeremy Price	Researcher	Centre for Plant Biodiversity Research	Informatics	1.0
Andrew Whiting	Spatial database manager	Centre for Plant Biodiversity Research	Spatial Analyst	0.1
Brendan Lepschi	ANH Curator	CSIRO Plant Industry	Taxonomist	0.1
Bronwyn Collins	Technical officer	Centre for Plant Biodiversity Research	APNI Databaser	0.1
David Yeates	Project Leader, Insect Families Key	CSIRO Entomology	Insect Systematist	0.1
Greg Whitbread	IBIS manager	Centre for Plant Biodiversity Research	Database Developer	0.1
Jo Palmer	Technical officer	Centre for Plant Biodiversity Research	ANH Collection Manager	0.1
John Hook	Software manager	Centre for Plant Biodiversity Research	Database Applications	0.1
Kirsten Cowley	Technical officer	Centre for Plant Biodiversity Research	APNI Database	0.1
Murray Fagg	APII manager	Centre for Plant Biodiversity Research	Curator of Images	0.1
Steve Shattuck	Project Leader, Ants	CSIRO Entomology	Informatics	0.1
Judy West	Researcher	Centre for Plant Biodiversity Research	Taxonomist	Nominal
Siobhan Duffy	Web developer	Centre for Plant Biodiversity Research	LUCID and Web Applications	Nominal

Activities of the Entire Project

A few paragraphs synopsis of the entire project:

Staff in the informatics project will work with taxonomists, biological collections managers and biodiversity information managers to develop new technologies and procedures to capture, manage, analyse and deliver biodiversity information.

They will document and analyse the process of taxonomy to develop new and more efficient ways of doing business to increase throughput and the quality of deliverables.

The project will use established, new and emerging methodologies to mobilize data and information from existing projects as well as those from new CERF projects.

Outcomes of the Entire Project

Overall outcomes to be achieved at the completion of the entire project:

1. Free and open access to research material and results from the national biological collections
2. Improved breadth, depth and quality of data for environmental management, decision-making and policy development
3. Integrated access to biodiversity data from diverse biodiversity data sources
4. Improved delivery of taxonomic and species level data to the biodiversity data web
5. Improved content, coverage and functionality of the *Atlas of Living Australia*
6. Improved communication and collaboration between the national biological collections and with the Australian biological collections and taxonomic research communities
7. Improved communication and collaboration with international biological collections and taxonomic research communities
8. Increased capacity to service clients and stakeholders; greater client/stakeholder engagement and satisfaction.
9. Increased efficiency in the taxonomic data accumulation, management and delivery process
10. Increased efficiency in taxonomists' delivery of results and outcomes of research
11. Streamline path from research to publication

Activities this period

A paragraph on what will be the focus for the period:

1. Documentation of the taxonomic workflow.
2. Communication with taxonomists in hub projects to document informatics requirements.
3. Communication with immediate stake holders (principally with Government agencies)
4. Communication with international collections and taxonomy bodies and projects
5. Address short-term informatics requirements for the taxonomic projects.
6. Develop priorities and work out strategies to address the medium- and long-term informatics requirements for the taxonomic projects.
7. Continued development of information framework conceptualisation.
8. Identification of standards and technologies.
9. Commence migration of existing electronic products to the web.
10. Assist with Interactive keys to insect families and plant genera (if funding secured)
11. Preparation of the Australian National Wildlife Collection specimen database for on-line access.
12. Web services for ANHSIR, APNI and APII

13. Enhancements to ANIC web services (BioLink)

Contribution to Hub Objectives

A description of how the work undertaken *this period* will contribute to meeting the Hub objectives:

<p>Close the knowledge gaps in key Australian taxonomic groups which are important for environmental management.</p>	<ul style="list-style-type: none"> • Develop framework for knowledge delivery • Establish delivery of project descriptions and reporting • Enable communication within and between projects • Engagement with international biodiversity information management projects • Deliver initial taxonomic results
<p>Accelerate the rate of description, documentation and understanding of Australian biodiversity, using an integrated approach for capturing, assembling, analysing and managing taxonomic information.</p>	<ul style="list-style-type: none"> • Document taxonomic data management processes and issues. • Engagement with international biodiversity information management projects in matters of standards and protocols. • Document and address shortfalls and impediments in the Aquatic Macroinvertebrates Project data management environment in particular. • Address short-term impediments and 'pinch points' for all projects. • Develop a plan to address the medium- and long-term informatics issues raised by all projects. • Migrate the ANWC database to a more stable platform to enable communication with other hub databases • Develop a multimedia data management strategy for the Hub that can be generalized to other organizations
<p>Ensure seamless access to biodiversity data and taxonomic information by applying a best practice information management and delivery framework.</p>	<ul style="list-style-type: none"> • Engagement with international biodiversity information management projects in matters of standards and protocols. • Promote, implement and contribute to biodiversity information standards • Promote, implement and contribute to shared and common communications protocols
<p>Ensure information is provided in a form which meets end user needs, and ensure uptake of the product.</p>	<ul style="list-style-type: none"> • Promote, implement and contribute to biodiversity information standards • Promote, implement and contribute to shared and common communications protocols • Engagement with user communities • Documentation of user needs
<p>Provide a legacy to drive accelerated taxonomic research and delivery.</p>	<ul style="list-style-type: none"> • Continued conceptual development of Information architecture • Documentation of the taxonomic workflow • Documentation of user needs • Develop and implement information delivery framework

Milestones

Identification of the milestones and timeframes to be met (use milestones listed in the Business Plan attached):

Milestone	Completion Date	Details – how you are going to achieve it and what you are going to produce
2. Model the taxonomic process	30 th June 2009	<ul style="list-style-type: none"> • Schedule of steps in taxonomic workflow (using EDIT, Leenhouts, and other sources). • In collaboration with the taxonomic project staff, document the translation of old workflow into modern workflow methodologies. • Identify modern technologies relevant to each step. • Workshops with Hub projects
3. Build and populate internet information framework	30 th June 2009	<ul style="list-style-type: none"> • Monitor and encourage Wiki use, adapting the system to make it more user-friendly; document the process. • Promote shared and common communications protocols. • Develop a plan by which short-term needs of the Projects can be addressed. • Identify and apply technologies and strategies for the short-term needs. • Report on prioritisation and strategies for addressing the medium- and long-term informatics needs of the taxonomic projects. • Second stage Hub (transition) and future framework diagrams. • Identify technologies and standards and document them. • Documentation of a multimedia strategy for taxonomy. • Prepare ANWC database for communication with other project databases and information framework • Educate Cawsey in SQLserver management (31st August 2008).
4. Adapt existing taxonomic products for regional web applications	30 th June 2009	<ul style="list-style-type: none"> • Pea key on taxonomy.org.au website • Euclid on taxonomy.org.au website • Communication with TDWG, HISCOM, FCIG to ensure nationally consistent and interoperable approach to species descriptive data.
5. Development of interactive key to insect families 6. Development of interactive keys to plant genera	30 th June 2009	<ul style="list-style-type: none"> • Framework for on-line key to insect families • Install and test on-line technology for insect family key • Seek external support for key to plant genera • Communication with TDWG, HISCOM, FCIG to ensure nationally consistent and interoperable approach to species descriptive data.

Project Collaboration

Potential for working with target areas of the Department of Environment, Heritage, Water and the Arts or other Commonwealth Government Departments or State Agencies as the project progresses (as appropriate):

Specifics of Who (Department, Section, Contact Person)	Specifics of What
DEWHA (in particular ERIN, SPRAT, ANHAT) DAFF, BRS CHAH, CHAFC, CHAEC	<ul style="list-style-type: none"> Alert to potential and impact of species based data Alert to specific resources of species based information Identification of unmet needs for species based information
DEWHA (in particular ERIN, SPRAT, ANHAT) DAFF, BRS CHAH, CHAFC, CHAEC HISCOM, FCIG EDIT, GBIF, TDWG, ALA Universities	<ul style="list-style-type: none"> Alert to potential and impact of species based data Alert to specific resources of species based information Identification of unmet needs for species based information Identification of new ways of communication species level data Ensure adoption of current information standards and procedures
CHAH, CHAFC, CHAEC HISCOM, FCIG EDIT, GBIF, TDWG, ALA Universities	<ul style="list-style-type: none"> Alert to new resources for species based information Development of new ways of collection managing and delivering species level information Adoption of current biodiversity information management standards and protocols.

Linkages with Outcomes

Any target areas of the Department of Environment, Water, Heritage and the Arts or the Australian Government for identifying/linking with project outcomes:

Specifics of Who (Department, Section, Contact Person)	Specifics of What
DEWHA (in particular ERIN, SPRAT, ANHAT) DAFF, BRS CHAH, CHAFC, CHAEC	<ul style="list-style-type: none"> Foundation species level data for environmental policy making, decision making and natural resource management Two way communication and advice on policy directions
DEWHA (in particular ERIN, SPRAT, ANHAT) DAFF, BRS CHAH, CHAFC, CHAEC HISCOM, FCIG EDIT, GBIF, TDWG, ALA Universities	<ul style="list-style-type: none"> Targeted species level information for conservation and natural resource management Ensure adoption of current information standards and procedures Community validation of species level information
CHAH, CHAFC, CHAEC HISCOM, FCIG	<ul style="list-style-type: none"> Access to raw data materials for research

EDIT, GBIF, TDWG, ALA Universities	<ul style="list-style-type: none"> • Information management tools for research • Access to research results • Communications infrastructure • Adoption of current information standards and procedures
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Issues

Any issues associated with the project:

- Delays in recruiting suitable informaticians start has resulted in a delay in project start up.
- Technical complexity and heterogeneity of the project likely to impose delays at certain stages.
- Lack of suitable existing standards, protocols and applications means that these will have to be developed as part of the project.
- Differences in technical sophistication and implementation between hub partners will complicate data communication and will have to be addressed.
- Differences in network policies between hub partners are likely to complicate implementation.