1.1 Attachment 4. Atlas of Living Australia Performance Indicators

1.1.1 Providing Research Infrastructure

The key value to be delivered through the ALA is in the data made available by ALA participant organisations. Assigning a monetary value to these data is very difficult and should include not only the costs associated with databasing activity but also the costs associated with the original capture of the information (and specimens). It therefore seems most appropriate to address this requirement by establishing goals for the amount of data liberated and integrated through the Atlas infrastructure.

Occurrence records are defined as the combination of a taxonomic identification, a locality and occurrence date arising from a specimen collection or field observation. Such records almost always include significant additional elements.

Metric	2008-2009	2009-2010	2010-2011
Australian occurrence records accessible through ALA	5,000,000	7,000,000	10,000,000
Overseas occurrence records from Australian institutions made available to GBIF and others	400,000	500,000	600,000
Images of Australian taxa accessible through ALA	10,000	15,000	20,000

The ALA will work to integrate data from the widest possible range of organisations and institutions beyond the initial ALA participants. It is however very difficult to assign meaningful numerical measures for this growth, since the ALA is already a collaboration including several networks of contributors and expects to grow through the addition of contributions from individual researchers as well as institutions, agencies and other networks. The annual Progress Report will include listings of contributors of data to the ALA and these listings will be used to monitor growth in this area.

1.1.2 Meeting Researcher Needs

As an online information capability, the ALA will track the origin of users of its web portal and services. Some of this information can be inferred simply by analysing web logs and making assumptions based on the IP address from which each request originates. More detailed interpretation will depend on the development of access frameworks under *NCRIS 5.16 Platforms for Collaboration*. As there is no clear understanding of how these frameworks will operate, or of how the ALA should exploit them, it is not possible at this stage to develop performance indicators which will rely on them.

A user registration process may be implemented for access to some ALA services (typically those offering direct access to high volumes of aggregated data). This process would capture more detail and would support direct surveying of the experience of these key users.

While access frameworks are still under development and ALA services are not fully defined, the following indicators have been developed to rely only on standard web log analysis.

Metric	2008-2009	2009-2010	2010-2011
Average monthly number of distinct academic users	50	100	200
Average monthly number of distinct governmental users	20	50	100

Average monthly number of distinct Australian users	150	300	500
Average monthly number of distinct overseas users	20	50	100

Academic users are defined as those coming from IP addresses assigned to Australian schools, colleges or universities. Governmental users are defined as those coming from IP addresses assigned to Australian government departments. These are the major target groups for ALA services.

As the ALA proceeds, more specific goals will be set to measure the number of users for specific products and tools targeted at particular specialist groups. These measures will ultimately be a better representation of the success of the ALA in meeting its core goal of making biodiversity data accessible and useful for scientific research and decision making.

The ALA will also analyse the experience of individual users to ensure that user needs are met. This will include the following elements:

- Independent reviews to be contracted at the end of 2008-2009 and at the end of 2010-2011 to document the experience of key target user groups and to compare the state of ALA infrastructure with other national biodiversity information platforms.
- An online survey tool to allow users to document their experience in using the ALA infrastructure – this survey tool will be continuously available as a data capture method.
- Analysis of web logs to determine whether users are guided to relevant information. The metrics are included in the table below.

Metric	**2008-2009**	**2009-2010**	**2010-2011**
Percentage of user search requests matching data	50%	60%	70%
Percentage of user sessions including visits to content pages (as opposed to information about the ALA)	75%	80%	90%
Percentage of users responding to the online survey and indicating satisfaction in their experience of ALA	75%	85%	95%
Percentage of users responding to the online survey and indicating that the ALA is providing a service integral to their work	20%	30%	40%

The ALA will also track the ranking of ALA web sites within Google in response to search requests for a selection of Australian species names, with the goal of having all of these appear on the first page of results for the search. The ALA will also track the number of Google matches for the string "Atlas of Living Australia".

1.1.3 Quality of Research Infrastructure

The ALA aims to integrate information relating to all groups of Australian taxa, including the following specific yearly goals:

Group	**Data class**	**2008-2009**	**2009-2010**	**2010-2011**
Vertebrates (7561 species)	Taxonomic names	90%	95%	99%
	Specimens and observations	75%	85%	95%
	Molecular and sequence	15%	20%	25%

	Phenotypic	5%	10%	15%
	Multimedia	40%	50%	60%
Invertebrates (114500 species)	Taxonomic names	50%	55%	60%
	Specimens and observations	15%	20%	25%
	Molecular and sequence	1%	2%	3%
	Phenotypic (at least family)	30%	35%	40%
	Multimedia	4%	8%	10%
Plants (20000 species)	Taxonomic names	80%	85%	90%
	Specimens and observations	40%	45%	50%
	Molecular and sequence	10%	12%	15%
	Phenotypic	5%	10%	15%
	Multimedia	20%	25%	30%
Others (30000 species)	Taxonomic names	20%	30%	40%
	Specimens and observations	1%	3%	5%
	Molecular and sequence	1%	2%	3%
	Phenotypic	1%	2%	3%
	Multimedia	1%	2%	3%

Each row in the table gives a percentage of known Australian species for which the ALA will provide access to data. These percentages are given by taxonomic group (based on the species counts included in A.D.Chapman, 2005, *Numbers of Living Species in Australia and the World*, http://www.environment.gov.au/biodiversity/abrs/publications/other/species-numbers/index.html) and by data class.

The ALA also aims to integrate datasets from the two NCRIS 5.2 phenomics projects, including information on the following (cumulative) numbers of strains or varieties from each project:

Phenomics project	**2008-2009**	**2009-2010**	**2010-2011**
Australian Phenomics Network	20	40	60
Australian Plant Phenomics Facility	20	40	60

1.1.4 Collaborative Infrastructure Provision

The ALA aims to serve as a hub for connections between Australian research infrastructure and international data-sharing projects (making Australian data accessible to researchers overseas and integrating overseas data into ALA views and analyses). Candidate projects include:

- Global Biodiversity Information Facility, GBIF, http://www.gbif.org/
- Taxonomic Databases Working Group, TDWG, http://www.tdwg.org/
- Encyclopedia of Life, EOL, http://www.eol.org/
- International Barcode of Life, iBOL, http://www.dnabarcoding.org/
- Bioversity International, http://www.bioversityinternational.org/
- MorphBank, http://www.morphbank.net/
- World Federation of Culture Collections, WFCC, http://www.wfcc.info/
- Ocean Biogeographic Information System, OBIS, http://www.iobis.org/
- Coordination and Sustainability of International Mouse Informatics Resources, CASIMIR, http://www.casimir.org.uk/
- International Mouse Strain Resource, IMSR, http://www.informatics.jax.org/imsr/

The ALA sets the following goals for the total (cumulative) number of relationships of

different kinds to be in place with international projects by the end of each period shown.

Relationship	2008-2009	2009-2010	2010-2011
Memorandum of Understanding	3	4	5
Overseas data integrated into ALA	2	3	4
ALA data integrated into international networks	1	2	3

The ALA aims to develop components and tools in collaboration with other Australian and international projects, in order to ensure wider interoperability, to distribute the development costs, and to mitigate risks associated with software developed and supported by a single location. The ALA will measure and report on the number of developers and support personnel employed by other projects and involved in collaborative work with the ALA.

1.1.5 Fostering Collaborative and World-class Research

The ALA aims to marshal data for use in a wide range of areas of science and policy, and sets the following goals for measuring the value of the ALA as a research tool.

Measure	2008-2009	2009-2010	2010-2011
(Non-ALA) web sites incorporating data through ALA services	2	5	10
Peer-reviewed journal articles acknowledging use of ALA data	-	5	10
Government departments or local authorities acknowledging use of ALA data in their work	-	10	20

The ALA is organising a user needs analysis, which will include detailed description of a number of use cases, and will also measure success in supporting implementations of applications to address these use cases.