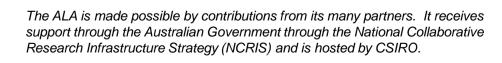


# Atlas of Living Australia An Overview





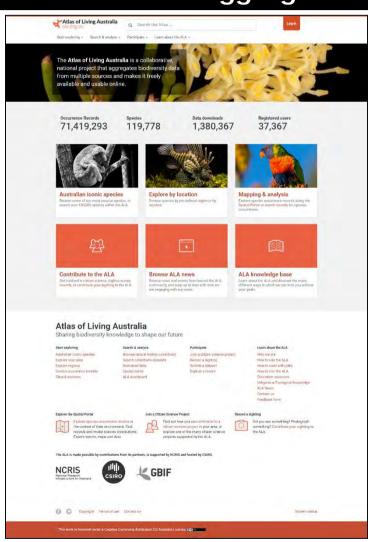






#### What is the ALA?

#### Australia's aggregation & access facility for biodiversity data



 One of several facilities funded by the Australian Government for national research infrastructure



Hosted by



#### Enables

- more effective & efficient scientific research
- expanded research opportunities
- informing policy & management
- community participation & connection
- education resource



## ALA — sharing biodiversity knowledge



#### > AUD \$50 million investment

CHAEC



A leading-edge collaborative e-infrastructure integral to advancing biodiversity knowledge



#### Partners – founding & beyond





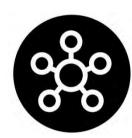






#### Data types

- specimens
- occurrence
- images, sounds
- literature
- sequences
- more .....



#### National Research infrastructure

Infrastructure for Australia An Australian Government Initiative







- 71.4 million records
- 5.238 data sets
- 477 spatial layers
- 11.8 billion records downloaded from 1.4 million events
- 1,200 + scientific publications (known)



Open source & open access



#### System

- data capture & aggregation
- data management
- data discovery
- data visualisation
- data analysis & reporting

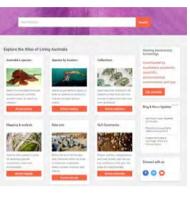


## ALA — open infrastructure - "Powered by ALA"

#### International Instances



#### ALA Portal



Domain Instances (Aus)



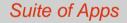
#### Hubs







#### One infrastructure - many systems



#### Web Services

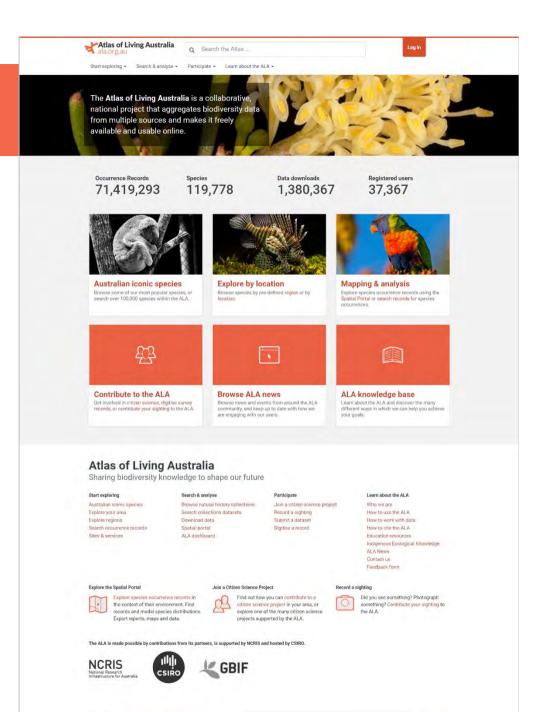




Web Services

The whole ALA site itself is a hub

Combines suite of custom web apps with Wordpress CMS.



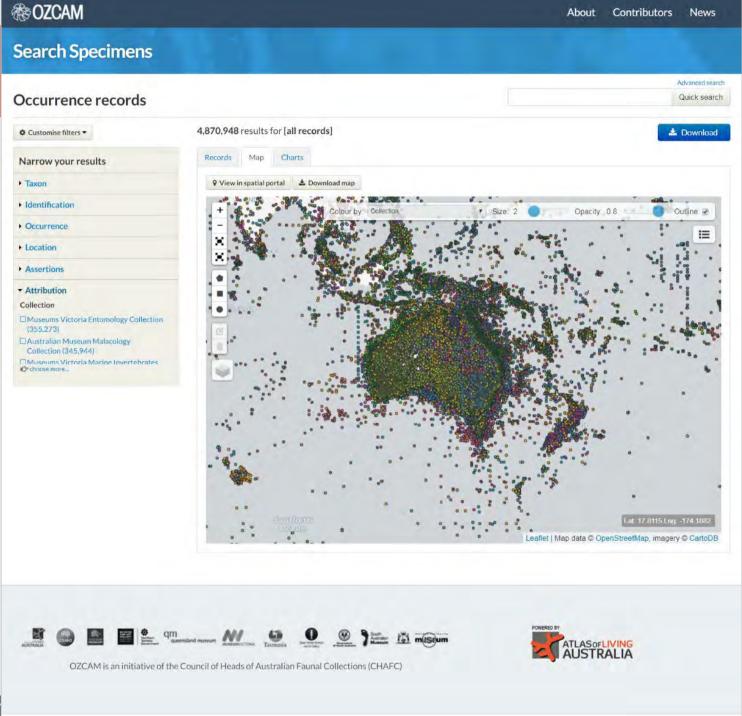
System status

O Copyright Terms of use Contact us

View of only museum specimen records

Same database infrastructure

Different instance of front-end - standard functionality

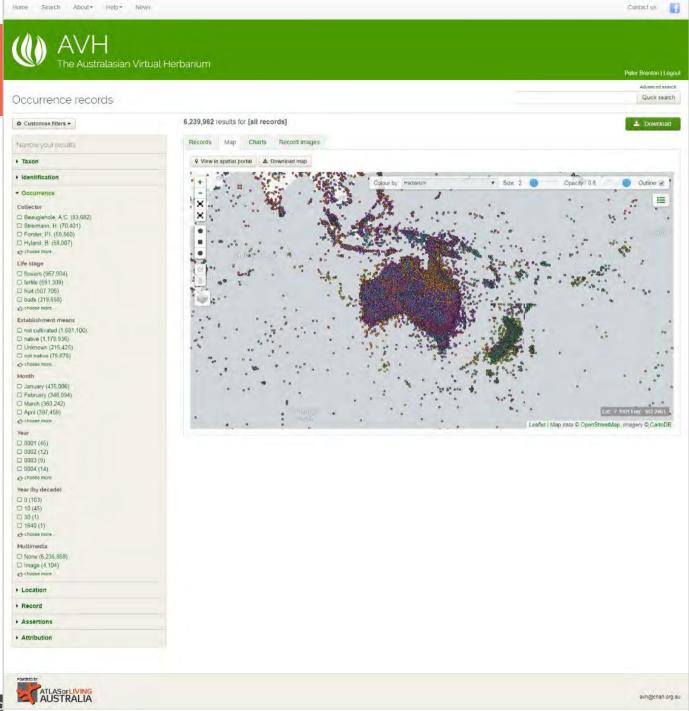


View of only herbarium specimen records

Same database infrastructure

Different instance of front-end

Some bespoke front-end functionality, but much standard ALA

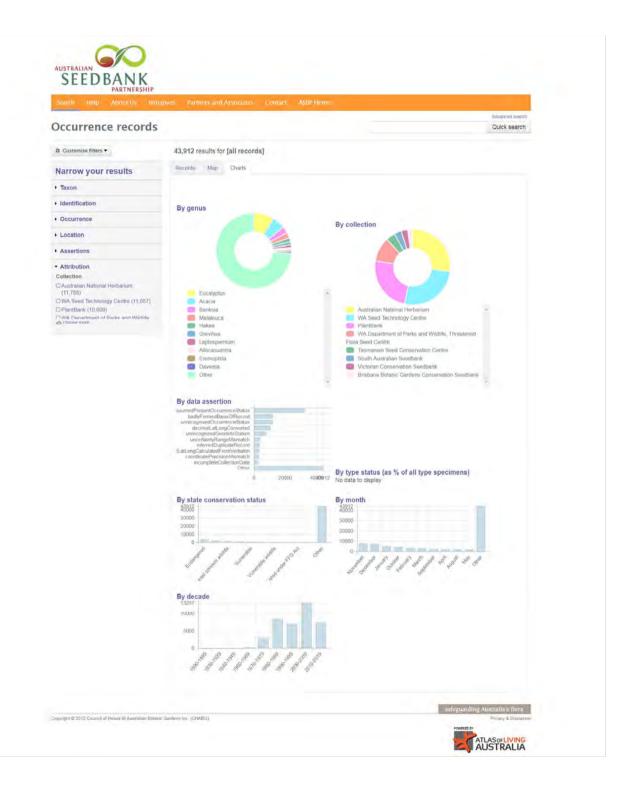


View of only partnership seed collection records holdings

Same database infrastructure

Different instance of front-end

Standard front-end functionality

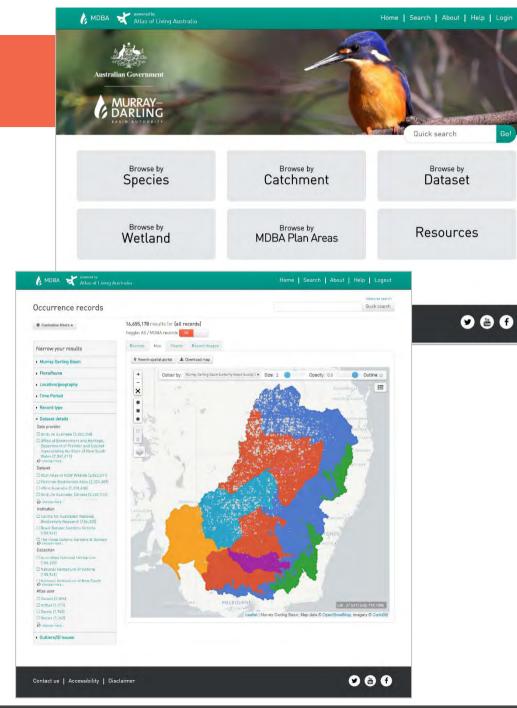


Geographically constrained view of ALA data holdings, including toggle to organisation records only

Same database infrastructure

Different instance of front-end

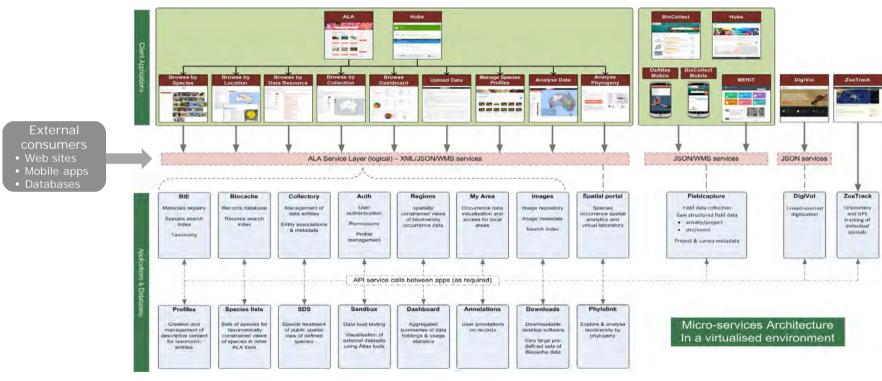
Combination of bespoke & standard front-end functionality





### **ALA Architecture**

#### Australia's aggregation & access facility for biodiversity data

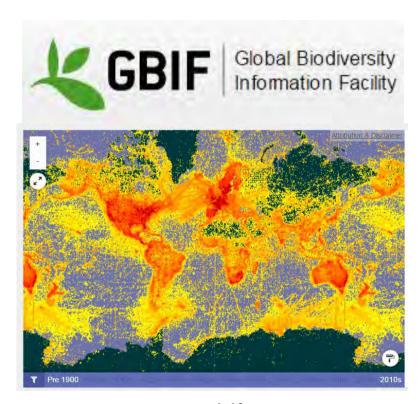


- World-leading biodiversity informatics infrastructure
  - All FOSS and open data under CC licences
  - Integrated but modular tools and services
  - API layer provides enormous flexibility



#### What is the ALA?

#### Australia's aggregation & access facility for biodiversity data



www.gbif.org

- National node of GBIF
- Used for:
  - Global scale scientific research.
  - Informing trends in:
    - biodiversity status
    - Planning for & tracking against international biodiversity management targets (Aichi, CBD, IPBES, etc.)
  - Predictive modelling for:
    - trans-national biosecurity and human
       animal health issues.
    - Biodiversity responses to climate change and other factors.
  - Much more ...

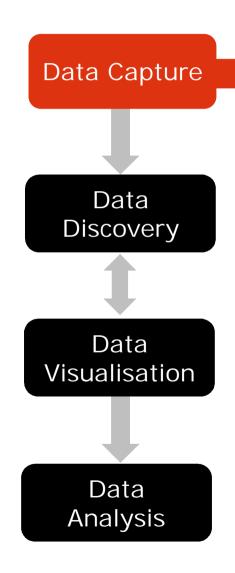


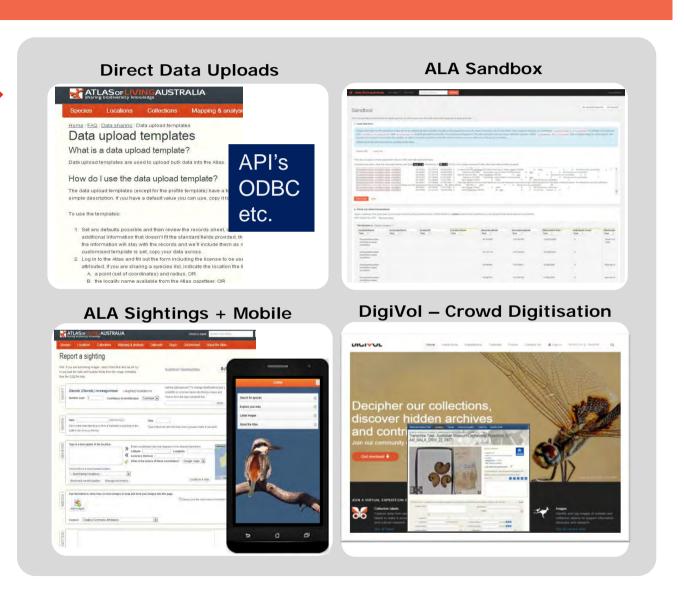
## ALA - tools for biodiversity





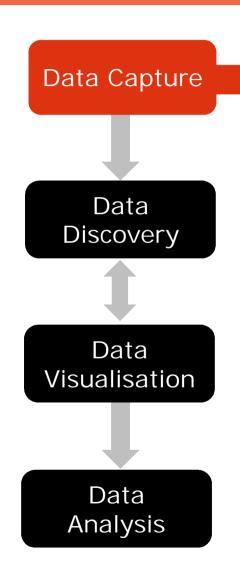
## ALA Tools — data capture

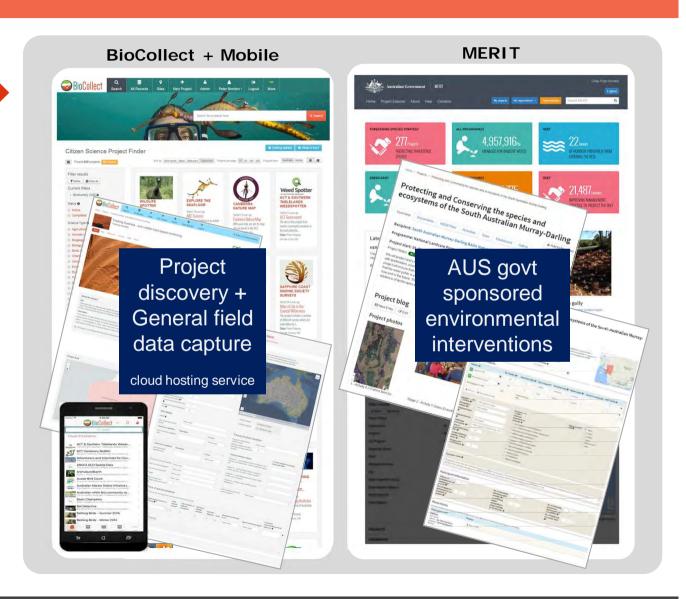






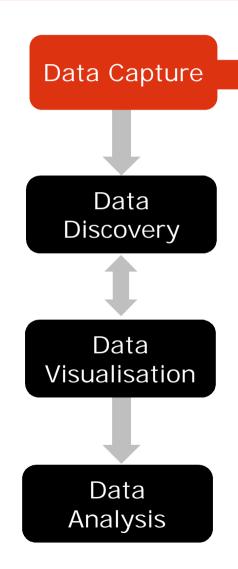
## ALA Tools – data capture

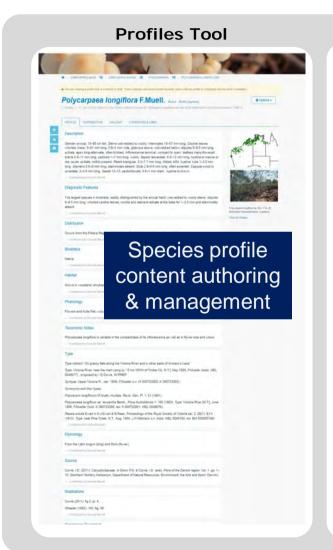


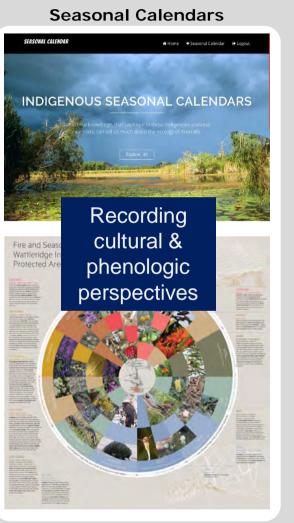




## ALA Tools — data capture

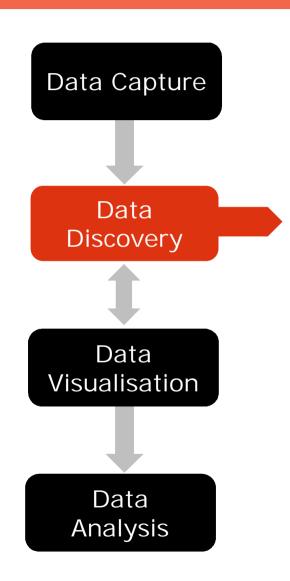


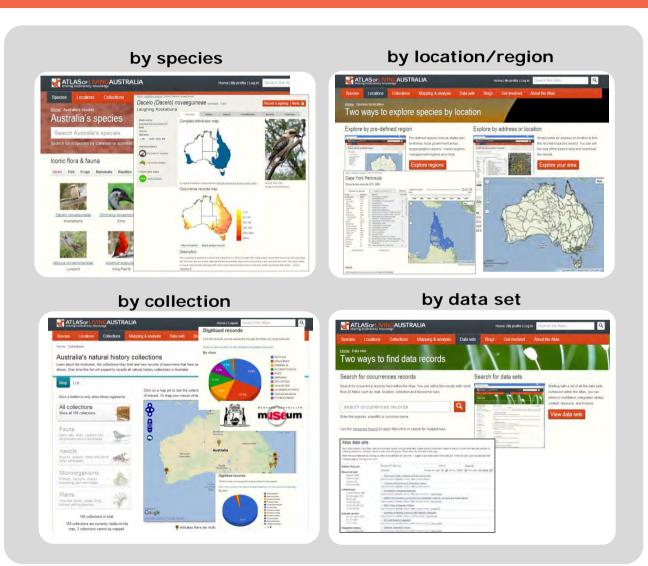






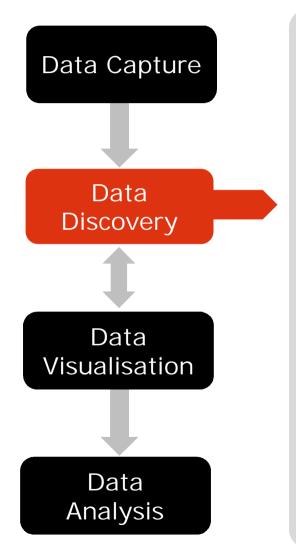
## ALA Tools – data discovery

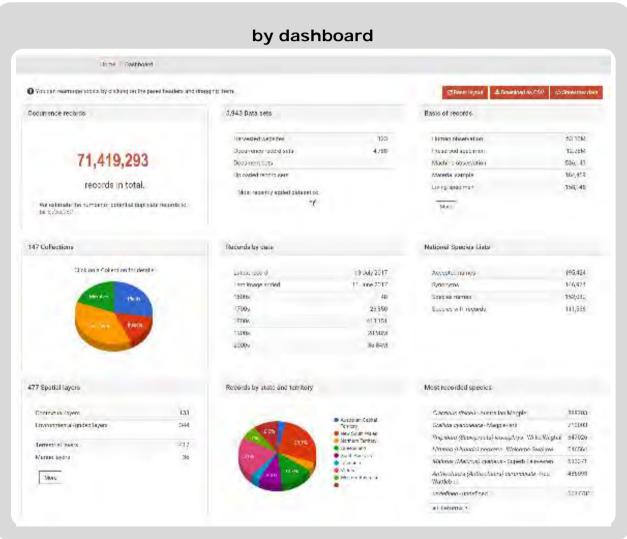






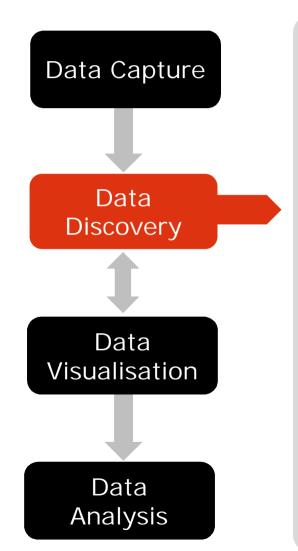
## ALA Tools — data discovery

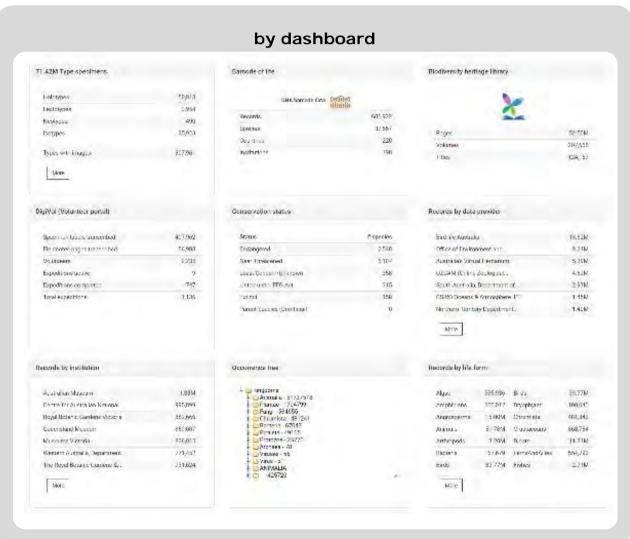






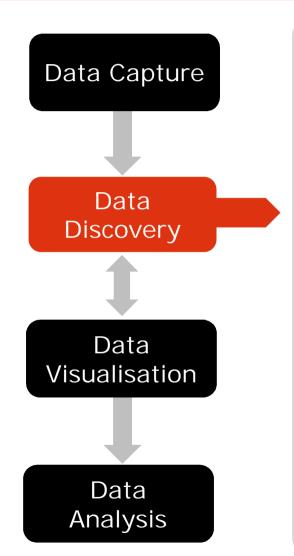
## ALA Tools — data discovery

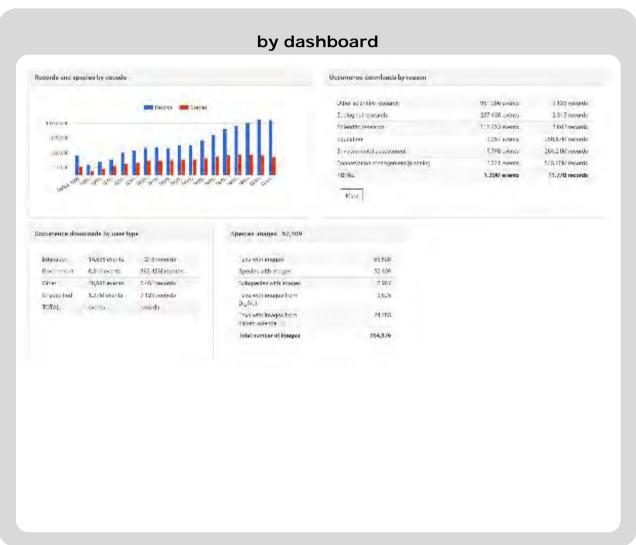






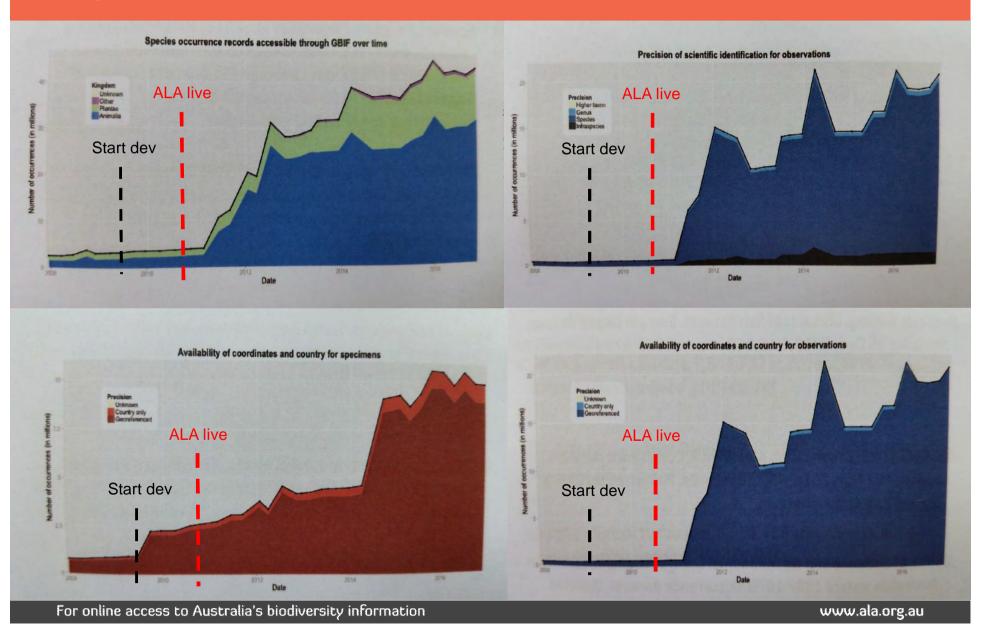
## ALA Tools — data discovery





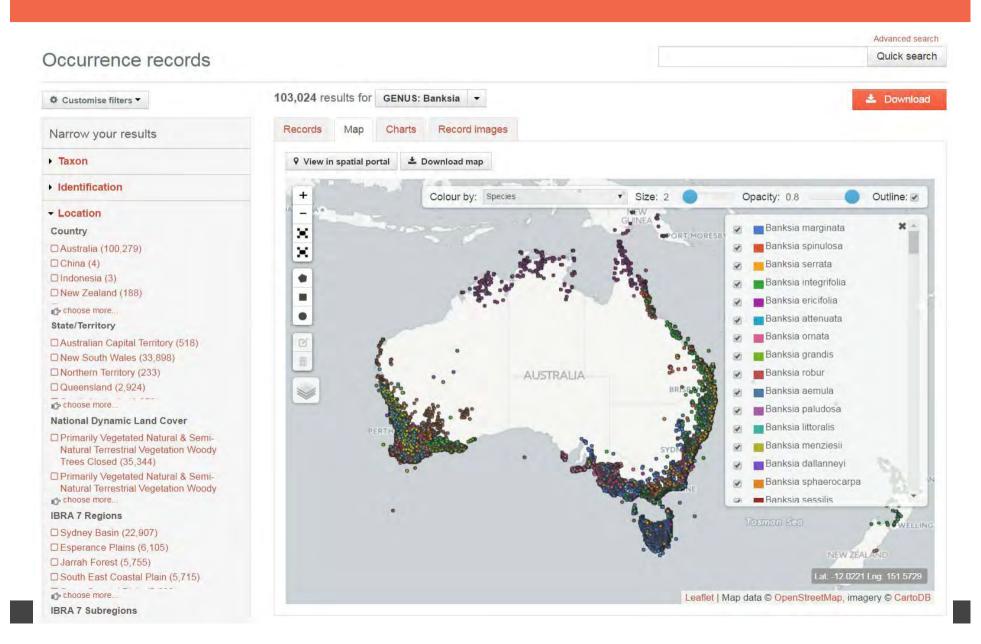


## Impact – DQ & Volume

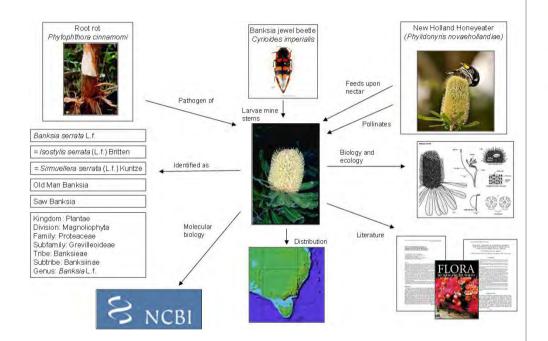


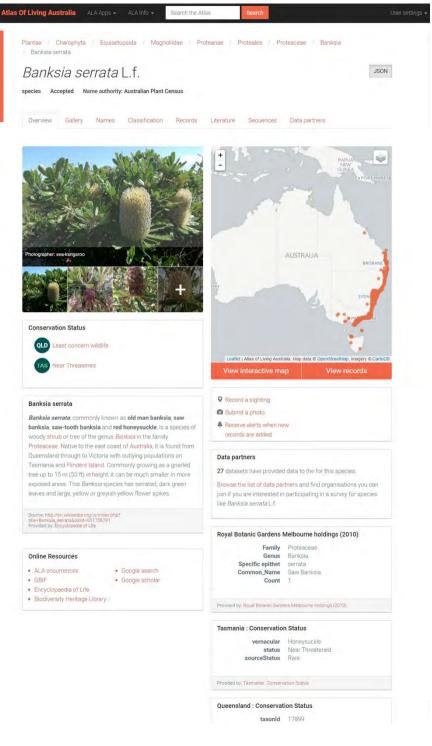


## ALA Tools - navigating the data



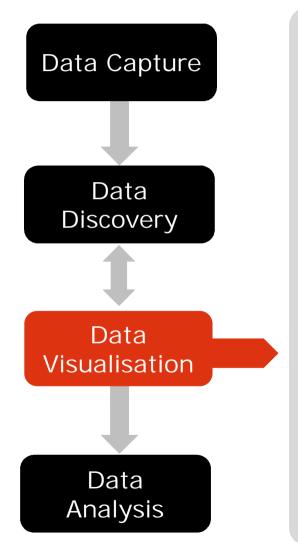
## ALA Tools - biodiversity information

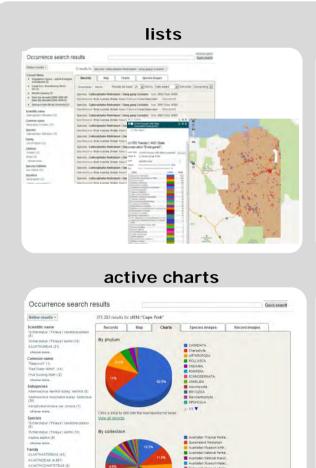






## ALA Tools — data visualisation



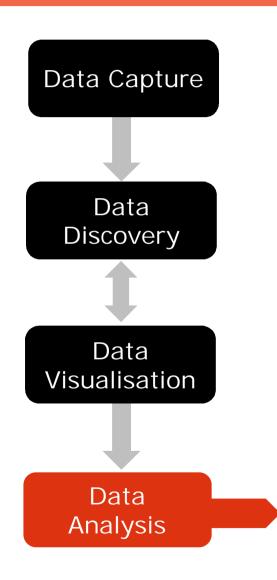




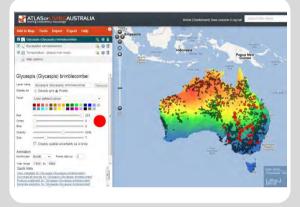




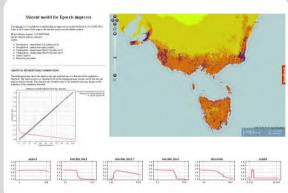
## ALA Tools — Spatial Portal



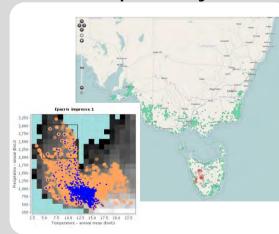
#### point data over spatial layers



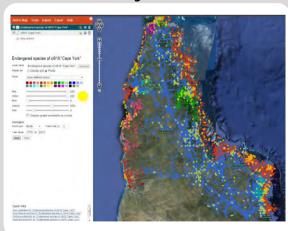
#### environmental niche modelling

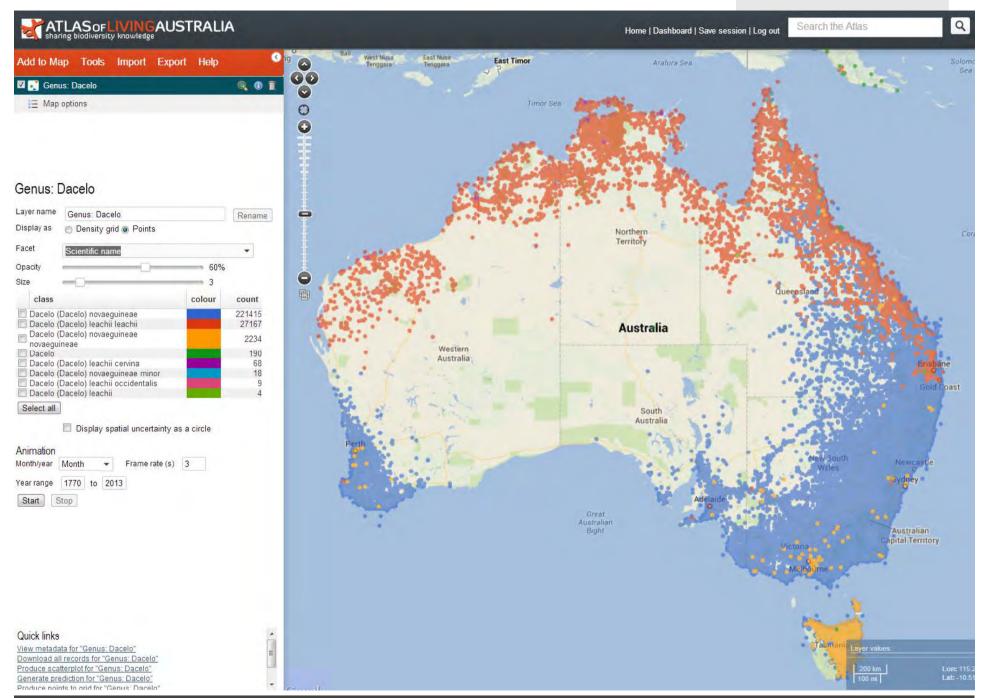


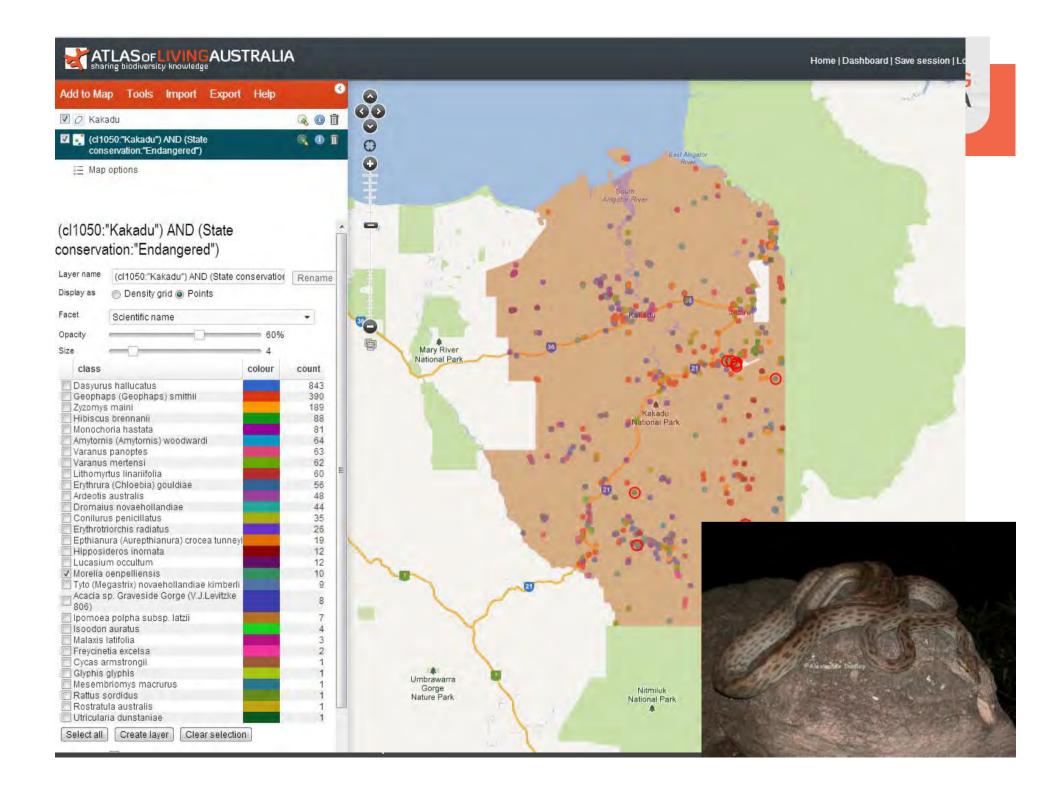
#### scatterplot analysis



#### more analytical tools...

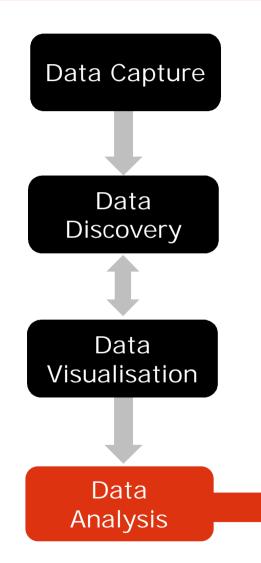


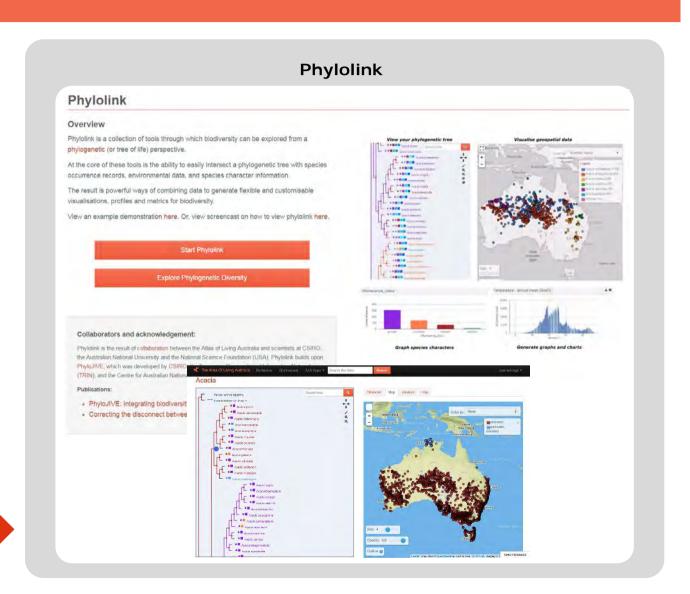






## ALA Tools — Phylolink





## Indigenous Ecology



Indigenous Rangers

Indigenous Elders

Land holders/managers

Researchers



Traditional Management Techniques



Knowledge Sharing & Representation

Combining IEK in ways which help indigenous & western cultural perspectives –

A new area being supported by the Atlas



Content created and managed by indigenous communities

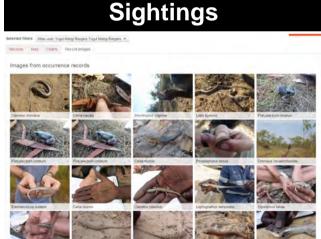


## ALA Tools — Indigenous Ecological Knowledge

- bridging the boundaries between Indigenous Knowledge and western science
- improving the relevance of ALA for Indigenous people
- two-way sharing of biodiversity information and knowledge
- developing Indigenous protocols and IP policies

#### **Seasonal Calendar platform**





#### **Profiles**

Names	Language name: Common names: Scientific name:
What it looks, smells, feels like	
Where it is found	
Food, medicine and other uses	
Connections with people	
Connections with country	
Management issues	
IP statement	

#### **Spatial Layers**

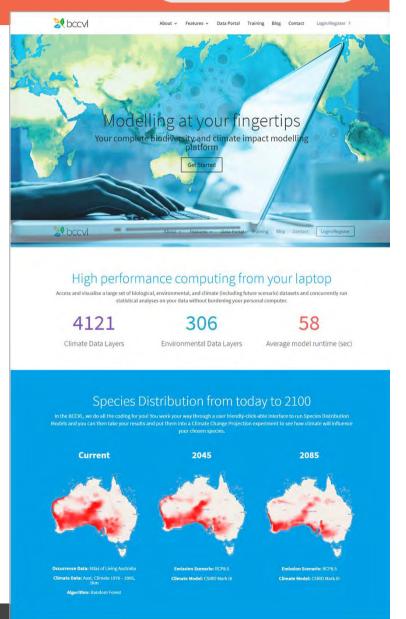


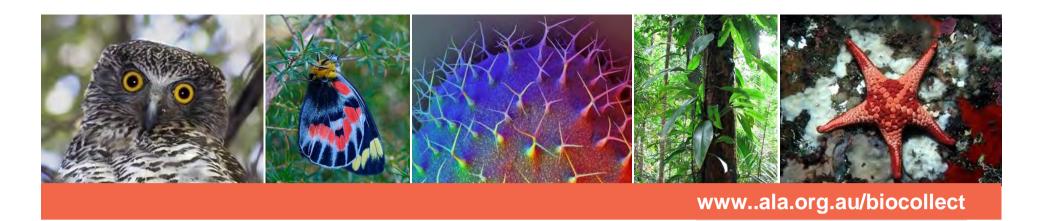


## ALA Tools - HPC Modelling with ALA Data

- ALA Spatial Portal modelling & analysis tools
- Teaming up with virtual labs for high performance modelling









# Supporting Field Data Capture





The ALA is made possible by contributions from its many partners. It receives support through the Australian Government through the National Collaborative Research Infrastructure Strategy (NCRIS) and is hosted by CSIRO.

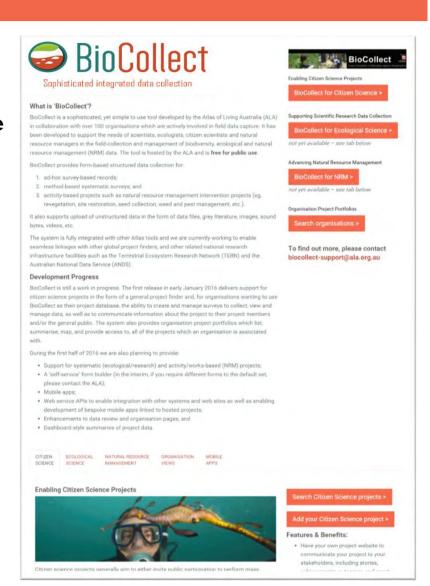




### BioCollect - What is it?



- A tool for the public to discover and connect with projects
- A tool for project owners to communicate their project to the world
- A free ALA hosted universal web app for recording field data (structured & unstructured)
- Supports both:
  - Survey/event based data collection
  - Activity/schedule based project structures
- Hubs for:
  - Citizen Science
  - Ecological Science
  - NRM Works
  - Custom ....







**ACSA** 

Public communities

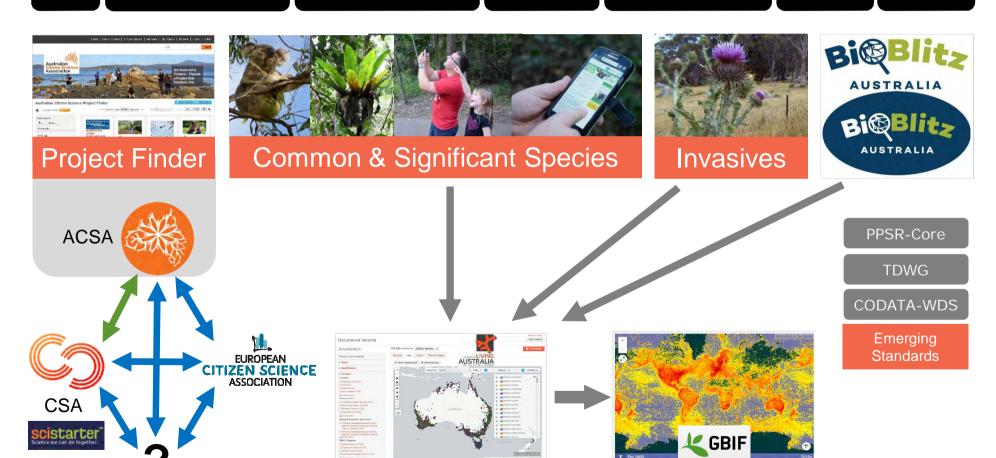
Local & State Govt.

NRM orgs

Research Orgs

NGO's

Schools





## BioCollect Ecological Research



**Ecological Consultants** 

Government Researchers

Universities



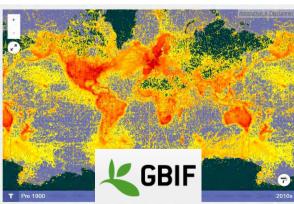
Ecological Surveys & Monitoring



Vegetation Condition









## BioCollect Applied Ecology Sophisticated Integrated data collection



**Ecological Consultants** 

Planning & Development Industry

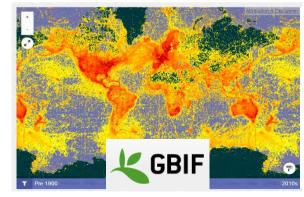
Mining & Extractives Industry





**Impact Monitoring** 







#### Natural Resource Management



Public communities

Land holders/managers

NGO's

Govt.

Developers

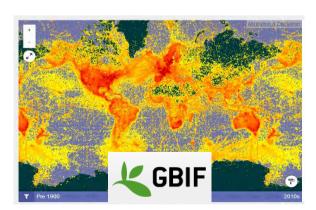


**Invasives Management** 



Rehabilitation & Restoration







SEEDBANK

- Thematic Hubs
- Different home page templates
- Configuration driven







III Notice









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#### Creek **BioBlitz** COBBLER CREEK

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Data Hub

Record new collection event

The Australian Seed Bank

Add new stock to Seed Bank

Harvest, Storage & **Treatment Data** 

Record batch treatment results

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St Kilda **BioBlitz** STKILDA

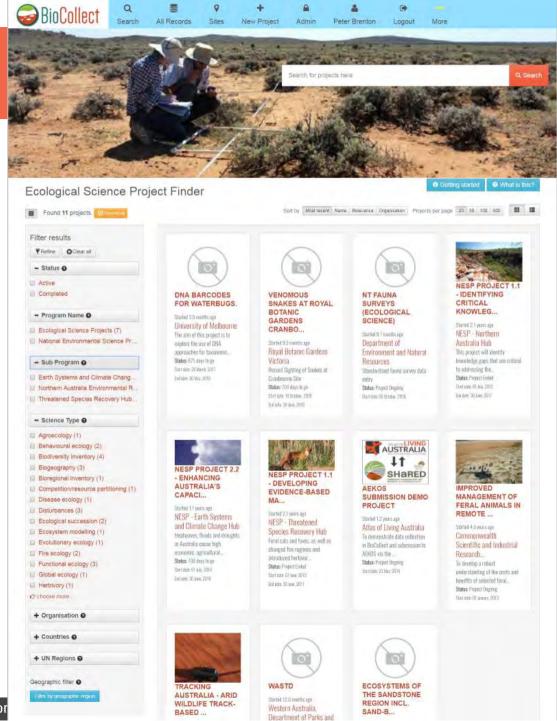
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powered by Atlas of Living Australia



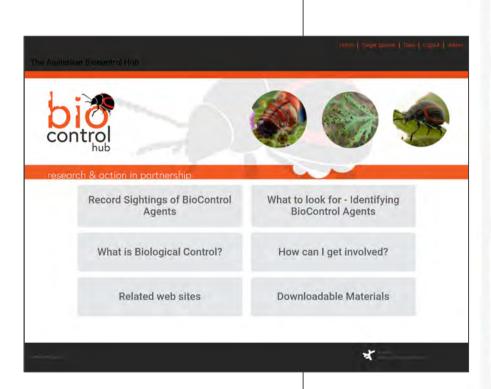
 Supporting systematic method-based ecological surveys





#### Thematic hubs with spatially constrained scope







Started 37.6 years aso. Australian BioControl Hub Record observations of blue heliotrope biocontrol agents and help implement b. Status: Protect Ongoing Start date 01 lawns, 1980



Started 37.6 years are Australian BioControl Hub Record observations of ragwort biocontrol agents and help implement ragwort b... Status: Project Ongoing Start date Of lancara 1980



TUTSAN Started 37.5 years ago Australian BioControl Hub Record observations of tutsan biocontrol agents and help implement tutoon hip Status: Protect Ongoing

Start date Of basons 1985

Sort by Most recent Name Relevance Organisation Projects per page 20 50 100 500 Projects from Australia Global ##



JOHN'S WORT Started 37.6 years are Australian BioControl Hub Record observations of St John's wort biocontrol agents and help implement St. Status: Project Ongoing Start date (31 January, 1980)



Started 37.6 years ago Australian BioControl Hub Record observations of Cape broom biocontrol agents and help implement Cane b

Status: Protect Ongoing Start date: 01 January, 1980



HOREHOUND Started 37.6 years are

Australian BioControl Hub Record observations of horehound biocontrol agents and help implement horehou

Status: Protect Ongoing Start date 01 bream, 1980



PATERSON'S CURSE & VIPER'S BUGLOSS

Started 37.6 years ago Australian BioControl Hub Record observations of Paterson's curse and Viper's bugloss biocontrol agents... Status: Project Ongoing Start date: 01 January, 1986



MADEIRA VINE

Started 37.6 years ann Australian BioControl Hub

Record observations of Madeira vine biocontrol agents and help implement

Status: Project Oncoing Start date 81 January, 1980



Started 37.6 years ago Australian BioControl Hub Record observations of cat's claw creeper biocontrol agents and help implemen... Status: Project Ongoing Start date DT January, 1980.



Started 37.6 years ago Australian BioControl Hub Record observations of parthenium biocontrol agents and help implement Status: Protect Opposing



VARIEGATED THISTLE

Started 37.6 years ago Australian BioControl Hub Record observations of variegated thistle biocontrol agents and help implemen... Status Project Ongoing Start date: 01 January, 1980



NODDING THISTLE

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Record observations of nodding thistle biocontrol agents and help implement n... Status: Protect Ongoing Start date Of theupy 1980



SLENDER THISTLES

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**ONOPORDUM THISTLES** 

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Status: Project Orgoing Start date 01 January, 1900



BONESEED

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Australian BioControl Hub

Record observations of dock biocontrol agents and help implement dock blocont. Status: Project Orgains Start date OI haway 1980



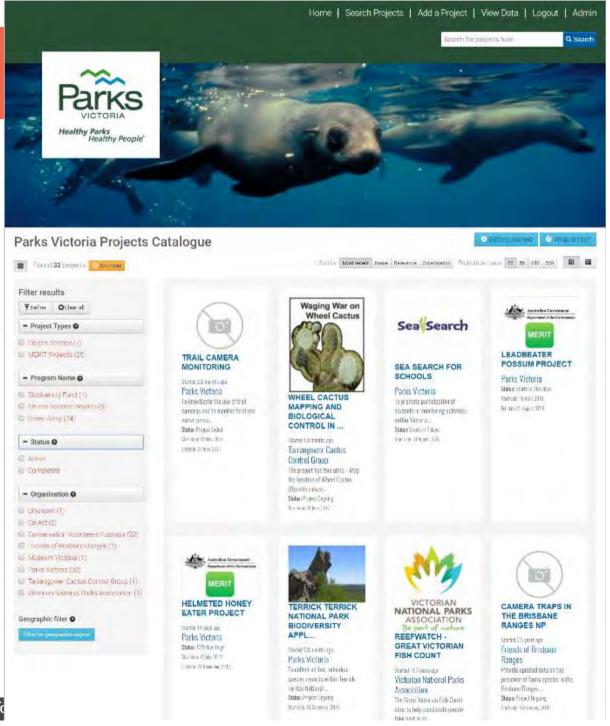








Organisationally constrained hubs





## Project creation made easy!



#### Some Key Features:

- Create projects simple self-serve
  - Choice to use BioCollect to record data or not
    - Internal (BioCollect for collecting data)
    - External (data collected in other system)
- Control your own project all content maintainable by project owners
- Graphics for visually appealing projects
- Filter tags to enhance searching
- Linked to ALA services & other key systems

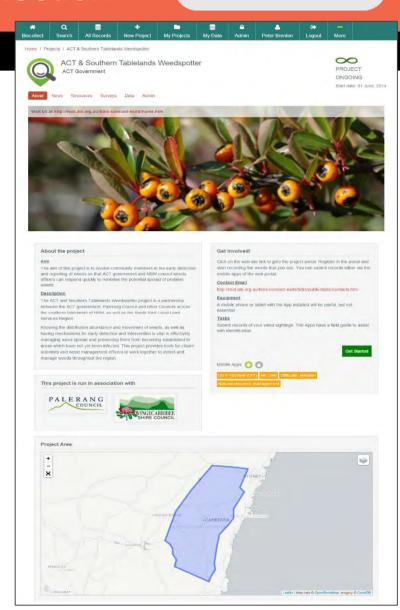


#### BioCollect for data collection



#### Project & survey set-up made easy

- All content maintainable by project owners
- Individually configurable surveys
- Access all project info from single page:
  - Survey forms
  - Mobile apps
  - Social media pages
  - Blogs
  - Email contact
  - Partner organisations
  - Project data
  - Project area/coverage
  - Project related resources
  - Organisation page
- Manage who has access to surveys members only or public
- One project: many surveys

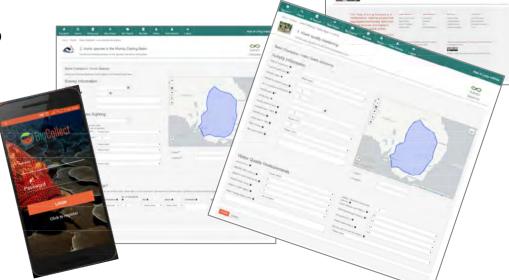




#### Other Features

#### And more ...

- Survey based data collection in project context
- Flexible survey configuration
- Customisable forms
- Structured + unstructured data collection, storage & download
- Site-base context for viewing data
- Organisation projects portfolio
  - Project list & map
  - Data summary/access/download
- Multi-hub support
- API supported
- Mobile ready
- Global project discovery





Thank you

www.ala.org.au



