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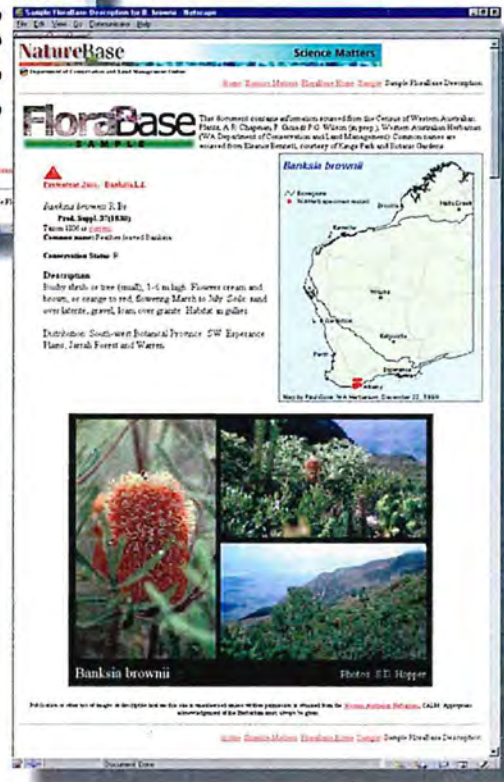
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Nomination for Premier's Awards  
for Excellence, 2002

001835

# FloraBase

## FloraBase – WA's online botanical information service



DEPARTMENT OF  
**Conservation**  
AND LAND MANAGEMENT

Conserving the nature of WA

# Executive Summary

FloraBase is a statewide electronic flora information system integrating a range of authoritative biodiversity datasets into a readily accessible web site.

FloraBase is available continuously. Its use is astonishing: it services 100 enquiries every hour, 24 hours a day, 365 days of the year. Half the enquiries are from WA and half are from students, graduates, botanical experts and conservationists around the globe.

Botanical data gathered across WA over 200 years has been electronically mobilised by the FloraBase and put at the disposal of all who have need of it – the general community, education sector, public sector and scientists.

FloraBase provides easily-used tools to enable members of the community from school children to research scientists to explore and make effective use of this information.

FloraBase is an essential tool for social, economic and environmental improvement.

## FloraBase:



- is the first of its kind in Australia, a comprehensive and innovative system leading to significant changes in work practices; increasingly emulated by related institutions, and internationally recognised;
- contributes to sustainability by providing access to authoritative plant biodiversity information and facilitating rapid identification;
- supplies the agency with the necessary tools and information to achieve its conservation goals in partnership with the community;
- provides a continuous online service efficiently delivering information to a wide range of community, government and commercial clients;
- is continually evaluated by its users and developers through workshops and reviews, adopting relevant national and international standards;
- mobilises a vast amount of botanical data in the public interest, is supported by a team of volunteers and integrates with a network of community herbaria;
- has stimulated partnerships in the community and government, and contributes data to a major national biodiversity mapping initiative;
- has been implemented cost-effectively and currently services more than seven million queries annually, freely or on a cost-recovery basis, dramatically reducing demand for over-the-counter services; and
- achieves social, economic and environmental improvement by delivering quality biodiversity information, providing easy to use tools making effective use of this information and contributing to the environmental development of the State.

FloraBase can be viewed at <http://florabase.calm.wa.gov.au/>

# Introduction



FloraBase is a statewide electronic flora information system that can provide a list of plants growing in a particular bio-region, has the most up-to-date name for a native plant or weed, or a short description with a range map and representative image.

FloraBase integrates a range of authoritative biodiversity datasets into a readily accessible web site.

FloraBase draws on databases holding information on more than half a million (530,000) specimens in the WA Herbarium and 17,000 names used now and in the past for WA plants. Together with 12,500 databased descriptions and computer-generated maps, plus more than 3500 species images, it forms the most comprehensive online botanical resource in Australia.

WA has diverse and unique flora. Almost half of Australia's vascular flora grows in WA and more than 60 per cent is endemic. Up to 20 per cent of the plants are considered rare, threatened or have an uncertain conservation status.

With the growing community awareness of the needs for active conservation, a reliable, up-to-date and readily accessible source of botanical information becomes essential.

All the resources and activities of the WA Herbarium provide the latest scientific information with which to underpin the WA's conservation effort. FloraBase has become the primary method for the community to access this crucial botanical information.



Since the launch of FloraBase onto the web in 1998, more than 2000 regular users have registered for access at one of the content levels provided. The user profile developed during this time is varied.

While a proportion of users is from within the WA conservation agencies - where it has become an indispensable tool for anyone working with our native flora - as many users access it from around the globe.

FloraBase is used widely at all three levels of the education sector for school projects, local planting days or tertiary training and research. Many users of FloraBase work or volunteer in various community conservation efforts or are members of community groups that coordinate revegetation and rehabilitation projects.

Scientists and botanical consultants around Australia and elsewhere in the world consult FloraBase for information that would otherwise take many hours to research and compile.

FloraBase is modular in design and new content is constantly being added or prepared for release in forthcoming versions.

FloraBase can be viewed at <http://florabase.calm.wa.gov.au/>

# Category Specific Indicators

*The extent to which FloraBase...*

## 1. "demonstrates scientific excellence or a leap of creativity in public sector management work practices or service delivery."

- It is the first Australian initiative of its kind and was launched in 1998.
- It remains the most comprehensive and innovative system in its class.
- A flow-on effect to work practices moved the WA Herbarium from a traditional focus on specimen management to electronic management of descriptive, geographical, nomenclatural and image data derived from those specimens.
- The WA Museum's FaunaBase was inspired by the FloraBase example.
- It has been increasingly emulated by other Australian herbaria, for example in NSW and SA.
- It is internationally recognised as best of its kind at international conferences and cited in the journal Science.



*The extent to which FloraBase...*

## 2. "uses new technologies or processes to implement the project or initiative."

- FloraBase effectively uses Internet technologies, including provision of interactive information retrieval and interactive keys.
- It integrates core biological datasets including 17,000 plant names and 530,00 vouchered specimen records for the State - adding images, maps and descriptive data for each species.
- It makes extensive use of the TEXPRESS database system developed by Australia's KE Software (Melbourne) for use in museums and other archival environments.
- It uses the DELTA system, an international standard system developed by CSIRO for the efficient management of descriptive data.
- It makes use of an innovative in-house developed software system, DELIA, to integrate descriptive datasets.
- Its delivery platform includes a number of high-end servers which are maintained in-house.

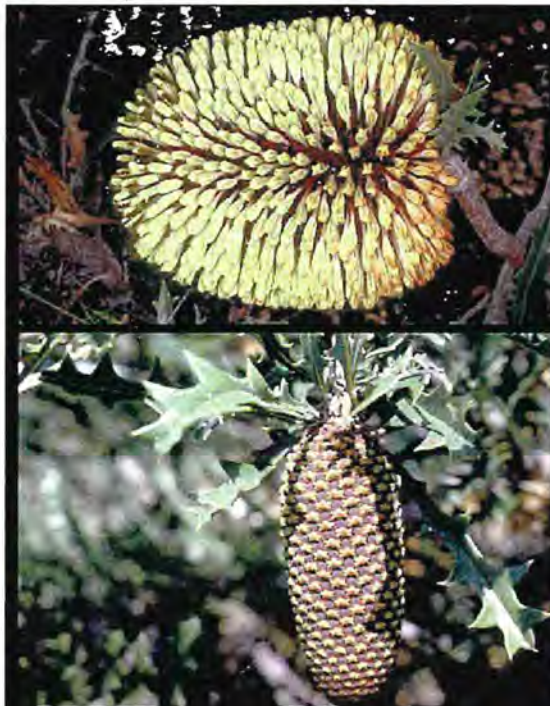
# Category Specific Indicators

*The extent to which FloraBase...*

## 3. "contributes to sustainability."

Fundamental to managing the environment in a sustainable manner is the availability of an up-to-date source of accurate information about the vegetation that provides nutrients and habitat for animals, lower plants, fungi and micro-organisms, as well as protection for the soil and control of ground-water levels that have much to do with encroaching salinity. At the most basic level it is necessary to know what grows where.

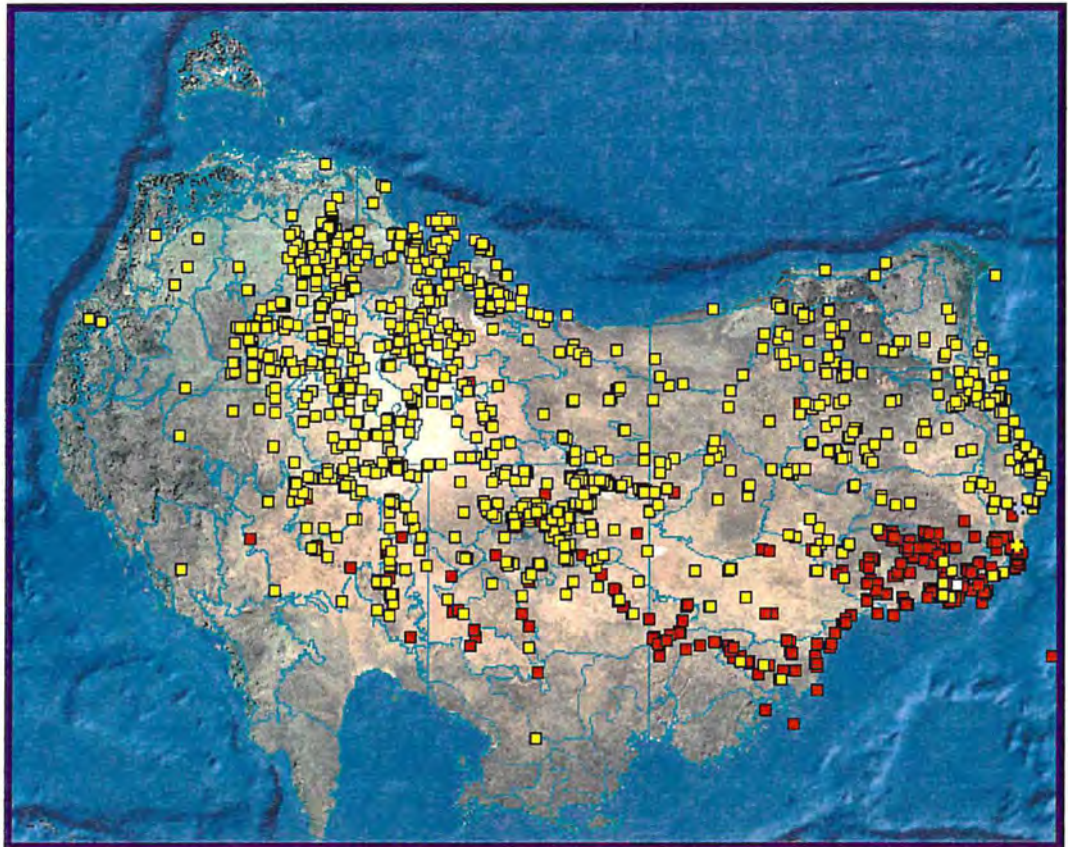
- FloraBase plays a vital role in facilitating the rapid identification of plant species and verification using descriptions, images and maps.
- It enables users to easily and quickly compile up-to-date checklists of species from known regions.
- It makes available the authoritative list of scientific and vernacular plant names now accepted for use in WA.
- It provides easy access to the only repository of expertly collected, authoritatively identified and critically maintained collections which scientifically document the plant biodiversity in WA.



*Banksia aculeata*



Photos: V. Holly & R. T. Wills



# General Indicators

*The extent to which FloraBase...*

## 1. "is consistent with, and promotes the organisation's stated outcomes."

Inherent in the major objectives of the Department of Conservation and Land Management is the need for efficient access by staff and the general community to authoritative, base-level, historic and contemporary data about the whereabouts and identity of plants. Such data is uniquely managed by the Perth-based WA Herbarium.

- FloraBase provides departmental staff across WA with the access they need to authoritative and up-to-date botanical information, wherever they might be.
- It is of critical value to departmental staff involved in broad scale projects such as the Salinity Strategy and the Wheatbelt Biological Survey.
- It is used widely throughout the department to support the daily work of operational, administrative, planning and scientific staff.
- It provides essential identification and information retrieval tools, which are in continual use by the community.
- It encourages members of the community to further their interest in and extend their knowledge of native flora as well as alien species.



*The extent to which FloraBase...*

## 2. "results in a high standard of customer service."

- FloraBase is available continuously. Its use is astonishing - it services 100 enquiries every hour, 24 hours a day, 365 days of the year.
- The FloraBase website and underlying software and hardware are configured to efficiently deliver large quantities of information to many users simultaneously.
- After departmental staff, the most significant users are from the educational sector (schools, universities) and environmental consultancies.
- Nomenclatural, descriptive, geographical, illustrative and other reference data underlying FloraBase is constantly updated and extended to reflect current knowledge.

# General Indicators

*The extent to which FloraBase...*

## **3. "demonstrates commitment to continuing improvement in management practice and is periodically evaluated for effectiveness."**

- FloraBase is continually evaluated by its users who are encouraged to communicate errors or make suggestions via a reporting system embedded in the application itself.
- Workshops on the use of FloraBase are held each year at the WA Herbarium and as part of course work at a number of universities, notably Curtin University (Environmental Science), Notre Dame University (Environmental Management) and the University of Western Australia (Zoology, Forensic Science). These workshops enable the Department to assess how people use the site, first-hand.
- The WA Herbarium actively works to ensure its data is compliant with various international standards for geographic, collections and descriptive data.
- Regular meetings of staff involved in the development and maintenance of FloraBase (and its underlying databases) review suggestions for improvement and work to achieve them.
- A new version of the interface to FloraBase is to be launched in September 2002.



*The extent to which FloraBase...*

## **4. "is a role model for the public sector or the community of Western Australia."**

- Botanical data gathered during 200 years has been electronically mobilised by the WA Herbarium and put at the disposal of all who have need of it – the general community, education sector, public sector and scientists.
- FloraBase has already provided the model for WA Museum's FaunaBase project.
- A dedicated team of Department of Conservation and Land Management volunteers working at the WA Herbarium provides ongoing acquisition and scanning of photographic images.
- FloraBase integrates with the community-based Regional Herbaria and Weed Information Network to support local reference collections and biodiversity projects.

# General Indicators

*The extent to which FloraBase...*

## **5. "promotes, where possible, public private partnerships, multi-agency, or intergovernmental, collaboration in the provision of 'joined-up' services."**

- The descriptive data in FloraBase was initially achieved through partnership with Botanic Garden and Parks Authority, the WA Wildflower Society, the Gordon Reid Foundation and the Lotteries Commission of WA.
- Agencies such as Western Power incorporate components of FloraBase in their information systems.
- FloraBase is a major contributor of data to the Australian Virtual Herbarium (AVH) which provides Australia-wide online interactive mapping of plant species.
- FloraBase delivers species pages containing descriptive data and images for about 50 per cent of Australian flowering plant species to AVH.

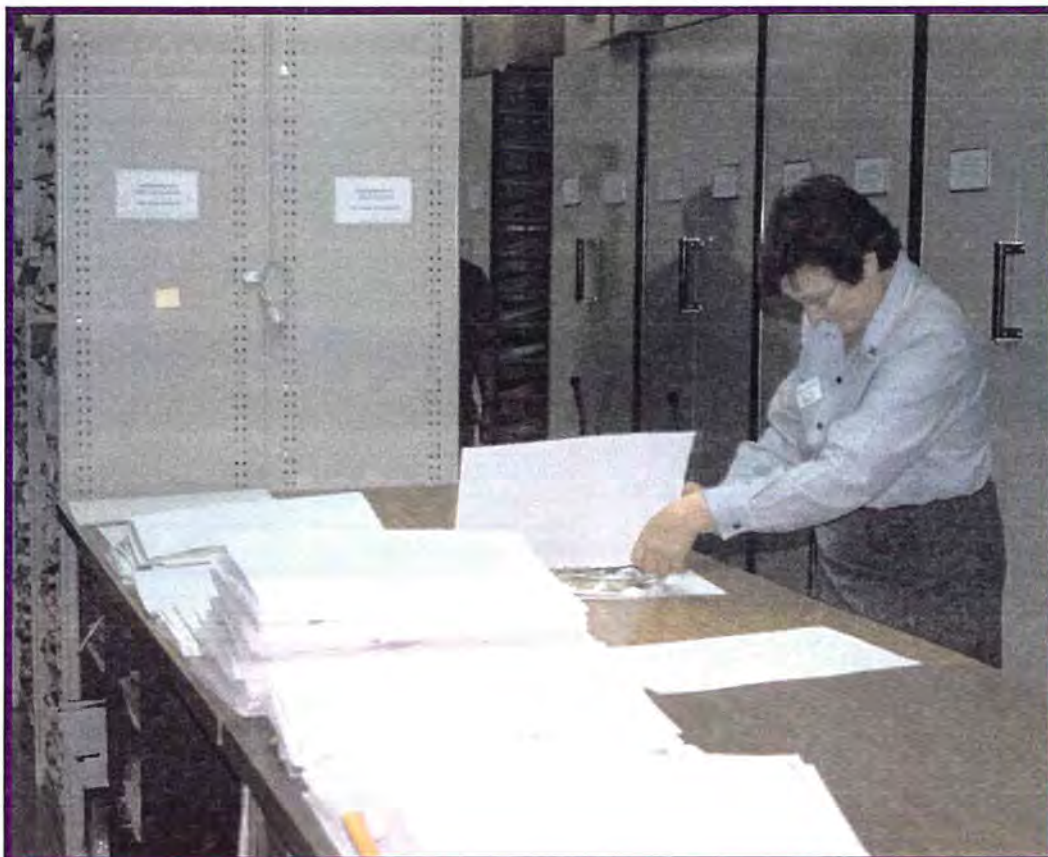


# General Indicators

*The extent to which FloraBase...*

## **6. "provides value for money, or has been implemented in a 'cost effective' manner."**

- FloraBase provides access to label data for 530,000 plant specimens held in the WA Herbarium collection.
- It provides descriptions, maps and images of 12,500 kinds of vascular plant found in WA.
- It services almost 900,000 enquires a year - dramatically reducing demand on over-the-counter services.
- Most components will be free from September 2002. There will be an appropriate cost-recovery for commercial of locality data.
- It is easily maintained and effectively delivered, eliminating the need for costly revision and reprinting of books, manuals and other traditional media.



# General Indicators

*The extent to which FloraBase...*

## **7. "demonstrates the simultaneous achievement of social, economic and environmental improvement."**

- FloraBase places a vast amount of authoritative biodiversity information about the flora of Western Australia in the increasingly familiar environment of the Internet.
- FloraBase provides easily used tools to enable members of the community from school children to research scientists to explore and make effective use of this information.
- FloraBase access is free to the public. A reasonable charge is made to commercial users requiring detailed geographic information.
- By using FloraBase, the community and environmental consultants achieve major efficiencies in the production and informed evaluation of biodiversity reports and impact statements vital to development of the State's resources.
- Therefore, FloraBase is an essential tool in all activities which aim to bring about social, economic and environmental improvement.





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