

FACT SHEET

Australia's Virtual Herbarium

Australia's Virtual Herbarium is a long-term project to develop a universally accessible, integrated Australian flora information system.

Australia's Virtual Herbarium will contain records in electronic form about specimens of plants, algae and fungi collected around the country and housed by participating government herbaria, and will make this information widely available through a central, or portal, Internet site.

These specimens, numbering more than six million are housed in commonwealth and state collections that date back to the late 1700s. They provide the most comprehensive source of knowledge about the distribution of Australian plants and the foundation for scientific research on their classification. Around 40 per cent of the specimens have been recorded in electronic databases.

The Virtual Herbarium project will enable records about the remaining 60 per cent of specimens to be entered into these electronic databases and will make all these records available through the portal site.

The idea of developing Australia's Virtual Herbarium emerged from a working group established in 1995 to accelerate the cooperative development of storage, maintenance and dissemination of plant, algal and fungal data and information in Australian government herbaria.

The Australian and New Zealand Environment and Conservation Council (ANZECC) agreed in July 2000 to develop a national collaborative project and established a working group to refine the project.

The Commonwealth, State and Northern Territory governments agreed in May 2001 to the details of the project and to commit \$8 million. A further \$2 million is being sought from private bodies.

Over the next five years, the existing collections held by participating herbaria will be computerised on each herbarium's existing electronic database. Information about specimens will be added progressively. In future, all information about new herbarium specimens will be computerised and become part of Australia's Virtual Herbarium.

Integral to the project is the portal web site acting as a central point for locating records held by individual herbaria. It is anticipated that this portal site will be operating late this year.

Each participating herbarium will continue to be responsible for its collection but by collaborating to develop Australia's Virtual Herbarium they will all contribute to enhancing understanding of Australia's biological diversity. (Information on various applications of the Virtual Herbarium is contained in a separate fact sheet.)

This electronic facility will contain information about plant names, plant occurrences and distribution, images of plants, plant descriptions and associated bibliographic files.

Australia's Virtual Herbarium will also enable searches to be undertaken on a national basis, which cannot be done now. These include searching for such information as geographic distribution of a species and all species occurring in a region across state boundaries.

Another benefit of the computerisation of the collection and the portal site will be a reduction in the cost of providing information to researchers. Currently, when a request is made about a specimen, scientists must send a physical specimen to the requesting herbarium that then enters information about that specimen in its own database. This costs around \$5 per specimen. Australia's Virtual Herbarium will eliminate the need for this by allowing scientists to access data held by the participating herbaria directly through the portal site.

Australia's Virtual Herbarium is also a significant international development. No other country has undertaken a project of this kind.

All government herbaria are participating in the project. While the Australian Capital Territory does not have a herbarium, the ACT Government has pledged support. The Australian Biological Resources Study in Canberra is also part of the project.

The participating herbaria are:

The Australian National Herbarium in Canberra;
The State Herbarium of South Australia;
The Queensland Herbarium;
The Herbarium of the Northern Territory;
The Tasmanian Herbarium;
The National Herbarium of Victoria;
The National Herbarium of New South Wales; and
The Western Australian Herbarium.

FACT SHEET TWO

AUSTRALIA'S VIRTUAL HERBARIUM TO AID CONSERVATION WORK

Australia's Virtual Herbarium will be a major resource for protecting Australia's biological diversity and for managing Australia's natural resources.

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The Virtual Herbarium will contain records in electronic form about specimens of plants, algae and fungi collected around the country by participating government herbaria, and will make this information widely available through a central, or portal, Internet site.

There are currently more than six million specimens and the number continues to grow as scientists undertake further research into Australia's unique flora.

Information contained in the Virtual Herbarium will be available to help design revegetation projects, threatened species recovery plans and other land restoration activities and research projects.

Projects such as 'Greening the Grainbelt' undertaken by the Harden Murrumburrah Landcare Group in New South Wales demonstrate the potential benefits for revegetation work to use information currently associated with herbarium specimens.

Harden Shire retains around three per cent of its original vegetation cover. The Landcare group applied for a Natural Heritage Trust grant to reverse this but with so little vegetation remaining, the group needed assistance to determine just what species to plant.

Working with the Australian National Herbarium through the Centre for Plant Biodiversity Research last year, the Landcare group was able to obtain a list of species based on scientific collections made in the region over the past 150 years, with recommendations for species suitable for revegetation projects.

The project also developed a web site to link this data to local and other Landcare groups, and developed a methodology for devising the indigenous flora of a heavily cleared region that can be used at other sites.

By developing gateways for access to the electronic database of all participating herbaria, Australia's Virtual Herbarium will provide easy access to information for researchers, educators and students, government decision-makers, private land holders and managers, and community groups.

Another benefit of Australia's Virtual Herbarium will be the capacity to develop sophisticated early warning modules, such as plants posing threats as weeds. This could save the Australian community millions of dollars by enabling problem species to be eradicated before they become a serious threat. This capacity will also assist in monitoring the health of the country's biodiversity.

Computerisation of the collection and the development of the portal site will deliver cost and time savings to researchers by eliminating the need to provide actual specimens, as information, including images of specimens, gradually become available electronically.