



Seeding the future



The name of the project, *Seeds for Survival*, says it all.

Biodiversity recovery after the catastrophic bushfires of 2003 is not being left to chance in the Australian Capital Territory and surrounding region. The fires have proved the catalyst for developing a community seed bank for native plants.

This will not only help revegetation and eventually provide food and habitat for native birds, animals and insects, but will give some insurance in the event of future fires and environmental stresses.

The project aims to increase the availability and diversity of local native seed and to meet the native seed requirements in the ACT and region for the medium and long-term future. It is taking place with financial and in-kind help from the Australian and ACT Governments and a heavy reliance on enthusiastic volunteers.

Work focuses on collecting, mapping, testing, storing and eventually propagating seeds and planting out the seedlings. But even after less than a year in operation, the project has already spawned some other innovative activities including development of a niche nursery with a local Indigenous community group.

Getting underway

Seeds for Survival emerged from partnerships created between Australian and Territory Government agencies including Environment ACT, Australian National Botanic Gardens (ANBG), CSIRO Plant Industry, Canberra Urban Parks and Places and with Greening Australia (ACT & South East New South Wales).

Funding has come with \$235,000 from the Australian Government's Natural Heritage Trust, part of which has been put towards funding a Greening Australia project manager, Ben Cavuoto.



Major support for the program has been given by the Australian National Botanic Gardens which has provided facilities including office space, a laboratory and workshop lecture rooms where Greening Australia can work closely with ANBG staff. Seeds are extracted from plants collected by volunteers then dried, cleaned, tested for viability, labelled and stored. Information from the collection process is entered in a database.





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Collecting the seeds

There’s nothing random about the seed collection process in this project. The help and involvement of the Botanic Gardens and CSIRO are giving it a rigorous and scientific underpinning.

As a first step, healthy remnant vegetation seed collection sites which have survived the fires, plus existing remnant and revegetation project sites, are identified. Seeds are collected from these areas, which include threatened ecological communities such as the Yellow Box and Redgum Grassy Woodlands. The collection work is largely done by volunteers under the guidance of the project manager.

Some species, including the Drooping She-oak, have been especially targeted. The She-oak provides habitat and a valuable food source for the Gang-gang Cockatoo which appears on the ACT Parks and Wildlife Service emblem.

Ben says that in a number of places, even three years after the fires, some eucalypts have not flowered and tests have shown an unexpected proportion of grass seeds are proving infertile, highlighting the need for the project.

There are some basic pointers to ensuring the success of the project in the long term. “It’s really important to get seeds from a whole range of plants from a given location in the landscape,” Ben says. “This helps ensure genetic diversity, rather than taking a lot of seeds from one or two plants of a particular species.”

Because of issues like this, participants in the program need to have a basic understanding of a number of issues. Community education and training are a program focus. Under Ben Cavuoto’s leadership, workshops have been held for landholders, Landcare groups, community volunteers, CSIRO, Australian National University and Botanic Gardens staff, educators and the general public to teach the basics of map reading, as well as collection, cleaning and processing seed.



Seed production areas are being established on rural land in and around the ACT in amongst fragmented remnant vegetation and open paddocks. They will focus on shrub and understorey species. "These native seed 'orchards' will help reduce our need to collect from the wild in the future," Ben says. They may also lead to seed production areas for bush tucker foods around Canberra.

Design of new seed production areas is currently being researched in consultation with CSIRO Plant Industry. Selected sites will be mapped using a Geographical Information System (GIS) database. A monitoring and evaluation program will also be established for these areas, to research seed production yields, wildlife habitat and biodiversity.

Spin offs

In a spin off from the project, Greening Australia has been working with a local Indigenous group, the Billabong Aboriginal Corporation. Hands on workshops have been held in the field looking not only at seed collection techniques, but at the cultural and bush food qualities of the native plants.

"We are in the planning phase in assisting Billabong to develop a niche provenance nursery which involves collecting seeds from particular areas around the ACT, like the Murrumbidgee River Corridor, Black Mountain and Mount Ainslie," Ben says. "Nothing like this has been done in the region before and it will enable people to grow native plants for very specific provenances, or areas."

To help with this venture, the Botanic Gardens have donated nursery equipment to Greening Australia and Billabong which will help in producing hundreds of thousands of seedlings in coming years.

Other opportunities for community spin offs which Ben is exploring include investigating the potential for working with people with disabilities, including Cooma Challenge Limited, to establish a functional seed bank in the southern New South Wales region.

The future

While native seed 'orchards' will take some time to develop, demand for local native seed is increasing. Regular orders are coming from nurseries, Landcare groups and revegetation companies. Reflecting the impact of the drought, orders for many species currently outstrip supply, with many requests for harder to collect provenance species.

A network of regionally skilled seed collectors is being established to help overcome these native seed supply problems in the short term. Further public education programs, including workshops, are planned and workshop participants are being encouraged to become part of this network.

"Our long term aim is to ensure that native seed collection and supply within the ACT and the surrounding region, and all the activities associated with this, are coordinated and placed on a sound footing for the future," says Ben.

"The Seeds for Survival project should help the ACT community at large understand how important it is to have a reliable and diverse supply of native seeds if we are to restore and conserve our Capital's native bushland."





Lessons learnt

- A supply of local native seeds is needed to boost revegetation, on-ground conservation work and the protection of biodiversity after fires, drought and other natural disasters.
- Targeted education and training is needed for volunteers and professionals engaged in seed collection, recording, processing and storing.
- Financial assistance and in kind support through measures such as supply of technical equipment and expertise is essential to develop and maintain an effective seed bank.
- Seed production areas, or native seed 'orchards', need to be established to ensure seed supply over the long term and to help relieve pressures from collection from the wild.
- It is vitally important to have all the key players in the form of government agencies, researchers, community groups, schools, TAFE colleges, universities and landholders working in partnership.

Biodiversity encompasses the variety of all living things. Conserving biological diversity gives us the best chance of adapting to our rapidly changing world.

This leaflet is one of a series showing how farmers, Indigenous communities, local government and community groups have either initiated special biodiversity projects, or have successfully incorporated biodiversity protection into their work and daily lives.

We hope these success stories provide useful information and inspiration to others in similar situations.

For more information: www.nrm.gov.au; or freecall 1800 552 008

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Project Manager Ben Cavuoto at ANBG; Stephen Selden.

P2: Native seed identification at ANBG; Robert Gardiner.
Seed collection field day; Toby Jones.
Gang-gang Cockatoo; Arthur Mostead.

P3: Seed viability & germination testing workshop ANBG;
Seeds; both Ben Cavuoto.

Back: Rangers and volunteers collecting seeds; Ben Cavuoto.

Banner: Bark; Joseph Lafferty. Lichen; Peter Ranyard. Hand; Andrew Tatnell.