



# TERN

AusPlots



## Specimen Loans Information

Delivering open access to Australia's terrestrial plant specimens, soil samples and ecosystem data

Specimens collected by AusPlots are available for use by the wider community subject to the prescribed policies in this document, and by [Creative Commons Attribution 4.0 International](#) (CC BY 4.0) licence. Specimens in this instance are considered a special case of 'licenced material' as covered by CC BY 4.0 licence.

The TERN initiative has been funded by the Australian Government with the expectation that:

- a major priority for TERN is to enable wide access to ecosystem science data for research and natural resource management purposes
- data and products provided through TERN will, to the greatest extent possible, be made available unencumbered, i.e. freely accessible for users to use and apply the data in whatever way they see fit without restriction other than conventional acknowledgement and tracking of sources in publications, noting that:
  - any Intellectual Property Rights (IPR) associated with TERN-generated data or products lie with the generating agency
  - any pre-existing in-data IPR will be recognised and respected and will only be used as authorised by the owner of the IPR or as permitted under law.

### Creative Commons Attribution Licence

All AusPlots specimens and samples are provided on terms equivalent to the terms of the CC BY 4.0 licence. The full licence is available to view on the [Creative Commons website](#), and a summary is provided below.

The CC BY 4.0 licence enables sharing of the data provided a user shares their new data/products in return, and so means that a user can:

- copy, re-use, and distribute the data under the same terms
- make derivative products by adapting and remixing the data, but only if the user makes these derived products available under the same terms
- use the data for commercial purposes.

Provided that, whenever the data is copied, re-used, distributed, adapted or transformed the user ensures that:

- credit is given to the original sources/s of the data (and any other nominated parties) in the manner stipulated (*attribution*)
- transformed or derived data is made available under the same licence terms as the original data (*Share Alike*)
- the data licence terms (for further re-use) are indicated.



# TERN

tern.org.au | tern@uq.edu.au | +61 (0)7 3365 9097



Supported by

**NCRIS**  
National Research  
Infrastructure for Australia  
An Australian Government Initiative

In partnership with



## Further information you need to know relating to the loan of all specimens

### Availability

All data collected via the AusPlots protocols are made publicly available after initial curation via the Australian Ecosystem Knowledge and Observation System ([ÆKOS](#)), an initiative of TERN. Specimens and samples collected as part of the methodology are managed and curated by various institutions depending on the type of specimen. AusPlots is the custodian of all soil samples and plant leaf specimens, with all samples held at The University of Adelaide AusPlots facility. Plant specimens are maintained by various state/territory herbaria, and may be available by requesting access through the institutions' individual sample access procedures. Details of Australia's network of herbaria can be found [Council of Heads of Australasian Herbaria](#) website. If the location of a particular sample is not clear please contact AusPlots and our team will confirm the correct custodian.

### Warranty

TERN, its Facilities and the data custodians will not make any warranty regarding the quality, accuracy, completeness, currency, relevance or suitability for any particular purpose of the data made available via the TERN initiative. Data will be made available on the understanding that data users will, at their own risk, exercise their skill, judgement and care with respect to their use or reliance on the data.

### Data publication

Datasets that results from analyses of TERN specimens must be uploaded to [ÆKOS](#) to coincide with results publication or after three years (whichever comes first). Datasets uploaded to ÆKOS prior to results publication can be further embargoed until publication through negotiations with TERN.

### Attribution

All publications resulting from analyses of AusPlots specimens must appropriately attribute TERN AusPlots and the University of Adelaide using the following *pro forma*:

'Specimens were collected by TERN AusPlots and all rights pertaining to these specimens are claimed by the University of Adelaide. Specimens were made available for analysis by the Terrestrial Ecosystem Research Network (TERN), supported by the Australian Government through the National Collaborative Research Infrastructure Strategy (NCRIS). Data were provided under the *Creative Commons Attribution 4.0 International Licence* which allows sharing of the data provided a user shares their new data/products in return. Specimens were provided under equivalent terms'.

### Citation

Data from AusPlots surveys can be cited as:

TERN AusPlots (2013). AusPlots Rangelands, Version /. TERN ÆKOS Data Portal, rights owned by University of Adelaide (<http://www.adelaide.edu.au>). Accessed [dd mmm yyyy].

### Transport

If transporting material interstate or overseas, it is the responsibility of the applicant to ensure that all appropriate quarantine/biosecurity laws are adhered to, and any required permits are obtained. All loaned specimens must be transported and stored appropriately to ensure ongoing specimen integrity

### Costs

There is no licence fee for access to AusPlots specimens. Any cost arising from transport and/or storage at the applicant's institution must be covered by the applicant. AusPlots reserves the right to levy an appropriate cost-recovery fee for particularly large or complex specimen loan requests to cover the costs of administration and retrieval.

## Refusal

As TERN encourages the sharing of data and knowledge for the long-term benefit of the research community, no reasonable request for access to TERN specimens will be refused, as long as TERN policies are adhered to. In the event of multiple simultaneous requests for the same specimens, a decision will be made by TERN staff based on the following priorities:

- For all specimens:
  - non- commercial applications
  - short loan time
  - access to specimens on site or transport within state
  - research projects aligned with TERN priorities
- For soil metagenomic specimens and leaf samples only:
  - limited destructive sampling
  - downstream product availability (e.g. extracted DNA).

In all cases a compromise will be sought to allow all parties to access their required specimens within a reasonable time-frame. TERN reserves the right to refuse specimen loans to individuals and/or institutions who have not adequately complied with our specimen loan policies and procedures in the past.

## Project information

Details of the proposed research and funding sources must be declared as part of the application procedure and include the relevant qualifications, experience and affiliations of the Applicant and Specimen Custodian (usually the same person but not necessarily, see Specimen Custodian).

## Specimen custodian

A suitably qualified 'Specimen Custodian' must bear responsibility for the specimens for the period of the loan, including transport to and from TERN. This person does not necessarily have to be the Applicant, for example, an Honours Student may be the Applicant, but their academic supervisor is more appropriately qualified to act as Specimen Custodian. In this instance, 'suitably qualified' means with appropriate academic qualifications or professional experience to ensure that specimens are cared for in accordance with TERN policies and general best-practice protocols.

## Taxonomic revisions

From time to time there may be taxonomic revisions which affect the species designation of particular plant specimens. The collection methodologies and ÆKOS data structures employed by TERN are robust to these changes, allowing examination of voucher specimens to confirm taxonomy and data updates through ÆKOS to reflect these changes. ÆKOS data are publicly available and it is not the responsibility of TERN to notify external parties of any revisions.

## Specifics regarding voucher specimens

### Destructive sampling

Destructive sampling is not permitted for voucher specimens; however, it may be permitted for Leaf Samples (see below). In very rare circumstances destructive sampling may be permitted if all leaf samples have been used and no suitable downstream products (e.g. extracted DNA) or datasets (e.g. results from isotope analyses) are available.

### Transport and storage

Voucher specimens will be provided in herbarium sheets (or newspaper/cardboard) stored in herbarium boxes (cardboard boxes 53 x 35 x 16 cm). To ensure specimen integrity these boxes should be kept horizontal at all times and great care be taken when removing and examining specimens particularly to ensure no contamination of vegetative material between specimens. Herbarium boxes need to be stored in a cool, dry environment away from direct sunlight and in a storage facility with appropriate pest management protocols are in place. These storage requirements also apply to transport of specimens.

### Specimen return

All voucher specimens must be returned to TERN AusPlots at the end of the loan period, in the same condition in which they were originally loaned. It is the responsibility of Specimen Custodian to ensure that specimens are appropriately cared for up until the point of hand over back to TERN. The date and timing of specimen return will be agreed between the Specimen Custodian and TERN AusPlots staff.

## Specifics regarding leaf samples for genetic and isotope analyses

### Destructive sampling

These leaf samples have been collected specifically for the purposes of genetic and isotope analyses, as such, destructive sampling is permitted. More material has been collected than is required for most procedures hence AusPlots permits partial destructive sampling in order to maximise potential for re-use. The amount of material required must be stipulated by the Applicant and this amount only will be provided. AusPlots reserves the right to refuse requests where suitable downstream products (e.g. extracted DNA) or datasets (e.g. results from isotope analyses) are available.

### Transport and storage

Leaf samples will be provided in individual synthetic teabags immersed in silica beads to maintain sample desiccation. In most instances the required samples will be provided in a sealable airtight container (i.e. 'Sistema' brand) containing a mixture of self-indicating (10%) and standard (90%) silica granules. Samples should be stored and transported in this way. Containers should be stored in a cool, dry place out of direct sunlight. Silica will need to be checked periodically to ensure the indicating granules are dry and retain their capacity to absorb moisture. If indicating granules change colour, the silica beads have reached their moisture absorbing capacity and must be changed. Used silica can be oven dried and re-used.

### Derived products

If excess derived products are created throughout the course of the project (e.g. extracted DNA) this must be stored appropriately (frozen) and made available to other researchers if endorsed by TERN. Excess products must be discussed with TERN AusPlots.

## Specifics regarding soil samples for metagenomic analyses

### Destructive sampling

These soil samples have been collected specifically for purposes of genetic analyses and as such, destructive sub-sampling is permitted. More material has been collected than is required for most procedures hence AusPlots permits partial destructive sampling in order to maximise potential for re-use. AusPlots will take a soil sub-sample according to the required protocol (in consultation with the Applicant) and the required amount only will be provided. AusPlots reserves the right to refuse requests where suitable downstream products (e.g. extracted DNA) are available.

### Transport and storage

Appropriate transport and storage conditions will be determined by the Applicant according to their preferred protocols.

### Derived products

If excess derived products are created throughout the course of the project (e.g. extracted DNA) this must be stored appropriately (frozen) and made available to other researchers if endorsed by TERN.

## Further information

Visit the AusPlots website [www.ausplots.org.au](http://www.ausplots.org.au)

Contact AusPlots Director: Ben Sparrow [ben@ausplots.org.au](mailto:ben@ausplots.org.au)

Complete the [TERN AusPlots Specimens Loans Application Form](#)

White, A., Sparrow, B., Leitch, E., Foulkes, J., Flitton, R., Lowe, A., and Caddy-Retalic, S. (2012) AusPlots-Rangelands Survey Protocols Manual, Version 1.2.9. Terrestrial Ecosystem Research Network (TERN) and University of Adelaide. Available for free download via our [website](#).