

This document contains instructions on how to use the themed data included with this extraction. NB: depending on what you chose to download, you may not have all of the content described below. If you have any questions or suggestions on how we can make download more useful to you please contact us at esupport@tern.org.au.

Why did we create themed data?

To assist users to get data in a more immediately useable form AEKOS has created a number of data themes that contain most of the data that users are likely to be interested in (see Table 1). The principle reason for doing this was to create 'flat' tables that can immediately be manipulated in programs that are commonly utilised by ecologists such as Spreadsheets and R DataFrames. This is achieved by flattening out the otherwise strongly hierarchical nature of the data. The advantage of this approach is that users do not need to be able to perform complex relational joins on the data in order to use it. The trade off however is that the tables contain a lot of repetition leading to larger file sizes and also the need to elide some of the less commonly used observations.

What data themes data are available?

The data covered by the themes represents the majority of information available in AEKOS broken up in different ecological themes, downloadable as separate files (See Table 1). The few attributes not included in the themes are available as part of a full download of all AEKOS data in a relational database, if you chose this option.

Please note the following:

- Not all ecological entities described in AEKOS have data for all attributes listed in the tables.
- Some attributes appear in several data themes. This occurs when the same type of information is collected at different scales. For example life stage can be either recorded on the scale of the individual or the scale of the population and hence appears in both data themes.
- Definitions of all attributes are included for each theme – the location of these definitions differs depending on the download format (see below).
- In addition to the theme-specific columns, each data theme also contains the corresponding site details and a link to the relevant method description.
- Each themed download includes by default a separate site details theme, containing basic information about the site visit.

What download formats are available?

The themes are available in two download formats, CSV and H2, but please note that the actual data structure is identical in both formats. We expect that most users will initially be more comfortable using the CSV files that can be immediately opened in any spreadsheet program or imported into commonly used statistical packages. When you open these files you will notice that the first row contains names for each attribute and the second row contains corresponding definitions for the attribute. The column 'AEKOS Site Visit

Identifier' of each themed file can be used to match up data records from other themes.

Themes are also available in a simple relational database (H2 format), where the selected themes are represented as tables. The advantage of this format is that it is amenable to rapid data manipulation. This allows users to quickly sort / filter and or summarise the data as well as join different themes together to create customised data tables that are more fit for an individual users purpose. Using this format requires users to have some working knowledge of relational data and SQL. This is a relatively easy skill to pick up and there are numerous excellent tutorials available on the Internet (for example the W3 Schools SQL Tutorial at <http://www.w3schools.com/sql>). The H2 folder included in your download contains all necessary components to run as a self-contained system and does not require any advanced installations: the database file itself (themed_data.h2.db) as well as two scripts to start the database application (one for Windows: run_h2_windows.bat; one for Mac/Linux: run_h2_Mac_Linux.sh). On a Windows computer, please run the file run_h2_windows.bat by double-clicking it in the Explorer. On a Mac or Linux computer, please run the file run_h2_Mac_Linux.sh in the Terminal application by navigating to the folder containing the downloaded H2 files and by typing ./run_h2_mac_linux.sh.

Table 1. Data themes available for download

Themed file	Description
Site details	Basic information about the site visit
Landscape Feature	All available data of the physical characteristics of the site and its surrounding landscape as well as other landscape-related attributes.
Soil Features	All available soil-related attributes.
Individual Plants	All available data on individual plants as well as other attributes related to individuals.
Vegetation Populations	All available population characteristics on vegetation as well as other population-related attributes.
Vegetation Communities	All available structural and compositional data on vegetation communities as well as other community-related attributes. In the context of TERN AEKOS vegetation community is defined as a group of plants belonging to a number of different (identified or unidentified) species that co-occur in the same area and interact through trophic and spatial relationships.
Individual Animals	All available morphological, health and blood data on individual animals as well as other attributes related to individuals.
Fauna Populations	All available animal trapping data as well as other population-related attributes.