**Trait Database Progress Report**

**20/6/2018**

So far the database includes ~ 120 species. The majority of entries were taken from both Plant Selector Plus and from the Sydney Water plant selector website, as they possess data for most of the core traits listed below and seem reputable sources. A variety of minor websites have been used for certain species when not listed in these two databases.

Two outstanding sources of data which include many of the more useful, but obscure traits such as abiotic sensitivities or planting purpose are: “EDIS database at the University of California” and “Florabank”. However, these databases don’t often show species required for the WPW database.

I have listed each trait and written a short review below which describes the extent that data is generally available. Traits for which data can be found for most plants are highlighted in yellow. I have also commented on the appropriateness of the levels used to describe each trait, the most common levels used for each trait and any decisions that were challenging to make when assigning a level to plants.

**Traits:**

**Common Name**: Readily available data from a variety of sources.

**Light Level**: Three categories, so a very broad characterisation. Readily available but sources often differ between full sun and full sun/part shade. Is it still meaningful?

**Abiotic Tolerances**: Drought and frost tolerance are well documented in a variety of sources but often differ. Some say moderately or light frost tolerant. Some say frost tolerant when mature which I added to the “Establishment Care” section. Drought tolerance is often ambiguous as well.

**Abiotic Sensitivities**: Sometimes mentioned, mostly for drought or frost. Some abiotic stresses were less commonly mentioned than others, e.g. salinity sensitivity is probably for most plants but is not frequently documented i.e. is assumed knowledge.

**Soil type**: Records plants as appropriate for growing in sand, silt or clay. This is well documented but similar to the problems with light level, in that sources record different combinations of the three. Most plants record all three categories. Is this meaningful? Soil is never strictly classed in these characters in practice.

**Establishment Care**: Mentioned by horticultural sources occasionally. Many plants may require some form of establishment care but I assume that this information is often taken for granted and not identified.

**Form**: Plant form is well documented and found in a variety of sources for most plants. Small tree, medium tree, shrub can all apply to one species but this may not be a problem.

**Max Height**: A fairly consistent trait. Often there is a max height for the specie’s natural habitat and a max height under cultivation. I chose to record the “max height under cultivation” in the database.

**Plant height**: Sources with only one height, rather than a height range are assigned to this trait.

**Min height**: for when a minimum height is listed.

**Max width:** see max height

**Width:** see height

**Min width:** see min height

**Growth Rate**: Infrequent data, only available from one or two sources. The growth rates often conflict between sources, eg UoC versus Australian sources might list moderate and high growth rates.

**Canopy Shape**: Quite commonly listed. Mostly taken from Plant Selector Plus. Other sources often conflicted, e.g. “spreading” was applied to most trees from a variety of sources.

**Shade:** Sparse data, entries are often inferred from the phrase “dense canopy”.

**Flower Colour**: Good data, sources usually agree, some colour lists for a species are longer than others.

**Other feature**: This category notes a particular outstanding trait of a plant which was mentioned in the description; it seems like a useful category for growers. Showy flowers and fragrance are most commonly listed.

**Foliage Colour**: The classifications are fairly general for leaf colour. The number of levels for this trait could cut down the number of categories to just 3 or 4 colours eg dark, mid and light green.

**Placement**: A fairly straightforward category. Parks/gardens are most commonly mentioned, as these are the most general environment e.g. often do not restrict growth of large trees.

**Purpose**: Generally well documented. Most plants on the list could be classified as a “feature” as this is an important reason for people designing green spaces. Some categories such as “windbreak” and “screen” seem to overlap somewhat.

**Place of Origin**: Needs to be divided into Country of Origin and Continent of Origin. Data for the state and sub-state level should be already available

**Ecological Service**: Identified as bird attracting, pollinator attracting or small mammal attracting.

**Maintenance**: Very rarely quoted, mostly from in-depth horticultural websites.

**Supplementary Watering**: Mostly available. Taken from Sydney water website or Plant Selector Plus.

**Risks**: Usually well documented.

**Root Invasiveness**: The level of root invasiveness was well documented from a variety of government sources and measured by recommended planting distance from a pipe.

**Root depth**: Very general – two levels: shallow and deep. Not commonly mentioned and when it is, it can conflict.