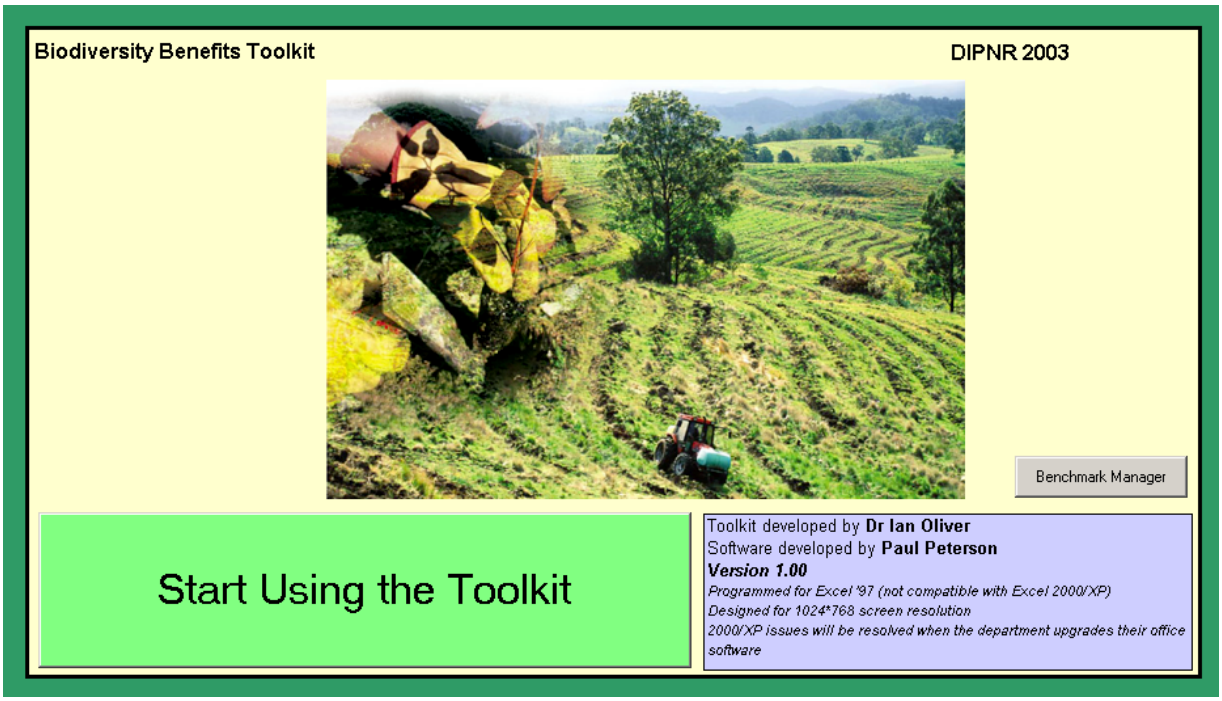
Department of
Infrastructure, Planning and Natural Resources

Users' Guide to the

Biodiversity Benefits Toolkit Application V1



Introduction

This users' guide provides brief instructions to the operation of the Biodiversity Benefits Toolkit Application V1 (downloadable from http://www.dlwc.nsw.gov.au/care/biodiversity_synopsis.htm.)

The toolkit aims to strike a balance between a meaningful, defensible and practical approach to the assessment of biodiversity benefits (and disbenefits) likely to result from land use change. It has been successfully applied to property-level land use change scenarios within the NSW Environmental Services Scheme (http://www.dlwc.nsw.gov.au/care/es_scheme.html). The toolkit builds upon the *Habitat Hectares* methodology developed by the Department of Natural Resources and Environment (Victoria) and applied to the Victorian *BushTender* Trial. It also incorporates recommendations from a specially convened *Technical Advisory Group*, as well as results generated by a *Vegetation Condition Expert Panel*.

The toolkit aims to capture the requirements of a broad range of flora and fauna rather than the specific requirements of individual (rare or threatened) species. The toolkit has been designed for use by experienced vegetation management field-staff.

The toolkit has been designed to achieve three goals;

- ***Score the current biodiversity value of a site as***
  - ***the Biodiversity Significance Score***
- ***Score the magnitude and direction of change in value as a result of land use change as***
  - ***the Land Use Change Impact Score***
- ***Incorporate these current and potential values into an index to allow comparison among different land use change scenarios as***
  - ***the Biodiversity Benefits Index***

The ***Biodiversity Benefits Index*** is scored on the basis of three surrogate measures of biodiversity. Each of these is scored out of a total maximum score of 100:

Landscape Context – recognises that the biodiversity value of an area of vegetation will vary depending on where the site is located in the wider landscape. Small sites surrounded by a "sea" of agriculture will have poor landscape context compared with sites close to large semi-natural areas.

Conservation Significance – is important for estimating the biodiversity value of a site in a regional context. Some sites may represent elements of biodiversity that are common in the landscape, others may represent elements that are now rare. Conservation Significance recognises the amount of each element now in the landscape compared with a time prior to agricultural development, as well as the likelihood of the element persisting.

Vegetation Condition - is important for estimating the current biodiversity value at the site-scale. It is defined as the degree to which the current vegetation differs from a *Vegetation Condition Benchmark* representing the average characteristics of the mature native vegetation type/s predicted to have occupied the site prior to agricultural development. It describes the degree to which critical habitat components and other resources needed by native plants and animals are present at the site.

Further details are available in the *Toolkit Technical Manual* and the *Pocket Guide for Landholders*, both available at http://www.dlwc.nsw.gov.au/care/es_scheme.html). This document provides brief instructions to the operation of the downloadable Biodiversity Benefits Toolkit Application V1. Figure 1. provides an overview of the steps involved in the use of the Toolkit.

Instructions for use of the Biodiversity Benefits Toolkit

Launching the program

The Biodiversity Benefits Toolkit (hereafter referred to as the "Toolkit") can be used to calculate a BBI (Biodiversity Benefits Index) for land use change at a single site, or land use change for an entire property (or group of properties).

However, for each scenario (a single site, a property, or a group of properties) a separate copy of the program is required. Therefore, it is advisable to down-load the program and make a copy for use in each application.

The program runs under Excel 97, it does not function correctly under Excel 2000 or Excel XP.

To launch the program (a saved copy of the down-loaded copy) click on the "Start using the Toolkit" button. The "Bid Overview" page will be presented.

Bid Overview Page

The Bid Overview page provides for;

- Property and location details,
- Management Unit creation, and
- Total property BBI derived by summing the BBIs across Management Units.

1. Enter property and location details by selecting the appropriate cell and typing or pasting the relevant details (it is not possible to tab between cells in the current version).
2. If spatially explicit regional planning documents are available that can place the property in a low, moderate or high regional priority zone, select the appropriate regional prioritisation level.
3. Click on the "add new" button to enter a new Management Unit, or select an existing Management Unit and click on the "details" button to progress to the Management Unit page.

Management Unit Page

The Management Unit page provides for;

- "Current land use" and "proposed land use", selection or definition,
- *Landscape Context* assessment,
- Management input description, and
- Assessment Unit creation,
- Total Management Unit BBI derived by summing the BBIs across Assessment Units.

4. Select the required "current land use" and "proposed land use" from the drop-down menus, or define an alternative land use by clicking on the "define new" button. These selections define a Management Unit.

   Management Units should represent a site/paddock/remnant or a collection of sites/paddocks/remnants with similar land use history (e.g. with or without trees), be under a similar current land use (e.g. set-stocked grazing), and will be subject to the same land use change (e.g. strategic or time-controlled grazing).
5. Enter the size of the Management Unit in hectares and starting and finishing dates if required.
6. Click on the "Calculate local/site Landscape Context" button.

Landscape Context Page

The Landscape Context pages provides for;

- Prioritisation of the Management Unit for Landscape Context at the site level.
- Prioritisation of the Management Unit for Landscape Context at the local level.

7. Based on field-inspection or aerial photographs select the appropriate Landscape Context features at the site-level.
8. Based on aerial photographs select the appropriate Landscape Context features at the local-level (refer to the technical manual for guidance if necessary).
9. On completion of the page click on the "back to Management Unit" button.
10. Click on the "add new" button to enter a new Assessment Unit, or select an existing Assessment Unit and click on the "details" button to progress to the Assessment Unit page.

Assessment Unit Page

The Assessment Unit page provides for;

- Vegetation Condition Benchmark selection, inspection or creation,
- *Conservation Significance* assessment,
- Survey plot / Transect creation,
- BSS (Biodiversity Significance Score), LUCIS (Land Use Change Impact Score) and BBI /ha.

11. Select the Vegetation Condition Benchmark for the Assessment Unit.

    Assessment Units can only contain a single broad vegetation type (= Vegetation Condition Benchmark). Where a Management Unit contains more than one broad vegetation type separate Assessment Units and Benchmarks must be used for each vegetation type.

12. Click on the "current CS (conservation significance)" button and if the site contains native vegetation answer at least one of the questions to generate the current conservation significance score (refer to the technical manual for guidance if necessary).
13. Repeat for "potential CS (conservation significance)".
14. Click on the "add new" button to enter a new Survey Plot, or select an existing Survey Plot and click on the "details" button to progress to the Survey Plot pages. Complete Survey Plot pages.
15. Click on the "add new" button to enter a new Transect, or select an existing Transect and click on the "details" button to progress to the Transect page. Complete Transect page.

Survey Plot Pages

The Survey Plot pages provide for the assessment of *Vegetation Condition* as contributed to by;

- Richness assessment (current and potential) within major vegetation layers (strata),
- Cover assessment (current and potential) within major vegetation layers,
- Tree health debits and non-local native or exotic species debits,
- Organic litter cover and depth assessment,
- Weed cover and threat assessment,
- Woody vegetation recruitment assessment.

16. Enter the observed richness within each stratum within the Survey Plot into the current richness fields.

17. Enter the observed cover within each stratum within the Survey Plot into the current cover fields.
18. Within the potential richness and cover fields, select the number of classes of change in condition status the land use change and suite of management inputs is expected to lead to.
19. Debit the cover scores using the "health" and "exotic" debits buttons as required.
20. If a stratum is not assessable (e.g due to lack of field experience or lack of plant material) the stratum can be turned off using the stratum "off" check box at the left of the screen.
21. On page 3/3 enter the GPS coordinates of the Survey Plot centre and select from the drop-down menus the current and potential conditions for litter, weeds and recruitment.
22. Click "done" to return to the Assessment Unit page.

Transect Page

The Transect pages provide for *Vegetation Condition* assessment as contributed to by;

- Large tree density and health assessment,
- Hollow-bearing tree density assessment,
- Wood load and state of decay assessment.

23. Enter the current and potential status for the above criteria.

Returning to the Bid Overview Page

To return to the Bid Overview page click on the "OK" buttons on each page. Repeat the above process for each new Management Unit as required.

Figure 1. Overview of the steps involved in the use of the Biodiversity Benefits Toolkit Application V1.