

ENVIRONMENTAL WEED DATA AND DATABASES IN WESTERN AUSTRALIA

Greg Keighery
Department of Conservation and Land Management,
Woodvale, P.O. Box 51, Wanneroo, Western Australia, 6065
gregk@calm.wa.gov.au

Background

Western Australia is a mirror of the continent of Australia, extending from the tropics to the cool temperate. The weed flora is correspondingly diverse, over 1,000 species. These weeds occur in habitats ranging from Rangelands, Row Crops, Home Gardens to Urban Bushland Remnants. Over half these weeds are environmental weeds.

There are many data sources for weed information in Western Australia. As in other States they consist of a wide variety of information, based on herbarium data, site data and control data. The data exists in a series of electronic and paper formats in a wide variety of institutions, organisations and localities.

Currently an Environmental Weed Strategy for Western Australia is being completed and a State Weed Strategy is commencing. A major outcome for these strategies will be the need to integrate available data and ensure that the information contained in data sets is utilised in the management and control of weeds.

The available datasets on environmental weeds are listed first under those external to the Department of Conservation and Land Management (CALM, the major conservation land manager in W.A.) and those internal to the Department.

PUBLIC DOMAIN INFORMATION

1) PLANT PROTECTION SOCIETY

Web Address: <http://www.wantree.com.au/~weeds>

Contains Western Weeds book (over 600 colour photos of weeds and text) on line.

Western Weeds (Hussey, Keighery, Cousens, Dodd and Lloyd) is also available as a book from the Society.

2) ENVIRONMENTAL WEEDS ACTION NETWORK

Web Address: <http://weeds.merriweb.com.au>

The Environmental Weeds Action Network has a NHT grant to assist friends Groups in Weed Control (Kate Brown, consultant). Regular reports appear in group's newsletter.

3) FLORA BASE

Web Address: CALM Nature Base internet site: <http://www.calm.wa.gov.au>

Contains a description, distribution map, specimen details (some cases colour photographs) of all 12,500 taxa of vascular plants recorded for Western Australia.

NOTE: Charges apply, only parts are public domain.

OTHER SOURCES OF INFORMATION ON ENVIRONMENTAL WEEDS

CALM Research Division under the Flora conservation program (Dr. D. Coates, program leader(davidc@calm.wa.gov.au)). Data on control and management of weeds threatening rare flora.

Kings Park and Botanic Garden are assembling weed control data for Urban Bushland (Dr. Ray Wills (rwills@geog.uwa.edu.au) and I.R. Dixon).

In numerous community, local government and CALM management plans Greening Western Australia, Dixon and Keighery (1995) Weeds and their control and Suggested methods to control weeds (pages 23-144) in book on "Managing Perth's Bushland", Eds: Scheltema, M. and Harris, J. This all 357 weeds recorded in bushland in area, ranked as to effects and need to control, life form, habitats where occur, localities, effects and methods to control.

CALM INTERNAL INFORMATION

The rest of this paper will only address weed information in CALM. Currently a variety of information about environmental weeds exists in the Department, both in paper and electronic formats.

The Department of Conservation and Land Management is responsible for the management of Nature Reserves, National Parks, State Forests and a variety of other conservation lands. The Department consists of research and operations divisions with weed control and management being under Environmental Protection Branch in the Nature Conservation Division. This division manages several major conservation databases (rare and threatened flora and threatened communities databases) where weeds are listed as one of the major threats.

Other information mainly is held in research division, these consist of a wide variety of information, based on herbarium data, site data, effects and control data. These data sets are not yet integrated.

These data will be considered under

1) General Information Databases:

A) Environmental Weeds of Western Australia

Purpose: When completed this will:

List of all environmental weeds of Western Australia. Give distribution by IBRA Region. Ranking as to threat. Control measures (if known, largely derived from Managing Perth's Bushland, Dixon and Keighery, 1995).

History:

Arose from State Environmental Weeds Strategy (NHT Grant).

Strengths: On CD Rom, very user friendly

Weaknesses: Still in draft stage, long term location and maintenance not concluded.

Current Budget: Limited, still under discussion.

Long Term Future: Nature Conservation Division, (the operations section of CALM) is committed to project. If the control data especially, placed with their operations headquarters (as is the Rare Flora database and the Threatened communities database), the database should have long term security and use.

B) Weeds Information (Weeds of Western Australia)

This project will follow on from the above, however, it is still in draft stage, Funding (NHT) has been applied for. It aims to develop a "comprehensive State Weed Information Network", based on volunteers collecting specimens of weeds.

2) Regional Biological Survey Data

CALM has extensive site based biological survey data, which inventories all flora taxa, including weeds, at these sites. Data bases of survey data exist for the Nullarbor (IBRA Regions: HAM, NUL), Goldfields (IBRA Regions: MUR, COO), Kimberley Rainforests (IBRA Regions: NK, VB, CK, DL), Pilbara (IBRA Regions: PIL), Carnarvon Basin (IBRA Regions: CAR, GS). A major survey is currently being undertaken in the Agricultural Zone (IBRA Regions: GS, SWA, YAL, AW, JF, MAL, ESP, COO). However, the most comprehensive database is for the Swan Coastal Plain (IBRA Region: SWA). This is detailed below.

A) Flora of Reserves and Bushland of the Swan Coastal Plain.

Purpose:

Database on the occurrence of vascular plants(including weeds) in reserves and bushland on the Swan Coastal Plain IBRA Region. Officers responsible are N. Gibson and G. Keighery.

History:

Arose from an Environment Australia, now NHT Grant.

Strengths:

All 85 reserves have complete flora lists and over 1,000 quadrats have been established, scored and analysed. Over 2,000 taxa, including over 500 weeds in database. Weeds listed for all reserves in vegetation types, can interrogate for occurrences.

Weaknesses:

Project concluding data will be archived.

Current Budget:

\$3, 000.

Long Term Future:

Under Discussion.

3) Status of Trees and Shrubs in Arboreta in southern Western Australia**Purpose:**

List all trees, shrubs persisting and/or spreading from deliberate planting's in Arboreta in southern Western Australia. Officers responsible are W. Muir and G. Keighery.

History:

Systematic and ad hoc documentation of areas since 1994.

Strengths:

Complete listing of trees/shrubs deliberately introduced often into bushland over the last 100 years. Rate of spread able to be quantified in some cases.

Weaknesses:

Limited time resources.

Current Budget:

\$1800

Long Term Future:

Completion planned for 2005.

Comments

Currently a large diversity of uncoordinated information is available on environmental weeds in Western Australia. There is also a lack of utilisation of the available data by operations and friends groups who are responsible for most weed control.

A national approach to assist and guide the development of integrated State information for the management and reduction of the threat of weeds Australia wide would be welcome.