Central Slopes NRM Project

NRM/Biodiversity Metadata Component

(Theme 3: Plant and Animal Abundance and Theme 5: Aquatic Ecosystems and River Health)

Central Slopes Endnote Library: Systematic Database Search (Terrestrial Ecology)

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Aim

The aim of the systematic database search is to capture a majority of the terrestrial ecological research undertaken in the Central Slopes region for the purpose of establishing an Endnote® library. It is important to keep a record of the systematic process so that it is repeatable and transparent.

Background to systematic review process

Initially, it was decided to use several different scientific databases available through the USQ Library along with Google Scholar to search for relevant material.

The results of these searches are summarised in Table 1. Google Scholar returned a majority of the relevant material. Therefore, it was decided that Google Scholar be searched in the first instance followed by Web of Knowledge (now Web of Science), ScienceDirect and Scopus.

The following methodology should make the process productive and efficient. Currently, it takes 2 to 3 days (between 14-21 hours) per topic to search the databases and capture the references in the Endnote library.

Table 1. Summary of initial database searches

Database	Results	Useful Number	New	% captured
Tree cover and river search				
JSTOR	499	Not recorded	3	0.60
Scopus	404	Not recorded	5	1.24
Web of Knowledge	299	Not recorded	8	2.68
Academic Science	69	5	2	2.90
Science Direct	509	21	5	0.98
Google Scholar	1605	69	30	1.87
TOTAL	**3385**	**95**	**53**	**1.57**
Tree cover and region/catchment search				
JSTOR	49	0	0	0.00
Scopus	69	1	1	1.45
Web of Knowledge	14	0	0	0.00
Academic Science	88	2	2	2.27
Science Direct	117	7	2	1.70
Google Scholar	755	34	6	0.79
TOTAL	**1092**	**44**	**11**	**1.01**

Process

1. **Develop search terms**

   Use Boolean operators (such as AND; OR etc.) to develop search terms. Quotation marks or brackets should be used when searching for an exact phrase.

   > Example: ("tree cover" OR "woody vegetation cover" OR "native plant cover" OR "foliage projective cover" OR "remnant vegetation cover") AND murray-darling

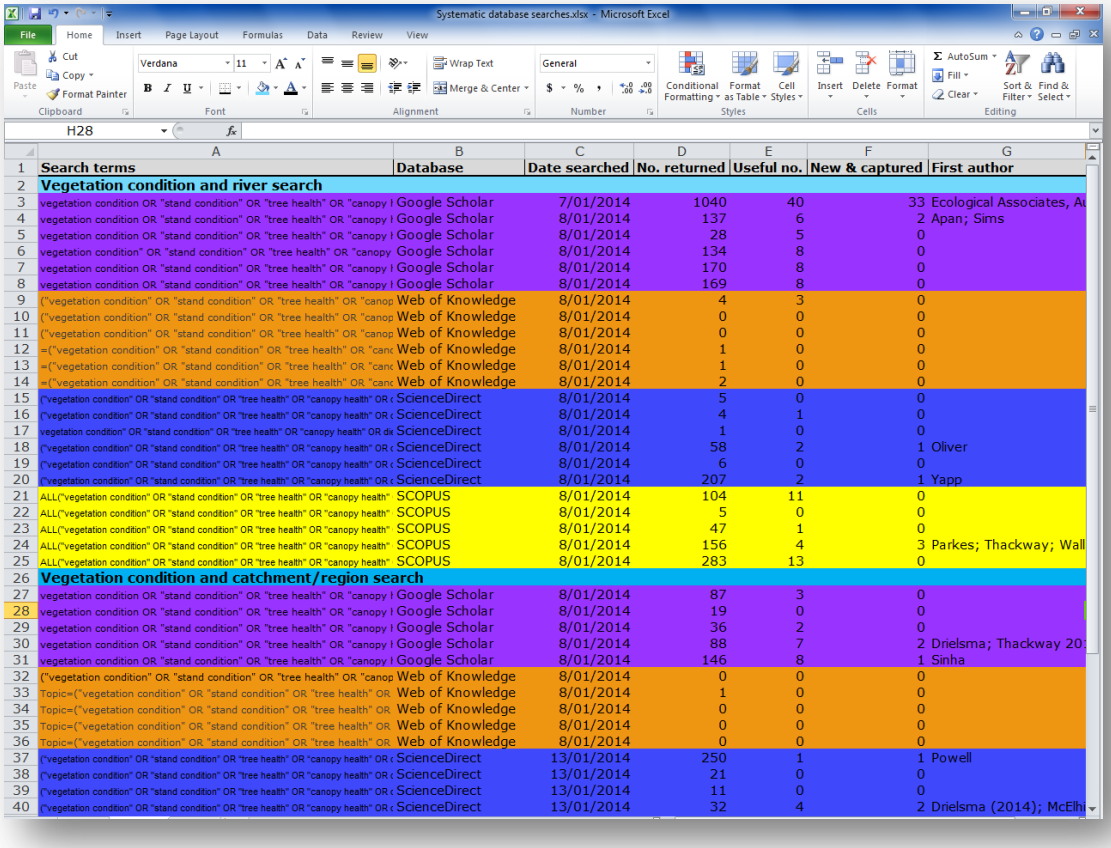
   Include alternative words when searching a topic (see Appendix 1) and restrict the search to the study area by searching for the topic and major rivers and the topic and region/catchment (see Appendix 2).

   For further information on how to write search terms see the search tips for each database located in the folder Help-database search.

2. Develop search database

It is necessary to record the results of the searches as evidence of the process used. Develop a database in Excel 2010 which includes the following detail: search terms; database searched; date searched; number returned; useful number; new & captured; first author of paper (Figure 1).

Figure 1. Database of systematic searches

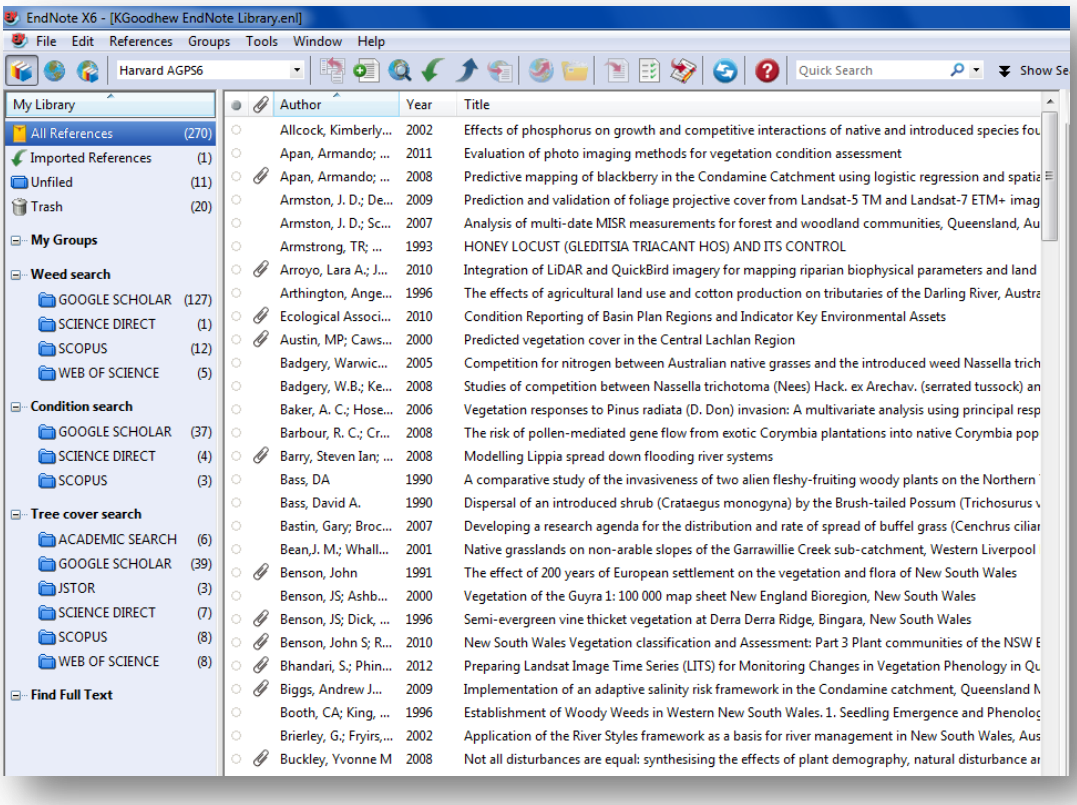


Search terms	Database	Date searched	No. returned	Useful no.	New & captured	First author
Vegetation condition and river search						
vegetation condition OR "stand condition" OR "tree health" OR "canopy	Google Scholar	7/01/2014	1040	40	33	Ecological Associates, A
vegetation condition OR "stand condition" OR "tree health" OR "canopy	Google Scholar	8/01/2014	137	6	2	Apan; Sims
vegetation condition OR "stand condition" OR "tree health" OR "canopy	Google Scholar	8/01/2014	28	5	0	
vegetation condition" OR "stand condition" OR "tree health" OR "canopy	Google Scholar	8/01/2014	134	8	0	
vegetation condition OR "stand condition" OR "tree health" OR "canopy	Google Scholar	8/01/2014	170	8	0	
vegetation condition OR "stand condition" OR "tree health" OR "canopy	Google Scholar	8/01/2014	169	8	0	
("vegetation condition" OR "stand condition" OR "tree health" OR "canop	Web of Knowledge	8/01/2014	4	3	0	
("vegetation condition" OR "stand condition" OR "tree health" OR "canop	Web of Knowledge	8/01/2014	0	0	0	
("vegetation condition" OR "stand condition" OR "tree health" OR "canop	Web of Knowledge	8/01/2014	0	0	0	
=("vegetation condition" OR "stand condition" OR "tree health" OR "canc	Web of Knowledge	8/01/2014	1	0	0	
=("vegetation condition" OR "stand condition" OR "tree health" OR "canc	Web of Knowledge	8/01/2014	1	0	0	
=("vegetation condition" OR "stand condition" OR "tree health" OR "canc	Web of Knowledge	8/01/2014	2	0	0	
("vegetation condition" OR "stand condition" OR "tree health" OR "canopy health" OR (	ScienceDirect	8/01/2014	5	0	0	
("vegetation condition" OR "stand condition" OR "tree health" OR "canopy health" OR (	ScienceDirect	8/01/2014	4	1	0	
vegetation condition" OR "stand condition" OR "tree health" OR "canopy health" OR dis	ScienceDirect	8/01/2014	1	0	0	
("vegetation condition" OR "stand condition" OR "tree health" OR "canopy health" OR (	ScienceDirect	8/01/2014	58	2	1	Oliver
("vegetation condition" OR "stand condition" OR "tree health" OR "canopy health" OR (	ScienceDirect	8/01/2014	6	0	0	
("vegetation condition" OR "stand condition" OR "tree health" OR "canopy health" OR (	ScienceDirect	8/01/2014	207	2	1	Yapp
ALL("vegetation condition" OR "stand condition" OR "tree health" OR "canopy health"	SCOPUS	8/01/2014	104	11	0	
ALL("vegetation condition" OR "stand condition" OR "tree health" OR "canopy health"	SCOPUS	8/01/2014	5	0	0	
ALL("vegetation condition" OR "stand condition" OR "tree health" OR "canopy health"	SCOPUS	8/01/2014	47	1	0	
ALL("vegetation condition" OR "stand condition" OR "tree health" OR "canopy health"	SCOPUS	8/01/2014	156	4	3	Parkes; Thackway; Wall
ALL("vegetation condition" OR "stand condition" OR "tree health" OR "canopy health"	SCOPUS	8/01/2014	283	13	0	
Vegetation condition and catchment/region search						
vegetation condition OR "stand condition" OR "tree health" OR "canopy	Google Scholar	8/01/2014	87	3	0	
vegetation condition OR "stand condition" OR "tree health" OR "canopy	Google Scholar	8/01/2014	19	0	0	
vegetation condition OR "stand condition" OR "tree health" OR "canopy	Google Scholar	8/01/2014	36	2	0	
vegetation condition OR "stand condition" OR "tree health" OR "canopy	Google Scholar	8/01/2014	88	7	2	Drielsma; Thackway 20
vegetation condition OR "stand condition" OR "tree health" OR "canopy	Google Scholar	8/01/2014	146	8	1	Sinha
("vegetation condition" OR "stand condition" OR "tree health" OR "canop	Web of Knowledge	8/01/2014	0	0	0	
Topic=("vegetation condition" OR "stand condition" OR "tree health" OR	Web of Knowledge	8/01/2014	1	0	0	
Topic=("vegetation condition" OR "stand condition" OR "tree health" OR	Web of Knowledge	8/01/2014	0	0	0	
Topic=("vegetation condition" OR "stand condition" OR "tree health" OR	Web of Knowledge	8/01/2014	0	0	0	
Topic=("vegetation condition" OR "stand condition" OR "tree health" OR	Web of Knowledge	8/01/2014	0	0	0	
("vegetation condition" OR "stand condition" OR "tree health" OR "canopy health" OR (	ScienceDirect	13/01/2014	250	1	1	Powell
("vegetation condition" OR "stand condition" OR "tree health" OR "canopy health" OR (	ScienceDirect	13/01/2014	21	0	0	
("vegetation condition" OR "stand condition" OR "tree health" OR "canopy health" OR (	ScienceDirect	13/01/2014	11	0	0	
("vegetation condition" OR "stand condition" OR "tree health" OR "canopy health" OR (	ScienceDirect	13/01/2014	32	4	2	Drielsma (2014); McElhi

3. Develop an Endnote library

To help keep track of searches develop broad topic headings (e.g. weed search, pest search etc.) and group references under these headings into databases searched (e.g. Google Scholar) (see Figure 2).

Figure 2. Endnote X6 database



4. Search databases

Choose the most relevant electronic databases to search your topic. It is recommended that Google Scholar be used in the first instance, followed by 3 other electronic databases. This could be Web of Science, Scopus and Science Direct.

Search conditions

Google Scholar: limit the search between the years 1990 to 2014; exclude citations.

Web of Science: search 'Topic'; limit to relevant research areas and country

Science Direct: search 'All Fields'; limit to journal/book title and topic

Scopus: search 'All Fields'; limit to Subject Area and Country

Determine if the research is relevant to the project by first examining the title, then the abstract. If the study has been undertaken in the Central Slopes area then it should be included in the database.

Keep a record of the number of new references that are being captured along with the number of references previously captured. At the end of your search this number will be entered in the 'Useful Number' column of the Excel spreadsheet.

5. Capture reference in endnote

Keep a record of whether the research is available or not in the research notes (i.e. available, can't access). If the URL (a link direct to the source) can not be provided ensure that you attach a copy of the research to the reference in the endnote database.

6. Record search outcome

Enter search details in the database established at step 2.

Appendix 1. Topics and search terms

Tree cover:

"tree cover" OR "woody vegetation cover" OR "native plant cover" OR "foliage projective cover" OR "remnant vegetation cover" OR "riparian vegetation cover" OR "riparian cover"

Vegetation condition:

"vegetation condition" OR "stand condition" OR "tree health" OR "canopy health" OR dieback

Weeds:

weed OR "exotic plant" OR "non-native plant" OR "introduced plant" OR "alien plant" OR "invasive plant"

Pests:

pest OR "exotic animal" OR "non-native animal" OR "introduced animal" OR feral

Native species:

"native flora" OR "native fauna" OR "native plant" OR "native animal" OR "native species" NOT "aquatic species" NOT fish

Community level terms:

"vegetation community" OR "community composition" OR "species richness" OR "species diversity" OR "species evenness"

Ecosystem function services:

"ecosystem health" OR "ecosystem condition" OR "ecosystem function" OR "ecosystem service" OR "ecosystem stability" OR "nutrient cycling" OR "primary productivity"

Appendix 2. Study area search terms

Rivers in the study area

Central Slopes	**Central West CMA**	**Border Rivers-Gwydir CMA**
Murray-Darling River	Castlereagh River	Moonie River
QMDC	Talbragar River	Weir River
Balonne River	Cudgegong River	Macintyre Brook
Maranoa River	Macquarie River	Barwon River
Culgoa River	Bogan River	Severn River
Nebine Creek		Dumaresq River
Birrie River	**Namoi CMA**	Macintyre River
Bokhara River	Barwon River	Gwydir River
Darling River	Namoi River	Mehi River
Bogan River	Manilla River	Gil Gil Creek
Narran River	Peel River	
Barwon River	Macdonald River	**CA**
Paroo River	Mooki River	Condamine River
Warrego River		

Regions/catchment in the study area

Regions	**Bioregions**
Northern Tablelands	Darling Riverine Plains Bioregion
New England Tablelands	Brigalow Belt South Bioregion
North West(ern) Slopes	Nandewar Bioregion
	New England Tableland Bioregion
South West Queensland	
Southern Downs	**Ranges**
Darling Downs	Moonbi Range
	Liverpool Range
Border Rivers	Warrumbungle Range
Liverpool Plains	Great Dividing Range
Central Slopes	New England Range