

WEED DATA COLLECTION MANUAL FOR THE NORTHERN TERRITORY

SUMMARY

The Department of Land Resource Management as the lead agency for weed management in the Northern Territory has released the new Weed Data Collection Manual. Feedback will be sought for six months.

The Northern Territory Weed Data Collection Manual provides standards and guidelines to assist data managers, researchers and land management agencies to utilise weed data held by the Northern Territory Government and to allow them to contribute weed data in the most effective way.

Section one Provides an overview of weed data collection and management.

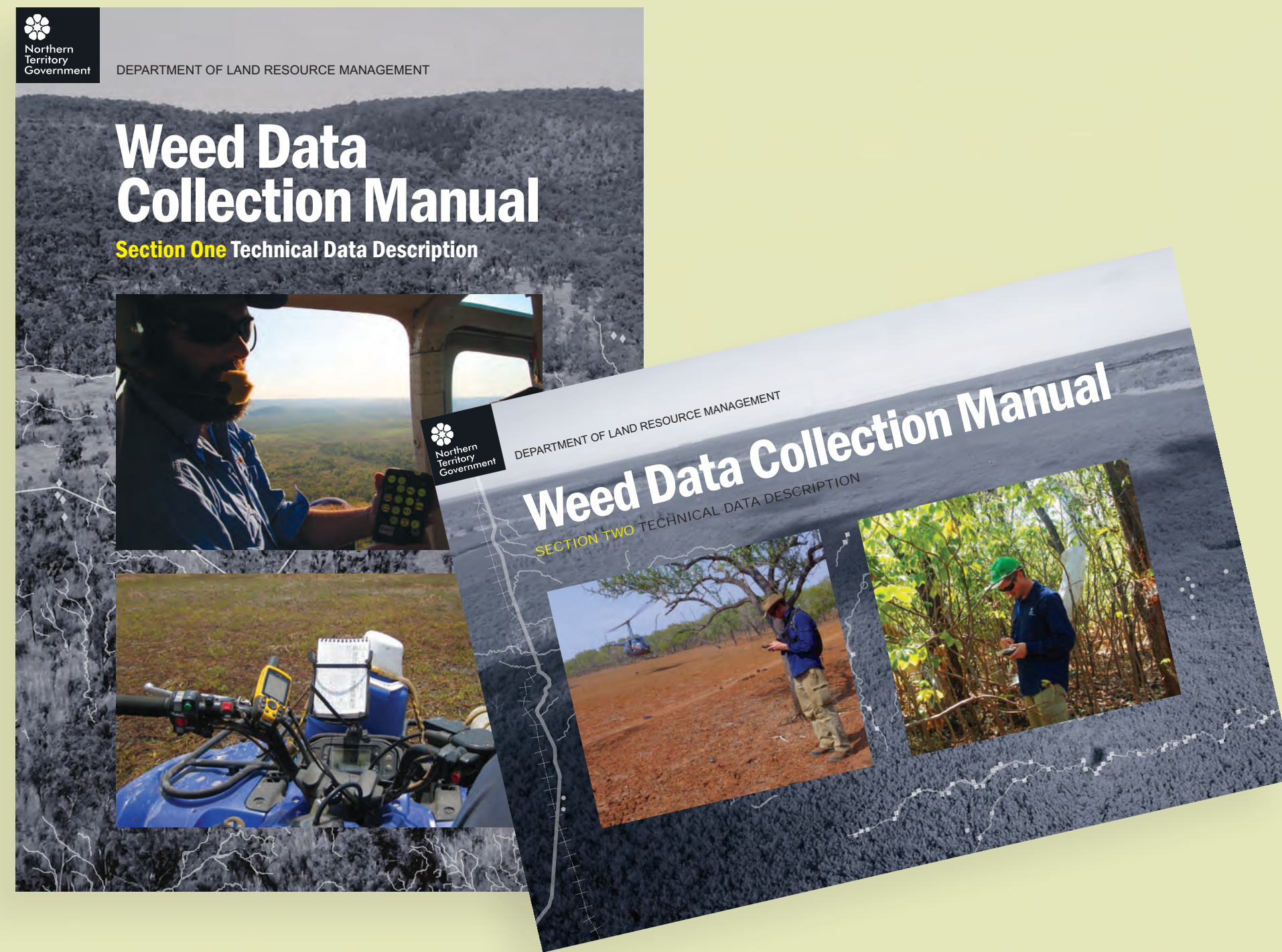
Section two Provides technical data description for the NT weeds dataset and contains metadata, a data dictionary, and a comprehensive list of NT weed species and their status

The method in the Manual supports mapping of points, lines and polygons. It is designed to work with existing mapping approaches and equipment.

The Manual will be supported by resources to help land managers map weeds effectively.

What we want to achieve

- More efficient use of resources
- Improved assistance for new groups
- Better interaction with existing data collectors
- Open access to data
- A greater understanding of weed issues



COLLECTING WEED DATA



To collect weed data, the Weed Management Branch recommends either a manual paper based method in conjunction with a hand-held GPS (Global Positioning System), or digital data collection using applications available for (Windows Mobile) PDA's and (Android) smart phones/tablets with built in GPS. A suitable Apple iOS application is likely to become available in future.

Weed data collection pocket books

The simple, inexpensive option to capture weed data; Weed data collection pocket books, and template spreadsheets are available from the Weed Management Branch. These are used to manually record information about weed infestations as single point locations using a hand-held GPS receiver. This information is transcribed to a digital version of the field sheet using a spreadsheet eg: Microsoft Excel and sent to the Weed Management Branch.

Digital GIS data entry – Arcpad, Arc Collector and Cybertracker

The Weed Management Branch often uses a PDA or Android device with a GPS to record information about weed infestations. Pre-set data entry lists for recording NT weed species are available for Cybertracker® software and ArcPad® or Arc Collector® (purchased from ESR) software.

This data collection method requires relatively expensive equipment and some skill, knowledge and experience using the collection software. However, the increased speed and accuracy of data collection makes this approach more cost effective when collecting a large amount of weed data.

The data is saved and downloaded in a shapefile format or as an Excel spreadsheet. This data can then be submitted directly to the Weed Management Branch where it will be merged with the NT Weeds Datasets.



CONTRIBUTE WEED DATA

Better data means better decisions

All land managers are strongly encouraged to submit their data to the Weed Management Branch so that decisions can be made on the basis of the best available data.

Incomplete weed data provided to external land users can result in the accidental spread of weeds on landholders' property. External resources for weed management are more likely to be invested in an area where rigorous data supports evidence of a weed problem.

The NT Weed Dataset guides the understanding of present and emerging weed issues in the Northern Territory. Used in conjunction with the Weed Risk Assessment

process the dataset enables the Northern Territory Weed Advisory Committee, Regional Weed Reference Groups, funding bodies and land managers to make decisions about priorities for weed management.

Helping others can help yourself

Many groups operate on land that they do not necessarily own, some examples being mineral explorers and miners, road and construction projects, and utility providers. These groups use the NT weed dataset to guide operations around weed problem areas or conduct hygiene procedures where such areas cannot be avoided.



Contractors can use weed data to plan where to clean down machinery.

Workers can avoid spreading seeds if they know where the weeds are.

Weed data allows operations to plan routes to avoid weeds and to control weeds on access tracks.

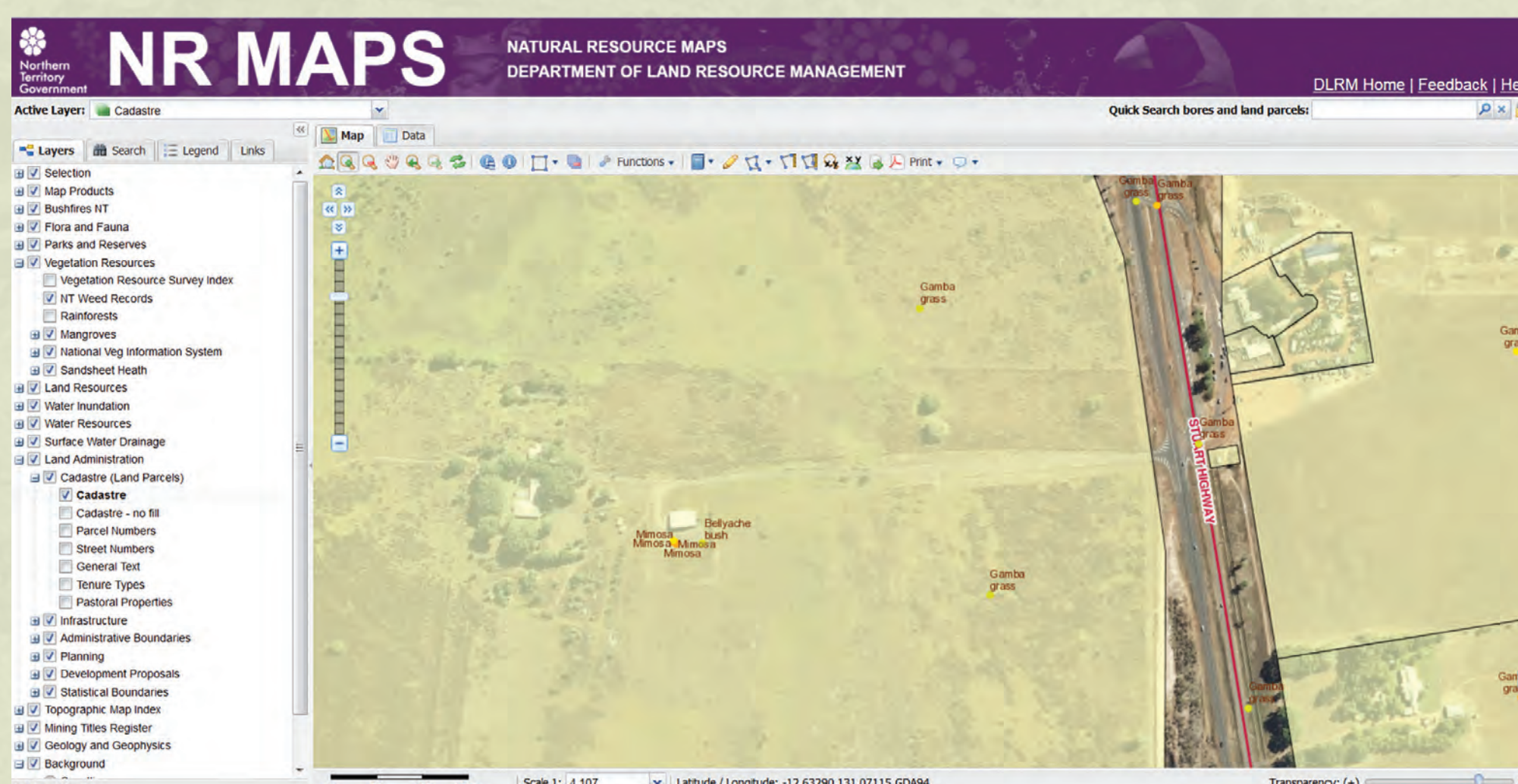
ACCESS OUR WEED DATA

Weed data is a community resource

Weed data provided to, or collected by, the Weed Management Branch is available to the public for uses that are in the public interest. There is no charge for data as such but where requests are more extensive or complicated a charge will be made for the time taken to assemble and collate the data.

Make maps of your own property online

Data can be viewed through the NR Maps online mapping service (nrmaps.nt.gov.au) and digital data requested by submitting a form available on the NR Maps home page. Where data is required for specialised purposes such as research or for significant works or projects data users are strongly encouraged to contact the Weed Management Branch.



TECHNICAL CONTENT

Core attributes

These are the minimum requirements to establish a reliable, valid record with useful information for operational and strategic weed planning. Weed records missing core attributes are generally not reliable enough for weed control planning or operation and should be discarded in most cases.

Core attributes – description of data groupings

Data Groupings	Description
Data record	Data record identifier
Name of weed	Common and scientific name of the weed
When was the weed assessed	Date of the record
Coordinates location	Latitude and longitude, and recording method
Who assessed it?	Person and organisation
Infestation size	Size of the infestation relevant to point, line or polygon data
Infestation description	Density category and treatment (control) type administered

Core attributes – type, example and purpose

No	Attribute	Type	Example	Purpose
1 Data record				
1.1	ID	Text,15	1	Machine generated index field
1.2	SITE_ID	Text,15	25	Equipment ID or other similar source identifier for this record or all other records at the site
1.3	SITE_MON	Text,15	MON1	Allocated unique site identifier to allow level of human monitoring sites
2 Name of weed				
2.1	WEED_NAME	Text,40	Ballyhoo bush	Common name
2.2	GENUS_SPP	Text,60	Zenopsis geophylla	Scientific name
3 When was the site assessed?				
3.1	DATE_REC	Date, DDMMYYYY	21/06/2013	Date of record
4 Coordination position				
4.1	LAT_DEC	Number, Double	-15.12345	Latitude in D.DDDDD to 5 places to approx 1 metre
4.2	LONG_DEC	Number, Double	132.12345	Longitude in D.DDDDD to 5 places to approx 1 metre
4.3	REC_METHOD	Text,25	Single GPS	Method used to record coordinates
5 Who assessed it?				
5.1	RECORDER	Text,40	Phil Hickey	Person most responsible for the entry
5.2	ORG_NAME	Text,60	Weed Management Branch	The organisation conducting the survey
6 Infestation size				
6.1a	SIZE_DIA_M	Number, Short Integer	20	Size of weed affected area as a circle diameter in metres (DIA) only
6.1b	WIDTH_M	Number, Short Integer	11	Size of a linear weed affected area as width of the line in metres
6.1c	SIZE_AZ	Number, Long Integer	400	Size of weed affected area as calculated from enclosed polygon (Polygon only)
7 Infestation management				
7.1	DENSE_CAT	Number, Short Integer	3	Density of weeds in areas using 1 - 11 levels scale
7.2	TREATMENT	Text,40	Foliar spray	What treatment method is being applied today or in the future

Recommended attributes

The Weed Management Branch recommends collection of these attributes to improve and evaluate the effectiveness of control effort and evaluate weed impacts over time.

Recommended attributes – description of data groupings

Data Groupings	Description
Infestation area description	Describe the name of any ongoing project related to the record and characteristics of the site such as if it is a juvenile or adult plant site present, if seeds are visible, or if previous treatments have impacted the site.
Additional area information	Further information about the site at the time of the record such as: was herbicide applied, and if so, which active ingredient? Comments and a year record are included.

Recommended attributes – type, example and purpose

No	Attribute	Type	Example	Purpose
8 Infestation area description				
8.1	PROJECT	Text,150	Weed standards manual	The project for which the survey is managed
8.2	SEEDLINGS	Text,10	No	Are seedlings present?
8.3	JUVENILES	Text,10	Yes	Are juveniles (or flowering) present?
8.4	ADULTS	Text,10	Unknown	Are adults present (initial at the site, either on ground or on plants)
8.5	SEED_PRESENT	Text,10	Yes	Are seedlings present?
8.6	PAST_TREAT	Text,10	No	Are impacts from previous treatments visible at the site?
9 Additional area information				
9.1	HERBICIDE	Text,40	Glyphosate	Herbicide applied (active ingredient only)
9.2	YEAR	Text,4	2013	The year of the record as calculated from date
9.3	COMMENTS	Text,150 or Memo		Comments noted by the observer

Optional attributes

Optional attributes are useful for operational planning within an organisation, for particular project requirements or for property scale weed planning. Records submitted to the Weed Management Branch do not require optional attributes but they will be retained by the Branch if submitted, they are generally not included in data supplied to external organisations.

Optional attributes – description of data groupings

Data Groupings	Description
Site assessment	Plot dimensions and measures of health or disturbance at the site
Operational factors	More detailed information about chemical control applied
Logistics	Logistics about how and where survey or control is carried out
Biocontrol operations	Observations relevant to biocontrol activity

Optional attributes – type, example and purpose

No	Attribute	Type	Example	Purpose
10 Site assessment				
10.1	PLOT_LEN	Number, Short Integer	10	Length of a rectangular weed area
10.2	PLOT_WIDTH	Number, Short Integer	10	Width of a rectangular weed area
10.4	STEM_COUNT	Number, Short Integer	25	Count of stems for weedy weeds
10.5	STEM_METHOD	Text,60		Method used to determine STEM_COUNT
10.6	TREAT_MON	Text,25	> 80% Success	% weeds killed by previous treatment
10.7	SITE_COND	Text,40	Very healthy	How healthy are the plants at the site
10.8	WIND_DIR	Text,40	Weg change	Weg change
11 Operational factors				
11.1	SURFACTANT	Text,40	L1-700	Surfactant applied with herbicide (type or brand)
11.2	CHEM_TRADE	Text,60	Brush off	Herbicide applied (product name)
11.3	CHEM_CONC	Text,40	1:100	Mix ratio of herbicide to water used in the treatment
11.4	ADJUVANTS	Text,40	Diammoniumsulphate	Adjuvants applied with herbicide (type or brand)
11.5	PENETRANTS	Text,40	Powermix	Penetrant applied with herbicide (type or brand)
12 Logistics				
12.1	TRANSPORT	Text,40	ATV	Vehicle used to access weed site eg. 4WD, ATV or foot
12.2	EQUIPMENT	Text,40	Quadbiker	Equipment used for weed site eg. backpack, sprayer
12.3	LOCALITY	Text,40	Roady paddock	Name for a general operational area, generally used for weed site boundaries
12.4	PLAN_AREA	Text,40	Kakadu	Name for a defined management area eg. area subject to a weed plan
12.5	ZONE_NAME	Text,40	Four gate road	Name for a defined work zone within a plan
13 Biocontrol				
13.1	AGENT	Text,40	Chalcidomex	Biocontrol agent name
13.2	BIO_ACTIVITY	Text,40	Release	Biocontrol activity undertaken
13.3	AGENT_PRESENT	Text,10	No	Presence/Absence of biocontrol agent

Zone or summary attributes

Summary records or 'zone' attributes are not recorded against individual weed records, but rather are assigned to localities or defined geographic areas. They are used by some organisations to record a summary of activity within defined weed management areas and are different in nature from ordinary weed records which relate to a specific weed point or plot.

Summary records (zone attributes) – description of data groupings

Data Groupings	Description
Summary records (zone attributes)	Relates to a defined weed management area zone. These attributes record activity applied to the whole zone using measures such as chemical applied or hours worked

Summary records (zone attributes) – type, example and purpose

No	Attribute	Type	Example	Purpose
14. Summary records (zone attributes)				
14.1	ZN_NAME	Text,40	Four gate road	Defined work zone name. User link to weed records with ZONE_NAME
14.2	ZN_TREAT	Text,100	Foliar, Glyphosate	Description of treatment applied across zone
14.3	ZN_CHEM_L	Number, Short Integer	2000	Lines of herbicide (litres) applied to a zone
14.4	ZN_CHEM_GM	Number, Long Integer	200	Grams of herbicide (granular) applied to a zone
14.5	STAFF_HRS	Number, Double	15	EST worker time applied to a zone
14.6	VOLNTR_HRS	Number, Double	120	Voluntary worker time applied to a zone
14.7	HRS_WORKED	Number, Double	50	Project hours applied to a zone

ACKNOWLEDGEMENTS

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