



# **UK Environmental Change Network**

## **UK Environmental Change Network – Terrestrial Sites Database Documentation**

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## [Introduction](#)

### **Metadata**

1. [Core Metadata](#)
2. [Publications, data use and research \(PRU\)](#)
3. [Database documentation](#)
4. [Contacts](#)
5. [Data processing/validation](#)
6. [Data discovery](#)
7. [Summary database](#)

### **Data – ECN Terrestrial Sites**

8. [Meteorology](#)
9. [Precipitation Chemistry](#)
10. [Soil Solution Chemistry](#)
11. [Surface Water Chemistry](#)
12. [Surface Water Discharge](#)
13. [Atmospheric Chemistry \(NO<sub>2</sub>\)](#)
14. [Invertebrates – Butterflies](#)
15. [Invertebrates – Ground Predators](#)
16. [Invertebrates – Moths](#)
17. [Invertebrates – Spittle Bugs](#)
18. [Vertebrates – Bats](#)
19. [Vertebrates – Breeding Birds Survey](#)
20. [Vertebrates – Frogs](#)
21. [Vertebrates – Rabbits and Deer](#)
22. [Vegetation Monitoring](#)
23. [Soils Monitoring](#)

### **Protocols that are not longer being undertaken routinely at sites**

24. [Common Bird Census](#)
25. [Moorland Birds](#)
26. [Tipulids](#)
27. [Manual Meteorology](#)

## [Acknowledgements](#)

**[Appendix](#)** – Site identification codes and core measurement codes

## Introduction

The Environmental Change Network (ECN) is the UK's long-term environmental monitoring and research network. ECN collects information on a broad baseline of integrated environmental information, enabling the analysis of relationships between environmental variables and across ecosystem components. The ECN programme is sponsored by a consortium of UK government departments and agencies ([see acknowledgements](#)) with an interest in the environment, who contribute to the programme through funding either site monitoring or network co-ordination activities.

There are currently 12 terrestrial and 45 freshwater sites in the network, selected to cover as far as possible the main range of environmental conditions present in the UK. The monitoring programme includes a wide range of physical, chemical and biological 'driving' and 'response' variables, identified as being important for the assessment of environmental change. This suite of variables is measured at the same position within each site at the same time, using standard protocols incorporating standard quality control procedures.

## ECN Data

At the start of ECN, working groups comprising scientists and statisticians representing a range of different environmental disciplines agreed a list of variables to be monitored. ECN has adopted the term 'core measurement' to mean an aspect of the environment on which a set of measurements will be made, e.g. Precipitation Chemistry, Meteorology, etc. Standardised methods for sample collection and processing are set out for each core measurement in the protocols. These have been published (Sykes, J.M. and Lane, A.M.J., 1996; Sykes, J.M., Lane, A.M.J. and George, D.G., 1999) and are available online (<http://www.ecn.ac.uk/measurements>). The data requirements are an integral part of the protocols and include specifications of variables, units, reporting precisions, dimensions, resolutions, reference systems and quality assurance procedures. These specifications, together with as much information as possible about user requirements, have been used to design the database, construct standard formats for data transfer and standard field forms for each dataset.

## Database Design

The ECN database is an integrated information resource, which stores all data and associated meta-data from ECN's core measurements collected at its network of sites. These data, along with other historic data from ECN sites, are held in standardised structures within the ECN database, to support the cross-disciplinary analyses necessary for environmental change research. The database uses Oracle relational database management software, with links to Arc GIS for spatial data handling.

Each ECN Site has been assigned a 'Site Identification Code', and each ECN Core Measurement (or sub-category of a core measurement) a 'Core Measurement Code' which is referenced in the database and in datasets transferred to the CCU ([see appendix](#)). Data for each sampling location for a given core measurement within an ECN site are regarded as a logical 'dataset'. Each sample or recording occasion and associated measurements are uniquely identified in space and time by:

- Core Measurement Code
- Site Identification Code
- Location Code
- Sampling Date

This combination of information is allocated a unique identifier, which forms the dataset key – termed a "DATID" in the ECN information system. Datasets may be spread over several physical tables, or several datasets may occupy one physical table, depending on their structure within the relational model. Constraints on fields and tables and referential rules between tables are applied wherever possible to automate data management and maintain the integrity of the database.

## Database Table Naming Conventions

The ECN data tables use the following naming conventions:

- Data tables have the form:  
*Dnmm\_sss*  
where *n* is a series number for the table, *mm* is the core measurement code, and *sss* is the 3-character site code (see [appendix](#) for these codes). For example, D1MA\_T04 (for automatic weather station data at Moor House).

## ECN Database Documentation

- Meta-data tables have the form:
  1. Main meta-tables are given names of the form *M\_xxx*, where *xxx* is a descriptive name of the information being stored. For example, M\_SITE (for the meta-information about ECN sites).
  2. Look-up (reference) tables are given names of the form *M\_REFxxx*, where *xxx* is the fieldname containing the code for which the description is required. For example, M\_REFIG\_SPEC (for the IG (beetle) species codes)
  3. Link tables which resolve the many-to-many relationships between tables are given names of the form *M\_LNKxTOy*, where *x* and *y* are the names of the tables to be linked. For example, M\_LNKNIDTOPARID (to link individuals personal details to their address).
  4. Administrative meta-data tables which are given names of the form *A\_xxx*, where *xxx* is a descriptive name of the information being stored. For example, A\_DATAPROCESSING (to store any changes made to the data).
  
- Summary Data tables:
  1. Summary data tables have the form:  
*Sxn\_mmm*  
where *x* indicates the time period over which data have been summarised (A = annual, Q = quarterly, M = monthly), *n* is a sequence number for the table and *mmm* is the ECN measurement code. For example, SA1\_IB (for annual butterfly data)
  2. Associated meta-data tables (holding the number of samplings from which the data was derived) have the form:  
*m\_base\_mmm*  
where *mmm* is the measurement code. For example, M\_BASE\_IB (for butterfly meta-data)

The database described in this documentation holds information for ECN's terrestrial sites. It forms the core for the ECN Data Centre information system. For more information about this information system see Rennie (2016).

## References

**Rennie, S. (2016).** Providing information on environmental change: Data management, discovery and access in the UK Environmental Change Network Data Centre. *Ecological Indicators*, **68**, 13-20. DOI: [10.1016/j.ecolind.2016.01.060](https://doi.org/10.1016/j.ecolind.2016.01.060).

**Sykes, JM., Lane, AMJ. and George, DG. (1999).** The UK Environmental Change Network: Protocols for standard measurements at freshwater sites. ITE.

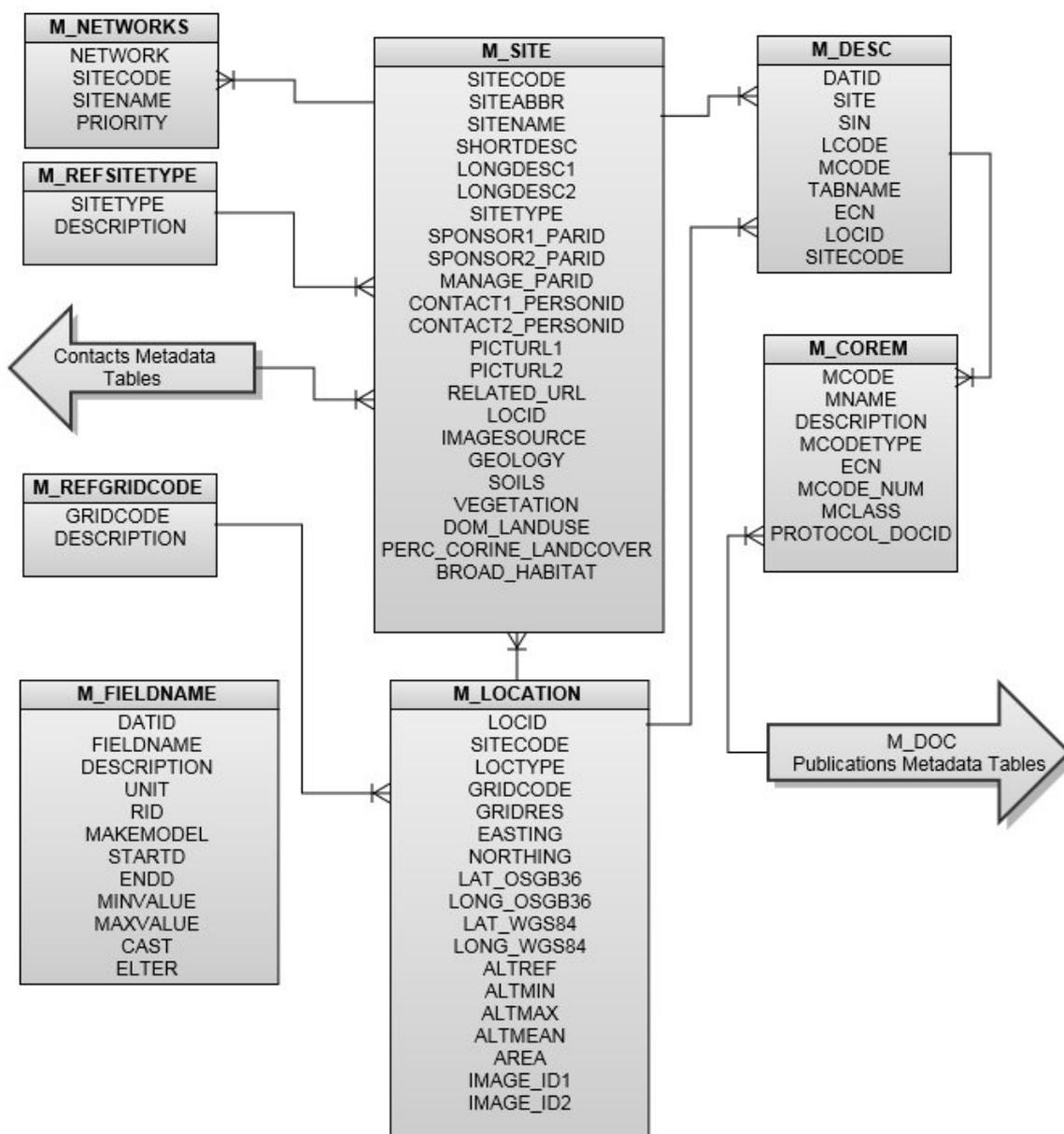
**Sykes, JM. and Lane, AMJ. (1996).** The UK Environmental Change Network: Protocols for standard measurements at terrestrial sites. The Stationery Office.

### 1. The Core ECN Metadata tables

In the ECN information management system, a central meta-data table (M\_DESC) forms the principle link between data and meta-data through the dataset key (see diagram below). This table provides the essential meta-information for the dataset, such as the ECN core measurement description and sampling protocol, space/time dimensions of sampling strategy, physical location of sampling (which may be a point reference or a link to a spatial definition held with the GIS, depending on spatial type), data ownership and responsibility etc.

Any metadata tables that are protocol specific (e.g. species code lists) have been listed with the relevant protocol.

### ECN Data Centre - Core Meta Data Tables



**1.1 Core Measurements made at ECN Sites**

M\_COREM

Field Name	Description	Units	Required?	Reference table
MCODE	Measurement code	character string	Y	<a href="#">M_COREM</a>
MNAME	Core measurement name	character string	N	
DESCRIPTION	Description	character string	N	
MCODETYPE	Type of core measurement (T, F, X for non-ECN)	character string	N	
ECN	Y/N to indicate if standard ECN measurement	character string	N	
MCODE_NUM	Defines order of MCODES on the website	character string	N	
MCLASS	Classification of MCODES into group for the website	integer	N	
PROTOCOL_DOCID	Reference to relevant protocol publication	integer	N	<a href="#">M_DOC</a>

**1.2 Description of datasets collected**

M\_DESC

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
SITE	Site code	character string	N	<a href="#">M_SITE</a>

## ECN Database Documentation - Metadata

SIN	Site identification number	character string	N	
LCODE	Location ID (unique within measurement code)	character string	N	<a href="#">M_DESC</a>
MCODE	Measurement code	character string	N	<a href="#">M_COREM</a>
TABNAME	Table name	character string	N	
ECN	Y/N to indicate if standard ECN measurement	character string	N	
LOCID	ID for location	integer	N	<a href="#">M_LOCATION</a>
SITECODE	Site Code	character string	N	<a href="#">M_SITE</a>

### 1.3 Information about the variables reported in data tables

M\_FIELDNAME

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	N	<a href="#">M_DESC</a>
FIELDNAME	Field name	character string	N	<a href="#">M_FIELDNAME</a>
DESCRIPTION	Description	character string	N	
UNIT	Units	character string	N	
RID	Number of instrument (if more than one is present)	integer	N	
MAKEMODEL	Make and model of instrument	character string	N	

## ECN Database Documentation - Metadata

STARTD	Date recording of this variable started	dd-mmm-yyyy	N	
ENDD	Date recording of this variable ended	dd-mmm-yyyy	N	
MINVALUE	Minimum value for range check	integer	N	
MAXVALUE	Maximum value for range check	integer	N	
CAST	Link to this variable in the CAST ontology	character string	N	
ELTER	Link to this variable in the ELTER ontology	character string	N	

### 1.4 Locations M\_LOCATION

Field Name	Description	Units	Required?	Reference table
LOCID	ID for location	integer	Y	<a href="#">M_LOCATION</a>
SITECODE	Site Code	character string	N	<a href="#">M_SITE</a>
LOCTYPE	Type of location (P = point, S = whole site)	character string	N	
GRIDCODE	Code for map grid code system	character string	N	<a href="#">M_REFGRIDCODE</a>
GRIDRES	Resolution of grid reference	m	N	
EASTING	Easting	integer	N	
NORTHING	Northing	integer	N	

## ECN Database Documentation - Metadata

LAT_OSGB36	Latitude using OSGB datum	integer	N	
LONG_OSGB36	Longitude using OSGB datum	integer	N	
LAT_WGS84	Latitude using WGS84 datum	integer	N	
LONG_WGS84	Longitude using WGS84 datum	integer	N	
ALTREF	Altitude of reference point	m	N	
ALTMIN	Minimum altitude of site	m	N	
ALTMAX	Maximum altitude of site	m	N	
ALTMEAN	Mean altitude of site	m	N	
AREA	Area	integer	N	
IMAGE_ID1	Image 1	integer	N	
IMAGE_ID2	Image 2	integer	N	

### 1.5 Information on the network/s that each site belongs to M\_NETWORKS

Field Name	Description	Units	Required?	Reference table
NETWORK	Network name	character string	N	
SITECODE	Site Code	character string	N	<a href="#">M_SITE</a>

## ECN Database Documentation - Metadata

SITENAME	Site name	character string	N	
PRIORITY	Priority (for ordering on web site)	integer	N	

### 1.6 Codes and descriptions for map grid code system

#### M\_REFGRIDCODE

Field Name	Description	Units	Required?	Reference table
GRIDCODE	Code for map grid code system	character string	N	<a href="#">M_REFGRIDCODE</a>
DESCRIPTION	Description	character string	N	

### 1.7 Codes and descriptions for ECN site type

#### M\_REFSITETYPE

Field Name	Description	Units	Required?	Reference table
SITETYPE	Site type	character string	Y	<a href="#">M_REFSITETYPE</a>
DESCRIPTION	Description	character string	N	

1.8 Sites

M\_SITE

Field Name	Description	Units	Required?	Reference table
SITECODE	Site Code	character string	Y	<a href="#">M_SITE</a>
SITEABBR	Site abbreviation (normally first 3 letters of name)	character string	N	
SITENAME	Site name	character string	N	
SHORTDESC	Short site description	character string	N	
LONGDESC1	Longer site description - part 1	character string	N	
LONGDESC2	Longer site description - part 2	character string	N	
SITETYPE	Site type	character string	N	<a href="#">M_REFSITETYPE</a>
SPONSOR1_PARID	Contact information for main sponsoring organisation	integer	N	<a href="#">M_REFPARID</a>
SPONSOR2_PARID	Contact information for secondary sponsoring organisation	integer	N	<a href="#">M_REFPARID</a>
MANAGE_PARID	Contact information for managing organisation	integer	N	<a href="#">M_REFPARID</a>

ECN Database Documentation - Metadata

CONTACT1_PERSONID	Contact information for primary contact person	integer	N	<a href="#">M_REFNID</a>
CONTACT2_PERSONID	Contact information for secondary contact person	integer	N	<a href="#">M_REFNID</a>
PICTURL1	URL for picture 1 of site	character string	N	
PICTURL2	URL for picture 2 of site	character string	N	
RELATED_URL	Related/Associated URLs for site	character string	N	
LOCID	ID for location	integer	N	<a href="#">M_LOCATION</a>
IMAGESOURCE	Owner of the image for this site	character string	N	
GEOLOGY	Geology	character string	N	
SOILS	Soils	character string	N	
VEGETATION	Vegetation	character string	N	
DOM_LANDUSE	Dominant land use(s)	character string	N	
PERC_CORINE_LANDCOVER	Percentage CORINE land cover	character string	N	

ECN Database Documentation - Metadata

BROAD_HABITAT	Broad habitat(s)	character string	N	
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**2.1 Contact information for users requesting data**

M\_DATACONTACT

Field Name	Description	Units	Required?	Reference table
USEID	Unique ID for each use of data	integer	N	<a href="#">M_DATAUSE</a>
DATA_NID	Contact information for person requesting data	integer	N	<a href="#">M_REFNID</a>
ORDERING	Ordering of information	integer	N	

**2.2 Data Use (licences issued)**

M\_DATAUSE

Field Name	Description	Units	Required?	Reference table
USEID	Unique ID for each use of data	integer	Y	<a href="#">M_DATAUSE</a>
PROJID	ID for research projects	integer	N	<a href="#">M_RESEARCHPROJECT</a>
REFCODE	Reference code on licence	character string	N	
SITECODE	Site Code	character string	N	<a href="#">M_SITE</a>
STARTDATE	Start date	dd-mmm-yyyy	N	
ENDDATE	End date	dd-mmm-yyyy	N	
REQUESTDATE	Date of request	dd-mmm-yyyy	N	

ECN Database Documentation - Metadata

AUTHSENTDATE	Date last authorisation letter sent	dd-mmm-yyyy	N	
AUTHRECDDATE	Date last authorisation letter received	dd-mmm-yyyy	N	
LICSENTDATE	Date licence form sent to user	dd-mmm-yyyy	N	
LICRECDDATE	Date licence form received from user	dd-mmm-yyyy	N	
RELEASEDATE	Date data released	dd-mmm-yyyy	N	
EXPIRYDATE	Date licence expires	dd-mmm-yyyy	N	
FOLLOWUPDATE	Date letter sent to follow up use of data with user	dd-mmm-yyyy	N	
USAGE	What the data are being used for	character string	N	
DATATYPE	Summary (S) or raw (R) data	character string	N	
LICENSE	Licensed (L) or Unlicensed (U)	character string	N	
ACCMETHOD	How data are accessed	character string	N	<a href="#">M_REFACCMETHOD</a>
DESCRIPTION	Description	character string	N	
USAGETYPE	Use data will be put to	character string	N	<a href="#">M_REFUSAGETYPE</a>
RECEIPTS	Income from this use of data	integer	N	
PROVIDEDBY	Who provided data (CCU or site)	character string	N	
ECN	Y/N to indicate if ECN project	character string	N	

## ECN Database Documentation - Metadata

DATAREFUSED	Flag to indicate if the request (or part of it) has been refused	character string	N	
REFUSEDDESCRIPTION	Description of what data have been refused	character string	N	
SITES	Number of sites involved in paper/request	integer	N	<a href="#">M_REFPAPERSITES</a>
CLOSED	Flag to indicate if request has been closed	character string	N	
FOLLOWUPREQUIRED	Indication if follow up required	character string	N	
FOLLOWUPREPLYDATE	Date when reply received to follow-up letter	dd-mmm-yyyy	N	
FUNDINGCAT	Classification of funding body	character string	N	
FUNDINGBODY	Details of how the licensee is funded	character string	N	

### 2.3 Classification of data users

#### M\_DATAUSER

Field Name	Description	Units	Required?	Reference table
DATA_NID	Contact information for person requesting data	integer	N	<a href="#">M_REFNID</a>
USERTYPE	User type	character string	N	<a href="#">M_REFUSERTYPE</a>

**2.4 Publications using ECN sites or data**

M\_DOC

Field Name	Description	Units	Required?	Reference table
DOCID	Unique ID for publications	integer	Y	<a href="#">M_DOC</a>
PROJID	ID for research projects	integer	N	<a href="#">M_RESEARCHPROJECT</a>
DOCTYPE	Code for type of document	character string	N	<a href="#">M_REFDOC</a>
PUBDATE	Publication date	dd-mmm-yyyy	N	
TITLE	Title of publication/project	character string	N	
JNAME	Journal or book name	character string	N	
JNUM	Journal number/volume	character string	N	
EDITOR	Editor	character string	N	
PUBLISHER	Publisher	character string	N	
PAGEF	Start page	integer	N	
PAGET	End page	integer	N	
ECN	Y/N to indicate if ECN project	character string	N	
PAPERTYPEID	Type of paper	integer	N	<a href="#">M_REFPAPERTYPE</a>
SITES	Number of sites involved in paper/request	integer	N	<a href="#">M_REFPAPERSITES</a>

## ECN Database Documentation - Metadata

PROJECTCODE	CEH project code	integer	N	
YEAR	Year of publication	yyyy	N	
ECNSECTION	Indication if ECN group authors on the paper	character string	N	
DOCURL	URL for document	character string	N	
DOI	Digital Object Identifier	character string	N	

### 2.5 Publication Authors M\_DOCAUTH

Field Name	Description	Units	Required?	Reference table
DOCID	Unique ID for publications	integer	Y	<a href="#">M_DOC</a>
ORDERING	Ordering of information	integer	Y	
SURNAME	Surname	character string	N	
INITIALS	Initials	character string	N	
TITLE	Person's title	character string	N	
DOC_NID	Contact information for publication author	integer	N	<a href="#">M_REFNID</a>

**2.6 Links M\_DATAUSE to M\_COREM**  
M\_LNKDATAUSETOCOREM

Field Name	Description	Units	Required?	Reference table
USEID	Unique ID for each use of data	integer	Y	<a href="#">M_DATAUSE</a>
MCODE	Measurement code	character string	Y	<a href="#">M_COREM</a>

**2.7 Links M\_DATAUSE to M\_SITE**  
M\_LNKDATAUSETOSITE

Field Name	Description	Units	Required?	Reference table
USEID	Unique ID for each use of data	integer	Y	<a href="#">M_DATAUSE</a>
SITECODE	Site Code	character string	Y	<a href="#">M_SITE</a>

**2.8 Links M\_DOC to M\_COREM**  
M\_LNKDOCTOCOREM

Field Name	Description	Units	Required?	Reference table
DOCID	Unique ID for publications	integer	Y	<a href="#">M_DOC</a>
MCODE	Measurement code	character string	Y	<a href="#">M_COREM</a>

**2.9 Links M\_DOC to M\_DATAUSE**  
M\_LNKDOCTODATAUSE

Field Name	Description	Units	Required?	Reference table
DOCID	Unique ID for publications	integer	Y	<a href="#">M_DOC</a>
USEID	Unique ID for each use of data	integer	Y	<a href="#">M_DATAUSE</a>

**2.10 Links M\_DOC to M\_RESEARCHPROJECT**  
M\_LNKDOCTORES PROJ

Field Name	Description	Units	Required?	Reference table
DOCID	Unique ID for publications	integer	Y	<a href="#">M_DOC</a>
PROJID	ID for research projects	integer	Y	<a href="#">M_RESEARCHPROJECT</a>

**2.11 Links M\_DOC to M\_SITE**  
M\_LNKDOCTOSITE

Field Name	Description	Units	Required?	Reference table
DOCID	Unique ID for publications	integer	Y	<a href="#">M_DOC</a>
SITECODE	Site Code	character string	Y	<a href="#">M_SITE</a>

**2.12 Links M\_RESEARCHPROJECT to M\_RESEARCHLOCATION**  
M\_LNKRESPROJTORESLOC

Field Name	Description	Units	Required?	Reference table
PROJID	ID for research projects	integer	Y	<a href="#">M_RESEARCHPROJECT</a>
RESLOCID	Research location	integer	Y	<a href="#">M_RESEARCHLOCATION</a>

**2.13 Codes and descriptions for type of access method**  
M\_REFACCMETHOD

Field Name	Description	Units	Required?	Reference table
ACCMETHOD	How data are accessed	character string	Y	<a href="#">M_REFACCMETHOD</a>
DESCRIPTION	Description	character string	N	

**2.14 Codes and descriptions for types of documents**  
M\_REFDOC

Field Name	Description	Units	Required?	Reference table
DOCTYPE	Code for type of document	character string	Y	<a href="#">M_REFDOC</a>
DESCRIPTION	Description	character string	N	

DOCTYPEID	ID for type of document	integer	N	
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**2.15 Codes and descriptions for number of sites involved in a publication**

M\_REFPAPERSITES

Field Name	Description	Units	Required?	Reference table
PAPERSITESID	Number of sites involved in a publication	integer	Y	<a href="#">M_REFPAPERSITES</a>
DESCRIPTION	Description	character string	N	

**2.16 Codes and descriptions for types of paper**

M\_REFPAPERTYPE

Field Name	Description	Units	Required?	Reference table
PAPERTYPEID	Type of paper	integer	Y	<a href="#">M_REFPAPERTYPE</a>
DESCRIPTION	Description	character string	N	

**2.17 Codes and descriptions for type of research project**  
M\_REFRESTYPE

Field Name	Description	Units	Required?	Reference table
RESTYPE	Type of research	character string	Y	<a href="#">M_REFRESTYPE</a>
DESCRIPTION	Description	character string	N	

**2.18 Codes and descriptions for usage types**  
M\_REFUSAGETYPE

Field Name	Description	Units	Required?	Reference table
USAGETYPE	Use data will be put to	character string	Y	<a href="#">M_REFUSAGETYPE</a>
DESCRIPTION	Description	character string	N	

**2.19 Codes and descriptions for type of user**  
M\_REFUSERTYPE

Field Name	Description	Units	Required?	Reference table
USERTYPE	User type	character string	Y	<a href="#">M_REFUSERTYPE</a>
DESCRIPTION	Description	character string	N	

**2.20 Contact information for research projects**

M\_RESEARCHCONTACT

Field Name	Description	Units	Required?	Reference table
PROJID	ID for research projects	integer	Y	<a href="#">M_RESEARCHPROJECT</a>
RESEARCH_NID	Contact information for researchers	integer	N	<a href="#">M_REFNID</a>
ORDERING	Ordering of information	integer	Y	

**2.21 Location information for research projects**

M\_RESEARCHLOCATION

Field Name	Description	Units	Required?	Reference table
RESLOCID	Research location	integer	Y	<a href="#">M_RESEARCHLOCATION</a>
SITECODE	Site Code	character string	Y	<a href="#">M_SITE</a>
MCODE	Measurement code	character string	N	<a href="#">M_COREM</a>
RESLCODE	Research location code	character string	N	
EASTREF	Easting	integer	N	
NORTHREF	Northing	integer	N	
GRIDRES	Resolution of grid reference	m	N	

## ECN Database Documentation - Metadata

GRIDCODE	Code for map grid code system	character string	N	<a href="#">M_REFGRIDCODE</a>
DESCRIPTION	Description	character string	N	
DISTURBANCE	Description of level of disturbance at site	character string	N	
LOCID	ID for location	integer	N	<a href="#">M_LOCATION</a>

### 2.22 Research projects based at ECN sites

#### M\_RESEARCHPROJECT

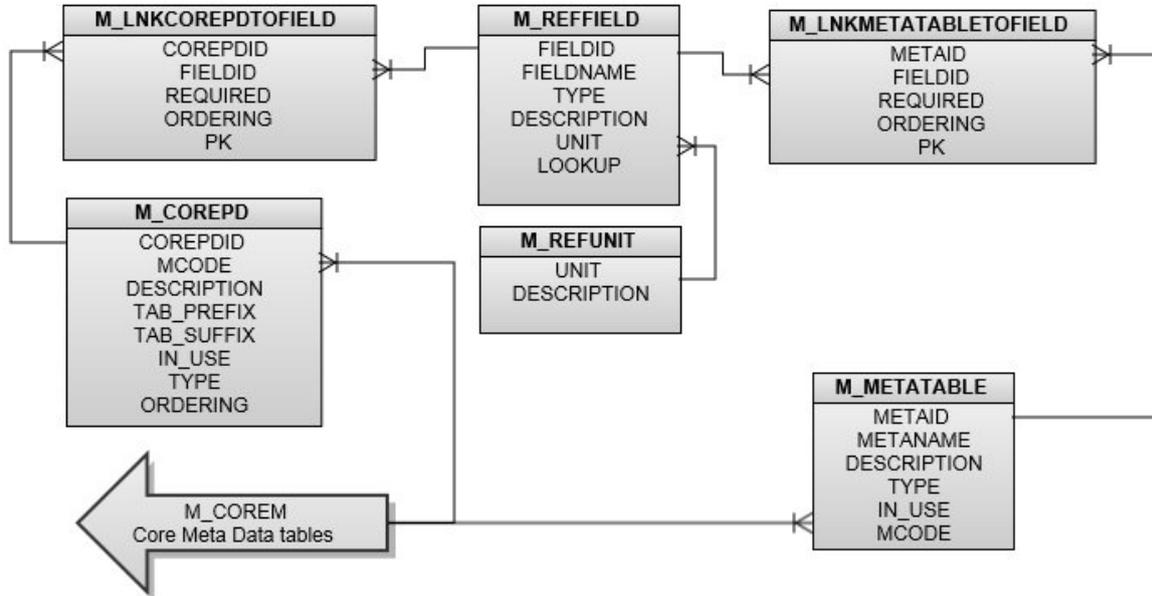
Field Name	Description	Units	Required?	Reference table
PROJID	ID for research projects	integer	Y	<a href="#">M_RESEARCHPROJECT</a>
TITLE	Title of publication/project	character string	N	
RESTYPE	Type of research	character string	N	<a href="#">M_REFRESTYPE</a>
STARTDATE	Start date	dd-mmm-yyyy	N	
ENDDATE	End date	dd-mmm-yyyy	N	
RESEARCH_NID	Contact information for researchers	integer	N	<a href="#">M_REFNID</a>
FUND_PARID	Funding organisation	integer	N	<a href="#">M_REFPARID</a>
DESCRIPTION	Description	character string	N	
PROJECTCODE	CEH project code	integer	N	

## ECN Database Documentation - Metadata

ECN	Y/N to indicate if ECN project	character string	N	
SITES	Number of sites involved in paper/request	integer	N	<a href="#">M_REFPAPERSITES</a>

3. Database Documentation

ECN Data Centre - Database Documentation Meta Data Tables



### 3.1 Physical Datasets - Table Structure

#### M\_COREPD

Field Name	Description	Units	Required?	Reference table
COREPDID	ID for ECN physical datasets	integer	N	<a href="#">M_COREPD</a>
MCODE	Measurement code	character string	N	<a href="#">M_COREM</a>
DESCRIPTION	Description	character string	N	
TAB_PREFIX	Table prefix	character string	N	
TAB_SUFFIX	Table suffix	character string	N	
IN_USE	Indication if table is in use	character string	N	
TYPE	Type	character string	N	
ORDERING	Ordering of information	character string	N	

### 3.2 Links M\_COREPD to M\_FIELD

#### M\_LNKCOREPDTOFIELD

Field Name	Description	Units	Required?	Reference table
COREPDID	ID for ECN physical datasets	integer	N	<a href="#">M_COREPD</a>
FIELDID	Field names in ECN database tables	integer	N	<a href="#">M_REFFIELD</a>

## ECN Database Documentation - Metadata

REQUIRED	Indicates if an entry in the field is required	character string	N	
ORDERING	Ordering of information	integer	N	
PK	Indication if field is part of the primary key	integer	N	

### 3.3 Links M\_METATABLE to M\_FIELD M\_LNKMETATABLETOFIELD

Field Name	Description	Units	Required?	Reference table
METAID	ID for ECN meta-data tables	integer	N	<a href="#">M_METATABLE</a>
FIELDID	Field names in ECN database tables	integer	N	<a href="#">M_REFFIELD</a>
REQUIRED	Indicates if an entry in the field is required	character string	N	
ORDERING	Ordering of information	integer	N	
PK	Indication if field is part of the primary key	integer	N	

### 3.4 Meta-data Table Structure M\_METATABLE

Field Name	Description	Units	Required?	Reference table
METAID	ID for ECN meta-data tables	integer	N	<a href="#">M_METATABLE</a>

## ECN Database Documentation - Metadata

METANAME	Meta-data table name	character string	N	
DESCRIPTION	Description	character string	N	
TYPE	Type	character string	N	
IN_USE	Indication if table is in use	character string	N	
MCODE	Measurement code	character string	N	<a href="#">M_REFMCODE</a>

### 3.5 Field names and descriptions for ECN database tables

#### M\_REFFIELD

Field Name	Description	Units	Required?	Reference table
FIELDID	Field names in ECN database tables	integer	N	<a href="#">M_REFFIELD</a>
FIELDNAME	Field name	character string	N	
TYPE	Type	character string	N	
DESCRIPTION	Description	character string	N	
UNITS	Units	character string	N	
LOOKUP	Link to relevant reference table	integer	N	

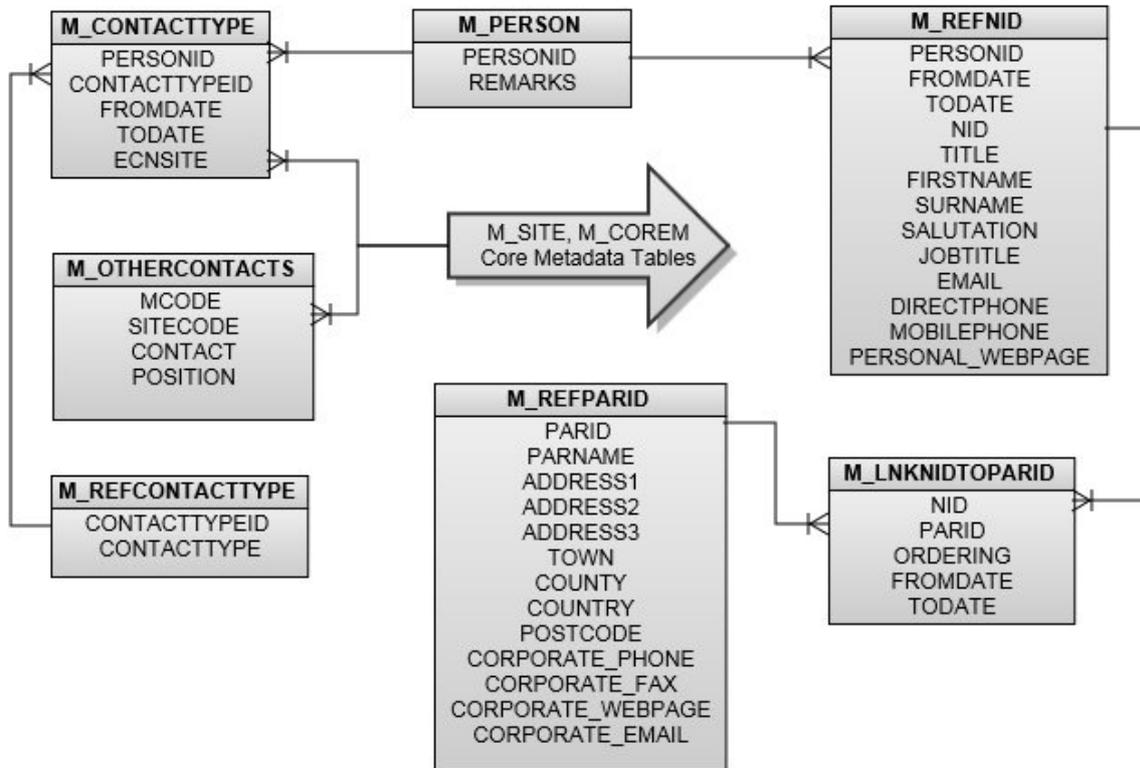
**3.6 Codes and descriptions for units of measurement**

M\_REFUNIT

Field Name	Description	Units	Required?	Reference table
UNIT	Unit	character string	N	<a href="#">M_REFUNIT</a>
DESCRIPTION	Description	character string	N	

4. Information about ECN contacts

ECN Data Centre - Contacts Meta Data Tables



**4.1 Classification of ECN participants**

M\_CONTACTTYPE

Field Name	Description	Units	Required?	Reference table
PERSONID	ID for individual	integer	Y	<a href="#">M_PERSON</a>
CONTACTTYPEID	Code for type of ECN participant	integer	N	<a href="#">M_REFCONTACTTYPE</a>
FROMDATE	From date	dd-mmm-yyyy	N	
TODATE	To date	dd-mmm-yyyy	N	
ECNSITE	Indication if participant is connected to an ECN site	character string	N	<a href="#">M_SITE</a>

**4.2 Links M\_REFNID to M\_REFPARID**

M\_LNKNIDTOPARID

Field Name	Description	Units	Required?	Reference table
NID	Personal information for individuals	integer	Y	<a href="#">M_REFNID</a>
PARID	ID for address information	integer	N	<a href="#">M_REFPARID</a>
ORDERING	Ordering of information	integer	Y	
FROMDATE	From date	dd-mmm-yyyy	N	
TODATE	To date	dd-mmm-yyyy	N	

**4.3 Information about other site personnel involved in data collection**

M\_OTHERCONTACTS

Field Name	Description	Units	Required?	Reference table
MCODE	Measurement code	character string	N	<a href="#">M_COREM</a>
SITECODE	Site Code	character string	N	<a href="#">M_SITE</a>
CONTACT	Name of contact	character string	N	
POSITION	Role of contact	character string	N	

**4.4 Participants**

M\_PERSON

Field Name	Description	Units	Required?	Reference table
PERSONID	ID for individual	integer	Y	<a href="#">M_PERSON</a>
REMARKS	Remarks	character string	N	

**4.5 Codes and descriptions for type of ECN participant**  
M\_REFCONTACTTYPE

Field Name	Description	Units	Required?	Reference table
CONTACTTYPEID	Code for type of ECN participant	integer	Y	<a href="#">M_REFCONTACTTYPE</a>
CONTACTTYPE	Description of type of ECN participant	character string	N	

**4.6 Codes and descriptions for names of ECN participants**  
M\_REFNID

Field Name	Description	Units	Required?	Reference table
PERSONID	ID for individual	integer	Y	<a href="#">M_PERSON</a>
FROMDATE	From date	dd-mmm-yyyy	N	
TODATE	To date	dd-mmm-yyyy	N	
NID	Personal information for individuals	integer	Y	<a href="#">M_REFNID</a>
TITLE	Person's title	character string	N	
FIRSTNAME	First name	character string	N	
SURNAME	Surname	character string	N	
SALUTATION	Salutation for communications	character string	N	

## ECN Database Documentation - Metadata

JOBTITLE	Job title	character string	N	
EMAIL	Email address	character string	N	
DIRECTPHONE	Direct phone number	character string	N	
MOBILEPHONE	Mobile phone number	character string	N	
PERSONAL_WEBPAGE	Personal web page	character string	N	

### 4.7 Codes and descriptions for addresses of ECN participants

M\_REFPARID

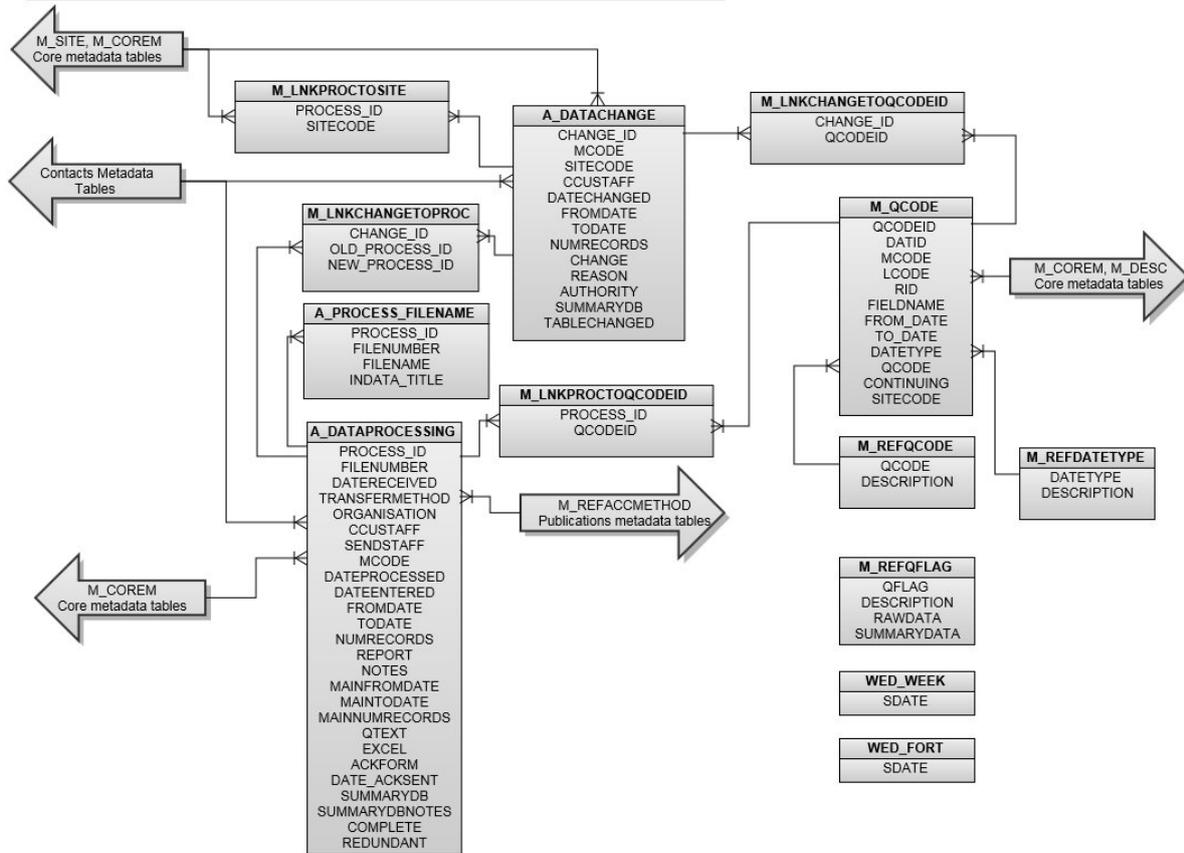
Field Name	Description	Units	Required?	Reference table
PARID	ID for address information	integer	N	<a href="#">M_REFPARID</a>
PARNAME	Organisation name	character string	N	
ADDRESS1	First line of address	character string	N	
ADDRESS2	Second line of address	character string	N	
ADDRESS3	Third line of address	character string	N	
TOWN	Town	character string	N	
COUNTY	County	character string	N	
COUNTRY	Country	character string	N	

ECN Database Documentation - Metadata

POSTCODE	Post code	character string	N	
CORPORATE_PHONE	Phone number	character string	N	
CORPORATE_FAX	Fax number	character string	N	
CORPORATE_WEBPAGE	Web page	character string	N	
CORPORATE_EMAIL	Email	character string	N	

5. Information about data processing/validation

ECN Data Centre - Data Processing/Validation Meta Data Tables



**5.1 Changes to ECN data tables**

A\_DATACHANGE

Field Name	Description	Required?	Reference table
CHANGE_ID	Unique ID for changes to database	N	<a href="#">A_DATACHANGE</a>
MCODE	Measurement code	N	<a href="#">M_COREM</a>
SITECODE	Site Code	N	<a href="#">M_SITE</a>
CCUSTAFF	CCU staff member responsible for dealing with dataset	N	<a href="#">M_REFNID</a>
DATECHANGED	Date the change was made	N	
FROMDATE	From date	N	
TODATE	To date	N	
NUMRECORDS	Number of records	N	
CHANGE	Description of what was changed	N	
REASON	Why was the change made	N	

## ECN Database Documentation - Metadata

AUTHORITY	On whose authority was the change made	N	
SUMMARYDB	Indication if summary database has been updated	N	
TABLECHANGED	Name of the table that has been changed	N	

### 5.2 ECN data processing

#### A\_DATAPROCESSING

Field Name	Description	Required?	Reference table
PROCESS_ID	ID for dataset collection	N	<a href="#">A_DATAPROCESSING</a>
FILENUMBER	Unique file number for dataset collection	N	
DATERECEIVED	Date the dataset was received from site	N	
TRANSFERMETHOD	Transfer method for data	N	<a href="#">M_REFACCMETHOD</a>
ORGANISATION	Organisation responsible for dataset collection	N	
CCUSTAFF	CCU staff member responsible for dealing with dataset	N	<a href="#">M_REFNID</a>

ECN Database Documentation - Metadata

SENDSTAFF	Site staff who sent data	N	<a href="#">M_REFNID</a>
MCODE	Measurement code	N	<a href="#">M_COREM</a>
DATEPROCESSED	Date last processed	N	
DATEENTERED	Date entered into database	N	
FROMDATE	From date	N	
TODATE	To date	N	
NUMRECORDS	Number of records	N	
REPORT	Notes on validation of dataset	N	
NOTES	Notes on validation of dataset	N	
MAINFROMDATE	Start date of dataset in main database table	N	
MAINTODATE	To date of dataset in main database table	N	
MAINNUMRECORDS	Number of records in main database table	N	

ECN Database Documentation - Metadata

QTEXT	Indication if there is quality text associated with dataset	N	
EXCEL	Indication if Excel chart has been completed	N	
ACKFORM	Indication if acknowledgement form has been sent	N	
DATE_ACKSENT	Date acknowledgement form was sent	N	
SUMMARYDB	Indication if summary database has been updated	N	
SUMMARYDBNOTES	Notes about generation of summary statistics	N	
COMPLETE	Indication if processing is complete for dataset and data is in database	N	
REDUNDANT	Indication if dataset is redundant (ie has been replaced by another)	N	

**5.3 Filenames for ECN datasets**

A\_PROCESS\_FILENAME

Field Name	Description	Required?	Reference table
PROCESS_ID	ID for dataset collection	Y	<a href="#">A_DATAPROCESSING</a>
FILENUMBER	Unique file number for dataset collection	Y	
FILENAME	Unique file name for dataset collection	Y	
INDATA_TITLE	Title for dataset	N	

**5.4 Links A\_DATACHANGE to A\_DATAPROCESSING**

M\_LNKCHANGETOPROC

Field Name	Description	Required?	Reference table
CHANGE_ID	Unique ID for changes to database	Y	<a href="#">A_DATACHANGE</a>
OLD_PROCESS_ID	Old processing ID	Y	<a href="#">A_DATAPROCESSING</a>
NEW_PROCESS_ID	New processing ID	Y	<a href="#">A_DATAPROCESSING</a>

**5.5 Links A\_DATACHANGE to M\_QCODE**  
M\_LNKCHANGETOQCODEID

Field Name	Description	Required?	Reference table
CHANGE_ID	Unique ID for changes to database	Y	<a href="#">A_DATACHANGE</a>
QCODEID	ID for quality code	Y	<a href="#">M_QCODE</a>

**5.6 Links A\_DATAPROCESSING to M\_QCODE**  
M\_LNKPROCTOQCODEID

Field Name	Description	Required?	Reference table
PROCESS_ID	ID for dataset collection	Y	<a href="#">A_DATAPROCESSING</a>
QCODEID	ID for quality code	Y	<a href="#">M_QCODE</a>

**5.7 Links A\_DATAPROCESSING to M\_SITE**  
M\_LNKPROCTOSITE

Field Name	Description	Required?	Reference table
PROCESS_ID	ID for dataset collection	Y	<a href="#">A_DATAPROCESSING</a>
SITECODE	Site Code	Y	<a href="#">M_SITE</a>

**5.8 Quality Information**  
M\_QCODE

Field Name	Description	Required?	Reference table
QCODEID	ID for quality code	Y	<a href="#">M_QCODE</a>
DATID	ID for dataset	N	<a href="#">M_DESC</a>
MCODE	Measurement code	Y	<a href="#">M_COREM</a>
LCODE	Location ID (unique within measurement code)	Y	<a href="#">M_DESC</a>
RID	Soil solution sampler	N	

ECN Database Documentation - Metadata

FIELDNAME	Field name	N	
FROM_DATE	From date	Y	
TO_DATE	To date	Y	
DATEATYPE	Code to indicate length of time quality codes apply to	N	<a href="#">M_REFDATEATYPE</a>
QCODE	Quality code	N	<a href="#">M_REFQCODE</a>
CONTINUING	Flag to indicate if datasets/quality codes continuing	N	
SITECODE	Site Code	N	<a href="#">M_SITE</a>

**5.9 Codes and descriptions to indicate the length of time quality codes apply**  
M\_REFDATEATYPE

Field Name	Description	Required?	Reference table
DATEATYPE	Code to indicate length of time quality codes apply to	Y	<a href="#">M_REFDATEATYPE</a>
DESCRIPTION	Description	N	

**5.10 Codes and descriptions for quality codes**

M\_REFQCODE

Field Name	Description	Required?	Reference table
QCODE	Quality code	Y	<a href="#">M_REFQCODE</a>
DESCRIPTION	Description	N	

**5.11 Codes and descriptions for quality flags**

M\_REFQFLAG

Field Name	Description	Units	Required?	Reference table
QFLAG	Quality flag	integer	Y	<a href="#">M_REFQFLAG</a>
DESCRIPTION	Description	character string	N	
RAWDATA	Indication if data should be included in raw data release	character string	N	
SUMMARYDATA	Indication if data should be included in summary data release	character string	N	

**5.12 Table to check if sampling date falls on a Wednesday (for ECN sampling normally done fortnightly on a Wednesday)**

WED\_FORT

Field Name	Description	Units	Required?	Reference table
SDATE	Sampling date	dd-mmm-yyyy	N	

**5.13 Table to check if sampling date falls on a Wednesday (for ECN sampling normally done every Wednesday)**

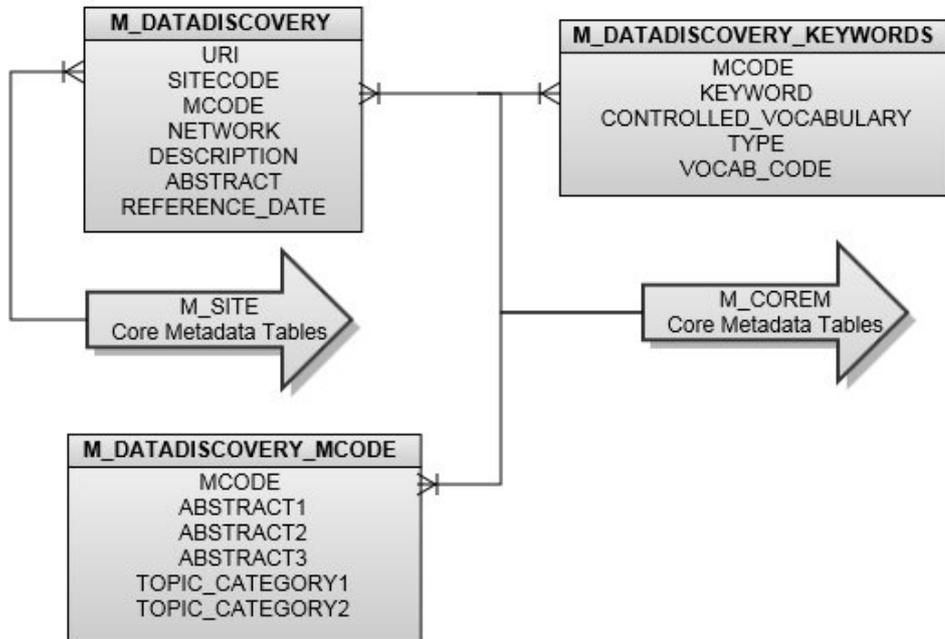
WED\_WEEK

Field Name	Description	Units	Required?	Reference table
SDATE	Sampling date	dd-mmm-yyyy	N	

6. Data Discovery

ECN Data Centre - Data Discovery Meta Data Tables

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**6.1 Datasets discoverable on the Data Discovery Portal**

M\_DATADISCOVERY

Field Name	Description	Units	Required?	Reference table
URI	URI for dataset	character string	N	
SITECODE	Site Code	character string	N	<a href="#">M_SITE</a>
MCODE	Measurement code	character string	N	<a href="#">M_COREM</a>
NETWORK	Network	character string	N	
DESCRIPTION	Description	character string	N	
ABSTRACT	Abstract	character string	N	
REFERENCE_DATE	Date the information about this dataset was last updated	dd-mmm-yyyy	N	

**6.2 Keywords of searching on the Data Discovery Portal**

M\_DATADISCOVERY\_KEYWORDS

Field Name	Description	Units	Required?	Reference table
MCODE	Measurement code	character string	N	<a href="#">M_COREM</a>
KEYWORD	Keyword	character string	N	
CONTROLLED_VOCABULARY	The controlled vocabulary that this keyword appears in	character string	N	
TYPE	Type	character string	N	
VOCAB_CODE	ID number in controlled vocabulary	character string	N	

**6.3 Information for dataset abstracts on the Data Discovery Portal**

M\_DATADISCOVERY\_MCODE

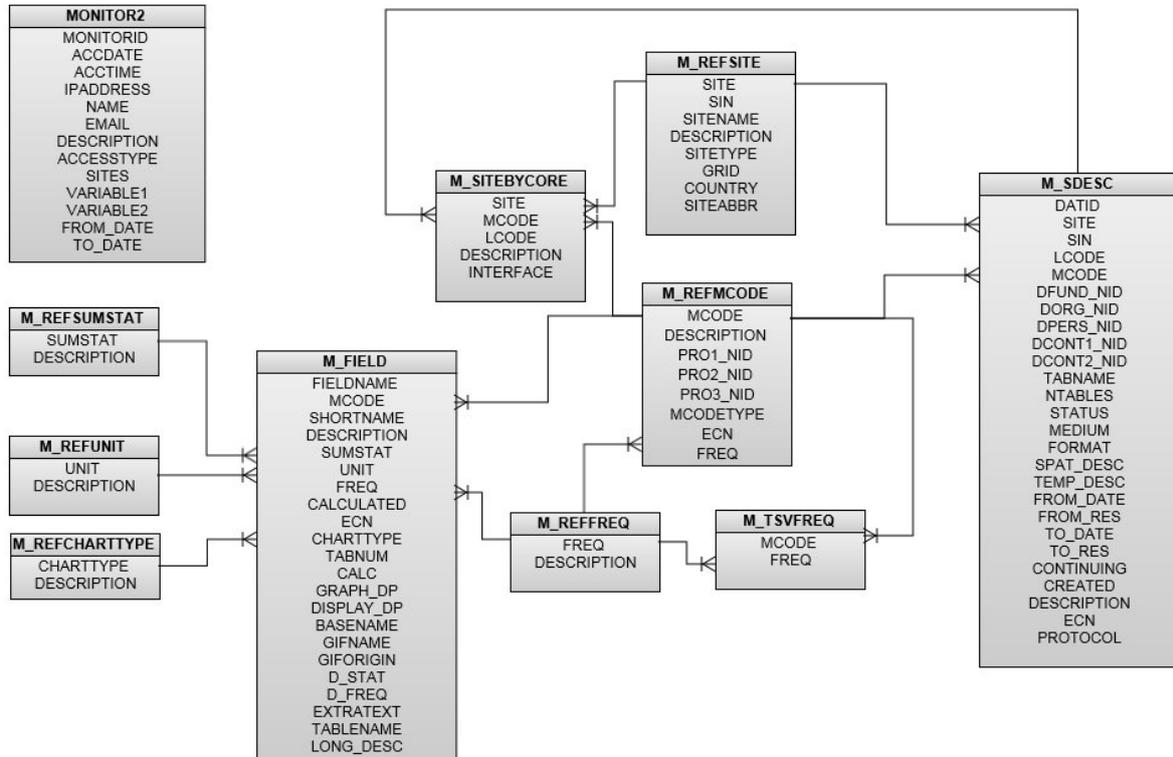
Field Name	Description	Units	Required?	Reference table
MCODE	Measurement code	character string	N	<a href="#">M_COREM</a>
ABSTRACT1	Abstract (type)	character string	N	

ECN Database Documentation - Metadata

ABSTRACT2	Abstract (method)	character string	N	
ABSTRACT3	Abstract (frequency)	character string	N	
TOPIC_CATEGORY1	Relevant ISO 19115 topic category	character string	N	
TOPIC_CATEGORY2	Relevant ISO 19115 topic category	character string	N	

## 7. Summary Database

### ECN Data Centre - Summary Database Meta Data Tables



**7.1 Stores information collected about users of the data interfaces on the website**  
**MONITOR2**

Field Name	Description	Units	Required?	Reference table
MONITORID	ID for nformation collected about users of the web site	integer	N	<a href="#">MONITOR2</a>
ACCDATE	Date data were accessed	dd-mmm-yyyy	N	
ACCTIME	Time data were accessed	character string	N	
IPADDRESS	IP address	character string	N	
NAME	Name of requestor	character string	N	
EMAIL	email address of requestor	character string	N	
DESCRIPTION	Description	character string	N	
ACCESSTYPE	Type of access	character string	N	
SITES	Sites requested	character string	N	
MCODE	Measurement codes requested	character string	N	

## ECN Database Documentation - Metadata

VARIABLE1	Variable selected by user for x-axis	character string	N	
VARIABLE2	Variable selected by user for y-axis	character string	N	
FROM_DATE	From date	character string	N	
TO_DATE	To date	charater string	N	

### 7.2 Field names and specification which is used to determine how data are presented in the interface

#### M\_FIELD

Field Name	Description	Units	Required?	Reference table
FIELDNAME	Field name	character string	Y	
MCODE	Measurement code	character string	Y	<a href="#">M_COREM</a>
SHORTNAME	Short name	character string	N	
DESCRIPTION	Description	character string	N	
SUMSTAT	Summary statistic	character string	N	<a href="#">M_REFSUMSTAT</a>

ECN Database Documentation - Metadata

UNIT	Unit	character string	N	<a href="#">M_REFUNIT</a>
FREQ	Frequency of summary statistic	character string	N	<a href="#">M_REFFREQ</a>
CALCULATED	Calculated	character string	N	
ECN	Y/N to indicate if standard ECN measurement	character string	N	
CHARTTYPE	Chart type	character string	N	<a href="#">M_REFCHARTTYPE</a>
TABNUM	Number in table name	integer	N	
CALC	VALUE if to be taken directly from field	character string	N	
GRAPH_DP	Decimal places for graph	integer	N	
DISPLAY_DP	Decimal places for cross-tabulation	integer	N	<a href="#">M_REFCHARTTYPE</a>
BASENAME	Name of field containing meta-data on samplings	character string	N	
GIFNAME	Image name	character string	N	
GIFORIGIN	Origin of image	character string	N	

D_STAT	Summary statistic	character string	N	<a href="#">M_REFSUMSTAT</a>
D_FREQ	Frequency of summary statistic	character string	N	<a href="#">M_REFFREQ</a>
EXTRATEXT	Extra text for the title/header of the graphs or tables	character string	N	
TABLERNAME	Table name	character string	N	
LONG_DESC	Longer description for info windows	character string	N	

**7.3 Codes and descriptions for the type of graph to be drawn in the interface**  
M\_REFCHARTTYPE

Field Name	Description	Units	Required?	Reference table
CHARTTYPE	Chart type	character string	N	<a href="#">M_REFCHARTTYPE</a>
DESCRIPTION	Description	character string	N	

**7.4 Codes and descriptions for the frequency of the summary statistic**

M\_REFFREQ

Field Name	Description	Units	Required?	Reference table
FREQ	Frequency of summary statistic	character string	Y	<a href="#">M_REFFREQ</a>
DESCRIPTION	Description	character string	N	

**7.5 Measurement codes**

M\_REFMCODE

Field Name	Description	Units	Required?	Reference table
MCODE	Measurement code	character string	Y	<a href="#">M_REFMCODE</a>
DESCRIPTION	Description	character string	N	
PRO1_NID	Protocol author 1	character string	N	<a href="#">M_REFNID</a>
PRO2_NID	Protocol author 2	character string	N	<a href="#">M_REFNID</a>
PRO3_NID	Protocol author 3	character string	N	<a href="#">M_REFNID</a>

ECN Database Documentation - Metadata

MCODETYPE	Type of core measurement (T, F, X for non-ECN)	character string	N	
ECN	Y/N to indicate if standard ECN measurement	character string	N	
FREQ	Frequency of summary statistic	character string	N	<a href="#">M_REFFREQ</a>

7.6 Sites

M\_REFSITE

Field Name	Description	Units	Required?	Reference table
SITE	Sites	character string	Y	<a href="#">M_REFSITE</a>
SIN	Site identification number	character string	N	
SITENAME	Site name	character string	N	
DESCRIPTION	Description	character string	N	
SITETYPE	Site type	character string	N	<a href="#">M_REFSITETYPE</a>
GRID	Grid	character string	N	

ECN Database Documentation - Metadata

COUNTRY	Country code	character string	N	
SITEABBR	Site abbreviation (normally first 3 letters of name)	character string	N	

**7.7 Codes and descriptions for the summary statistics used**  
M\_REFSUMSTAT

Field Name	Description	Units	Required?	Reference table
SUMSTAT	Summary statistic	character string	Y	<a href="#">M_REFSUMSTAT</a>
DESCRIPTION	Description	character string	N	

**7.8 Codes and descriptions for the units used**  
M\_REFUNIT

Field Name	Description	Units	Required?	Reference table
UNIT	Unit	character string	Y	<a href="#">M_REFUNIT</a>
DESCRIPTION	Description	character string	N	

**7.9 Datasets****M\_SDESC**

Field Name	Description	Units	Required?	Reference table
DATID	Unique ID for summary datasets	integer	Y	<a href="#">M_SDESC</a>
SITE	Sites	character string	N	<a href="#">M_REFSITE</a>
SIN	Site identification number	character string	N	
LCODE	Location code	character string	N	<a href="#">M_SDESC</a>
MCODE	Measurement code	character string	N	<a href="#">M_REFMCODE</a>
DFUND_NID	Contact information for organisation funding dataset collection	character string	N	<a href="#">M_REFNID</a>
DORG_NID	Contact information for organisation which owns dataset	character string	N	<a href="#">M_REFNID</a>
DPERS_NID	Contact information for person responsible for dataset	character string	N	<a href="#">M_REFNID</a>
DCONT1_NID	Primary contact for dataset	character string	N	<a href="#">M_REFNID</a>

ECN Database Documentation - Metadata

DCONT2_NID	Secondary contact for dataset	character string	N	<a href="#">M_REFNID</a>
TABNAME	Table name	character string	N	
NTABLES	Number of tables	integer	N	
STATUS	Status of dataset	character string	N	<a href="#">M_REFSTATUS</a>
MEDIUM	Storage medium	character string	N	<a href="#">M_REFMEDIUMCODE</a>
FORMAT	Format of data	character string	N	<a href="#">M_REFFORMATCODE</a>
SPAT_DESC	Spatial description	character string	N	
TEMP_DESC	Temporal description	character string	N	
FROMDATE	From date	dd-mmm-yyyy	N	
FROM_RES	Resolution of start date	character string	N	<a href="#">M_REFFROM_RES</a>
TO_DATE	To date	dd-mmm-yyyy	N	
TO_RES	Resolution of end date	character string	N	<a href="#">M_REFTO_RES</a>

## ECN Database Documentation - Metadata

CONTINUING	Flag to indicate if datasets/quality codes continuing	character string	N	
CREATED	Date dataset was created	dd-mmm-yyyy	N	
DESCRIPTION	Description	character string	N	
ECN	Y/N to indicate if standard ECN measurement	character string	N	
PROTOCOL	Relevant protocol	character string	N	

### 7.10 Indicates which site/location code combination should be displayed on the web site M\_SITEBYCORE

Field Name	Description	Units	Required?	Reference table
SITE	Sites	character string	N	<a href="#">M_REFSITE</a>
MCODE	Measurement code	character string	N	<a href="#">M_COREM</a>
LCODE	Location code	character string	N	<a href="#">M_SDESC</a>
DESCRIPTION	Description	character string	N	

ECN Database Documentation - Metadata

INTERFACE	Y/N field indicating if the variable should be displayed on the interface	character string	N	
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**7.11 Provides information to the time series viewer on which frequency of data to display**

M\_TSVFREQ

Field Name	Description	Units	Required?	Reference table
MCODE	Measurement code	character string	N	<a href="#">M_COREM</a>
FREQ	Frequency of summary statistic	character string	N	<a href="#">M_REFFREQ</a>

**8. Meteorology**

**8.1** MA: Meteorology - automatic weather station  
 D1MA\_sss (where sss is the relevant site code)

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
AWSNO	Individual AWS at a location - note AWS's can run concurrently at the same location	integer	Y	
SDATE	Sampling date	dd-mmm-yyyy	Y	
SHOUR	Sampling hour	hour	Y	
FIELDNAME	Field name	character string	Y	<a href="#">M_FIELDNAME</a>
VALUE	Value	integer	N	
LASTUPDATED	Date to indicate when the record was last updated in the database	dd-mmm-yyyy	N	

**8.2 Annual Summaries - Meteorology (automatic)**

SA1\_MA

Field Name	Description	Units	Required?	Reference table
DATID	Unique ID for summary datasets	integer	N	<a href="#">M_SDESC</a>
SITE	Sites	character string	N	<a href="#">M_REFSITE</a>
SYEAR	Year of sampling	yyyy	N	
LCODE	Location code	character string	N	<a href="#">M_SDESC</a>
SAVG_MASOLAR	Solar radiation - mean	w/m2	N	
SAVG_MANETRAD	Net radiation - mean	w/m2	N	
SAVG_MAWETTMP	Wet bulb temperature - mean	oC	N	
SAVG_MADRYTMP	Dry bulb temperature - mean	oC	N	
SAVG_MAMAXTMP	Dry bulb temperature - max	oC	N	
SAVG_MAMINTMP	Dry bulb temperature - max	oC	N	

ECN Database Documentation - Meteorology

SAVG_MAWSPEED	Wind speed - mean	m/s	N	
SAVG_MARAIN	Rainfall - mean	mm	N	
STOT_MARAIN	Rainfall - Total	mm	N	
SAVG_MASTMP10	Soil temperature at 10cm - mean	oC	N	
SAVG_MASTMP30	Soil temperature at 30cm - mean	oC	N	
SAVG_MASURWET	Surface wetness - mean	mins	N	
SAVG_MASWATER	Soil water (gypsum block) - mean	bars	N	
SNUM_MADRYTMPBZ	No. of days min. dry temp. below zero - count	integer	N	
SNUM_MADAYSRAIN	No. of days with rain - count	integer	N	
SNUM_MAHOTDAYS	No. of days daily mean temperature above 20oC (climate change indicator) - count	integer	N	
SNUM_MACOLDDAYS	No. of days daily mean temperature below 0oC (climate change indicator) - count	integer	N	
SAVG_MARELHUM	Relative humidity - mean	%	N	

## ECN Database Documentation - Meteorology

STOT_MASURWET	Surface wetness - Total	mins	N	
SAVG_MAWETTMPDEP	Wet bulb depression - mean	oC	N	
SAVG_MASWATERT	Soil water (theta probe) - mean	%	N	

### 8.3 Monthly Summaries - Meteorology (automatic)

SM1\_MA

Field Name	Description	Units	Required?	Reference table
DATID	Unique ID for summary datasets	integer	N	<a href="#">M_SDESC</a>
SITE	Sites	character string	N	<a href="#">M_REFSITE</a>
SDATE	Sampling date	dd-mmm-yyyy	N	
MONTH	Month	character string	N	
LCODE	Location code	character string	N	<a href="#">M_SDESC</a>
SAVG_MASOLAR	Solar radiation - mean	w/m2	N	

ECN Database Documentation - Meteorology

SAVG_MANETRAD	Net radiation - mean	w/m2	N	
SAVG_MAWETTMP	Wet bulb temperature - mean	oC	N	
SAVG_MADRYTMP	Dry bulb temperature - mean	oC	N	
SAVG_MAMAXTMP	Dry bulb temperature - max	oC	N	
SAVG_MAMINTMP	Dry bulb temperature - max	oC	N	
SAVG_MAWSPEED	Wind speed - mean	m/s	N	
SAVG_MARAIN	Rainfall - mean	mm	N	
STOT_MARAIN	Rainfall - Total	mm	N	
SAVG_MASTMP10	Soil temperature at 10cm - mean	oC	N	
SAVG_MASTMP30	Soil temperature at 30cm - mean	oC	N	
SAVG_MASURWET	Surface wetness - mean	mins	N	
SAVG_MASWATER	Soil water (gypsum block) - mean	bars	N	

ECN Database Documentation - Meteorology

SNUM_MADRYTMPBZ	No. of days min. dry temp. below zero - count	integer	N	
SNUM_MADAYSRAIN	No. of days with rain - count	integer	N	
SNUM_MAHOTDAYS	No. of days daily mean temperature above 20oC (climate change indicator) - count	integer	N	
SNUM_MACOLDDAYS	No. of days daily mean temperature below 0oC (climate change indicator) - count	integer	N	
SAVG_MARELHUM	Relative humidity - mean	%	N	
STOT_MASURWET	Surface wetness - Total	mins	N	
SAVG_MAWETTMPDEP	Wet bulb depression - mean	oC	N	
SAVG_MASWATERT	Soil water (theta probe) - mean	%	N	

**8.4 Annual Summaries - Biodiversity indicators**

SA1\_IND

Field Name	Description	Units	Required?	Reference table
SITE	Sites	character string	N	<a href="#">M_REFSITE</a>
YEAR	Year of sampling	yyyy	N	
IB_IND	Butterfly composite indicator	integer	N	
IM_IND	Moth composite indicator	integer	N	
IG_IND	Beetle composite indicator	integer	N	
AVG_SUMMERTEMP	Summer temperature - mean	oC	N	
NOOFSPECIES	Number of species	integer	N	
AVG_SUMMERRAIN	Summer rainfall - mean	mm	N	
AVG_SUMMERMAXTEMP	Summer maximum temperature - mean	oC	N	
AVG_SPRINGMINTEMP	Spring minimum temperature - mean	oC	N	

## ECN Database Documentation - Meteorology

IM_SUMRAIN	Summer rainfall - mean (moths)	mm	N	
IM_SUMMAXTEMP	Summer maximum temperature - mean (moths)	oC	N	
IM_SPRINGMINTEMP	Spring minimum temperature - mean (moths)	oC	N	

### 8.5 Number of samplings - Meteorology (automatic)

M\_BASE\_MA

Field Name	Description	Units	Required?	Reference table
DATID	Unique ID for summary datasets	integer	N	<a href="#">M_SDESC</a>
SITE	Sites	character string	N	<a href="#">M_REFSITE</a>
SDATE	Sampling date	dd-mmm-yyyy	N	
MONTH	Month	character string	N	
BASE_TARGET	Target No. of samplings	integer	N	
BASE_MASOLAR	No. of samplings - Solar radiation	integer	N	

ECN Database Documentation - Meteorology

BASE_MANETRAD	No. of samplings - Net radiation	integer	N	
BASE_MAWETTMP	No. of samplings - Wet bulb temperature	integer	N	
BASE_MADRYTMP	No. of samplings - Dry bulb temperature	integer	N	
BASE_MAMAXTMP	No. of samplings - Maximum temperature	integer	N	
BASE_MAMINTMP	No. of samplings - Minimum temperature	integer	N	
BASE_MAWSPEED	No. of samplings - wind speed	integer	N	
BASE_MAAVGRAIN	No. of samplings - Average rainfall	integer	N	
BASE_MATOTRAIN	No. of samplings - Total rainfall	integer	N	
BASE_MASTMP10	No. of samplings - Soil temperature at 10cm	integer	N	
BASE_MASTMP30	No. of samplings - Soil temperature at 30 cm	integer	N	
BASE_MASURWET	No. of samplings - Surface wetness	integer	N	
BASE_MASWATER	No. of samplings - Soil water (gypsum block)	integer	N	

ECN Database Documentation - Meteorology

BASE_MADRYTMPBZ	No. of samplings - Dry bulb temperature below zero	integer	N	
BASE_MADAYSRain	No. of samplings - Days with rain	integer	N	
BASE_MAHOTDAYS	No. of samplings - Hot days	integer	N	
BASE_MACOLDDAYS	No. of samplings - Cold days	integer	N	
BASE_MARELHUM	No. of samplings - Relative humidity	integer	N	
BASE_MATOTSURWET	No. of samplings - Total surface wetness	integer	N	
BASE_MAWETTMPDEP	No. of samplings - Wet bulb depression	integer	N	
BASE_MASWATERT	No. of samplings - Soil water (theta probe)	integer	N	
LCODE	Location code	character string	N	<a href="#">M_SDESC</a>

**9. Precipitation Chemistry**

**9.1 PC: Precipitation chemistry**

D1PC\_sss (where sss is the relevant site code)

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
SDATE	Sampling date	dd-mmm-yyyy	Y	
FIELDNAME	Field name	character string	N	<a href="#">M_FIELDNAME</a>
VALUE	Value	integer	N	
LASTUPDATED	Date to indicate when the record was last updated in the database	dd-mmm-yyyy	N	

**9.2 PC: Precipitation chemistry sampling information**

D2PC\_sss (where sss is the relevant site code)

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>

ECN Database Documentation – Precipitation Chemistry

FROMDATE	From date	dd-mmm-yyyy	N	
FROMHOUR	From hour	hour	N	
FROMMINS	From minutes	mins	N	
SDATE	Sampling date	dd-mmm-yyyy	Y	
SHOUR	Sampling hour	hour	N	
SMINS	Sampling minutes	mins	N	
LAB_NID	Lab name	character string	N	<a href="#">M_REFNID</a>
PHDATE	Date of pH measurement	dd-mmm-yyyy	N	
PHHOUR	Hour of pH measurement	hour	N	
PHMINS	Mins of pH measurement	mins	N	
FILTDATE	Date of filtration	dd-mmm-yyyy	N	
COMPDATE	Analysis date	dd-mmm-yyyy	N	

ECN Database Documentation – Precipitation Chemistry

LASTUPDATED	Date to indicate when the record was last updated in the database	dd-mmm-yyyy	N	
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**9.3 QC: Quality checking**

D1QC\_sss (where sss is the relevant site code)

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
SDATE	Sampling date	dd-mmm-yyyy	Y	
FIELDNAME	Field name	character string	N	<a href="#">M_FIELDNAME</a>
VALUE	Value	integer	N	
LASTUPDATED	Date to indicate when the record was last updated in the database	dd-mmm-yyyy	N	

**9.4 QC: Quality checking sampling information**

D2QC\_sss (where sss is the relevant site code)

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
FROMDATE	From date	dd-mmm-yyyy	N	
FROMHOUR	From hour	hour	N	
FROMMINS	From minutes	mins	N	
SDATE	Sampling date	dd-mmm-yyyy	Y	
SHOUR	Sampling hour	hour	N	
SMINS	Sampling minutes	mins	N	
LAB_NID	Lab name	character string	N	<a href="#">M_REFNID</a>
PHDATE	Date of pH measurement	dd-mmm-yyyy	N	
PHHOUR	Hour of pH measurement	hour	N	

ECN Database Documentation – Precipitation Chemistry

PHMINS	Mins of pH measurement	mins	N	
FILTDATE	Date of filtration	dd-mmm-yyyy	N	
COMPDATE	Analysis date	dd-mmm-yyyy	N	
LASTUPDATED	Date to indicate when the record was last updated in the database	dd-mmm-yyyy	N	

**9.5 Associated Metadata Table: Laboratory methods for air**  
M\_LABAIR

Field Name	Description	Units	Required?	Reference table
LABAIRSEQ	ID for record	integer	Y	
LAB_NID	Lab name	character string	Y	<a href="#">M_REFNID</a>
FIELDNAME	Field name	character string	Y	<a href="#">M_REFFIELD</a>
FROM_DATE	From date	dd-mmm-yyyy	Y	
TO_DATE	To date	dd-mmm-yyyy	N	

ECN Database Documentation – Precipitation Chemistry

METHODBASIS	Basis of method	character string	N	
SAMPLE	Type of sample	character string	N	
TYPCONC	Typical concentrations	character string	N	
VOLANAL	Volume for analysis	ml	N	
CALIBRANGE	Calibration range	character string	N	
MEASURE	Measurement unit	character string	N	
RESULTSREP	Results reported as	character string	N	
DETLIMIT	Detection limit	integer	N	
BATCHSD	Within-batch standard deviation	character string	N	
INTERFERE	Interferences	character string	N	
INTERNALQC	Internal QC measure	character string	N	
ACCMEASURE	Accuracy measure	character string	N	

ECN Database Documentation – Precipitation Chemistry

METHOD	Method description	character string	N	
REFERENCE	Method reference	character string	N	

**9.6 Associated Metadata Table: Laboratory methods for waters**  
M\_LABWATER

Field Name	Description	Units	Required?	Reference table
LABWATER_ID	ID for record	integer	Y	
LAB_CODE	Lab code	character string	Y	
FIELDNAME	Field name	character string	Y	<a href="#">M_REFFIELD</a>
FROM_DATE	From date	dd-mmm-yyyy	Y	
TO_DATE	To date	dd-mmm-yyyy	Y	
PARID	ID for address information	integer	N	<a href="#">M_REFFPARID</a>
METHODBASIS	Basis of method	character string	N	

ECN Database Documentation – Precipitation Chemistry

SAMPLE	Type of sample	character string	N	
TYPCONC	Typical concentrations	character string	N	
VOLANAL	Volume for analysis	ml	N	
CALIBRANGE	Calibration range	character string	N	
MEASURE	Measurement unit	character string	N	
RESULTSREP	Results reported as	character string	N	
LOD	Limit of detection	integer	N	
BATCHSD	Within-batch standard deviation	character string	N	
INTERFERE	Interferences	character string	N	
INTERNALQC	Internal QC measure	character string	N	
ACCMEASURE	Accuracy measure	character string	N	
METHOD	Method description	character string	N	

ECN Database Documentation – Precipitation Chemistry

REFERENCE	Method reference	character string	N	
UNIT	Unit	character string	N	<a href="#">M_REFUNIT</a>

**9.7 Associated Metadata Table: Codes and descriptions for ECN laboratories**  
M\_REFLAB\_CODE

Field Name	Description	Units	Required?	Reference table
LAB_CODE	Lab code	character string	Y	
DESCRIPTION	Description	character string	N	

**9.8 Annual Summaries - Precipitation chemistry**  
SA1\_PC

Field Name	Description	Units	Required?	Reference table
DATID	Unique ID for summary datasets	integer	N	<a href="#">M_SDESC</a>
MCODE	Measurement code	character string	N	<a href="#">M_REFMCODE</a>
SITE	Sites	character string	N	<a href="#">M_REFSITE</a>

ECN Database Documentation – Precipitation Chemistry

LCODE	Location code	character string	N	<a href="#">M_SDESC</a>
SYEAR	Year of sampling	yyyy	N	
SAVG_PCPH	pH - mean	pH	N	
SAVG_PCCONDY	Conductivity - mean	us/cm	N	
SAVG_PCALKY	Alkalinity (CaCO <sub>3</sub> ) - mean	mg/l	N	
SAVG_PCSODIUM	Sodium - mean	mg/l	N	
SAVG_PCPOTASSIUM	Potassium - mean	mg/l	N	
SAVG_PCCALCIUM	Calcium - mean	mg/l	N	
SAVG_PCMAGNESIUM	Magnesium - mean	mg/l	N	
SAVG_PCIRON	Iron - mean	mg/l	N	
SAVG_PCALUMINIUM	Aluminium - mean	mg/l	N	
SAVG_PCPO4P	Phosphate (as Phosphate Phosphorus) - mean	mg/l	N	

ECN Database Documentation – Precipitation Chemistry

SAVG_PCNO3N	Nitrate (as Nitrate Nitrogen) - mean	mg/l	N	
SAVG_PCNH4N	Ammonium - mean	mg/l	N	
SAVG_PCCHLORIDE	Chloride - mean	mg/l	N	
SAVG_PCISO4S	Sulphate (as Sulphate Sulphur) - mean	mg/l	N	
SAVG_PCDOC	Dissolved organic carbon - mean	mg/l	N	
SAVG_PCTOTALN	Total nitrogen - mean	mg/l	N	

**9.9 Monthly Summaries - Precipitation chemistry**  
SM1\_PC

Field Name	Description	Units	Required?	Reference table
DATID	Unique ID for summary datasets	integer	N	<a href="#">M_SDESC</a>
MCODE	Measurement code	character string	N	<a href="#">M_REFMCODE</a>
SITE	Sites	character string	N	<a href="#">M_REFSITE</a>

ECN Database Documentation – Precipitation Chemistry

LCODE	Location code	character string	N	<a href="#">M_SDESC</a>
SDATE	Sampling date	dd-mmm-yyyy	N	
MONTH	Month	character string	N	
SAVG_PCPH	pH - mean	pH	N	
SAVG_PCCONDY	Conductivity - mean	us/cm	N	
SAVG_PCALKY	Alkalinity (CaCO <sub>3</sub> ) - mean	mg/l	N	
SAVG_PCSODIUM	Sodium - mean	mg/l	N	
SAVG_PCPOTASSIUM	Potassium - mean	mg/l	N	
SAVG_PCCALCIUM	Calcium - mean	mg/l	N	
SAVG_PCMAGNESIUM	Magnesium - mean	mg/l	N	
SAVG_PCIRON	Iron - mean	mg/l	N	
SAVG_PCALUMINIUM	Aluminium - mean	mg/l	N	

ECN Database Documentation – Precipitation Chemistry

SAVG_PCPO4P	Phosphate (as Phosphate Phosphorus) - mean	mg/l	N	
SAVG_PCNO3N	Nitrate (as Nitrate Nitrogen) - mean	mg/l	N	
SAVG_PCNH4N	Ammonium - mean	mg/l	N	
SAVG_PCCHLORIDE	Chloride - mean	mg/l	N	
SAVG_PCISO4S	Sulphate (as Sulphate Sulphur) - mean	mg/l	N	
SAVG_PCDOC	Dissolved organic carbon - mean	mg/l	N	
SAVG_PCTOTALN	Total nitrogen - mean	mg/l	N	

9.10 Number of samplings - Precipitation chemistry

M\_BASE\_PC

Field Name	Description	Units	Required?	Reference table
DATID	Unique ID for summary datasets	integer	N	<a href="#">M_SDESC</a>
SITE	Sites	character string	N	<a href="#">M_REFSITE</a>

ECN Database Documentation – Precipitation Chemistry

SDATE	Sampling date	dd-mmm-yyyy	N	
MONTH	Month	character string	N	
BASE_TARGET	Target No. of samplings	integer	N	
BASE_PCPH	No. of samplings - pH	integer	N	
BASE_PCCONDY	No. of samplings - Conductivity	integer	N	
BASE_PCALKY	No. of samplings - Alkalinity (CaCO <sub>3</sub> )	integer	N	
BASE_PCSODIUM	No. of samplings - Sodium	integer	N	
BASE_PCPOTASSIUM	No. of samplings - Potassium	integer	N	
BASE_PCCALCIUM	No. of samplings - Calcium	integer	N	
BASE_PCMAGNESIUM	No. of samplings - Magnesium	integer	N	
BASE_PCIRON	No. of samplings - Iron	integer	N	
BASE_PCALUMINIUM	No. of samplings - Aluminium	integer	N	

ECN Database Documentation – Precipitation Chemistry

BASE_PCPO4P	No. of samplings - Phosphate (as Phosphate Phosphorus)	integer	N	
BASE_PCNO3N	No. of samplings - Nitrate (as Nitrate Nitrogen)	integer	N	
BASE_PCNH4N	No. of samplings - Ammonium	integer	N	
BASE_PCCHLORIDE	No. of samplings - Chloride	integer	N	
BASE_PCISO4S	No. of samplings - Sulphate (as Sulphate Sulphur)	integer	N	
BASE_PCDOC	No. of samplings - Dissolved organic carbon	integer	N	
BASE_PCTOTALN	No. of samplings - Total nitrogen	integer	N	
BASE_PCVOLUME	No. of samplings - Volume	integer	N	
LCODE	Location code	character string	N	<a href="#">M_SDESC</a>

**10. Soil Solution Chemistry**

**10.1 SS: Soil solution**

D1SS\_sss (where sss is the relevant site code)

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
SDATE	Sampling date	dd-mmm-yyyy	Y	
RID	Soil solution sampler	character string	Y	
FIELDNAME	Field name	character string	N	<a href="#">M_FIELDNAME</a>
VALUE	Value	integer	N	
LASTUPDATED	Date to indicate when the record was last updated in the database	dd-mmm-yyyy	N	

**10.2 SS: Soil solution sampling information**

D2SS\_sss (where sss is the relevant site code)

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
RID	Soil solution sampler	character string	N	
FROMDATE	From date	dd-mmm-yyyy	N	
FROMHOUR	From hour	hour	N	
FROMMINS	From minutes	mins	N	
SDATE	Sampling date	dd-mmm-yyyy	Y	
SHOUR	Sampling hour	hour	N	
SMINS	Sampling minutes	mins	N	
LAB_NID	Lab name	character string	N	<a href="#">M_REFNID</a>
PHDATE	Date of pH measurement	dd-mmm-yyyy	N	

ECN Database Documentation – Soil Solution Chemistry

PHHOUR	Hour of pH measurement	hour	N	
PHMINS	Mins of pH measurement	mins	N	
FILTDATE	Date of filtration	dd-mmm-yyyy	N	
COMPDATE	Analysis date	dd-mmm-yyyy	N	
LASTUPDATED	Date to indicate when the record was last updated in the database	dd-mmm-yyyy	N	

**10.3 QC: Quality checking**

D1QC\_sss (where sss is the relevant site code)

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
SDATE	Sampling date	dd-mmm-yyyy	Y	
FIELDNAME	Field name	character string	N	<a href="#">M_FIELDNAME</a>
VALUE	Value	integer	N	

ECN Database Documentation – Soil Solution Chemistry

LASTUPDATED	Date to indicate when the record was last updated in the database	dd-mmm-yyyy	N	
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**10.4 QC: Quality checking sampling information**

D2QC\_sss (where sss is the relevant site code)

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
FROMDATE	From date	dd-mmm-yyyy	N	
FROMHOUR	From hour	hour	N	
FROMMINS	From minutes	mins	N	
SDATE	Sampling date	dd-mmm-yyyy	Y	
SHOUR	Sampling hour	hour	N	
SMINS	Sampling minutes	mins	N	
LAB_NID	Lab name	character string	N	<a href="#">M_REFNID</a>

ECN Database Documentation – Soil Solution Chemistry

PHDATE	Date of pH measurement	dd-mmm-yyyy	N	
PHHOUR	Hour of pH measurement	hour	N	
PHMINS	Mins of pH measurement	mins	N	
FILTDATE	Date of filtration	dd-mmm-yyyy	N	
COMPDATE	Analysis date	dd-mmm-yyyy	N	
LASTUPDATED	Date to indicate when the record was last updated in the database	dd-mmm-yyyy	N	

**10.5 Associated Metadata Table: Codes and descriptions for soil solution samplers**

M\_REFSS\_RID

Field Name	Description	Units	Required?	Reference table
SITE	Site code	character string	N	<a href="#">M_SITE</a>
SS_RID	Soil solution sampler	character string	N	<a href="#">M_REFSS_RID</a>
FROMDATE	From date	dd-mmm-yyyy	N	

ECN Database Documentation – Soil Solution Chemistry

TO_DATE	To date	dd-mmm-yyyy	N	
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**10.6 Associated Metadata Table: Laboratory methods for air**  
M\_LABAIR

Field Name	Description	Units	Required?	Reference table
LABAIRSEQ	ID for record	integer	Y	
LAB_NID	Lab name	character string	Y	<a href="#">M_REFNID</a>
FIELDNAME	Field name	character string	Y	<a href="#">M_REFFIELD</a>
FROM_DATE	From date	dd-mmm-yyyy	Y	
TO_DATE	To date	dd-mmm-yyyy	N	
METHODBASIS	Basis of method	character string	N	
SAMPLE	Type of sample	character string	N	
TYPCONC	Typical concentrations	character string	N	

ECN Database Documentation – Soil Solution Chemistry

VOLANAL	Volume for analysis	ml	N	
CALIBRANGE	Calibration range	character string	N	
MEASURE	Measurement unit	character string	N	
RESULTSREP	Results reported as	character string	N	
DETLIMIT	Detection limit	integer	N	
BATCHSD	Within-batch standard deviation	character string	N	
INTERFERE	Interferences	character string	N	
INTERNALQC	Internal QC measure	character string	N	
ACCMEASURE	Accuracy measure	character string	N	
METHOD	Method description	character string	N	
REFERENCE	Method reference	character string	N	

**10.7 Associated Metadata Table: Laboratory methods for waters**  
M\_LABWATER

Field Name	Description	Units	Required?	Reference table
LABWATER_ID	ID for record	integer	Y	
LAB_CODE	Lab code	character string	Y	
FIELDNAME	Field name	character string	Y	<a href="#">M_REFFIELD</a>
FROM_DATE	From date	dd-mmm-yyyy	Y	
TO_DATE	To date	dd-mmm-yyyy	Y	
PARID	ID for address information	integer	N	<a href="#">M_REFPARID</a>
METHODBASIS	Basis of method	character string	N	
SAMPLE	Type of sample	character string	N	
TYPCONC	Typical concentrations	character string	N	
VOLANAL	Volume for analysis	ml	N	

ECN Database Documentation – Soil Solution Chemistry

CALIBRANGE	Calibration range	character string	N	
MEASURE	Measurement unit	character string	N	
RESULTSREP	Results reported as	character string	N	
LOD	Limit of detection	integer	N	
BATCHSD	Within-batch standard deviation	character string	N	
INTERFERE	Interferences	character string	N	
INTERNALQC	Internal QC measure	character string	N	
ACCMEASURE	Accuracy measure	character string	N	
METHOD	Method description	character string	N	
REFERENCE	Method reference	character string	N	
UNIT	Unit	character string	N	<a href="#">M_REFUNIT</a>

**10.8 Associated Metadata Table: odes and descriptions for ECN laboratories**

M\_REFLAB\_CODE

Field Name	Description	Units	Required?	Reference table
LAB_CODE	Lab code	character string	Y	
DESCRIPTION	Description	character string	N	

**10.9 Annual Summaries - Soil solution (shallow samplers)**

SA1\_SS

Field Name	Description	Units	Required?	Reference table
DATID	Unique ID for summary datasets	integer	N	<a href="#">M_SDESC</a>
MCODE	Measurement code	character string	N	<a href="#">M_REFMCODE</a>
SITE	Sites	character string	N	<a href="#">M_REFSITE</a>
LCODE	Location code	character string	N	<a href="#">M_SDESC</a>
SYEAR	Year of sampling	yyyy	N	
SAVG_SSVOLUME	Volume - mean	ml	N	

ECN Database Documentation – Soil Solution Chemistry

SAVG_SSPH	pH - mean	pH	N	
SAVG_SSCONDY	Conductivity - mean	us/cm	N	
SAVG_SSALKY	Alkalinity (CaCO3) - mean	mg/l	N	
SAVG_SSSODIUM	Sodium - mean	mg/l	N	
SAVG_SSPOTASSIUM	Potassium - mean	mg/l	N	
SAVG_SSCALCIUM	Calcium - mean	mg/l	N	
SAVG_SSMAGNESIUM	Magnesium - mean	mg/l	N	
SAVG_SSIRON	Iron - mean	mg/l	N	
SAVG_SSALUMINIUM	Aluminium - mean	mg/l	N	
SAVG_SSPO4P	Phosphate (as Phosphate Phosphorus) - mean	mg/l	N	
SAVG_SSNO3N	Nitrate (as Nitrate Nitrogen) - mean	mg/l	N	
SAVG_SSNH4N	Ammonium - mean	mg/l	N	

ECN Database Documentation – Soil Solution Chemistry

SAVG_SSchloride	Chloride - mean	mg/l	N	
SAVG_SSSO4S	Sulphate (as Sulphate Sulphur) - mean	mg/l	N	
SAVG_SSDOC	Dissolved organic carbon - mean	mg/l	N	
SAVG_SSTOTALN	Total nitrogen - mean	mg/l	N	

10.10 Monthly Summaries - Soil solution (shallow samplers)  
SM1\_SS

Field Name	Description	Units	Required?	Reference table
DATID	Unique ID for summary datasets	integer	N	<a href="#">M_SDESC</a>
MCODE	Measurement code	character string	N	<a href="#">M_REFMCODE</a>
SITE	Sites	character string	N	<a href="#">M_REFSITE</a>
LCODE	Location code	character string	N	<a href="#">M_SDESC</a>
SDATE	Sampling date	dd-mmm-yyyy	N	

ECN Database Documentation – Soil Solution Chemistry

MONTH	Month	character string	N	
SAVG_SSVOLUME	Volume - mean	ml	N	
SAVG_SSPH	pH - mean	pH	N	
SAVG_SSCONDY	Conductivity - mean	us/cm	N	
SAVG_SSALKY	Alkalinity (CaCO <sub>3</sub> ) - mean	mg/l	N	
SAVG_SSSODIUM	Sodium - mean	mg/l	N	
SAVG_SSPOTASSIUM	Potassium - mean	mg/l	N	
SAVG_SSCALCIUM	Calcium - mean	mg/l	N	
SAVG_SSMAGNESIUM	Magnesium - mean	mg/l	N	
SAVG_SSIRON	Iron - mean	mg/l	N	
SAVG_SSALUMINIUM	Aluminium - mean	mg/l	N	
SAVG_SSPO4P	Phosphate (as Phosphate Phosphorus) - mean	mg/l	N	

ECN Database Documentation – Soil Solution Chemistry

SAVG_SSNO3N	Nitrate (as Nitrate Nitrogen) - mean	mg/l	N	
SAVG_SSNH4N	Ammonium - mean	mg/l	N	
SAVG_SSchloride	Chloride - mean	mg/l	N	
SAVG_SSSO4S	Sulphate (as Sulphate Sulphur) - mean	mg/l	N	
SAVG_SSDOC	Dissolved organic carbon - mean	mg/l	N	
SAVG_SSTOTALN	Total nitrogen - mean	mg/l	N	

10.11 Annual Summaries - Soil solution (deep samplers)  
SA1\_SSD

Field Name	Description	Units	Required?	Reference table
DATID	Unique ID for summary datasets	integer	N	<a href="#">M_SDESC</a>
MCODE	Measurement code	character string	N	<a href="#">M_REFMCODE</a>
SITE	Sites	character string	N	<a href="#">M_REFSITE</a>

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LCODE	Location code	character string	N	<a href="#">M_SDESC</a>
SYEAR	Year of sampling	yyyy	N	
SAVG_SSVOLUME	Volume - mean	ml	N	
SAVG_SSPH	pH - mean	pH	N	
SAVG_SSCONDY	Conductivity - mean	us/cm	N	
SAVG_SSALKY	Alkalinity (CaCO <sub>3</sub> ) - mean	mg/l	N	
SAVG_SSSODIUM	Sodium - mean	mg/l	N	
SAVG_SSPOTASSIUM	Potassium - mean	mg/l	N	
SAVG_SSCALCIUM	Calcium - mean	mg/l	N	
SAVG_SSMAGNESIUM	Magnesium - mean	mg/l	N	
SAVG_SSIRON	Iron - mean	mg/l	N	
SAVG_SSALUMINIUM	Aluminium - mean	mg/l	N	

ECN Database Documentation – Soil Solution Chemistry

SAVG_SSPO4P	Phosphate (as Phosphate Phosphorus) - mean	mg/l	N	
SAVG_SSNO3N	Nitrate (as Nitrate Nitrogen) - mean	mg/l	N	
SAVG_SSNH4N	Ammonium - mean	mg/l	N	
SAVG_SSCHLORIDE	Chloride - mean	mg/l	N	
SAVG_SSSO4S	Sulphate (as Sulphate Sulphur) - mean	mg/l	N	
SAVG_SSDOC	Dissolved organic carbon - mean	mg/l	N	
SAVG_SSTOTALN	Total nitrogen - mean	mg/l	N	

10.12 Monthly Summaries - Soil solution (deep samplers)  
SM1\_SSD

Field Name	Description	Units	Required?	Reference table
DATID	Unique ID for summary datasets	integer	N	<a href="#">M_SDESC</a>
MCODE	Measurement code	character string	N	<a href="#">M_REFMCODE</a>

ECN Database Documentation – Soil Solution Chemistry

SITE	Sites	character string	N	<a href="#">M_REFSITE</a>
LCODE	Location code	character string	N	<a href="#">M_SDESC</a>
SDATE	Sampling date	dd-mmm-yyyy	N	
MONTH	Month	character string	N	
SAVG_SSVOLUME	Volume - mean	ml	N	
SAVG_SSPH	pH - mean	pH	N	
SAVG_SSCONDY	Conductivity - mean	us/cm	N	
SAVG_SSALKY	Alkalinity (CaCO <sub>3</sub> ) - mean	mg/l	N	
SAVG_SSSODIUM	Sodium - mean	mg/l	N	
SAVG_SSPOTASSIUM	Potassium - mean	mg/l	N	
SAVG_SSCALCIUM	Calcium - mean	mg/l	N	
SAVG_SSMAGNESIUM	Magnesium - mean	mg/l	N	

ECN Database Documentation – Soil Solution Chemistry

SAVG_SSIRON	Iron - mean	mg/l	N	
SAVG_SSALUMINIUM	Aluminium - mean	mg/l	N	
SAVG_SSPO4P	Phosphate (as Phosphate Phosphorus) - mean	mg/l	N	
SAVG_SSNO3N	Nitrate (as Nitrate Nitrogen) - mean	mg/l	N	
SAVG_SSNH4N	Ammonium - mean	mg/l	N	
SAVG_SSCHLORIDE	Chloride - mean	mg/l	N	
SAVG_SSSO4S	Sulphate (as Sulphate Sulphur) - mean	mg/l	N	
SAVG_SSDOC	Dissolved organic carbon - mean	mg/l	N	
SAVG_SSTOTALN	Total nitrogen - mean	mg/l	N	

10.13 **Number of samplings - Soil solution (shallow samplers)**

M\_BASE\_SS

Field Name	Description	Units	Required?	Reference table
DATID	Unique ID for summary datasets	integer	N	<a href="#">M_SDESC</a>
SITE	Sites	character string	N	<a href="#">M_REFSITE</a>
SDATE	Sampling date	dd-mmm-yyyy	N	
MONTH	Month	character string	N	
BASE_TARGET	Target No. of samplings	integer	N	
BASE_SSVOLUME	No. of samplings - Volume	integer	N	
BASE_SSPH	No. of samplings - pH	integer	N	
BASE_SSCONDY	No. of samplings - Conductivity	integer	N	
BASE_SSALKY	No. of samplings - Alkalinity (CaCO3)	integer	N	
BASE_SSSODIUM	No. of samplings - Sodium	integer	N	

ECN Database Documentation – Soil Solution Chemistry

BASE_SS POTASSIUM	No. of samplings - Potassium	integer	N	
BASE_SSCALCIUM	No. of samplings - Calcium	integer	N	
BASE_SSMAGNESIUM	No. of samplings - Magnesium	integer	N	
BASE_SSIRON	No. of samplings - Iron	integer	N	
BASE_SSALUMINIUM	No. of samplings - Aluminium	integer	N	
BASE_SSPO4P	No. of samplings - Phosphate (as Phosphate Phosphorus)	integer	N	
BASE_SSNO3N	No. of samplings - Nitrate (as Nitrate Nitrogen)	integer	N	
BASE_SSNH4N	No. of samplings - Ammonium	integer	N	
BASE_SSCHLORIDE	No. of samplings - Chloride	integer	N	
BASE_SSSO4S	No. of samplings - Sulphate (as Sulphate Sulphur)	integer	N	
BASE_SSDOC	No. of samplings - Dissolved Organic Carbon	integer	N	
BASE_SSTOTALN	No. of samplings - Total N	integer	N	

ECN Database Documentation – Soil Solution Chemistry

LCODE	Location code	character string	N	<a href="#">M_SDESC</a>
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10.14 Number of samplings - Soil solution (deep samplers)  
M\_BASE\_SSD

Field Name	Description	Units	Required?	Reference table
DATID	Unique ID for summary datasets	integer	N	<a href="#">M_SDESC</a>
SITE	Sites	character string	N	<a href="#">M_REFSITE</a>
SDATE	Sampling date	dd-mmm-yyyy	N	
MONTH	Month	character string	N	
BASE_TARGET	Target No. of samplings	integer	N	
BASE_SSVOLUME	No. of samplings - Volume	integer	N	
BASE_SSPH	No. of samplings - pH	integer	N	
BASE_SSCONDY	No. of samplings - Conductivity	integer	N	

ECN Database Documentation – Soil Solution Chemistry

BASE_SSALKY	No. of samplings - Alkalinity (CaCO <sub>3</sub> )	integer	N	
BASE_SSSODIUM	No. of samplings - Sodium	integer	N	
BASE_SSPOTASSIUM	No. of samplings - Potassium	integer	N	
BASE_SSCALCIUM	No. of samplings - Calcium	integer	N	
BASE_SSMAGNESIUM	No. of samplings - Magnesium	integer	N	
BASE_SSIRON	No. of samplings - Iron	integer	N	
BASE_SSALUMINIUM	No. of samplings - Aluminium	integer	N	
BASE_SSPO4P	No. of samplings - Phosphate (as Phosphate Phosphorus)	integer	N	
BASE_SSNO3N	No. of samplings - Nitrate (as Nitrate Nitrogen)	integer	N	
BASE_SSNH4N	No. of samplings - Ammonium	integer	N	
BASE_SSCHLORIDE	No. of samplings - Chloride	integer	N	
BASE_SSSO4S	No. of samplings - Sulphate (as Sulphate Sulphur)	integer	N	

ECN Database Documentation – Soil Solution Chemistry

BASE_SSDOC	No. of samplings - Dissolved Organic Carbon	integer	N	
BASE_SSTOTALN	No. of samplings - Total N	integer	N	
LCODE	Location code	character string	N	<a href="#">M SDESC</a>

**11. Surface Water Chemistry**

**11.1 WC: Water chemistry (terrestrial sites)**

D1WC\_sss (where sss is the relevant site code)

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
SDATE	Sampling date	dd-mmm-yyyy	Y	
FIELDNAME	Field name	character string	N	<a href="#">M_FIELDNAME</a>
VALUE	Value	integer	N	
LASTUPDATED	Date to indicate when the record was last updated in the database	dd-mmm-yyyy	N	

**11.2 WC: Water chemistry (terrestrial sites) sampling information**

D2WC\_sss (where sss is the relevant site code)

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>

ECN Database Documentation – Surface Water Chemistry

SDATE	Sampling date	dd-mmm-yyyy	Y	
SHOUR	Sampling hour	hour	N	
SMINS	Sampling minutes	mins	N	
LAB_NID	Lab name	character string	N	<a href="#">M_REFNID</a>
PHDATE	Date of pH measurement	dd-mmm-yyyy	N	
PHHOUR	Hour of pH measurement	hour	N	
PHMINS	Mins of pH measurement	mins	N	
FILTDATE	Date of filtration	dd-mmm-yyyy	N	
COMPDATE	Analysis date	dd-mmm-yyyy	N	
LASTUPDATED	Date to indicate when the record was last updated in the database	dd-mmm-yyyy	N	

**11.3 QC: Quality checking**

D1QC\_sss (where sss is the relevant site code)

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
SDATE	Sampling date	dd-mmm-yyyy	Y	
FIELDNAME	Field name	character string	N	<a href="#">M_FIELDNAME</a>
VALUE	Value	integer	N	
LASTUPDATED	Date to indicate when the record was last updated in the database	dd-mmm-yyyy	N	

**11.4 QC: Quality checking sampling information**

D2QC\_sss (where sss is the relevant site code)

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
FROMDATE	From date	dd-mmm-yyyy	N	

ECN Database Documentation – Surface Water Chemistry

FROMHOUR	From hour	hour	N	
FROMMINS	From minutes	mins	N	
SDATE	Sampling date	dd-mmm-yyyy	Y	
SHOUR	Sampling hour	hour	N	
SMINS	Sampling minutes	mins	N	
LAB_NID	Lab name	character string	N	<a href="#">M_REFNID</a>
PHDATE	Date of pH measurement	dd-mmm-yyyy	N	
PHHOUR	Hour of pH measurement	hour	N	
PHMINS	Mins of pH measurement	mins	N	
FILTDATE	Date of filtration	dd-mmm-yyyy	N	
COMPDATE	Analysis date	dd-mmm-yyyy	N	
LASTUPDATED	Date to indicate when the record was last updated in the database	dd-mmm-yyyy	N	

**11.5 Associated Metadata Table: Laboratory methods for air**  
M\_LABAIR

Field Name	Description	Units	Required?	Reference table
LABAIRSEQ	ID for record	integer	Y	
LAB_NID	Lab name	character string	Y	<a href="#">M_REFNID</a>
FIELDNAME	Field name	character string	Y	<a href="#">M_REFFIELD</a>
FROM_DATE	From date	dd-mmm-yyyy	Y	
TO_DATE	To date	dd-mmm-yyyy	N	
METHODBASIS	Basis of method	character string	N	
SAMPLE	Type of sample	character string	N	
TYPCONC	Typical concentrations	character string	N	
VOLANAL	Volume for analysis	ml	N	
CALIBRANGE	Calibration range	character string	N	

ECN Database Documentation – Surface Water Chemistry

MEASURE	Measurement unit	character string	N	
RESULTSREP	Results reported as	character string	N	
DETLIMIT	Detection limit	integer	N	
BATCHSD	Within-batch standard deviation	character string	N	
INTERFERE	Interferences	character string	N	
INTERNALQC	Internal QC measure	character string	N	
ACCMEASURE	Accuracy measure	character string	N	
METHOD	Method description	character string	N	
REFERENCE	Method reference	character string	N	

**11.6 Associated Metadata Table: Laboratory methods for waters**  
M\_LABWATER

Field Name	Description	Units	Required?	Reference table
LABWATER_ID	ID for record	integer	Y	
LAB_CODE	Lab code	character string	Y	
FIELDNAME	Field name	character string	Y	<a href="#">M_REFFIELD</a>
FROM_DATE	From date	dd-mmm-yyyy	Y	
TO_DATE	To date	dd-mmm-yyyy	Y	
PARID	ID for address information	integer	N	<a href="#">M_REFPARID</a>
METHODBASIS	Basis of method	character string	N	
SAMPLE	Type of sample	character string	N	
TYPCONC	Typical concentrations	character string	N	
VOLANAL	Volume for analysis	ml	N	

ECN Database Documentation – Surface Water Chemistry

CALIBRANGE	Calibration range	character string	N	
MEASURE	Measurement unit	character string	N	
RESULTSREP	Results reported as	character string	N	
LOD	Limit of detection	integer	N	
BATCHSD	Within-batch standard deviation	character string	N	
INTERFERE	Interferences	character string	N	
INTERNALQC	Internal QC measure	character string	N	
ACCMEASURE	Accuracy measure	character string	N	
METHOD	Method description	character string	N	
REFERENCE	Method reference	character string	N	
UNIT	Unit	character string	N	<a href="#">M_REFUNIT</a>

**11.7 Associated Metadata Table: Codes and descriptions for ECN laboratories**

M\_REFLAB\_CODE

Field Name	Description	Units	Required?	Reference table
LAB_CODE	Lab code	character string	Y	
DESCRIPTION	Description	character string	N	

**11.8 Annual Summaries - Water chemistry (terrestrial sites)**

SA1\_WC

Field Name	Description	Units	Required?	Reference table
DATID	Unique ID for summary datasets	integer	N	<a href="#">M_SDESC</a>
MCODE	Measurement code	character string	N	<a href="#">M_REFMCODE</a>
SITE	Sites	character string	N	<a href="#">M_REFSITE</a>
LCODE	Location code	character string	N	<a href="#">M_SDESC</a>
SYEAR	Year of sampling	yyyy	N	

ECN Database Documentation – Surface Water Chemistry

SAVG_WCPH	pH - mean	pH	N	
SAVG_WCCONDY	Conductivity - mean	us/cm	N	
SAVG_WCALKY	Alkalinity (CaCO3) - mean	mg/l	N	
SAVG_WCSODIUM	Sodium - mean	mg/l	N	
SAVG_WCPOTASSIUM	Potassium - mean	mg/l	N	
SAVG_WCCALCIUM	Calcium - mean	mg/l	N	
SAVG_WCMAGNESIUM	Magnesium - mean	mg/l	N	
SAVG_WCIRON	Iron - mean	mg/l	N	
SAVG_WCALUMINIUM	Aluminium - mean	mg/l	N	
SAVG_WCPO4P	Phosphate (as Phosphate Phosphorus) - mean	mg/l	N	
SAVG_WCNO3N	Nitrate (as Nitrate Nitrogen) - mean	mg/l	N	
SAVG_WCNH4N	Ammonium - mean	mg/l	N	

ECN Database Documentation – Surface Water Chemistry

SAVG_WCCHLORIDE	Chloride - mean	mg/l	N	
SAVG_WCSO4S	Sulphate (as Sulphate Sulphur) - mean	mg/l	N	
SAVG_WCDOC	Dissolved organic carbon - mean	mg/l	N	
SAVG_WCTOTALN	Total nitrogen - mean	mg/l	N	

**11.9 Monthly Summaries - Water chemistry (terrestrial sites)**

SM1\_WC

Field Name	Description	Units	Required?	Reference table
DATID	Unique ID for summary datasets	integer	N	<a href="#">M_SDESC</a>
MCODE	Measurement code	character string	N	<a href="#">M_REFMCODE</a>
SITE	Sites	character string	N	<a href="#">M_REFSITE</a>
LCODE	Location code	character string	N	<a href="#">M_SDESC</a>
SDATE	Sampling date	dd-mmm-yyyy	N	

ECN Database Documentation – Surface Water Chemistry

MONTH	Month	character string	N	
SAVG_WCPH	pH - mean	pH	N	
SAVG_WCCONDY	Conductivity - mean	us/cm	N	
SAVG_WCALKY	Alkalinity (CaCO3) - mean	mg/l	N	
SAVG_WCSODIUM	Sodium - mean	mg/l	N	
SAVG_WCPOTASSIUM	Potassium - mean	mg/l	N	
SAVG_WCCALCIUM	Calcium - mean	mg/l	N	
SAVG_WCMAGNESIUM	Magnesium - mean	mg/l	N	
SAVG_WCIRON	Iron - mean	mg/l	N	
SAVG_WCALUMINIUM	Aluminium - mean	mg/l	N	
SAVG_WCPO4P	Phosphate (as Phosphate Phosphorus) - mean	mg/l	N	
SAVG_WCNO3N	Nitrate (as Nitrate Nitrogen) - mean	mg/l	N	

ECN Database Documentation – Surface Water Chemistry

SAVG_WCNH4N	Ammonium - mean	mg/l	N	
SAVG_WCCHLORIDE	Chloride - mean	mg/l	N	
SAVG_WCSO4S	Sulphate (as Sulphate Sulphur) - mean	mg/l	N	
SAVG_WCDOC	Dissolved organic carbon - mean	mg/l	N	
SAVG_WCTOTALN	Total nitrogen - mean	mg/l	N	

11.10 Number of samplings - Water chemistry

M\_BASE\_WC

Field Name	Description	Units	Required?	Reference table
DATID	Unique ID for summary datasets	integer	N	<a href="#">M_SDESC</a>
MCODE	Measurement code	character string	N	<a href="#">M_REFMCODE</a>
SITE	Sites	character string	N	<a href="#">M_REFSITE</a>
LCODE	Location code	character string	N	<a href="#">M_SDESC</a>

ECN Database Documentation – Surface Water Chemistry

SDATE	Sampling date	dd-mmm-yyyy	N	
MONTH	Month	character string	N	
BASE_TARGET	Target No. of samplings	integer	N	
BASE_WCPH	No. of samplings - pH	integer	N	
BASE_WCCONDY	No. of samplings - Conductivity	integer	N	
BASE_WCALKY	No. of samplings - Alkalinity (CaCO <sub>3</sub> )	integer	N	
BASE_WCSODIUM	No. of samplings - Sodium	integer	N	
BASE_WCPOTASSIUM	No. of samplings - Potassium	integer	N	
BASE_WCCALCIUM	No. of samplings - Calcium	integer	N	
BASE_WCMAGNESIUM	No. of samplings - Magnesium	integer	N	
BASE_WCIRON	No. of samplings - Iron	integer	N	
BASE_WCALUMINIUM	No. of samplings - Aluminium	integer	N	

ECN Database Documentation – Surface Water Chemistry

BASE_WCPO4P	No. of samplings - Phosphate (as Phosphate Phosphorus)	integer	N	
BASE_WCNO3N	No. of samplings - Nitrate (as Nitrate Nitrogen)	integer	N	
BASE_WCNH4N	No. of samplings - Ammonium	integer	N	
BASE_WCCHLORIDE	No. of samplings - Chloride	integer	N	
BASE_WCSO4S	No. of samplings - Sulphate (as Sulphate Sulphur)	integer	N	
BASE_WCDOC	No. of samplings - Dissolved Organic Carbon	integer	N	
BASE_WCTOTALN	No. of samplings - Total nitrogen	integer	N	

**12. Surface Water Discharge**

**12.1 WD: Water Discharge (terrestrial sites)**

D1WD\_sss (where sss is the relevant site code)

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
SDATE	Sampling date	dd-mmm-yyyy	Y	
SHOUR	Sampling hour	hour	Y	
SMINS	Sampling minutes	mins	Y	
FIELDNAME	Field name	character string	Y	<a href="#">M_FIELDNAME</a>
VALUE	Value	integer	N	
LASTUPDATED	Date to indicate when the record was last updated in the database	dd-mmm-yyyy	N	

**12.2 Annual Summaries - Water discharge (terrestrial sites)**

SA1\_WD

Field Name	Description	Units	Required?	Reference table
DATID	Unique ID for summary datasets	integer	N	<a href="#">M_SDESC</a>
SITE	Sites	character string	N	<a href="#">M_REFSITE</a>
LCODE	Location code	character string	N	<a href="#">M_SDESC</a>
SYEAR	Year of sampling	yyyy	N	
SAVG_WDSTAGE	Stage - mean	m	N	
SAVG_WDDIS	Discharge - mean	cumecs (m3/s)	N	
SMAX_WDDIS	Max Discharge	cumecs (m3/s)	N	
SMIN_WDDIS	Min Discharge	cumecs (m3/s)	N	

**12.3 Monthly Summaries - Water chemistry (terrestrial sites)**  
SM1\_WD

Field Name	Description	Units	Required?	Reference table
DATID	Unique ID for summary datasets	integer	N	<a href="#">M_SDESC</a>
SITE	Sites	character string	N	<a href="#">M_REFSITE</a>
LCODE	Location code	character string	N	<a href="#">M_SDESC</a>
SDATE	Sampling date	dd-mmm-yyyy	N	
MONTH	Month	character string	N	
SAVG_WDSTAGE	Stage - mean	m	N	
SAVG_WDDIS	Discharge - mean	cumecs (m3/s)	N	
SMAX_WDDIS	Max Discharge	cumecs (m3/s)	N	
SMIN_WDDIS	Min Discharge	cumecs (m3/s)	N	

**12.4 Number of samplings - Water discharge**

M\_BASE\_WD

Field Name	Description	Units	Required?	Reference table
DATID	Unique ID for summary datasets	integer	N	<a href="#">M_SDESC</a>
SITE	Sites	character string	N	<a href="#">M_REFSITE</a>
SDATE	Sampling date	dd-mmm-yyyy	N	
MONTH	Month	character string	N	
BASE_TARGET	Target No. of samplings	integer	N	
BASE_WDSTAGE	No. of samplings - Stage	integer	N	
BASE_WDDIS	No. of samplings - Discharge	integer	N	
BASE_WDMAXDIS	No. of samplings - Maximum discharge	integer	N	
BASE_WDMINDIS	No. of samplings - Minimum discharge	integer	N	
LCODE	Location code	character string	N	<a href="#">M_SDESC</a>

**13. Atmospheric Chemistry (NO2)**

**13.1 AN: Nitrogen Dioxide**

D1AN\_sss (where sss is the relevant site code)

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
TUBEID	Tube ID	character string	Y	
SDATE	Sampling date	dd-mmm-yyyy	Y	
FIELDNAME	Field name	character string	N	<a href="#">M_FIELDNAME</a>
VALUE	Value	integer	N	
LASTUPDATED	Date to indicate when the record was last updated in the database	dd-mmm-yyyy	N	

**13.2 AN: Nitrogen Dioxide sampling information**

D2AN\_sss (where sss is the relevant site code)

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
TUBEID	Tube ID	character string	Y	
SDATE	Sampling date	dd-mmm-yyyy	Y	
SHOUR	Sampling hour	hour	N	
SMINS	Sampling minutes	mins	N	
DEPDATE	Tube deployment date	dd-mmm-yyyy	N	
DEPHOUR	Tube deployment hour	hour	N	
DEPMINS	Tube deployment mins	mins	N	
LASTUPDATED	Date to indicate when the record was last updated in the database	dd-mmm-yyyy	N	

ECN Database Documentation – Atmospheric Chemistry (NO2)

13.3 Annual Summaries - Atmospheric nitrogen

SA1\_AN

Field Name	Description	Units	Required?	Reference table
DATID	Unique ID for summary datasets	integer	N	<a href="#">M_SDESC</a>
SITE	Sites	character string	N	<a href="#">M_REFSITE</a>
LCODE	Location code	character string	N	<a href="#">M_SDESC</a>
SYEAR	Year of sampling	yyyy	N	
SAVG_ANNO2PPB	Mean NO2 Concentration	ppb	N	

13.4 Monthly Summaries - Atmospheric nitrogen

SM1\_AN

Field Name	Description	Units	Required?	Reference table
DATID	Unique ID for summary datasets	integer	N	<a href="#">M_SDESC</a>
SITE	Sites	character string	N	<a href="#">M_REFSITE</a>

ECN Database Documentation – Atmospheric Chemistry (NO2)

LCODE	Location code	character string	N	<a href="#">M_SDESC</a>
SDATE	Sampling date	dd-mmm-yyyy	N	
MONTH	Month	character string	N	
SAVG_ANNO2PPB	Mean NO2 Concentration	ppb	N	

13.5 Quarterly Summaries - Atmospheric nitrogen  
SQ1\_AN

Field Name	Description	Units	Required?	Reference table
DATID	Unique ID for summary datasets	integer	N	<a href="#">M_SDESC</a>
SITE	Sites	character string	N	<a href="#">M_REFSITE</a>
LCODE	Location code	character string	N	<a href="#">M_SDESC</a>
SDATE	Sampling date	dd-mmm-yyyy	N	
QTR	Quarter	integer	N	

ECN Database Documentation – Atmospheric Chemistry (NO2)

SAVG_ANNO2PPB	Mean NO2 Concentration	ppb	N	
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13.6 Number of samplings - Atmospheric nitrogen

M\_BASE\_AN

Field Name	Description	Units	Required?	Reference table
DATID	Unique ID for summary datasets	integer	N	<a href="#">M_SDESC</a>
SITE	Sites	character string	N	<a href="#">M_REFSITE</a>
SDATE	Sampling date	dd-mmm-yyyy	N	
QTR	Quarter	integer	N	
BASE_TARGET	Target No. of samplings	integer	N	
BASE_ANNO2PPB	No. of samplings - NO2 concentration	integer	N	
LCODE	Location code	character string	N	<a href="#">M_SDESC</a>

**14. Invertebrates – Butterflies**

**14.1 IB: Butterflies - species observed**

D11B\_sss (where sss is the relevant site code)

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
SDATE	Sampling date	dd-mmm-yyyy	Y	
FIELDNAME	Field name	character string	N	<a href="#">M_FIELDNAME</a>
SECTION	Transect section ID	character string	N	
VALUE	Value	integer	N	
BROODED	Number of broods	character string	N	<a href="#">M_REFBROODED</a>
LASTUPDATED	Date to indicate when the record was last updated in the database	dd-mmm-yyyy	N	

**14.2 IB: Butterflies - information on the conditions during the survey**

D2IB\_sss (where sss is the relevant site code)

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
SDATE	Sampling date	dd-mmm-yyyy	Y	
SHOUR	Sampling hour	hour	N	
SMINS	Sampling minutes	mins	N	
RECORDER	Recorders initials	character string	N	
RECCODE	Recorder code	character string	N	
TEMP	Temperature	oC	N	
SUNPERC	Percent sunshine	%	N	
WSPEEDB	Wind speed - beaufort scale	beaufort scale	N	
LASTUPDATED	Date to indicate when the record was last updated in the database	dd-mmm-yyyy	N	

WEEK	Week number	integer	N	
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**14.3 Associated Metadata Table: Information about the butterfly transect including a lookup between the ECN site code and the BMS site code**  
M\_REFIB\_BMSSITE

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	N	<a href="#">M_DESC</a>
BMSSITE	BMS site code	character string	N	
NSECTIONS	Number of sections	integer	N	
FROMDATE	From date	dd-mmm-yyyy	N	
TODATE	To date	dd-mmm-yyyy	N	

**14.4 Associated Metadata Table: Information about the sections of the butterfly transects**

M\_REFIB\_HABDESC

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	N	<a href="#">M_DESC</a>
FROMDATE	From date	dd-mmm-yyyy	N	
TODATE	To date	dd-mmm-yyyy	N	
SECTION	Transect section ID	character string	N	
LENGTH	Transect section length	m	N	
HABDESC	Habitat description	character string	N	

**14.5 Associated Metadata Table: Codes and descriptions for butterfly species (BRC codes)**

M\_REFIB\_SPEC

Field Name	Description	Units	Required?	Reference table
IB_SPEC	Species code	character string	Y	<a href="#">M_REFIB_SPEC</a>

ECN Database Documentation – Butterflies

DESC_LATIN	Latin name	character string	N	
DESC_COMMON	Common name	character string	N	

**14.6 Annual Summaries - Butterflies**

SA1\_IB

Field Name	Description	Units	Required?	Reference table
DATID	Unique ID for summary datasets	integer	N	<a href="#">M_SDESC</a>
SITE	Sites	character string	N	<a href="#">M_REFSITE</a>
LCODE	Location code	character string	N	<a href="#">M_SDESC</a>
SDATE	Sampling date	dd-mmm-yyyy	N	
SYEAR	Year of sampling	yyyy	N	
IB_NINDIVS	Number of Individuals	integer	N	
IB_NSPECIES	Number of Species	integer	N	

ECN Database Documentation – Butterflies

IB_N100	Small white - <i>Pieris rapae</i> - count	integer	N	
IB_N104	Comma - <i>Polygona c-album</i> - count	integer	N	
IB_N106	Common blue - <i>Polyommatus icarus</i> - count	integer	N	
IB_N110	Grizzled skipper - <i>Pyrgus malvae</i> - count	integer	N	
IB_N113	White-letter hairstreak - <i>Strymonidea w-album</i> - count	integer	N	
IB_N115	Brown hairstreak - <i>Thecla betulae</i> - count	integer	N	
IB_N116	Purple hairstreak - <i>Quercusia quercus</i> - count	integer	N	
IB_N119	Essex skipper - <i>Thymelicus lineloa</i> - count	integer	N	
IB_N12	Dark green fritillary - <i>Argynnis aglaja</i> - count	integer	N	
IB_N120	Small skipper - <i>Thymelicus sylvestris</i> - count	integer	N	
IB_N122	Red admiral - <i>Vanessa atalanta</i> - count	integer	N	
IB_N123	Painted lady - <i>Cynthia cardui</i> - count	integer	N	

ECN Database Documentation – Butterflies

IB_N14	Pearl-bordered fritillary - <i>Boloria euphrosyne</i> - count	integer	N	
IB_N17	Silver-washed fritillary - <i>Argynnis paphia</i> - count	integer	N	
IB_N18	Small pearl-bordered fritillary - <i>Boloria selene</i> - count	integer	N	
IB_N197	Mixed whites - count	integer	N	
IB_N2	Small tortoiseshell - <i>Aglais urticae</i> - count	integer	N	
IB_N20	Brown argus - <i>Aricia agestis</i> - count	integer	N	
IB_N23	Green hairstreak - <i>Callophrys rubi</i> - count	integer	N	
IB_N27	Holly blue - <i>Celastrina argiolus</i> - count	integer	N	
IB_N29	Small heath - <i>Coenonympha pamphilus</i> - count	integer	N	
IB_N34	Clouded yellow - <i>Coleus croceus</i> - count	integer	N	
IB_N36	Small blue - <i>Cupido minimus</i> - count	integer	N	
IB_N4	Orange tip - <i>Anthocharis cardamines</i> - count	integer	N	

ECN Database Documentation – Butterflies

IB_N46	Dingy skipper - <i>Erynnis tages</i> - count	integer	N	
IB_N48	Grayling - <i>Hipparchia semele</i> - count	integer	N	
IB_N50	Marsh fritillary - <i>Eurodryas aurinia</i> - count	integer	N	
IB_N54	Brimstone - <i>Gonepteryx rhamni</i> - count	integer	N	
IB_N56	Duke of Burgundy - <i>Hamearis lucina</i> - count	integer	N	
IB_N58	Silver-spotted skipper - <i>Hesperia comma</i> - count	integer	N	
IB_N6	Purple emperor - <i>Apatura iris</i> - count	integer	N	
IB_N64	White admiral - <i>Ladoga camilla</i> - count	integer	N	
IB_N68	Small copper - <i>Lycaena phlaeas</i> - count	integer	N	
IB_N70	Adonis blue - <i>Lysandra bellargus</i> - count	integer	N	
IB_N71	Chalkhill blue - <i>Lysandra coridon</i> - count	integer	N	
IB_N75	Meadow brown - <i>Maniola jurtina</i> - count	integer	N	

ECN Database Documentation – Butterflies

IB_N76	Hedge brown - <i>Pyronia tithonus</i> - count	integer	N	
IB_N78	Marbled white - <i>Melanargia galathea</i> - count	integer	N	
IB_N8	Ringlet - <i>Aphantopus hyperantus</i> - count	integer	N	
IB_N84	Peacock - <i>Inachis io</i> - count	integer	N	
IB_N88	Large skipper - <i>Ochlodes venata</i> - count	integer	N	
IB_N93	Speckled wood - <i>Parage aegaria</i> - count	integer	N	
IB_N94	Wall brown - <i>Lasiommata megera</i> - count	integer	N	
IB_N98	Large white - <i>Pieris brassicae</i> - count	integer	N	
IB_N99	Green-veined white - <i>Pieris napi</i> - count	integer	N	
IB_NPERWALK	Number of butterflies observed per transect walk	integer	N	

**14.7 Daily Summaries - Orange tip butterfly (for climate change indicators)**

SD1\_IBN4

Field Name	Description	Units	Required?	Reference table
DATID	Unique ID for summary datasets	integer	N	<a href="#">M_SDESC</a>
SITE	Sites	character string	N	<a href="#">M_REFSITE</a>
LCODE	Location code	character string	N	<a href="#">M_SDESC</a>
SDATE	Sampling date	dd-mmm-yyyy	N	
IB_N4	Orange tip - Anthocharis cardamines - count	integer	N	

**14.8 Annual Summaries - Biodiversity indicators**

SA1\_IND

Field Name	Description	Units	Required?	Reference table
SITE	Sites	character string	N	<a href="#">M_REFSITE</a>
SYEAR	Year of sampling	yyyy	N	

ECN Database Documentation – Butterflies

IB_IND	Butterfly composite indicator	integer	N	
IM_IND	Moth composite indicator	integer	N	
IG_IND	Beetle composite indicator	integer	N	
AVG_SUMMERTEMP	Summer temperature - mean	oC	N	
NOOFSPECIES	Number of species	integer	N	
AVG_SUMMERRAIN	Summer rainfall - mean	mm	N	
AVG_SUMMERMAXTEMP	Summer maximum temperature - mean	oC	N	
AVG_SPRINGMINTEMP	Spring minimum temperature - mean	oC	N	
IM_SUMRAIN	Summer rainfall - mean (moths)	mm	N	
IM_SUMMAXTEMP	Summer maximum temperature - mean (moths)	oC	N	
IM_SPRINGMINTEMP	Spring minimum temperature - mean (moths)	oC	N	

**14.9 Number of samplings - Butterflies**

M\_BASE\_IB

Field Name	Description	Units	Required?	Reference table
DATID	Unique ID for summary datasets	integer	N	<a href="#">M_SDESC</a>
SITE	Sites	character string	N	<a href="#">M_REFSITE</a>
SDATE	Sampling date	dd-mmm-yyyy	N	
LCODE	Location code	character string	N	<a href="#">M_SDESC</a>
SYEAR	Year of sampling	yyyy	N	
BASE_TARGET	Target No. of samplings	integer	N	
BASE_WEEKS	No. of sampling weeks	integer	N	

**15. Invertebrates – Ground Predators**

**15.1 IG: Carabid beetles - species observed**

D1IG\_sss (where sss is the relevant site code)

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
SDATE	Sampling date	dd-mmm-yyyy	Y	
FIELDNAME	Field name	character string	N	<a href="#">M_FIELDNAME</a>
TRAP	Trap code	character string	N	
VALUE	Value	integer	N	
LASTUPDATED	Date to indicate when the record was last updated in the database	dd-mmm-yyyy	N	

**15.2 IG: Carabid beetles - vertebrates accidentally caught in pitfall traps**

D1IGV\_ sss (where sss is the relevant site code)

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
SDATE	Sampling date	dd-mmm-yyyy	Y	
FIELDNAME	Field name	character string	N	<a href="#">M_FIELDNAME</a>
TRAP	Trap code	character string	N	
VALUE	Value	integer	N	
LASTUPDATED	Date to indicate when the record was last updated in the database	dd-mmm-yyyy	N	

**15.3 IG: Carabid beetles - transect sampling events**

D2IG\_ sss (where sss is the relevant site code)

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>

ECN Database Documentation – Ground Predators

FROMDATE	From date	dd-mmm-yyyy	N	
SDATE	Sampling date	dd-mmm-yyyy	N	
LASTUPDATED	Date to indicate when the record was last updated in the database	dd-mmm-yyyy	N	

**15.4 Associated Metadata Table: Codes and descriptions for the vertebrate species accidentally caught in pitfall traps**

M\_REFIGV\_SPEC

Field Name	Description	Units	Required?	Reference table
IGV_SPEC	Species code	integer	N	
DESC_LATIN	Latin name	character string	N	
DESC_COMMON	Common name	character string	N	

**15.5 Associated Metadata Table: Information about the habitats that the transects are in**  
M\_REFIG\_HABDESC

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	N	<a href="#">M_DESC</a>
HABDESC	Habitat description	character string	N	

**15.6 Associated Metadata Table: Codes and descriptions for carabid beetle species (BRC codes)**  
M\_REFIG\_SPEC

Field Name	Description	Units	Required?	Reference table
IG_SPEC	Species code	character string	N	<a href="#">M_REFIG_SPEC</a>
DESC_LATIN	Latin name	character string	N	
RANK	Rank	character string	N	

**15.7 Annual Summaries - Ground predators**

SA1\_IG

Field Name	Description	Units	Required?	Reference table
DATID	Unique ID for summary datasets	integer	N	<a href="#">M_SDESC</a>
SITE	Sites	character string	N	<a href="#">M_REFSITE</a>
LCODE	Location code	character string	N	<a href="#">M_SDESC</a>
SDATE	Sampling date	dd-mmm-yyyy	N	
SYEAR	Year of sampling	yyyy	N	
IG_NINDIVS	Number of Individuals	integer	N	
IG_NSPECIES	Number of Species - count	integer	N	
IG_AVGTRAPS	Average Number per Trap	integer	N	
IG_ABAX	Genus: Abax - count	integer	N	
IG_AGONUM	Genus: Agonum - count	integer	N	

ECN Database Documentation – Ground Predators

IG_AMARA	Genus: Amara - count	integer	N	
IG_BRADYCELLUS	Genus: Bradycellus - count	integer	N	
IG_CALATHUS	Genus: Calathus - count	integer	N	
IG_CARABUS	Genus: Carabus - count	integer	N	
IG_CYCHRUS	Genus: Cychrus - count	integer	N	
IG_CYMINDIS	Genus: Cymindis - count	integer	N	
IG_LEISTUS	Genus: Leistus - count	integer	N	
IG_LORICERA	Genus: Loricera - count	integer	N	
IG_NEBRIA	Genus: Nebria - count	integer	N	
IG_NOTIOPHILUS	Genus: Notiophilus - count	integer	N	
IG_PATROBUS	Genus: Patrobus - count	integer	N	
IG_PTEROSTICHUS	Genus: Pterostichus - count	integer	N	

ECN Database Documentation – Ground Predators

IG_STOMIS	Genus: Stomis - count	integer	N	
IG_TRECHUS	Genus: Trechus - count	integer	N	
IG_TRICHOCELLUS	Genus: Trichocellus - count	integer	N	
IG_ACUPALPUS	Genus: Acupalpus - count	integer	N	
IG_ASAPHIDION	Genus: Asaphidion - count	integer	N	
IG_BADISTER	Genus: Badister - count	integer	N	
IG_BEMBIDION	Genus: Bembidion - count	integer	N	
IG_CHLAENIUS	Genus: Chlaenius - count	integer	N	
IG_CICINDELA	Genus: Cicindela - count	integer	N	
IG_CLIVINA	Genus: Clivina - count	integer	N	
IG_DEMETRIAS	Genus: Demetrias - count	integer	N	
IG_DROMIUS	Genus: Dromius - count	integer	N	

ECN Database Documentation – Ground Predators

IG_DYSCHIRIUS	Genus: Dyschirius - count	integer	N	
IG_HARPALUS	Genus: Harpalus - count	integer	N	
IG_LAEMOSTENUS	Genus: Laemostenus - count	integer	N	
IG_LICINUS	Genus: Licinus - count	integer	N	
IG_METABLETUS	Genus: Metabletus - count	integer	N	
IG_MICROLESTES	Genus: Microlestes - count	integer	N	
IG_PANAGAEUS	Genus: Panagaeus - count	integer	N	
IG_SYNUCHUS	Genus: Synuchus - count	integer	N	
IG_ZABRUS	Genus: Zabrus - count	integer	N	
IG_UNIDENTIFIED	Number of Unidentified Individuals	integer	N	
IG_ELAPHRUS	Genus: Elaphrus - count	integer	N	

**15.8 Monthly Summaries - Ground predators**

SM1\_IG

Field Name	Description	Units	Required?	Reference table
DATID	Unique ID for summary datasets	integer	N	<a href="#">M_SDESC</a>
SITE	Sites	character string	N	<a href="#">M_REFSITE</a>
LCODE	Location code	character string	N	<a href="#">M_SDESC</a>
SDATE	Sampling date	dd-mmm-yyyy	N	
MONTH	Month	character string	N	
IG_NINDIVS	Number of Individuals	integer	N	
IG_NSPECIES	Number of Species - count	integer	N	
IG_AVGTRAPS	Average Number per Trap	integer	N	
IG_ABAX	Genus: Abax - count	integer	N	
IG_AGONUM	Genus: Agonum - count	integer	N	

ECN Database Documentation – Ground Predators

IG_AMARA	Genus: Amara - count	integer	N	
IG_BRADYCELLUS	Genus: Bradycellus - count	integer	N	
IG_CALATHUS	Genus: Calathus - count	integer	N	
IG_CARABUS	Genus: Carabus - count	integer	N	
IG_CYCHRUS	Genus: Cychrus - count	integer	N	
IG_CYMINDIS	Genus: Cymindis - count	integer	N	
IG_LEISTUS	Genus: Leistus - count	integer	N	
IG_LORICERA	Genus: Loricera - count	integer	N	
IG_NEBRIA	Genus: Nebria - count	integer	N	
IG_NOTIOPHILUS	Genus: Notiophilus - count	integer	N	
IG_PATROBUS	Genus: Patrobus - count	integer	N	
IG_PTEROSTICHUS	Genus: Pterostichus - count	integer	N	

ECN Database Documentation – Ground Predators

IG_STOMIS	Genus: Stomis - count	integer	N	
IG_TRECHUS	Genus: Trechus - count	integer	N	
IG_TRICHOCELLUS	Genus: Trichocellus - count	integer	N	
IG_ACUPALPUS	Genus: Acupalpus - count	integer	N	
IG_ASAPHIDION	Genus: Asaphidion - count	integer	N	
IG_BADISTER	Genus: Badister - count	integer	N	
IG_BEMBIDION	Genus: Bembidion - count	integer	N	
IG_CHLAENIUS	Genus: Chlaenius - count	integer	N	
IG_CICINDELA	Genus: Cicindela - count	integer	N	
IG_CLIVINA	Genus: Clivina - count	integer	N	
IG_DEMETRIAS	Genus: Demetrias - count	integer	N	
IG_DROMIUS	Genus: Dromius - count	integer	N	

ECN Database Documentation – Ground Predators

IG_DYSCHIRIUS	Genus: Dyschirius - count	integer	N	
IG_HARPALUS	Genus: Harpalus - count	integer	N	
IG_LAEMOSTENUS	Genus: Laemostenus - count	integer	N	
IG_LICINUS	Genus: Licinus - count	integer	N	
IG_METABLETUS	Genus: Metabletus - count	integer	N	
IG_MICROLESTES	Genus: Microlestes - count	integer	N	
IG_PANAGAEUS	Genus: Panagaeus - count	integer	N	
IG_SYNUCHUS	Genus: Synuchus - count	integer	N	
IG_ZABRUS	Genus: Zabrus - count	integer	N	
IG_UNIDENTIFIED	Number of Unidentified Individuals	integer	N	
IG_ELAPHRUS	Genus: Elaphrus - count	integer	N	

**15.9 Annual Summaries - Biodiversity indicators**

SA1\_IND

Field Name	Description	Units	Required?	Reference table
SITE	Sites	character string	N	<a href="#">M_REFSITE</a>
SYEAR	Year of sampling	yyyy	N	
IB_IND	Butterfly composite indicator	integer	N	
IM_IND	Moth composite indicator	integer	N	
IG_IND	Beetle composite indicator	integer	N	
AVG_SUMMERTEMP	Summer temperature - mean	oC	N	
NOOFSPECIES	Number of species	integer	N	
AVG_SUMMERRAIN	Summer rainfall - mean	mm	N	
AVG_SUMMERMAXTEMP	Summer maximum temperature - mean	oC	N	
AVG_SPRINGMINTEMP	Spring minimum temperature - mean	oC	N	

ECN Database Documentation – Ground Predators

IM_SUMRAIN	Summer rainfall - mean (moths)	mm	N	
IM_SUMMAXTEMP	Summer maximum temperature - mean (moths)	oC	N	
IM_SPRINGMINTEMP	Spring minimum temperature - mean (moths)	oC	N	

15.10 Number of samplings - Ground predators

M\_BASE\_IG

Field Name	Description	Units	Required?	Reference table
DATID	Unique ID for summary datasets	integer	N	<a href="#">M_SDESC</a>
SITE	Sites	character string	N	<a href="#">M_REFSITE</a>
LCODE	Location code	character string	N	<a href="#">M_SDESC</a>
SDATE	Sampling date	dd-mmm-yyyy	N	
SYEAR	Year of sampling	yyyy	N	
BASE_TARGET	Target No. of samplings	integer	N	

ECN Database Documentation – Ground Predators

BASE_SAMPLES	No. of samplings	integer	N	
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**15.11 Number of samplings - Ground predators**

M\_BASE\_IG\_MONTHLY

Field Name	Description	Units	Required?	Reference table
DATID	Unique ID for summary datasets	integer	N	<a href="#">M_SDESC</a>
SITE	Sites	character string	N	<a href="#">M_REFSITE</a>
LCODE	Location code	character string	N	<a href="#">M_SDESC</a>
SDATE	Sampling date	dd-mmm-yyyy	N	
MONTH	Month	character string	N	
BASE_TARGET	Target No. of samplings	integer	N	
BASE_SAMPLES	No. of samplings	integer	N	

**16. Invertebrates – Moths**

**16.1 IM: Moths - species observed**

D1IM\_sss (where sss is the relevant site code)

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
SDATE	Sampling date	dd-mmm-yyyy	Y	
FIELDNAME	Field name	character string	N	<a href="#">M_FIELDNAME</a>
VALUE	Value	integer	N	
LASTUPDATED	Date to indicate when the record was last updated in the database	dd-mmm-yyyy	N	

**16.2 IM: Moths - information about the survey**

D2IM\_sss (where sss is the relevant site code)

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>

SDATE	Sampling date	dd-mmm-yyyy	Y	
SPERIOD_D	Period over which trap set	integer	N	
FROMDATE	From date	dd-mmm-yyyy	N	
YEAR	Year of sampling	integer	N	
WEEK	Week number	integer	N	
LASTUPDATED	Date to indicate when the record was last updated in the database	dd-mmm-yyyy	N	

**16.3 Associated Metadata Table: Codes and descriptions for butterfly breeding strategies**

M\_REFBROODED

Field Name	Description	Units	Required?	Reference table
BROODED	Number of broods	character string	N	<a href="#">M_REFBROODED</a>
DESCRIPTION	Description	character string	N	

**16.4 Associated Metadata Table: Codes and descriptions for moth groups**

M\_REFIM\_GROUP

Field Name	Description	Units	Required?	Reference table
IM_GROUP	Moth groups	character string	N	<a href="#">M_REFIM_GROUP</a>
DESCRIPTION	Description	character string	N	

**16.5 Associated Metadata Table: Information providing a lookup between the ECN site code and the Rothamsted light trap network site code**

M\_REFIM\_ROTBSITE

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	N	<a href="#">M_DESC</a>
ROTSITE	Rothamsted site number	character string	N	

**16.6 Associated Metadata Table: Codes and descriptions for moth species (Rothamsted Insect Survey codes)**

M\_REFIM\_SPEC

Field Name	Description	Units	Required?	Reference table
IM_SPEC	Species code	character string	N	<a href="#">M_REFIM_SPEC</a>
DESC_LATIN	Latin name	character string	N	
DESC_COMMON	Common name	character string	N	
IM_LEVEL	Taxonomic level	character string	N	
IM_DUPLICATE	Duplicates	character string	N	
IM_TYPE	Type (M = moth, B = butterfly)	character string	N	
IM_GROUP	Moth groups	character string	N	<a href="#">M_REFIM_GROUP</a>
VERSION_DATE	Version date	dd-mmm-yyyy	N	
CHANGE_DATE	Date of change	dd-mmm-yyyy	N	
CHANGE_INFO	Information about change	character string	N	

**16.7 Associated Metadata Table: Codes and descriptions for Rothamsted Insect Survey insect types**

M\_REFIM\_TYPE

Field Name	Description	Units	Required?	Reference table
IM_TYPE	Type (M = moth, B = butterfly)	character string	N	
DESCRIPTION	Description	character string	N	

**16.8 Annual Summaries - Moths**

SA1\_IM

Field Name	Description	Units	Required?	Reference table
SDATE	Sampling date	dd-mmm-yyyy	N	
IM_N469	Flounced Rustic - Luperina testacea - D&S - count	integer	N	
DATID	Unique ID for summary datasets	integer	N	<a href="#">M_SDESC</a>
SITE	Sites	character string	N	<a href="#">M_REFSITE</a>
LCODE	Location code	character string	N	<a href="#">M_SDESC</a>

ECN Database Documentation – Moths

IM_N729	Silver ground Carpet - <i>Xanthorhoe montanata</i> - D&S - count	integer	N	
IM_OTHER	Number of Macrolepidoptera (larger moths) excluding noctuids and geometrids - count	integer	N	
IM_NSPECIES	Number of Species - count	integer	N	
IM_NOCTUIDS	Number of Noctuids - count	integer	N	
IM_NINDIVS	Number of Macrolepidoptera (larger moths) - count	integer	N	
IM_N923	Brimstone Moth - <i>Opisthograptis luteolata</i> - Linn - count	integer	N	
IM_N864	Common Pug - <i>Eupithecia vulgata</i> - Haw - count	integer	N	
IM_N80	Poplar Hawk moth - <i>Laothoe populi</i> - Linn - count	integer	N	
IM_N784	July Highflyer - <i>Hydriomena furcata</i> - Thunb - count	integer	N	
IM_N771	Barred Straw - <i>Eulithis pyraliata</i> - D&S - count	integer	N	
IM_GEOMETRIDS	Number of Geometrids - count	integer	N	

ECN Database Documentation – Moths

IM_MICROS	Number of Microlepidoptera - count	integer	N	
IM_N717	Riband Wave - <i>Idaea aversata</i> - Linn - count	integer	N	
IM_N635	Silver Y - <i>Autographa gamma</i> - Linn - count	integer	N	
IM_N285	Heart & Dart - <i>Agrotis exclamationis</i> - Linn - count	integer	N	
IM_N318	Square spot Rustic - <i>Xestia xanthographa</i> - D&S - count	integer	N	
IM_N200	Garden Tiger - <i>Arctia caja</i> - Linn - count	integer	N	
IM_N331	Large Yellow Underwing - <i>Noctua pronuba</i> - Linn - count	integer	N	
IM_N382	Hebrew Character - <i>Orthosia gothica</i> - Linn - count	integer	N	
IM_N444	Dark Arches - <i>Apamea monoglypha</i> - Hufn - count	integer	N	
IM_N2178	Diamond backed moth - <i>Plutella xylostella</i> - Linn - count	integer	N	
IM_N574	Lunar Underwing - <i>Omphaloscelis lunosa</i> - Haw - count	integer	N	

ECN Database Documentation – Moths

IM_N192	White Ermine - Spilosoma lubricipeda - Linn - count	integer	N	
IM_N180	Common Footman - Eilema lurideola - Zinck - count	integer	N	
IM_N148	December Moth - Poecilocampa populi - Linn - count	integer	N	
SYEAR	Year of sampling	yyyy	N	

16.9 Daily Summaries - Common footman moth (for climate change indicators)

SD1\_IMN180

Field Name	Description	Units	Required?	Reference table
DATID	Unique ID for summary datasets	integer	N	<a href="#">M_SDESC</a>
SITE	Sites	character string	N	<a href="#">M_REFSITE</a>
LCODE	Location code	character string	N	<a href="#">M_SDESC</a>
SDATE	Sampling date	dd-mmm-yyyy	N	
IM_N180	Common Footman - Eilema lurideola - Zinck - count	integer	N	

**16.10 Number of samplings - Moths**

M\_BASE\_IM

Field Name	Description	Units	Required?	Reference table
DATID	Unique ID for summary datasets	integer	N	<a href="#">M_SDESC</a>
SITE	Sites	character string	N	<a href="#">M_REFSITE</a>
SDATE	Sampling date	dd-mmm-yyyy	N	
LCODE	Location code	character string	N	<a href="#">M_SDESC</a>
SYEAR	Year of sampling	yyyy	N	
BASE_TARGET	Target No. of samplings	integer	N	
BASE_TRAPNIGHTS	No. of trapping nights	integer	N	

**17. Invertebrates – Spittle Bugs**

**17.1 ISN: Spittle bugs - nymphs, number of spittles**

D1ISN\_sss (where sss is the relevant site code)

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
SDATE	Sampling date	dd-mmm-yyyy	Y	
ISN_SPEC	Spittle bug species code	character string	N	<a href="#">M_REFISN_SPEC</a>
FIELDNAME	Field name	character string	N	<a href="#">M_FIELDNAME</a>
VALUE	Value	integer	N	
LASTUPDATED	Date to indicate when the record was last updated in the database	dd-mmm-yyyy	N	

**17.2 ISA: Spittle bugs - adults, colour morph counts**

D1ISA\_sss (where sss is the relevant site code)

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
SDATE	Sampling date	dd-mmm-yyyy	Y	
ISA_MORPH	Spittle bug adult morph code	character string	N	<a href="#">M_REFISA_MORPH</a>
FIELDNAME	Field name	character string	N	<a href="#">M_FIELDNAME</a>
VALUE	Value	integer	N	
LASTUPDATED	Date to indicate when the record was last updated in the database	dd-mmm-yyyy	N	

**17.3 Associated Metadata Table: Codes and descriptions for spittle bug adult colour morphs (ECN-devised codes)**

M\_REFISA\_MORPH

Field Name	Description	Units	Required?	Reference table
ISA_MORPH	Spittle bug adult morph code	character string	Y	<a href="#">M_REFISA_MORPH</a>
DESCRIPTION	Description	character string	N	

**17.4 Associated Metadata Table: Codes and descriptions for spittle bug nymph species (ECN-devised codes)**

M\_REFISN\_SPEC

Field Name	Description	Units	Required?	Reference table
ISN_SPEC	Spittle bug species code	character string	Y	<a href="#">M_REFISN_SPEC</a>
DESCRIPTION	Description	character string	N	

**17.5 Annual Summaries - Spittle bugs**

SA1\_IS

Field Name	Description	Units	Required?	Reference table
DATID	Unique ID for summary datasets	integer	N	<a href="#">M_SDESC</a>
SITE	Sites	character string	N	<a href="#">M_REFSITE</a>
LCODE	Location code	character string	N	<a href="#">M_SDESC</a>
SDATE	Sampling date	dd-mmm-yyyy	N	
SYEAR	Year of sampling	yyyy	N	
SAVG_ISNEOSPITTLES	Neophilaenus lineatus - spittles	integer	N	
SAVG_ISPHILSPITTLES	Philaenus spumaris spittles	integer	N	
SAVG_ISNEONYMPHS	Neophilaenus lineatus - nymphs	integer	N	
SAVG_ISPHILNYMPHS	Philaenus spumaris nymphs	integer	N	
SAVG_ISALB	Albomaculata - count	integer	N	

ECN Database Documentation – Spittle Bugs

SAVG_ISFLA	Flavicollis - count	integer	N	
SAVG_ISGIB	Gibba - count	integer	N	
SAVG_ISLAT	Lateralis - count	integer	N	
SAVG_ISLCE	Leucocephala - count	integer	N	
SAVG_ISLOP	Leucophthalma - count	integer	N	
SAVG_ISMAR	Marginella - count	integer	N	
SAVG_ISPOP	Populi - count	integer	N	
SAVG_ISPRA	Praeusta - count	integer	N	
SAVG_ISQUA	Quadrимaculata - count	integer	N	
SAVG_ISTR1	Trilineata - count	integer	N	
SAVG_ISTYP	Typica - count	integer	N	
SAVG_ISUUU	Unidentified - count	integer	N	

ECN Database Documentation – Spittle Bugs

STOT_ISNINDIVS	Adults: No. of Individuals	integer	N	
SPERC_ISMELANIC	Adults: Percentage of melanic individuals	%	N	
SPERC_ISNONMELANIC	Adults: Percentage of non-melanic individuals	%	N	
SPERC_ISUUU	Adults: Percentage of unidentified individuals	%	N	

**17.6 Annual Summaries - Spittle bugs (percentage of each colour morph by site)**

SA2\_IS

Field Name	Description	Units	Required?	Reference table
DATID	Unique ID for summary datasets	integer	N	<a href="#">M_SDESC</a>
SITE	Sites	character string	N	<a href="#">M_REFSITE</a>
LCODE	Location code	character string	N	<a href="#">M_SDESC</a>
SPERC_ISALB	Albomaculata - percentage	%	N	
SPERC_ISFLA	Flavicollis - percentage	%	N	

ECN Database Documentation – Spittle Bugs

SPERC_ISGIB	Gibba - percentage	%	N	
SPERC_ISLAT	Lateralis - percentage	%	N	
SPERC_ISLCE	Leucocephala - percentage	%	N	
SPERC_ISLOP	Leucophthalma - percentage	%	N	
SPERC_ISMAR	Marginella - percentage	%	N	
SPERC_ISPOP	Populi - percentage	%	N	
SPERC_ISPRA	Praeusta - percentage	%	N	
SPERC_ISQUA	Quadrimalculata - percentage	%	N	
SPERC_ISTR1	Trilineata - percentage	%	N	
SPERC_ISTYP	Typica - percentage	%	N	
SPERC_ISUUU	Adults: Percentage of unidentified individuals	%	N	
STOT_ISMORPH	Number of individuals	integer	N	

**17.7 Annual Summaries - Spittle bugs (percentage of each colour morph by year (combined for all sites))**  
 SA3\_IS

Field Name	Description	Units	Required?	Reference table
SYEAR	Year of sampling	yyyy	N	
SPERC_ISALB	Albomaculata - percentage	%	N	
SPERC_ISFLA	Flavicollis - percentage	%	N	
SPERC_ISGIB	Gibba - percentage	%	N	
SPERC_ISLAT	Lateralis - percentage	%	N	
SPERC_ISLCE	Leucocephala - percentage	%	N	
SPERC_ISLOP	Leucophthalma - percentage	%	N	
SPERC_ISMAR	Marginella - percentage	%	N	
SPERC_ISPOP	Populi - percentage	%	N	

ECN Database Documentation – Spittle Bugs

SPERC_ISPRA	Praeusta - percentage	%	N	
SPERC_ISQUA	Quadrимaculata - percentage	%	N	
SPERC_ISTRİ	Trilineata - percentage	%	N	
SPERC_ISTYP	Typica - percentage	%	N	
SPERC_ISUUU	Adults: Percentage of unidentified individuals	%	N	
STOT_ISMORPH	Number of individuals	integer	N	

**18. Vertebrates – Bats**

**18.1 BA: Bats - species observed**

D1BA\_sss (where sss is the relevant site code)

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
SDATE	Sampling date	dd-mmm-yyyy	Y	
TRANSECT	Transect	character string	Y	
BATLOC_ID	Location where bat seen or heard (unique for each survey date)	integer	N	
FIELDNAME	Field name	character string	N	<a href="#">M_FIELDNAME</a>
VALUE	Value	integer	N	
ACTS	Activity code - bat seen	character string	N	
ACTH	Activity code - bat heard	character string	N	
ACTF	Activity code - bat feeding buzz heard	character string	N	

ECN Database Documentation – **Bats**

LASTUPDATED	Date to indicate when the record was last updated in the database	dd-mmm-yyyy	N	
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**18.2 BA: Bats - information on how recorder conducted the survey**

D2BA\_sss (where sss is the relevant site code)

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
SDATE	Sampling date	dd-mmm-yyyy	Y	
BATDETECTORTYPE	Bat detector used	character string	N	
KEPTPROTOCOLFREQUENCY	Was bat detector kept at 45 Hz? (Y/N)	character string	N	
ADJUSTFREQUENCY	Was frequency adjusted to aid identification? (Y/N)	character string	N	
USEREFERENCECD	Was detector output recorded and compared with CD of heterodyne calls? (Y/N)	character string	N	
USESONOGRAMANALYSIS	Was detector output recorded and sonogram analysis used? (Y/N)	character string	N	

ECN Database Documentation – **Bats**

LASTUPDATED	Date to indicate when the record was last updated in the database	dd-mmm-yyyy	N	
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**18.3 Associated Metadata Table: Codes and descriptions for bat species (ECN-devised codes)**

M\_REFBA\_SPEC

Field Name	Description	Units	Required?	Reference table
BA_SPEC	Species code	character string	N	<a href="#">M_REFBA_SPEC</a>
DESC_LATIN	Latin name	character string	N	
DESC_COMMON	Common name	character string	N	

**18.4 Annual Summaries - Bats**

SA1\_BA

Field Name	Description	Units	Required?	Reference table
DATID	Unique ID for summary datasets	integer	N	<a href="#">M_SDESC</a>
SITE	Sites	character string	N	<a href="#">M_REFSITE</a>

ECN Database Documentation – **Bats**

LCODE	Location code	character string	N	<a href="#">M_SDESC</a>
SDATE	Sampling date	dd-mmm-yyyy	N	
SYEAR	Year of sampling	yyyy	N	
BA_NINDIVS	Number of Individuals	integer	N	
BA_NSPECIES	Number of Species	integer	N	
BA_NOCTULE	Number of Noctules	integer	N	
BA_MYOTID	Number of Myotids	integer	N	
BA_PIPISTRELLE	Number of Pipistrelles	integer	N	
BA_LONGEAR	Number of Long-eared bats	integer	N	
BA_SEROTINE	Number of Serotines	integer	N	
BA_LEISLERS	Number of Leislars	integer	N	
BA_RHINOLOPHUS	Number of Rhinolophus	integer	N	

ECN Database Documentation – **Bats**

BA_UNIDENTIFIED	Number of unidentified bats	integer	N	
BA_BARBASTELLE	Number of Barbastelles	integer	N	

**18.5 Number of samplings - Bats**

M\_BASE\_BA

Field Name	Description	Units	Required?	Reference table
DATID	Unique ID for summary datasets	integer	N	<a href="#">M_SDESC</a>
SITE	Sites	character string	N	<a href="#">M_REFSITE</a>
LCODE	Location code	character string	N	<a href="#">M_SDESC</a>
SDATE	Sampling date	dd-mmm-yyyy	N	
SYEAR	Year of sampling	yyyy	N	
BASE_TARGET	Target No. of samplings	integer	N	
BASE_SAMPLES	No. of samplings	integer	N	

**19. Vertebrates – Breeding Birds Survey**

**19.1 BB: Breeding bird survey - species observed**

D1BB\_sss (where sss is the relevant site code)

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
VISIT	Visit (E=Early, L=Late)	character string	Y	
SDATE	Sampling date	dd-mmm-yyyy	Y	
TRANSECT	Transect	integer	Y	
FIELDNAME	Field name	character string	Y	<a href="#">M_FIELDNAME</a>
VALUE	Value	integer	N	
DISTANCE	Code for distance category	character string	N	
LASTUPDATED	Date to indicate when the record was last updated in the database	dd-mmm-yyyy	N	

**19.2 BB: Breeding bird survey - information on the conditions during survey**

D2BB\_sss (where sss is the relevant site code)

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
VISIT	Visit (E=Early, L=Late)	character string	Y	
SDATE	Sampling date	dd-mmm-yyyy	Y	
FROMHOUR	From hour	hour	N	
FROMMINS	From minutes	mins	N	
TOHOUR	Time (hour) the survey finished	integer	N	
TOMINS	Time (minutes) the survey finished	integer	N	
CLOUD	BTO weather code - cloud cover	integer	N	
RAIN	BTO weather code - rain	integer	N	
WIND	BTO weather code - wind	integer	N	

ECN Database Documentation – **Breeding Birds Survey**

VISIBILITY	BTO weather code - visibility	integer	N	
LASTUPDATED	Date to indicate when the record was last updated in the database	dd-mmm-yyyy	N	

**19.3 BB: Breeding bird survey - habitat descriptions**

D3BB\_sss (where sss is the relevant site code)

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
VISIT	Visit (E=Early, L=Late)	character string	Y	
YEAR	Year of sampling	integer	Y	
TRANSECT	Transect	character string	Y	
FIRSTHL1	Habitat codes	character string	N	
FIRSTHL2	Habitat codes	integer	N	
FIRSTHL3A	Habitat codes	integer	N	

ECN Database Documentation – **Breeding Birds Survey**

FIRSTHL3B	Habitat codes	integer	N	
FIRSTHL4A	Habitat codes	integer	N	
FIRSTHL4B	Habitat codes	integer	N	
SECONDHL1	Habitat codes	character string	N	
SECONDHL2	Habitat codes	integer	N	
SECONDHL3A	Habitat codes	integer	N	
SECONDHL3B	Habitat codes	integer	N	
SECONDHL4A	Habitat codes	integer	N	
SECONDHL4B	Habitat codes	integer	N	
LASTUPDATED	Date to indicate when the record was last updated in the database	dd-mmm-yyyy	N	

**19.4 Associated Metadata Table: Groups of bird species**  
BIRDBROUP

Field Name	Description	Units	Required?	Reference table
DESCRIPTION	Description	character string	N	
GROUP1	Bird group (Passerine, Non-passerine, Other)	character string	N	
GROUP2	Type of bird	character string	N	
GROUP2NAME	Description of bird type	character string	N	
BI_SPEC	Species code	character string	N	<a href="#">M_REFBI_SPEC</a>
QFLAG	Quality flag	integer	N	<a href="#">M_REFQFLAG</a>

**19.5 Associated Metadata Table: Codes and descriptions for bird species (BTO codes)**  
M\_REFBI\_SPEC

Field Name	Description	Units	Required?	Reference table
BI_SPEC	Species code	character string	N	<a href="#">M_REFBI_SPEC</a>

ECN Database Documentation – **Breeding Birds Survey**

DESCRIPTION	Description	character string	N	
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**19.6 Associated Metadata Table: Codes and descriptions for bird activity**  
M\_REFBVCODE

Field Name	Description	Units	Required?	Reference table
BVCODE	Code for bird activity	character string	Y	<a href="#">M_REFBVCODE</a>
DESCRIPTION	Description	character string	N	

**19.7 Annual Summaries - Breeding birds**  
SA1\_BB

Field Name	Description	Units	Required?	Reference table
DATID	Unique ID for summary datasets	integer	N	<a href="#">M_SDESC</a>
SITE	Sites	character string	N	<a href="#">M_REFSITE</a>
SDATE	Sampling date	dd-mmm-yyyy	N	

ECN Database Documentation – **Breeding Birds Survey**

LCODE	Location code	character string	N	<a href="#">M_SDESC</a>
BB_RI	Number of resident insectivores	integer	N	
BB_MI	Number of migrant insectivores	integer	N	
BB_SP	Number of Seed-eating passerines	integer	N	
BB_OR	Number of Owls/Raptors	integer	N	
BB_W	Number of Waterfowl	integer	N	
BB_S	Number of Seabirds	integer	N	
BB_O	Number of other species individuals from other species	integer	N	
BB_NSPEC_RI	Number of resident insectivore species	integer	N	
BB_NSPEC_MI	Number of migrant insectivore species	integer	N	
BB_NSPEC_SP	Number of Seed-eating passerine species	integer	N	
BB_NSPEC_OR	Number of Owls/Raptor species	integer	N	

ECN Database Documentation – **Breeding Birds Survey**

BB_NSPEC_W	Number of Waterfowl species	integer	N	
BB_NSPEC_S	Number of Seabird species	integer	N	
BB_NSPEC_O	Number of other species	integer	N	
BB_NINDIVS	Number of Individuals	integer	N	
BB_NSPECIES	Number of species	integer	N	

**19.8 Number of samplings - Breeding bird survey**

M\_BASE\_BB

Field Name	Description	Units	Required?	Reference table
DATID	Unique ID for summary datasets	integer	N	<a href="#">M_SDESC</a>
SITE	Sites	character string	N	<a href="#">M_REFSITE</a>
LCODE	Location code	character string	N	<a href="#">M_SDESC</a>
SDATE	Sampling date	dd-mmm-yyyy	N	

ECN Database Documentation – **Breeding Birds Survey**

SYEAR	Year of sampling	yyyy	N	
BASE_TARGET	Target No. of samplings	integer	N	
BASE_SAMPLES	No. of samplings	integer	N	

**20. Vertebrates – Frogs**

**20.1 BF: Frogs**

D1BF\_sss (where sss is the relevant site code)

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
FROMDATE	From date	dd-mmm-yyyy	N	
SDATE	Sampling date	dd-mmm-yyyy	Y	
FIELDNAME	Field name	character string	N	<a href="#">M_FIELDNAME</a>
VALUE	Value	integer	N	
LASTUPDATED	Date to indicate when the record was last updated in the database	dd-mmm-yyyy	N	

**20.2 BF: Frogs - lab information**

D2BF\_sss (where sss is the relevant site code)

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
SDATE	Sampling date	dd-mmm-yyyy	Y	
LAB_NID	Lab name	character string	N	<a href="#">M_REFNID</a>
PHDATE	Date of pH measurement	dd-mmm-yyyy	N	
PHHOUR	Hour of pH measurement	hour	N	
PHMINS	Mins of pH measurement	mins	N	
FILTDATE	Date of filtration	dd-mmm-yyyy	N	
COMPDATE	Analysis date	dd-mmm-yyyy	N	
LASTUPDATED	Date to indicate when the record was last updated in the database	dd-mmm-yyyy	N	

**20.3 Annual Summaries - Frogs**

SA1\_BF

Field Name	Description	Units	Required?	Reference table
DATID	Unique ID for summary datasets	integer	N	<a href="#">M_SDESC</a>
SITE	Sites	character string	N	<a href="#">M_REFSITE</a>
LCODE	Location code	character string	N	<a href="#">M_SDESC</a>
SDATE	Sampling date	dd-mmm-yyyy	N	
SYEAR	Year of sampling	yyyy	N	
BF_SPAWNDATE	Earliest recorded spawning date	dd-mmm-yyyy	N	
BF_SPAWNDAY	Earliest recorded spawning day (julian day)	integer	N	

**20.4 Number of samplings - Frogs**

M\_BASE\_BF

Field Name	Description	Units	Required?	Reference table
DATID	Unique ID for summary datasets	integer	N	<a href="#">M_SDESC</a>
SITE	Sites	character string	N	<a href="#">M_REFSITE</a>
LCODE	Location code	character string	N	<a href="#">M_SDESC</a>
SDATE	Sampling date	dd-mmm-yyyy	N	
SYEAR	Year of sampling	yyyy	N	
BASE_TARGET	Target No. of samplings	integer	N	
BASE_SAMPLES	No. of samplings	integer	N	

**21. Vertebrates – Rabbits and Deer**

**21.1 BU: Rabbits and Deer**

D1BU\_sss (where sss is the relevant site code)

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
PLOTID	Transect section	character string	Y	
SDATE	Sampling date	dd-mmm-yyyy	Y	
VALUE	Value	integer	N	
FIELDNAME	Field name	character string	N	<a href="#">M_FIELDNAME</a>
LASTUPDATED	Date to indicate when the record was last updated in the database	dd-mmm-yyyy	N	

**21.2 BU: Rabbits and Deer - survey details**

D2BU\_sss (where sss is the relevant site code)

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
PLOTID	Transect section	character string	Y	
CLEARDATE	Date droppings cleared	dd-mmm-yyyy	N	
SDATE	Sampling date	dd-mmm-yyyy	Y	
SURVEY	Reference number of survey	character string	N	
LASTUPDATED	Date to indicate when the record was last updated in the database	dd-mmm-yyyy	N	

**21.3 Associated Metadata Table: Descriptions of the habitats that the transect runs through**

M\_REFBU\_TRANSECT

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>

ECN Database Documentation – **Rabbits and Deer**

FROM_DATE	From date	character string	Y	
TO_DATE	To date	dd-mmm-yyyy	N	
PLOTID	Transect section	character string	Y	
LENGTH	Transect section length	m	N	
HABDESC	Habitat description	character string	N	

**21.4 Annual Summaries - Rabbits**  
SA1\_BU

Field Name	Description	Units	Required?	Reference table
DATID	Unique ID for summary datasets	integer	N	<a href="#">M_SDESC</a>
SITE	Sites	character string	N	<a href="#">M_REFSITE</a>
LCODE	Location code	character string	N	<a href="#">M_SDESC</a>
SDATE	Sampling date	dd-mmm-yyyy	N	

ECN Database Documentation – **Rabbits and Deer**

BU_RABBITS	Rabbits - average droppings per transect section	integer	N	
BU_DEER	Deer - average droppings per transect section	integer	N	

**21.5 Number of samplings - Rabbits**

M\_BASE\_BU

Field Name	Description	Units	Required?	Reference table
DATID	Unique ID for summary datasets	integer	N	<a href="#">M_SDESC</a>
SITE	Sites	character string	N	<a href="#">M_REFSITE</a>
LCODE	Location code	character string	N	<a href="#">M_SDESC</a>
SDATE	Sampling date	dd-mmm-yyyy	N	
BASE_TARGET	Target No. of samplings	integer	N	
BASE_SAMPLES	No. of samplings	integer	N	

**22. Vegetation Monitoring**

**22.1 VB: Baseline vegetation survey - species data**

D1VB\_sss (where sss is the relevant site code)

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
YEAR	Year of sampling	yyyy	Y	
PLOTPID	Plot ID	character string	Y	
PLOTTYPE	S = standard, W = woodland	character string	Y	
VALUE	Value	integer	Y	
LASTUPDATED	Date to indicate when the record was last updated in the database	dd-mmm-yyyy	N	
FIELDNAME	Field name	character string	N	<a href="#">M_FIELDNAME</a>

ECN Database Documentation – **Vegetation**

**22.2 VB: Baseline vegetation survey - environmental data**

D2VB\_sss (where sss is the relevant site code)

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
YEAR	Year of sampling	yyyy	Y	
PLOTPID	Plot ID	character string	Y	
PLOTTYPE	S = standard, W = woodland	character string	Y	
SDATE	Sampling date	dd-mmm-yyyy	N	
FEATURES	Composite code for presence of features	character string	N	<a href="#">M_REFVEG_VFEATURE</a>
UNSURVEYED	% of plot unsurveyed (e.g. if obstacle in way)	%	N	
LASTUPDATED	Date to indicate when the record was last updated in the database	dd-mmm-yyyy	N	

ECN Database Documentation – **Vegetation**

**22.3 VC: Coarse-grain vegetation survey - species data**

D1VC\_sss (where sss is the relevant site code)

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
YEAR	Year of sampling	yyyy	Y	
PLOTPID	Plot ID	character string	Y	
CELLID	Cell ID	integer	N	
VALUE	Value	integer	N	
LASTUPDATED	Date to indicate when the record was last updated in the database	dd-mmm-yyyy	N	
FIELDNAME	Field name	character string	N	<a href="#">M_FIELDNAME</a>

**22.4 VC: Coarse-grain vegetation survey - plot information**

D2VC\_sss (where sss is the relevant site code)

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
YEAR	Year of sampling	yyyy	Y	
PLOTPID	Plot ID	character string	Y	
SDATE	Sampling date	dd-mmm-yyyy	N	
PEDATE	Date of environmental information recording	dd-mmm-yyyy	N	
LANDUSE	ID for land use type	character string	N	
SLOPE	Slope	degrees	N	
ASPECT	Aspect	degrees	N	
SLOPEFORM	Slope form (Hodgson code)	character string	N	<a href="#">M_REFSLOPEFORM</a>
NVCCCLASS	NVC class	character string	N	

ECN Database Documentation – **Vegetation**

LASTUPDATED	Date to indicate when the record was last updated in the database	dd-mmm-yyyy	N	
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**22.5 VC: Coarse-grain vegetation survey - cell information**

D3VC\_sss (where sss is the relevant site code)

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
YEAR	Year of sampling	yyyy	Y	
PLOTPID	Plot ID	character string	Y	
CELLID	Cell ID	integer	Y	
FEATURE	Code for presence of features	character string	N	<a href="#">M_REFVEG_VFEATURE</a>
LASTUPDATED	Date to indicate when the record was last updated in the database	dd-mmm-yyyy	N	

**22.6 VCA: Coarse-grain vegetation survey - species data (Wytham enclosure data)**

D1VCA\_T08

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
YEAR	Year of sampling	yyyy	Y	
PLOTPID	Plot ID	character string	Y	
CELLID	Cell ID	integer	N	
VALUE	Value	integer	N	
LASTUPDATED	Date to indicate when the record was last updated in the database	dd-mmm-yyyy	N	
FIELDNAME	Field name	character string	N	<a href="#">M_FIELDNAME</a>

**22.7 VCA: Coarse-grain vegetation survey - plot information (Wytham enclosure data)**

D2VCA\_T08

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
YEAR	Year of sampling	yyyy	Y	
PLOTPID	Plot ID	character string	Y	
SDATE	Sampling date	dd-mmm-yyyy	N	
PEDATE	Date of environmental information recording	dd-mmm-yyyy	N	
LANDUSE	ID for land use type	character string	N	
SLOPE	Slope	degrees	N	
ASPECT	Aspect	degrees	N	
SLOPEFORM	Slope form (Hodgson code)	character string	N	<a href="#">M_REFSLOPEFORM</a>
NVCCCLASS	NVC class	character string	N	

ECN Database Documentation – **Vegetation**

LASTUPDATED	Date to indicate when the record was last updated in the database	dd-mmm-yyyy	N	
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**22.8 VCA: Coarse-grain vegetation survey - cell information (Wytham enclosure data)**

D3VCA\_T08

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
YEAR	Year of sampling	yyyy	Y	
PLOTPID	Plot ID	character string	Y	
CELLID	Cell ID	integer	Y	
FEATURE	Code for presence of features	character string	N	<a href="#">M_REFVEG_VFEATURE</a>
LASTUPDATED	Date to indicate when the record was last updated in the database	dd-mmm-yyyy	N	

**22.9 VF: Fine-grain vegetation survey - species data**

D1VF\_sss (where sss is the relevant site code)

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
YEAR	Year of sampling	yyyy	Y	
PLOTPID	Plot ID	character string	Y	
CELLID	Cell ID	integer	N	
VALUE	Value	integer	N	
LASTUPDATED	Date to indicate when the record was last updated in the database	dd-mmm-yyyy	N	
FIELDNAME	Field name	character string	N	<a href="#">M_FIELDNAME</a>

**22.10 VF: Fine-grain vegetation survey - plot information**

D2VF\_sss (where sss is the relevant site code)

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
YEAR	Year of sampling	yyyy	Y	
PLOTPID	Plot ID	character string	Y	
SDATE	Sampling date	dd-mmm-yyyy	N	
PEDATE	Date of environmental information recording	dd-mmm-yyyy	N	
LANDUSE	ID for land use type	character string	N	
SLOPE	Slope	degrees	N	
ASPECT	Aspect	degrees	N	
SLOPEFORM	Slope form (Hodgson code)	character string	N	<a href="#">M_REFSLOPEFORM</a>
NVCCCLASS	NVC class	character string	N	

ECN Database Documentation – **Vegetation**

LASTUPDATED	Date to indicate when the record was last updated in the database	dd-mmm-yyyy	N	
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**22.11 VF: Fine-grain vegetation survey - cell information**

D3VF\_sss (where sss is the relevant site code)

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
YEAR	Year of sampling	yyyy	Y	
PLOTPID	Plot ID	character string	Y	
CELLID	Cell ID	integer	Y	
FEATURE	Code for presence of features	character string	N	<a href="#">M_REFVEG_VFEATURE</a>
LASTUPDATED	Date to indicate when the record was last updated in the database	dd-mmm-yyyy	N	

**22.12 VW: Woodlands - species data**

D1VW\_sss (where sss is the relevant site code)

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
SYEAR	Year of sampling	yyyy	Y	
PLOTPID	Plot ID	character string	Y	
CELLID	Cell ID	integer	Y	
TREEID	Tree ID (unique within cell)	integer	N	
STEMID	Stem ID (unique for the individual tree)	integer	N	
TREE_SPEC	Tree species	integer	N	
FIELDNAME	Field name	character string	N	<a href="#">M_FIELDNAME</a>
VALUE	Value	integer	N	
LASTUPDATED	Date to indicate when the record was last updated in the database	dd-mmm-yyyy	N	

**22.13 VW: Woodlands - survey information**

D2VW\_sss (where sss is the relevant site code)

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
YEAR	Year of sampling	yyyy	Y	
PLOTPID	Plot ID	character string	Y	
DOMDATE	Date of dominance survey	dd-mmm-yyyy	N	
DBHDATE	Date of height and DBH survey	dd-mmm-yyyy	N	
SEEDDATE	Date of seedling survey	dd-mmm-yyyy	N	
LASTUPDATED	Date to indicate when the record was last updated in the database	dd-mmm-yyyy	N	

**22.14 VWA: Woodlands - species data (Wytham enclosure data)**  
D1VWA\_WYT

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
YEAR	Year of sampling	yyyy	Y	
PLOTPID	Plot ID	character string	Y	
CELLID	Cell ID	integer	N	
TREEID	Tree ID (unique within cell)	integer	N	
STEMID	Stem ID (unique for the individual tree)	integer	N	
TREE_SPEC	Tree species	integer	N	
FIELDNAME	Field name	character string	N	<a href="#">M_FIELDNAME</a>
VALUE	Value	integer	N	
LASTUPDATED	Date to indicate when the record was last updated in the database	dd-mmm-yyyy	N	

ECN Database Documentation – **Vegetation**

**22.15 VP: Permanent pasture - dry matter yield**

D1VP\_sss (where sss is the relevant site code)

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
FIELDNAME	Field name	character string	N	<a href="#">M_FIELDNAME</a>
SDATE	Sampling date	dd-mmm-yyyy	Y	
VALUE	Value	integer	Y	
LASTUPDATED	Date to indicate when the record was last updated in the database	dd-mmm-yyyy	N	

**22.16 VA: Cereals - species presence**

D1VA\_sss (where sss is the relevant site code)

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
YEAR	Year of sampling	yyyy	Y	

ECN Database Documentation – **Vegetation**

PLOTPID	Plot ID	character string	Y	
CELLID	Cell ID	integer	N	
LASTUPDATED	Date to indicate when the record was last updated in the database	dd-mmm-yyyy	N	
FIELDNAME	Field name	character string	N	<a href="#">M_FIELDNAME</a>
VALUE	Value	integer	N	

**22.17 VA: Cereals - survey information**

D2VA\_sss (where sss is the relevant site code)

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
YEAR	Year of sampling	yyyy	Y	
SPECIES_DATE	Date of species presence recording	dd-mmm-yyyy	Y	
BIOMASS_DATE	Date of biomass recording	dd-mmm-yyyy	N	

ECN Database Documentation – **Vegetation**

LASTUPDATED	Date to indicate when the record was last updated in the database	dd-mmm-yyyy	N	
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**22.18 VH: Hedgerow and Linear features - species presence in transect plot**

D1VH\_sss (where sss is the relevant site code)

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
YEAR	Year of sampling	yyyy	Y	
PLOTPID	Plot ID	character string	Y	
CELLID	Cell ID	integer	N	
VALUE	Value	integer	N	
LASTUPDATED	Date to indicate when the record was last updated in the database	dd-mmm-yyyy	N	
FIELDNAME	Field name	character string	N	<a href="#">M_FIELDNAME</a>

**22.19 VH: Hedgerow and Linear features - plot information**

D2VH\_sss (where sss is the relevant site code)

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
YEAR	Year of sampling	yyyy	Y	
PLOTPID	Plot ID	character string	Y	
SDATE	Sampling date	dd-mmm-yyyy	N	
PEDATE	Date of environmental information recording	dd-mmm-yyyy	N	
LANDUSE	ID for land use type	character string	N	
SLOPE	Slope	degrees	N	
ASPECT	Aspect	degrees	N	
SLOPEFORM	Slope form (Hodgson code)	character string	N	<a href="#">M_REFSLOPEFORM</a>
NVCCCLASS	NVC class	character string	N	

ECN Database Documentation – **Vegetation**

LASTUPDATED	Date to indicate when the record was last updated in the database	dd-mmm-yyyy	N	
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**22.20 VH: Hedgerow and Linear features - cell information**

D3VH\_sss (where sss is the relevant site code)

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
YEAR	Year of sampling	yyyy	Y	
PLOTPID	Plot ID	character string	Y	
CELLID	Cell ID	integer	Y	
LANDUSE	ID for land use type	character string	N	
SLOPE	Slope	degrees	N	
ASPECT	Aspect	degrees	N	
SLOPEFORM	Slope form (Hodgson code)	character string	N	<a href="#">M_REFSLOPEFORM</a>

ECN Database Documentation – **Vegetation**

FEATURE	Code for presence of features	character string	N	<a href="#">M_REFVEG_VFEATURE</a>
LASTUPDATED	Date to indicate when the record was last updated in the database	dd-mmm-yyyy	N	

**22.21 Associated Metadata Table: Codes and descriptions for woodland dominance categories**

M\_REFDOM\_CODE

Field Name	Description	Units	Required?	Reference table
DOM_CODE	Dominance code	character string	Y	<a href="#">M_REFDOM_CODE</a>
DOM_DESC	Description of woodland dominance categories	character string	Y	<a href="#">M_REFDOM_CODE</a>

**22.22 Associated Metadata Table: Codes and descriptions for slope form (Hodgson codes)**

M\_REFSLOPEFORM

Field Name	Description	Units	Required?	Reference table
SLOPEFORM	Slope form (Hodgson code)	character string	N	<a href="#">M_REFSLOPEFORM</a>
DESCRIPTION	Description	character string	N	

**22.23 Associated Metadata Table: Information about the cells used in each vegetation survey**

M\_REFVEGCELL

Field Name	Description	Units	Required?	Reference table
SITE	Site code	character string	Y	<a href="#">M_SITE</a>
PLOTPID	Plot ID	character string	Y	
CELLID	Cell ID	integer	N	
EASTING	Easting	integer	N	
NORTHING	Northing	integer	N	
VB_WOODLAND	Y if is VB woodland plot	character string	N	
VF	Y if is VF plot	character string	N	

**22.24 Associated Metadata Table: Information about which plots are used in each vegetation survey**

M\_REFVEGPLOT

Field Name	Description	Units	Required?	Reference table
SITECODE	Site code	character string	N	<a href="#">M_SITE</a>
LCODE	Location ID (unique within measurement code)	character string	N	<a href="#">M_DESC</a>
PLOTPID	Plot ID	character string	N	
VPLOTPOS	Type of plot	character string	N	<a href="#">M_REFVPLOTPOS</a>
VB_STANDARD	Y if is standard VB plot	character string	N	
VB_WOODLAND	Y if is VB woodland plot	character string	N	
VC_STANDARD	Y if is standard VC plot	character string	N	
VC_WOODLAND	Y if is VC woodland plot	character string	N	
VF	Y if is VF plot	character string	N	
VFA	Y if is VFA plot	character string	N	

ECN Database Documentation – **Vegetation**

VH	Y if is VH plot	character string	N	
NVCCCLASS	NVC class	character string	N	
NOTES	Additional notes about the plot	character string	N	
LOCID	ID for location	integer	N	<a href="#">M_LOCATION</a>

**22.25 Associated Metadata Table: Codes and descriptions for vegetation species (VESPAN codes)**

M\_REFVEG\_SPEC

Field Name	Description	Units	Required?	Reference table
VEG_SPEC	Species code	integer	N	<a href="#">M_REFVEG_SPEC</a>
DESC_LATIN	Latin name	character string	N	
DESC_ABBR	Abbreviated species name	character string	N	
ALTERNAME	Alternative name	character string	N	
VERSION_DATE	Version date	dd-mmm-yyyy	N	

ECN Database Documentation – **Vegetation**

BRC_CONCEPT	BRC concept	character string	N	
BRC_NAME	BRC species name	character string	N	
GROWTH_STAGE	Growth stage	character string	N	

**22.26 Associated Metadata Table: Codes and descriptions for vegetation codes**  
M\_REFVEG\_VFEATURE

Field Name	Description	Units	Required?	Reference table
VFEATURE	Code for presence of features	character string	Y	<a href="#">M_REFVEG_VFEATURE</a>
VFEATURE_DESC	Description	character string	N	

**22.27 Associated Metadata Table: Codes and descriptions for vegetation plot types**  
M\_REFVPLOTPOS

Field Name	Description	Units	Required?	Reference table
VPLOTPOS	Type of plot	character string	Y	<a href="#">M_REFVPLOTPOS</a>

ECN Database Documentation – **Vegetation**

DESCRIPTION	Description	character string	N	
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**23 Soils Monitoring**

**23.1 SB: Soils baseline - soil series**

D1SB

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
SITECODE	Site Code	character string	Y	<a href="#">M_SITE</a>
SDATE	Sampling date	dd-mmm-yyyy	Y	
BORE_ID	Bore ID	integer	Y	
SOILSERIES	Soil series	character string	N	
VEGETATION	Vegetation	character string	N	

**23.2 SB: Soils baseline - horizon information**  
D2SB

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
SITECODE	Site Code	character string	Y	<a href="#">M_SITE</a>
SDATE	Sampling date	dd-mmm-yyyy	Y	
BORE_ID	Bore ID	integer	Y	
HORIZON_ID	Horizon ID	integer	Y	
HORIZON_CODE	Horizon code	character string	N	
DEPTH_UPPER	Depth of upper boundary	cm	N	
DEPTH_LOWER	Depth of lower boundary	cm	N	
TEXTURE	Soil texture	integer	N	<a href="#">M_REFTEXTURE</a>
MOTTLES	Mottles	integer	N	<a href="#">M_REFMOTTLES</a>

ECN Database Documentation – Soils

STONES	Stones	integer	N	<a href="#">M_REFSTONES</a>
CARBONATES	Calcium carbonates	integer	N	<a href="#">M_REFCARBONATES</a>

**23.3 SC: Soils coarse-grain - survey information**  
D1SC

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
SITECODE	Site Code	character string	Y	<a href="#">M_SITE</a>
SDATE	Sampling date	dd-mmm-yyyy	Y	
BLOCK	Block ID	character string	Y	
CELL	Cell	character string	N	
ALTITUDE	Altitude	m	N	
SLOPE	Slope	degrees	N	

ECN Database Documentation – Soils

ASPECT	Aspect	degrees	N	
LAND_USE	Land use (Hodgson codes)	integer	N	<a href="#">M_REFLAND_USE</a>
PEAT	Decomposition of peats	integer	N	<a href="#">M_REFPEAT</a>
SURVEY	Reference number of survey	integer	N	

23.4 SC: Soils coarse-grain - sample information by horizon  
D2SC

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
SITECODE	Site Code	character string	Y	<a href="#">M_SITE</a>
SDATE	Sampling date	dd-mmm-yyyy	Y	
BLOCK	Block ID	character string	Y	
HORIZON_ID	Horizon ID	character string	Y	

ECN Database Documentation – Soils

HORIZON_CODE	Horizon code	character string	N	
SAMPLE_CODE	Sample code	character string	N	

**23.5 SC: Soils coarse-grain - sample information by depth**  
D3SC

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
SITECODE	Site Code	character string	Y	<a href="#">M_SITE</a>
SDATE	Sampling date	dd-mmm-yyyy	Y	
BLOCK	Block ID	character string	Y	
DEPTH_ID	Depth ID	character string	Y	
SAMPLE_CODE	Sample code	character string	N	

**23.6 SC: Soils coarse-grain - soil analysis by horizon**  
D4SC

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
SITECODE	Site Code	character string	Y	<a href="#">M_SITE</a>
SDATE	Sampling date	dd-mmm-yyyy	Y	
BLOCK	Block ID	character string	Y	
HORIZON_ID	Horizon ID	integer	Y	
FIELDNAME	Field name	character string	Y	<a href="#">M_REFFIELD</a>
VALUE	Value	integer	N	

**23.7 SC: Soils coarse-grain - soil analysis by depth**  
D5SC

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
SITECODE	Site Code	character string	Y	<a href="#">M_SITE</a>
SDATE	Sampling date	dd-mmm-yyyy	Y	
BLOCK	Block ID	character string	Y	
DEPTH_ID	Depth ID	integer	Y	<a href="#">M_REFDEPTH_ID</a>
FIELDNAME	Field name	character string	Y	<a href="#">M_REFFIELD</a>
VALUE	Value	integer	N	

**23.8 SF: Soils fine-grain - survey information**  
D1SF

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
SITECODE	Site Code	character string	Y	<a href="#">M_SITE</a>
SDATE	Sampling date	dd-mmm-yyyy	Y	
BLOCK	Block ID	character string	Y	
CELL	Cell	character string	N	
SURVEY	Reference number of survey	integer	N	

**23.9 SF: Soils fine-grain - sample information by horizon**  
D2SF

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>

ECN Database Documentation – Soils

SITECODE	Site Code	character string	Y	<a href="#">M_SITE</a>
SDATE	Sampling date	dd-mmm-yyyy	Y	
BLOCK	Block ID	character string	Y	
HORIZON_ID	Horizon ID	character string	Y	
HORIZON_CODE	Horizon code	character string	N	
SAMPLE_CODE	Sample code	character string	N	

**23.10 SF: Soils fine-grain - sample information by depth**  
D3SF

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
SITECODE	Site Code	character string	Y	<a href="#">M_SITE</a>
SDATE	Sampling date	dd-mmm-yyyy	Y	

ECN Database Documentation – Soils

BLOCK	Block ID	character string	Y	
DEPTH_ID	Depth ID	character string	Y	
SAMPLE_CODE	Sample code	character string	N	

23.11 SF: Soils fine-grain - soil analysis by horizon  
D4SF

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
SITECODE	Site Code	character string	Y	<a href="#">M_SITE</a>
SDATE	Sampling date	dd-mmm-yyyy	Y	
BLOCK	Block ID	character string	Y	
HORIZON_ID	Horizon ID	integer	Y	
FIELDNAME	Field name	character string	Y	<a href="#">M_REFFIELD</a>

ECN Database Documentation – Soils

VALUE	Value	integer	N	
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23.12 SF: Soils fine-grain - soil analysis by depth  
D5SF

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
SITECODE	Site Code	character string	Y	<a href="#">M_SITE</a>
SDATE	Sampling date	dd-mmm-yyyy	Y	
BLOCK	Block ID	character string	Y	
DEPTH_ID	Depth ID	integer	Y	<a href="#">M_REFDEPTH_ID</a>
FIELDNAME	Field name	character string	Y	<a href="#">M_REFFIELD</a>
VALUE	Value	integer	N	

**23.13 S: Soils - sampling design**  
D1S

Field Name	Description	Units	Required?	Reference table
SITECODE	Site Code	character string	Y	<a href="#">M_SITE</a>
FROMDATE	From date	dd-mmm-yyyy	N	
TODATE	To date	dd-mmm-yyyy	N	
SDESIGN_ID	Layout of soil sampling blocks	integer	N	<a href="#">M_REFSDESIGN_ID</a>
DESCRIPTION	Description	character string	N	

**23.14 Associated Metadata Table: Codes and descriptions for carbonates in soils**  
M\_REFCARBONATES

Field Name	Description	Units	Required?	Reference table
CARBONATES	Calcium carbonates	integer	Y	<a href="#">M_REFCARBONATES</a>
DESCRIPTION	Description	character string	N	

**23.15 Associated Metadata Table: Codes and descriptions for soil depth codes**  
M\_REFDEPTHCODE

Field Name	Description	Units	Required?	Reference table
DEPTHCODE	Depth code	integer	Y	<a href="#">M_REFDEPTHCODE</a>
DESCRIPTION	Description	character string	N	

**23.16 Associated Metadata Table: Codes and descriptions for soil depth bands**  
M\_REFDEPTH\_ID

Field Name	Description	Units	Required?	Reference table
DEPTH_ID	Depth ID	integer	Y	<a href="#">M_REFDEPTH_ID</a>
DESCRIPTION	Description	character string	N	

**23.17 Associated Metadata Table: Codes and descriptions for mottles in soils**  
M\_REFMOTTLES

Field Name	Description	Units	Required?	Reference table
MOTTLES	Mottles	integer	Y	<a href="#">M_REFMOTTLES</a>
DESCRIPTION	Description	character string	N	

**23.18 Associated Metadata Table: Codes and descriptions for degree of decomposition of peats in soils**  
M\_REFPEAT

Field Name	Description	Units	Required?	Reference table
PEAT	Decomposition of peats	integer	Y	<a href="#">M_REFPEAT</a>
DESCRIPTION	Description	character string	N	

**23.19 Associated Metadata Table: Codes and descriptions for soil sampling design**  
M\_REFSDESIGN\_ID

Field Name	Description	Units	Required?	Reference table
SDESIGN_ID	Layout of soil sampling blocks	integer	Y	<a href="#">M_REFSDESIGN_ID</a>
DESCRIPTION	Description	character string	N	

**23.20 Associated Metadata Table: Information about the soil variables**  
M\_REF\_SOIL\_VARIABLES

Field Name	Description	Units	Required?	Reference table
VARIABLE	Variable name	character string	N	
DESCRIPTION	Description	character string	N	
UNITS	Units	character string	N	

**23.21 Associated Metadata Table: Codes and descriptions for stones in soils**  
M\_REFSTONES

Field Name	Description	Units	Required?	Reference table
STONES	Stones	integer	Y	<a href="#">M_REFSTONES</a>
DESCRIPTION	Description	character string	N	

**23.22 Associated Metadata Table: Codes and descriptions for texture of soils**  
M\_REFTEXTURE

Field Name	Description	Units	Required?	Reference table
TEXTURE	Soil texture	integer	Y	<a href="#">M_REFTEXTURE</a>
DESCRIPTION	Description	character string	N	

**24 Common Bird Census**

**24.1 BC: Common birds census - species observed**

D1BI

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
SITE	Site code	character string	Y	<a href="#">M_SITE</a>
SYEAR	Year of sampling	yyyy	Y	
BI_SPEC	Species code	character string	Y	<a href="#">M_REFBI_SPEC</a>
CLUST	Number of clusters found	integer	N	
NEST	Number of nests	integer	N	

ECN Database Documentation – **Common Bird Census**

**24.2 BC: Common bird census - habitat description**  
D2BI

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
SITE	Site code	character string	Y	<a href="#">M_SITE</a>
HABDESC	Habitat description	character string	N	
BTOCLASS	BTO Class	character string	N	

**24.3 BC: Common bird census - quality information**  
DQBI

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
SITE	Site code	character string	Y	<a href="#">M_SITE</a>
SYEAR	Year of sampling	yyyy	Y	

ECN Database Documentation – **Common Bird Census**

BI_SPEC	Species code	character string	N	<a href="#">M_REFBI_SPEC</a>
QCODE	Quality code	integer	N	<a href="#">M_REFQCODE</a>

**25 Moorland Birds**

**25.1 BM: Moorland Birds - species**

D1BM\_sss (where sss is the relevant site code)

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
SITE	Site code	character string	Y	<a href="#">M_SITE</a>
VISIT	Visit (E=Early, L=Late)	character string	N	
SDATE	Sampling date	dd-mmm-yyyy	Y	
SHOUR	Sampling hour	hour	N	
SMINS	Sampling minutes	mins	N	
SQNUM	Square number	integer	N	
SUBSQ	Sub-square	character string	N	
BI_SPEC	Species code	character string	N	<a href="#">M_REFBI_SPEC</a>

ECN Database Documentation – **Moorland Birds**

BM_COUNT	Number of individuals	integer	N	
PAIR	Number of pairs	integer	N	
NEST	Number of nests	integer	N	
YOUNG	Number of young	integer	N	
BVCODE	Code for bird activity	character string	N	<a href="#">M_REFBVCODE</a>
EGGS	Number of eggs	integer	N	
SYEAR	Year of sampling	yyyy	N	

**25.2 BM: Moorland Birds - locations**  
D4BM

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
SITE	Site code	character string	Y	<a href="#">M_SITE</a>

ECN Database Documentation – **Moorland Birds**

SQNUM	Square number	integer	Y	
SUBSQ	Sub-square	character string	N	
EASTING	Easting	integer	N	
NORTHING	Northing	integer	N	
SQSIZE	Size of square	km2	N	

**25.3 BM: Moorland Birds - quality information**  
DQBM

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
SITE	Site code	character string	Y	<a href="#">M_SITE</a>
SDATE	Sampling date	dd-mmm-yyyy	Y	
QCODE	Quality code	integer	N	<a href="#">M_REFQCODE</a>

**26 Tipulids**

**26.1 IT: Tipulids - species data**

D1ST

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
SITE	Site code	character string	Y	<a href="#">M_SITE</a>
LCODE	Location ID (unique within measurement code)	character string	Y	<a href="#">M_DESC</a>
SDATE	Sampling date	dd-mmm-yyyy	Y	
ST_SPEC	Species code	character string	N	<a href="#">M_REFST_SPEC</a>
ST_STAGE	Stage (L = larva, P = pupa)	character string	N	<a href="#">M_REFST_STAGE</a>
CORE	Core number	character string	N	
ST_COUNT	Number of individuals	integer	N	

**26.2 IT: Tipulids - survey locations**  
D2ST

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
SITE	Site code	character string	Y	<a href="#">M_SITE</a>
LCODE	Location ID (unique within measurement code)	character string	Y	<a href="#">M_DESC</a>
HABDESC	Habitat description	character string	N	
FROMDATE	From date	dd-mmm-yyyy	Y	
TO_DATE	To date	dd-mmm-yyyy	Y	
EASTING	Easting	integer	N	
NORTHING	Northing	integer	N	
GRIDRES	Resolution of grid reference	m	N	
GRIDCODE	Code for map grid code system	character string	N	<a href="#">M_REFGRIDCODE</a>

**26.3 Associated Metadata Table: Codes and descriptions for tipulid species (ECN-devised codes)**

M\_REFST\_SPEC

Field Name	Description	Units	Required?	Reference table
ST_SPEC	Species code	character string	N	<a href="#">M_REFST_SPEC</a>
DESCRIPTION	Description	character string	N	

**26.4 Associated Metadata Table: Codes and descriptions for tipulid life stage**

M\_REFST\_STAGE

Field Name	Description	Units	Required?	Reference table
ST_STAGE	Stage (L = larva, P = pupa)	character string	N	<a href="#">M_REFST_STAGE</a>
DESCRIPTION	Description	character string	N	

**27 Manual Meteorology**

**27.1 MM: Manual meteorology (this is no longer a required protocol)**

D1MM\_sss (where sss is the relevant site code)

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
SDATE	Sampling date	dd-mmm-yyyy	Y	
SHOUR	Sampling hour	hour	N	
SMINS	Sampling minutes	mins	N	
DRYTMP	Dry bulb temperature	oC	N	
WETTMP	Wet bulb temperature	oC	N	
MAXTMP	Maximum temperature	oC	N	
MINTMP	Minimum temperature	oC	N	
GRASSMIN	Grass minimum temperature	oC	N	

ECN Database Documentation – Manual Meteorology

STMP10	Soil temperature at 10cm	oC	N	
STMP20	Soil temperature at 20cm	oC	N	
STMP30	Soil temperature at 30cm	oC	N	
STMP50	Soil temperature at 50cm	oC	N	
STMP100	Soil temperature at 100cm	oC	N	
SNOW	Snow depth	cm	N	
RAIN	Rainfall	mm	N	
WRUN	Wind run	km	N	
SUN	Sunshine hours	hours	N	

**27.2 MM: Manual meteorology - quality information**  
DQMM

Field Name	Description	Units	Required?	Reference table
DATID	ID for dataset	integer	Y	<a href="#">M_DESC</a>
SITE	Site code	character string	Y	<a href="#">M_SITE</a>
REFDATE	Reporting date (used as some cumulative variables are recorded against previous days date (thrown back))	dd-mmm-yyyy	Y	
QCODE	Quality code	integer	N	<a href="#">M_REFQCODE</a>

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## Appendix

### Site identification codes - terrestrial sites

<b>T01</b>	Drayton
<b>T02</b>	Glensaugh
<b>T03</b>	Hillsborough
<b>T04</b>	Moor House - Upper Teesdale
<b>T05</b>	North Wyke
<b>T06</b>	Rothamsted
<b>T07</b>	Sourhope
<b>T08</b>	Wytham
<b>T09</b>	Alice Holt
<b>T10</b>	Porton Down
<b>T11</b>	Y Wyddfa / Snowdon
<b>T12</b>	Cairngorms

### Core measurement codes – terrestrial sites

<b>MA</b>	Meteorology: Automatic Weather Station (AWS)
<b>MM</b>	Meteorology: Manual (Met Office Standard data)
<b>PC</b>	Precipitation Chemistry
<b>SS</b>	Soil Solution Chemistry
<b>WC</b>	Surface Water: Chemistry
<b>AC</b>	Atmospheric Chemistry (Nitrogen)
<b>WD</b>	Surface Water: Discharge
<b>BU</b>	Vertebrates, mammals: Rabbits
<b>BA</b>	Vertebrates, mammals: Bats
<b>BC</b>	Vertebrates, birds: Common birds
<b>BB</b>	Vertebrates, birds: Breeding Birds
<b>BM</b>	Vertebrates, birds: Moorland birds
<b>BF</b>	Vertebrates, amphibians: Frogspawn
<b>IM</b>	Invertebrates: Moths
<b>IB</b>	Invertebrates: Butterflies
<b>IS</b>	Invertebrates: Spittle bugs
	<b>ISN</b> – spittle bug nymphs
	<b>ISA</b> – spittle bug adults
<b>IG</b>	Invertebrates: Ground beetles
<b>IT</b>	Invertebrates: Tipulids
<b>SB</b>	Soil Survey and Classification: Baseline data
<b>SC</b>	Soil Characterisation and Change - Coarse-grain monitoring (every 20 years)
<b>SF</b>	Soil Characterisation and Change - Fine-grain monitoring (every 5 years)
<b>VB</b>	Vegetation - Semi-natural: Baseline data
<b>VC</b>	Vegetation - Semi-natural: Coarse-grain monitoring (every 9 years)
<b>VF</b>	Vegetation - Semi-natural: Fine-grain monitoring (every 3 years)
<b>VW</b>	Vegetation - Semi-natural: Woodland
<b>VH</b>	Vegetation - Managed: Hedgerows and field margins
<b>VP</b>	Vegetation - Managed: Permanent pasture
<b>VA</b>	Vegetation - Managed: Cereals