Shapefile Guidance

For Rural Payments Wales (RPW) Woodland Planting Schemes

Introduction

From November 2021, Geographical Information (GI) Shapefiles containing areas selected under Woodland Creation Planting schemes will now be issued in place of GeoPDF maps. Shapefiles will enable Woodland Planners to import selected Expression of Interest (EOI) boundary data into their GI system.

This will allow Planners to use their own preferred GI software for creation of plan mapping.

Contents

Section 1 – Issue of Shapefiles

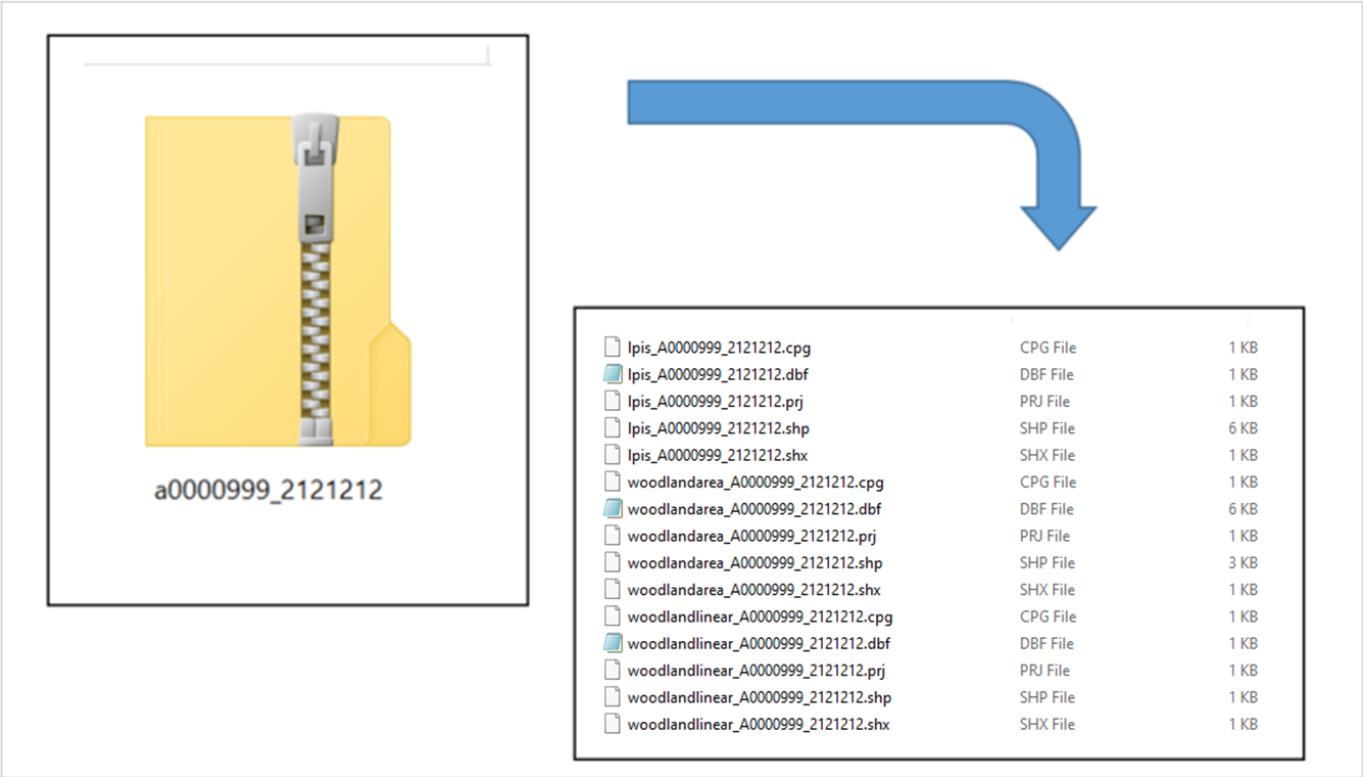
When will Shapefiles be issued?

Shapefiles will be issued to each customer via RPW Online following successful selection under a woodland planting scheme. The Shapefile will be issued within a .zip file container.

What is included in the Shapefile?

The Shapefile .zip contains three layers – the first layer holds boundary details of the Land Parcel Identification System (LPIS) field parcels selected under the EOI, the second layer is a blank template for planners to map polygon (planting area) data, and the third layer is a blank template for planners to map linear (fencing) data.

The .zip file contents will appear as follows:



Important note – when the Shapefile .zip is downloaded from RPW Online, please ensure you retain the filename shown in the RPW Online message, along with any version number shown – i.e., *A0000000_7777777.zip* or *A0000000_7777777_1.0.zip*

The .zip file has the naming convention **CRN_EOIReference.zip** and will contain the following shape layers:

- **Selected LPIS Field parcels** - ***lpis_CRN_EOIReference.shp***

  This layer contains the field parcel boundary areas of the parcels that were selected following successful Expression of Interest. This layer must not be edited.

- **Blank Woodland Area Template** - ***woodlandarea_CRN_EOIReference.shp***

  The planner will need to map all planting area polygons in this layer.

- **Blank Woodland Linear Template** - ***woodlandlinear_CRN_EOIReference.shp***

  The planner will need to map all fencing linear features in this layer.

Section 2 - Marking-up the Shapefile

Planners should only add their mark-up to the blank Area and Linear template layers. **Please do not add additional layers**.

Planners must not make changes to the field parcel boundaries in the ***lpis_CRN_EOIReference*** layer. These boundaries denote the area selected under the scheme.

Woodland Opportunity Map (WOM)

Welsh Government have reviewed and updated their Woodland Opportunity Map (WOM) web-map browser which now sits on the Welsh Government's GeoPortal – DataMapWales. This is an online viewer which provides a general guide to landowners and aims to identify areas of Wales which are most suited to new woodland creation. The map also includes information to show areas that are potentially sensitive to new woodland creation and signposts further guidance on consultation with the appropriate authority. The map is relevant to **all** woodland creation proposals whether public or privately funded and is used in the assessment of applications for Welsh Government planting schemes. Its aim is to ensure that trees are planted in the right place for maximum benefit.

To assist Woodland Planners in preparation of woodland plans, all constraints and sensitivities connected with the selected planting area can be found and downloaded from the WOM.

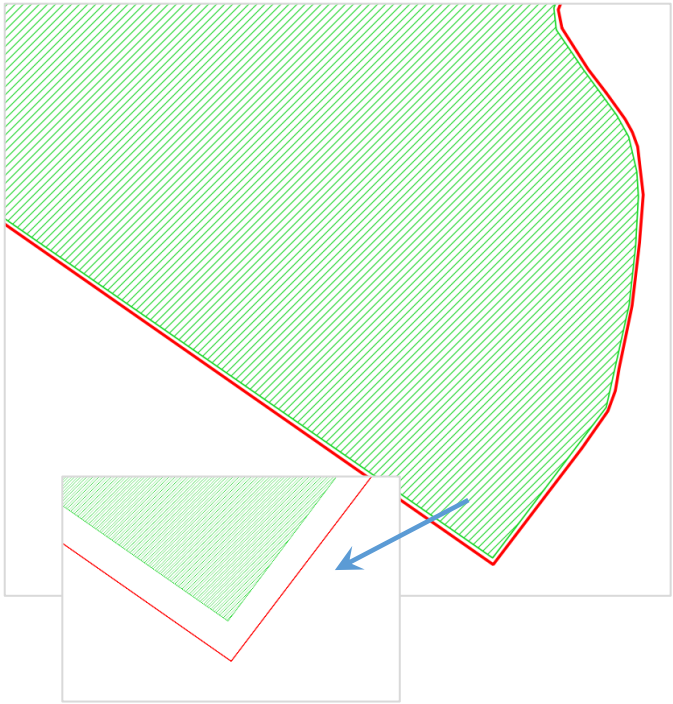
A complete user guide has been produced to provide you with an introduction to the updated WOM and shows how it works to support decision making on new woodland planting in Wales. The link can be found at gov.wales/woodland-opportunity-map-user-guide

Guidelines for mapping Area and Linear features

All polygons and linear features must be mapped **within** selected LPIS Field Parcel boundaries. Please adhere to the following:

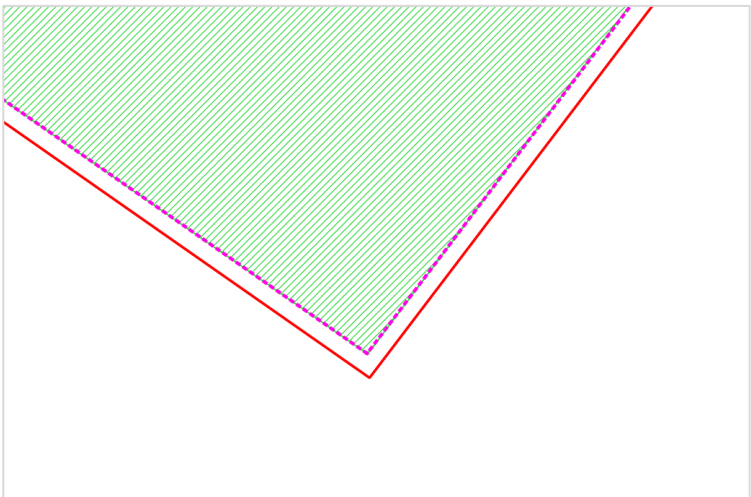
Drawing *woodlandarea* planting polygons

You may choose to use a snapping tool in your GI editor, however we recommend mapping just inside the boundaries, leaving a small buffer zone to ensure no part of the mapped polygon goes outside the LPIS line. Zooming into this example shows the buffer between LPIS boundary and planting polygon. This buffer has a negligible effect on the area measurement.



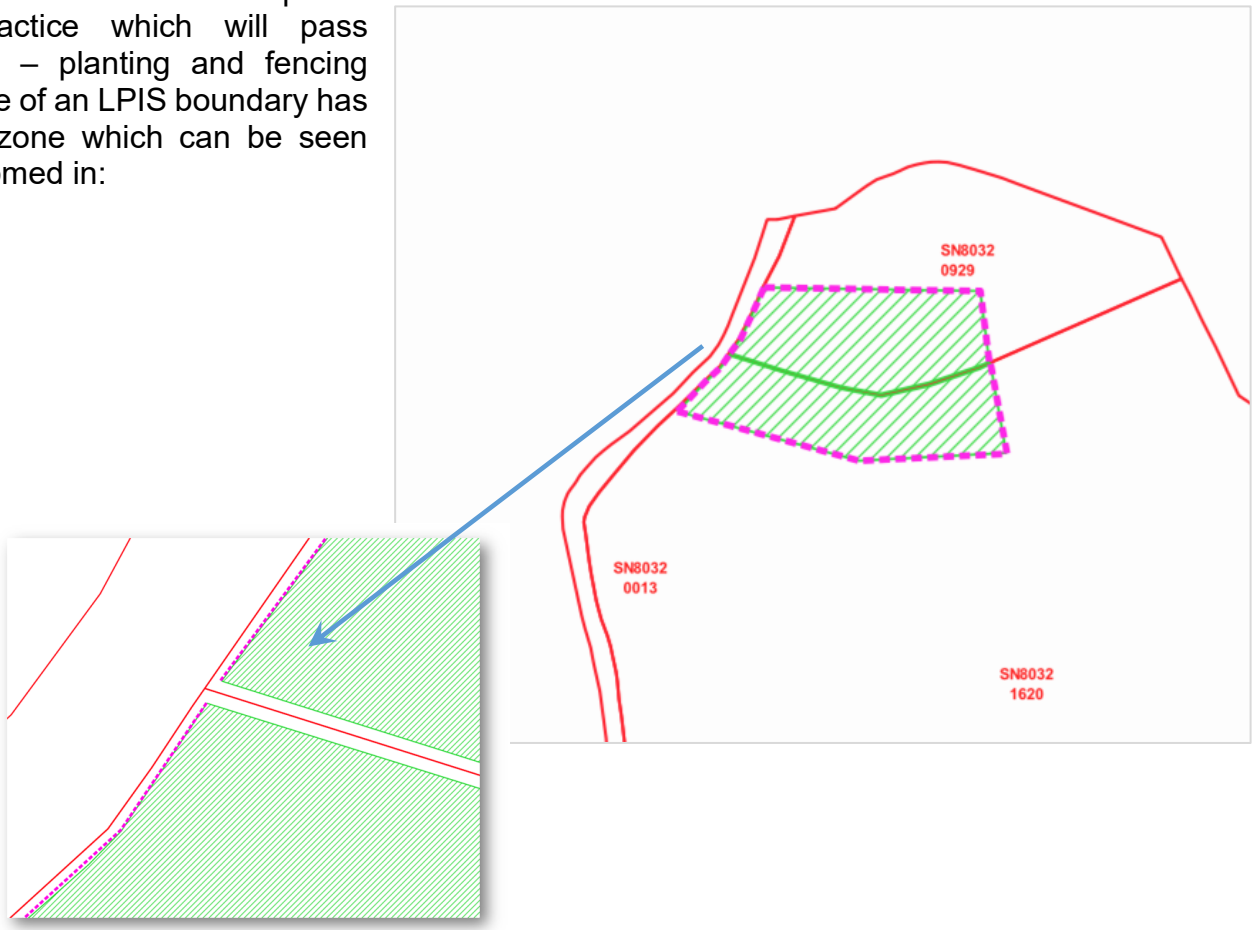
Drawing *woodlandlinear* fence lines

Much like area polygons, drawing your fence lines (pink dash in this example) just inside the LPIS parcel gives a margin of error. Again this example is zoomed in considerably, so leaving this buffer will make a negligible difference in measured quantity.



Good Mapping Practice

Here you can see an example of good practice which will pass validation – planting and fencing either side of an LPIS boundary has a buffer zone which can be seen when zoomed in:

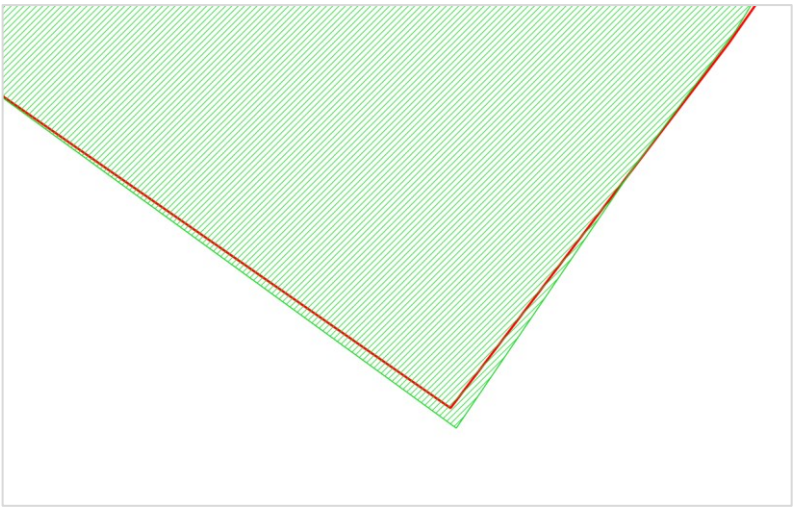


Issues that will fail Shapefile validation

The following will fail our validation process, please ensure you check your shapefile mapping thoroughly before submission – if errors are found, the shapefile will be returned for correction.

Mapping outside LPIS Boundaries

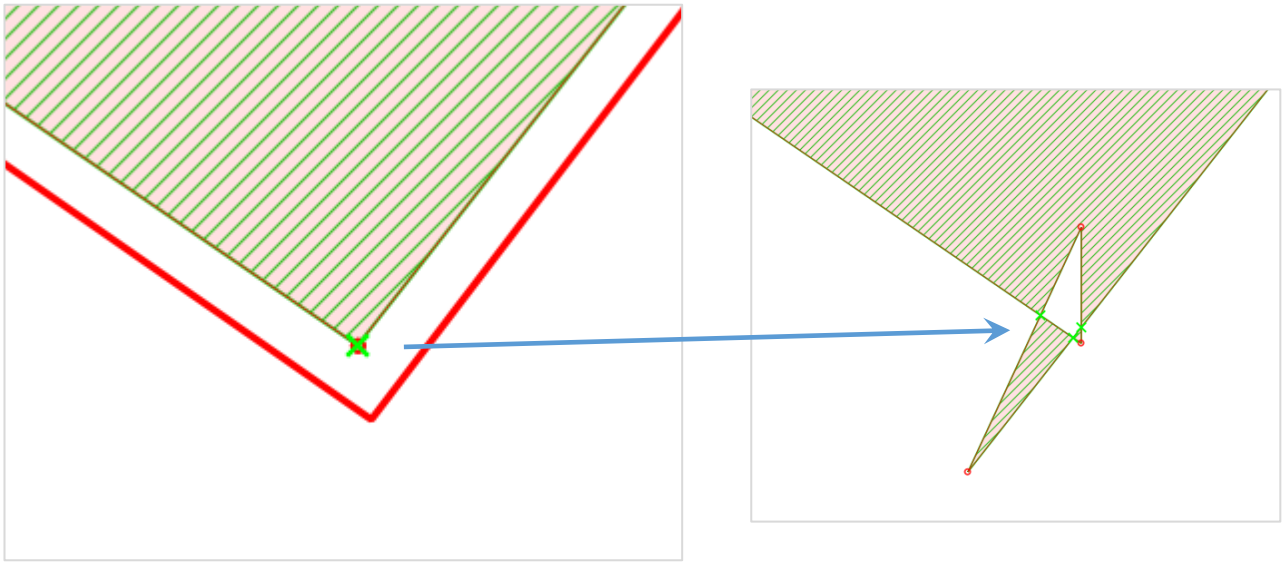
Here you can see that the green *woodlandarea* polygon is outside the LPIS parcel boundary (red line). Please zoom into your mapped areas to check, and ensure you drag any problem areas back inside the LPIS boundary.



Geometry Errors

This is when nodes are accidentally placed on top of one another, or placement means the polygon criss-crosses over itself. Most GI programs will alert you to the presence of a geometry error – for example QGIS shows a green cross where a geometry error exists:

Zooming into the error shows the issue:



Multi-part polygons or fence lines

All mapped polygons or linear features must be single part only. You must not add multiple (non-contiguous) polygons or linear features into the same FID as these will be rejected by our GI validation software.

Adding layer information into Attribute Tables

Each polygon or linear feature will need to have attributes added according to the type. It is the responsibility of those creating the plan to ensure the careful and accurate capture of all features and attributes.

Examples of the required attribute information are shown below. Please ensure the data you capture in these tables corresponds with the submitted Woodland Plan:

Area – Planting Polygon

Field name in Shape file	Description	Example of format required
FID	*Field ID (Auto generated)*	1
CRN	*Customer Reference Number*	A0000000
APPID	*EOI Reference*	7777777
OSSHEET	*Ordinance Survey Sheet Number*	SN1234
NGFIELD	*National grid Field Number*	1234
UNIQUEID	*Use to refer to item in the Plan. Must be an integer unique across both Area and Linear attribute tables.*	1
GRANTCODE	*Option Type, e.g. P003 for Carbon*	P003
SCHWINDOW	*Scheme window*	WCPS
USERNAME	*Editor / Company name*	Joe Bloggs
DATE	*Date*	YYYY-MM-DD
SPECIES1 - SPECIES20	*Tree species – up to 20 rows*	Rowan
PERCENT1 - PERCENT20	*Percentage of area – up to 20 rows*	99
FEATAREA	*Area of the mapped polygon in Hectares*	1.32

Linear – Fencing Line

Field Name in Shape file	Description	Example of format required
FID	*Field ID (Auto generated)*	1
CRN	*Customer Reference Number*	A0000000
APPID	*EOI Reference*	7777777
OSHEET	*Ordinance Survey Sheet Number*	SN1234
NGFIELD	*National grid Field Number*	1234
LINETYPE	*Option Type, e.g. 595 Fencing*	P595
UNIQUEID	*Use to refer to item in the Plan. Must be an integer unique across both Area and Linear attribute tables.*	1
GRANTCODE	*Option Type, e.g. P595 Fencing*	P595
SCHWINDOW	*Scheme window*	WCPS
USERNAME	*Editor / Company name*	Joe Bloggs
DATE	*Date*	YYYY-MM-DD
FEATLENGTH	*Length of the drawn linear feature in Metres*	169.31

Important note: You must not alter the rows/columns within the attribute tables, this includes removal of unused species/percent rows. Doing so will mean the submitted Shapefile will fail validation.

Section 3 - Returning the Shapefile to RPW

When all planting/fencing and attribute table details have been created, all three layers (*lpis*, *woodlandarea*, *woodlandlinear*) must be exported back into the exact same Shapefile format inside a .zip file container, keeping all naming conventions intact and as they were received from RPW. If in doubt, please compare your completed and saved Shapefile to the original Shapefile sent to the customer from RPW.

Please note that there **must not** be any extra layers above the required *lpis*, *woodlandarea*, *woodlandlinear* layers saved into the Shapefile .zip. If there are any extra layers, the Shapefile will fail the Validation process.

The filename of the returned .zip file must be the same as was sent to the customer (including a version number if applicable). If a new version has been sent to the customer since the original issue, the latest version must be used for any additional changes that might be requested during the verification of plan stage.

The Shapefile .zip should be returned via the customer's RPW Online account, along with the signed Woodland Plan and any other supporting documents.

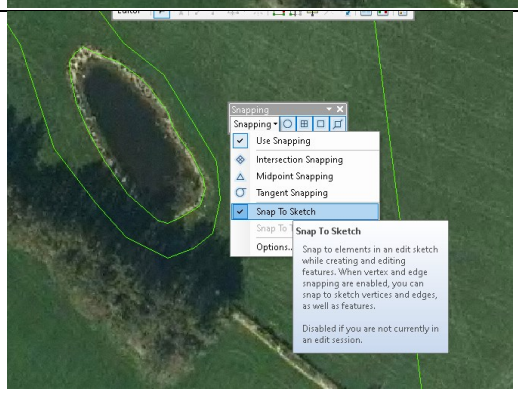
Shapefile Validation

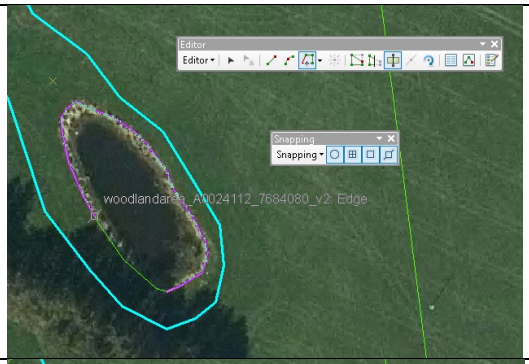
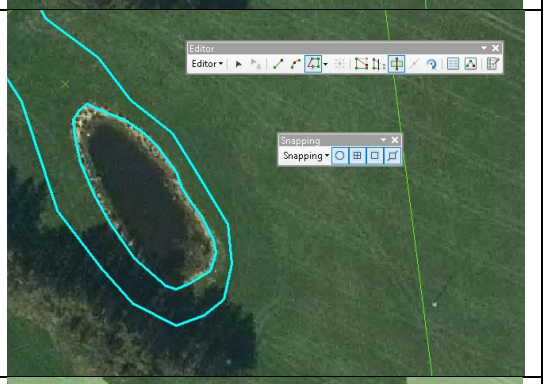
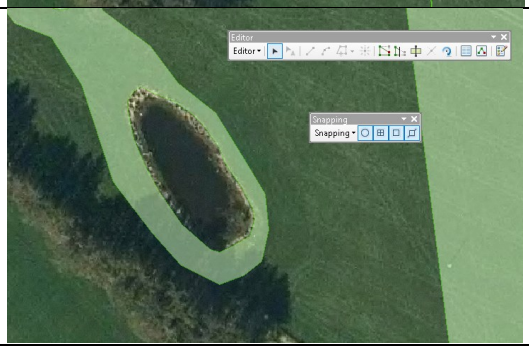
Once returned to RPW, the Shapefile will be validated - this will firstly check that the file structure and naming conventions are correct, then check for geometry errors and that all mapped features are within selected field parcel boundary extents. In cases where RPW validation fails, the Shapefile will be returned to the customer via RPW Online for amendment by the Woodland Planner.

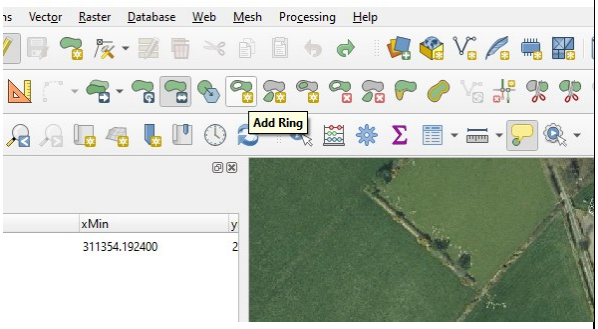
Shapefiles will not be referred to NRW for verification until all validation has been passed.

Section 4 – Advanced Editing Technique (Creating 'Donuts')

The following is a guide to 'cutting out' ineligible or unplantable areas from within polygons, often referred to as 'donuts'.

Create donut features using ArcMap	
Step 1 – Create Feature Open the layer you want and enter edit mode – using editor toolbar. Create your feature, in this case a planting area.	
Step 2 – Create feature to 'delete' Create a donut polygon which you want to cut out/remove in the same layer.	
Step 3 - Activate snap to sketch in 'sketch toolbar' – make sure you have activated 'use snapping'	

Step 4 - Cut out feature to be deleted - Select planting area polygon - In editor tool bar select cut polygon - Select 'trace' and move around polygon until reaching start point – press enter.	
Step 4b – delete donut area You will now end up with two polygons – you will need to delete the pond now.	
Step 5 – add attributes and save This is the stage to add your planting attributes, species and percentages etc.	

Create donut features using QGIS	
Step 1 – Open Shapefile Open the layer you want and toggle editing. Create your feature, in this case a planting area.	
Step 2 – Select 'Add Ring' In the same layer, click Add Ring (found on the Advanced Digitizing Toolbar).	
Step 3 – Trace feature Draw your donut around the ineligible feature, then right click twice to complete polygon	
Step 4 – toggle editing to off for layer The polygon now has a donut cut out.	
Step 5 – reversing the donut If needed, you can use the delete ring function to remove the donut in the polygon (also in the Advanced Digitizing Toolbar)