NATURAL RESOURCES SOUTH EAST

nrmFarm User Guide

Australian Government

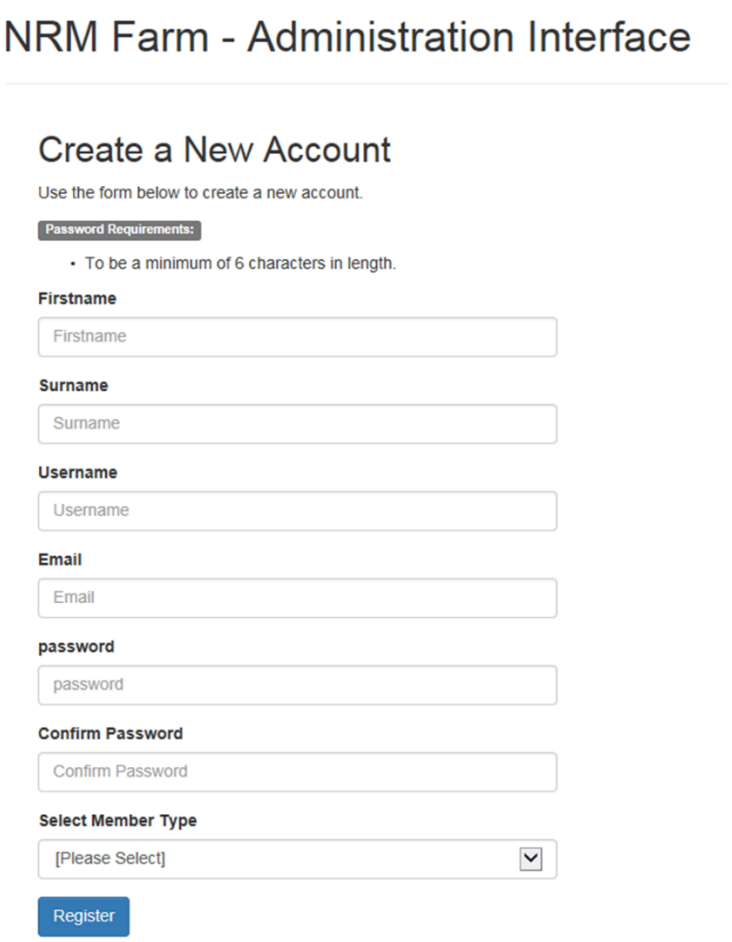
National Landcare Programme

Natural Resources South East

Welcome!

nrmFARM is a free web based management tool to give farmers the ability to produce and keep farm maps, and store information to help with their seasonal and longer term farm planning. You are able to keep paddock and crop history information, as well as farm quality assurance programs information attached to a map on your farm. This information will be stored and can be accessed at any time.

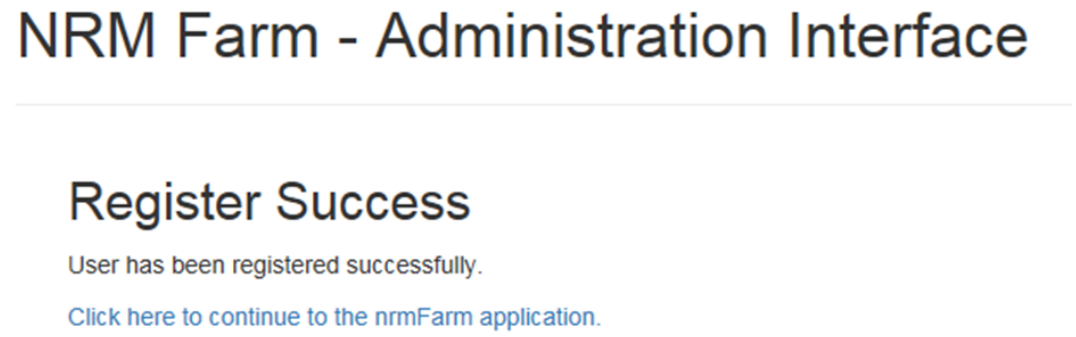
First, you will need to register as a new user (if you haven't already). To do this click on *Manage your Account here* and then *register for a new account.*



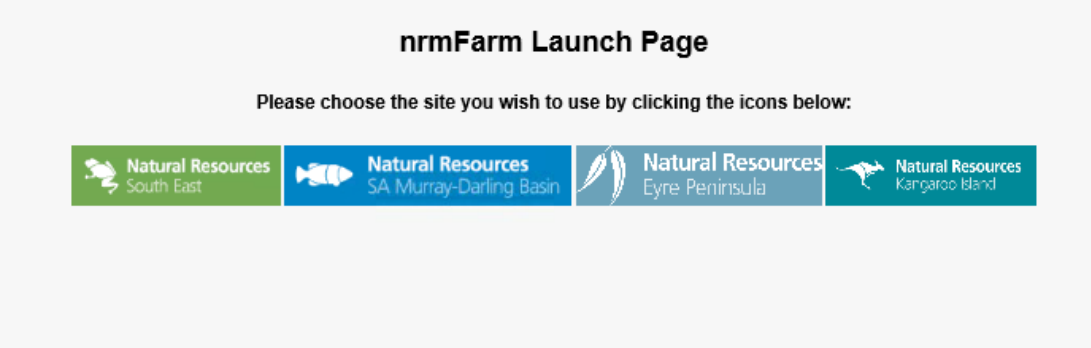
Use the space below to keep a record of your user name and password (passwords are case sensitive). Also note **you can only have one account per email address**.

User Name:	
Password:	

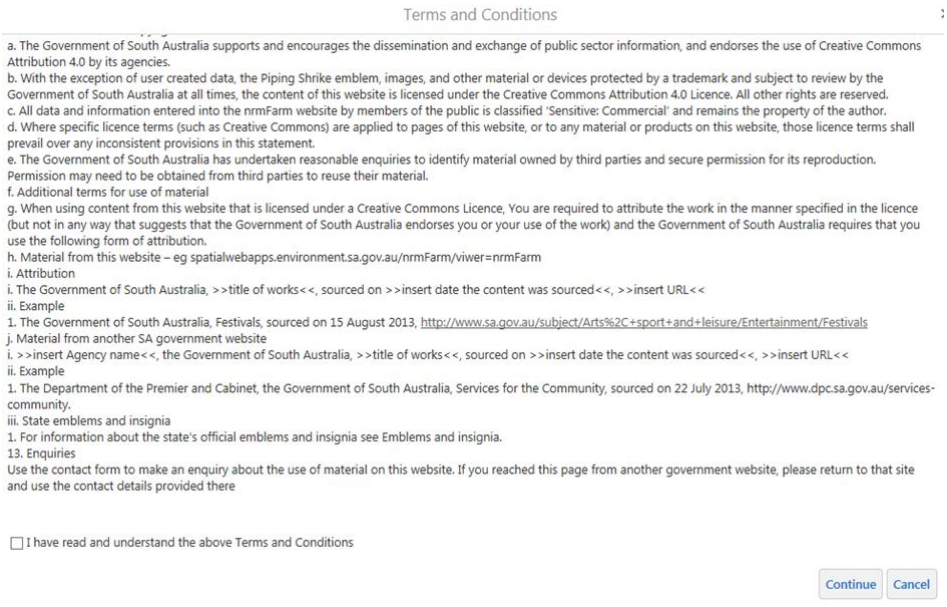
Once complete the following information should appear. Click on the blue text to go to nrmFarm.



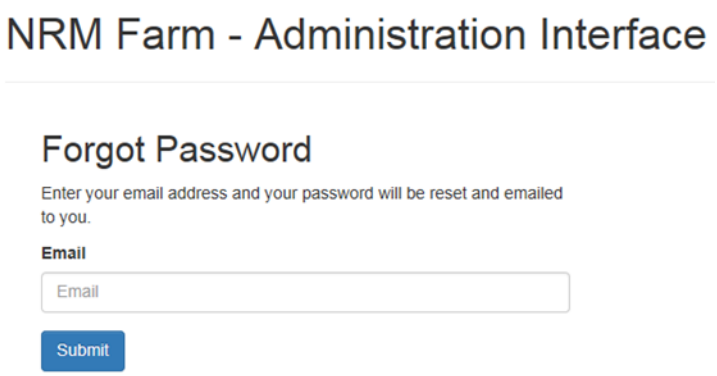
Select your region from the regions below. If it takes a while to load exit out exit and restart nrm Farm and retype username and password



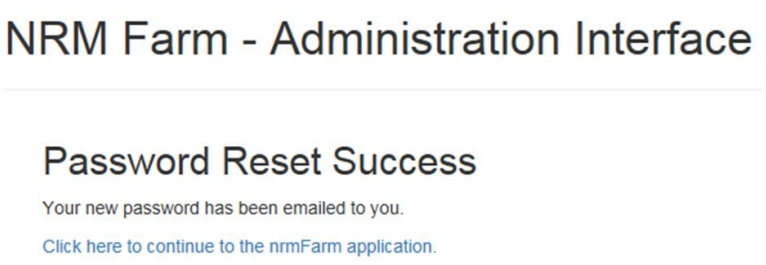
Once in you will be asked if you have read and understood the conditions. You need to check the box and press continue



If you forget your username or password, select forgot password or recover username from the sign in menu. An example of forgot password is below



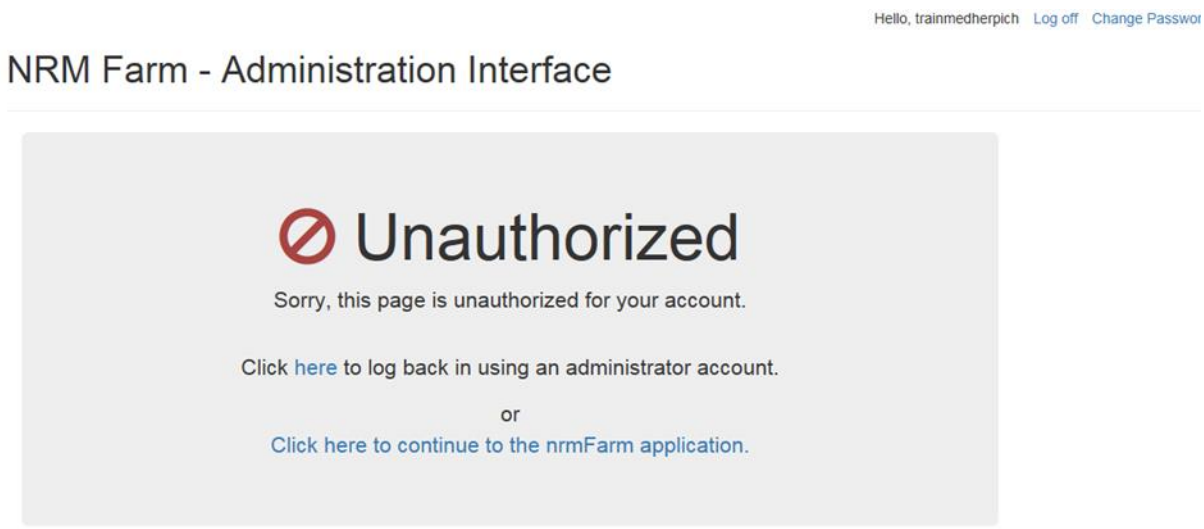
You will then get a message as below



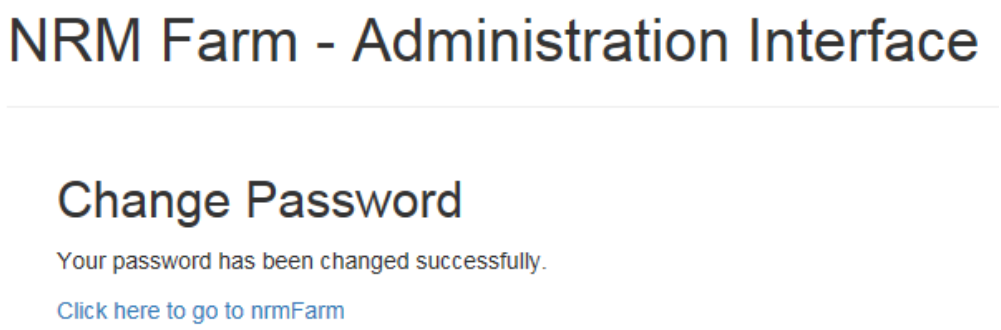
Go to your email account. Copy the new password and follow the link in the email. We recommend following the link to change the password.

To copy the password right click on the new password in the email and select copy.

If you get the following page please select change password (in blue writing – top right) and change your password to something easier. Remember to write it down in the training book or somewhere you can access at a later date.



Once complete you will get the following message



Now you are ready to start mapping!

Changes

nrmFarm was upgraded in August 2018 to enhance the overall system, resolve some bugs and enhance functionality of reporting tools.

Even though the system has been checked to make sure no bug are present, if you experience any bugs or exception reports, please try refreshing your browsers cache first by following instructions below (or using shortcut key control + shift + delete for Internet Explorer 11). Failing that please report any problems to your NRM regional office. In this case, screen shots and some description of the process would be ideal.

Compatibility

- nrmFarm is not designed for tablets or mobile devices
- The software is designed for Internet Explorer 11, chrome or equivalent
- Should some functionality not work as expected please refresh the internet browser cache. Please refer to some help guides e.g. https://www.refreshyourcache.com/en/home/
- The snapping tool will not work on tablets, android or ios devices.

nrmFarm User Guide

The nrmFarm user guide has been developed to show you the functions available within the program and how to use them. Use this contents page to easily navigate to the function you need help with.

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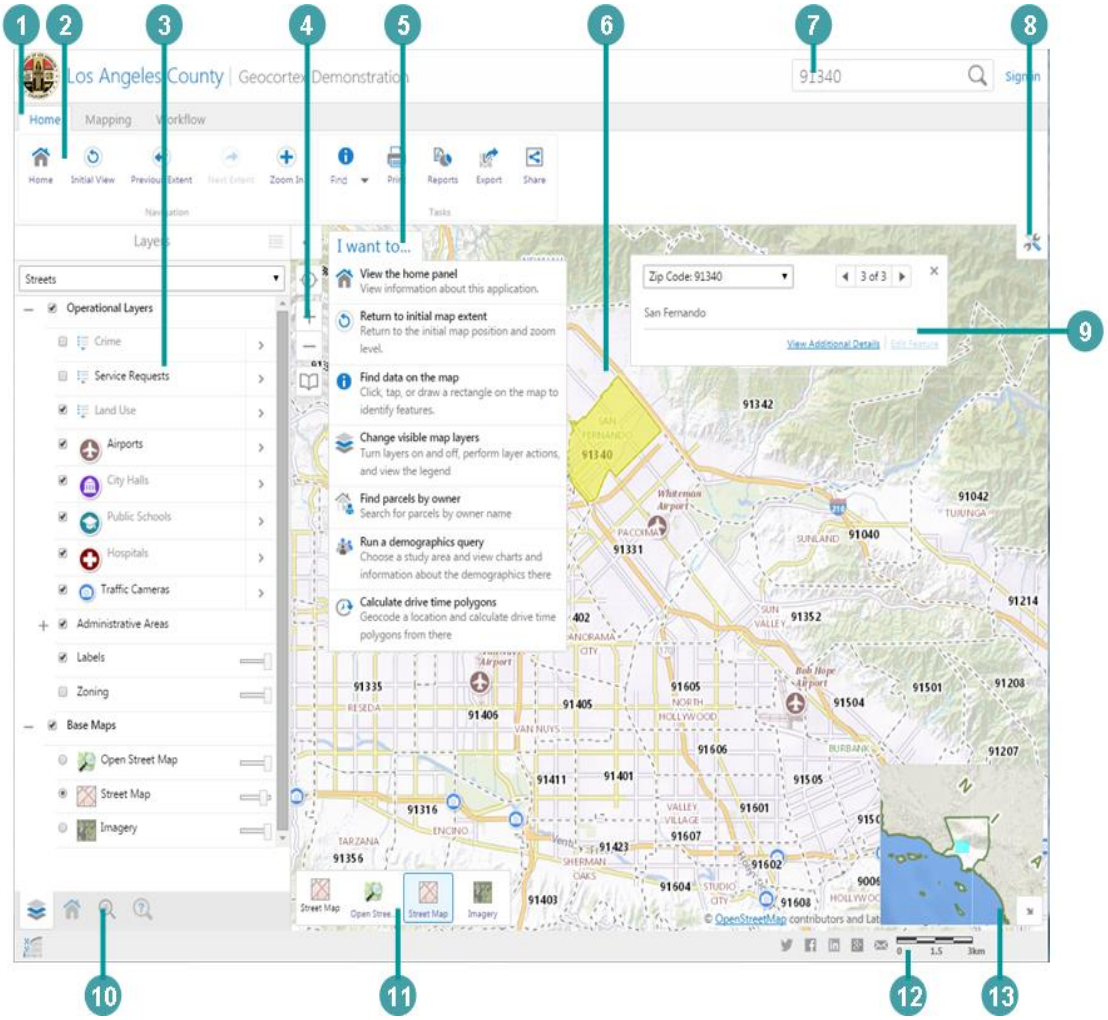
The Main Screen

When you open the Viewer, you see a screen similar to the one below. Different versions of the Viewer may contain a different map and some extra features, but it is likely to have most of the features described. In the example below, all the navigation elements like the Toolbar, the Information Panel, the I Want To menu and the Overview Map are visible so that they can be described. Normally, at least some of these elements would be hidden.



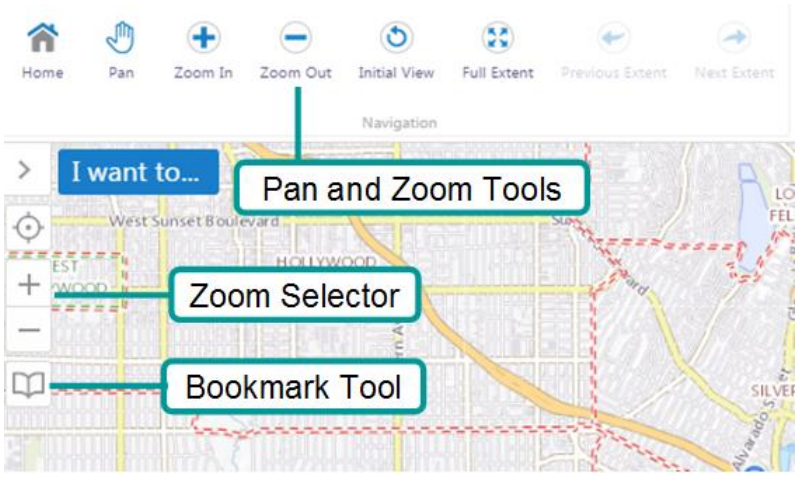
Navigation features in the main screen of the Viewer

Number	Screen Element
1	**Title Bar**: Displays the title of the application and the logo or name of a particular organization.
2	**Toolbar**: The Toolbar contains the tools that control how you interact with the map. In some applications, there are several sets of tools that are grouped by function. In more complex application, the toolbar can have multiple tabs containing groups of tools.
3	**Information Panel**: The Information Panel is an area that has multiple purposes. It is used to list important information, for example, it displays Map Layers where you can select different layers to hide or show on the map. If you do a search or you use an Identify tool, it displays a list of map features in the Results List. At other times, the Information Panel

Number	Screen Element
	contains a menu that you can use to perform tasks, for example, print or export the map. Each time you use the panel for a new function, it is opened in a separate tab that appears at the bottom of the panel. You can click each tab to return to that function.
	Zoom slider: Use this slider to zoom in or out on the map by clicking the **+** or **-** or by dragging the marker up and down.
	I Want To Menu: A menu of shortcuts to frequently-used tools. This menu tries to anticipate what you will want to do most often.
	Map: The map window where you interact with the map by zooming, panning, annotating, or right-clicking to get more information.
	Search box**:** You can type in the name of a feature to search for it on the map. It is also possible to search map services.
	Toolbar icon: Shows or hides the Toolbar when you click the icon.
	Map Tip: Map tips appear when you use one of the Identify tools. In some maps, if you hover over a feature on the map, a map tip appears. Click **View Additional Details** to find more information about the feature in the information panel.
	Information Panel tabs: Displays a tab for each function you open in the Information Panel. Click a tab to activate that function in the Information Panel. Functions listed below from left to right: - Layers - Current Property - nrmFarm Create Feature
	Base Map menu: Lists the Base Maps that you can select, for example, a street view that shows a map or an image view that shows satellite images. The Base Map menu also lists any Layer Themes if there are any in this application.
	Scale: The current scale of the map.
	Overview Map: Displays a thumbnail of the whole map with the current view shown as a small square on the map. The Overview Map is an orientation tool to identify which part of the overall map you are currently zoomed in to. To hide the Overview Map, click the arrow in the top left corner.

Use the Pan and Zoom Tools

The ability to pan and zoom in and out of the map is a key feature of web maps, so it is not surprising that there are many different ways to do this on the map.



Pan Tool

You can use the Pan tool to drag the map in any direction, or use the arrow keys on the keyboard to move in increments up, down, or sideways.

Zoom Tools

Zoom Slider

You can use the zoom slider in several ways:

Click the **Plus +** or **Minus -** to zoom in or out on the map.

Zoom In and Out

The easiest way to zoom in or out on the map is to use the scroll wheel of your mouse. To zoom in, click on the map, and then scroll the wheel away from you. To zoom out, click on the map, and then scroll the mouse wheel towards you.

When you click the Zoom In or Out tools, and then click the map it zooms to the next increment in the scale and centres the map wherever you clicked on the map.

When you use a box to zoom, the map zooms precisely to the extent of the box you draw and centres on the box area. So if you want to enlarge the map by a large amount, draw a very small box right over the area of interest.

To reverse the zoom direction, hold down the **Ctrl** key and draw another square. The map zooms in the opposite direction from the zoom tool you have selected.

Full Extent Tool

The Full Extent tool is a quick and easy way to zoom out as far as possible on any particular map.

Initial, Previous, and Next Extent Tools

These tools take you to the **Initial** extent that the map was set when you opened it, or to the **Previous** extent you were on, or the **Next** extent.

Some maps have limits on the scales at which you can view the data, and some layers and map labels may only appear at certain scales. If the layer you need is unavailable at your current map scale, zoom in until the layer becomes available.

How Scale Works

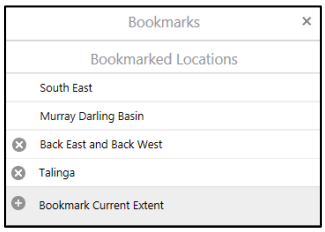
When you zoom in, the scale of the map gets larger. A large-scale map covers a smaller land area than a small scale map. A map that is zoomed in to a small town is large scale, whereas a map of Canada is small scale.

The reason is that scale is a ratio. In other words, 1:10 means that one unit on the map represents ten units in the real world. In this case - 1:10 - the map is one-tenth the size of the real world. Because it is a ratio, it doesn't matter if the units are centimetres, miles, or any other units. If you have a 1:100 000 map, the map is 1/100 000 the size of the actual place and 1/100 000 is a much smaller fraction (or ratio, or scale) than 1/10.

A larger scale equals greater detail.

Jump to a Map Bookmark

Although it is not strictly a zoom tool, another way to move quickly to a given extent and point on the map is to mark it as a bookmark. To do this, you zoom to the point and extent that you want, click on the **Bookmark Icon** then click on **Bookmark Current Extent**.

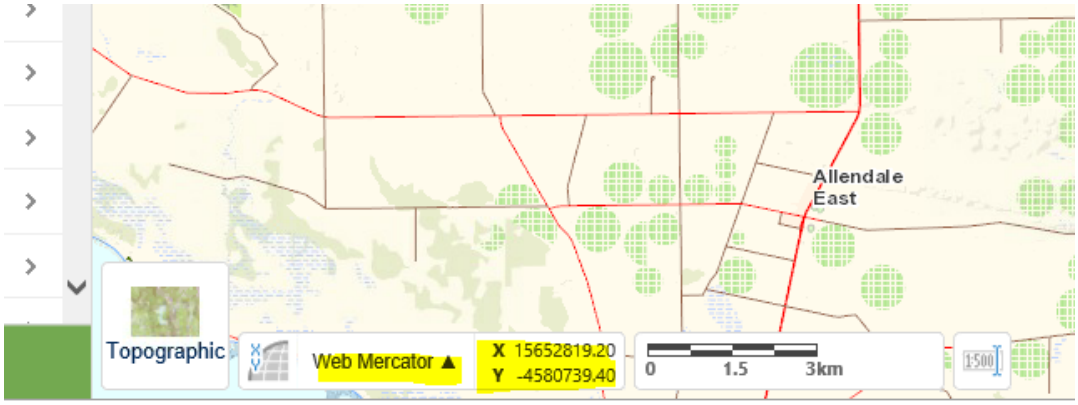


Use bookmarks to jump to a place and an extent

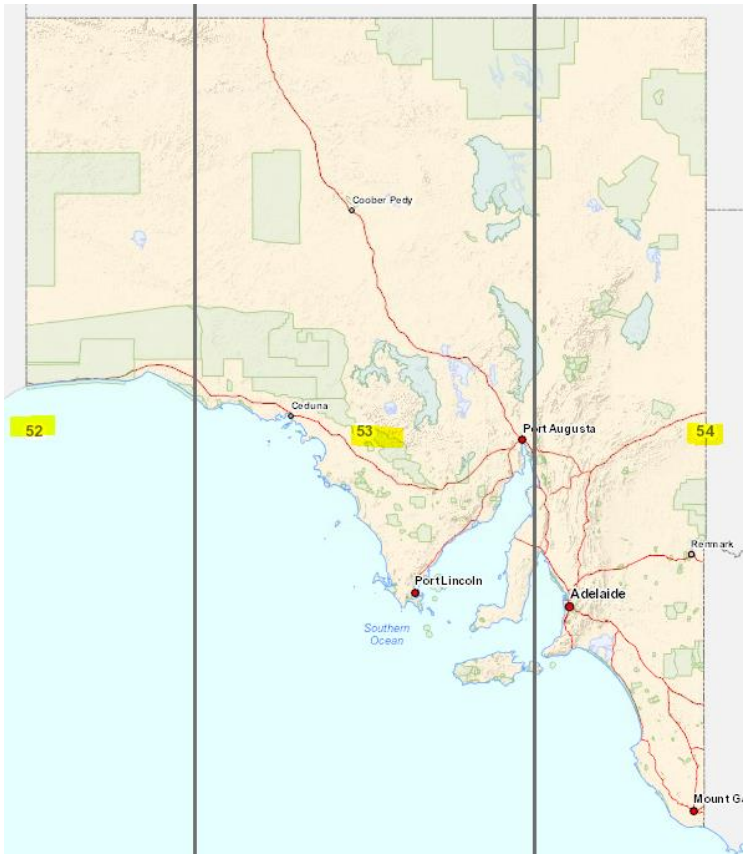
Once you have given the bookmark a descriptive name and clicked **OK**, you can then jump to that feature and extent on the map with one click.

Coordinate Systems

By default the coordinate system is Web Mercator as shown below



If you want to work in metres, then it is recommended, that you change the coordinate system for your area as illustrated below. For the South East use MGA Zone 54.

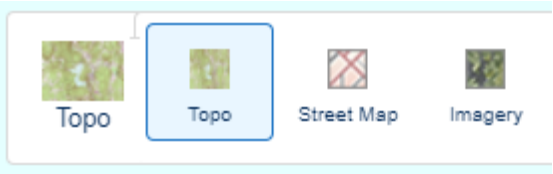


Selecting a base map

The base map menu in the bottom left of the map view lists the base maps available. There are currently 3 base maps you can choose from:

- **Topo** – the topographic base map resembles a traditional paper based topographic map. It is best suited to use in regional areas, however, depending on the intended use can also be used in metropolitan areas.

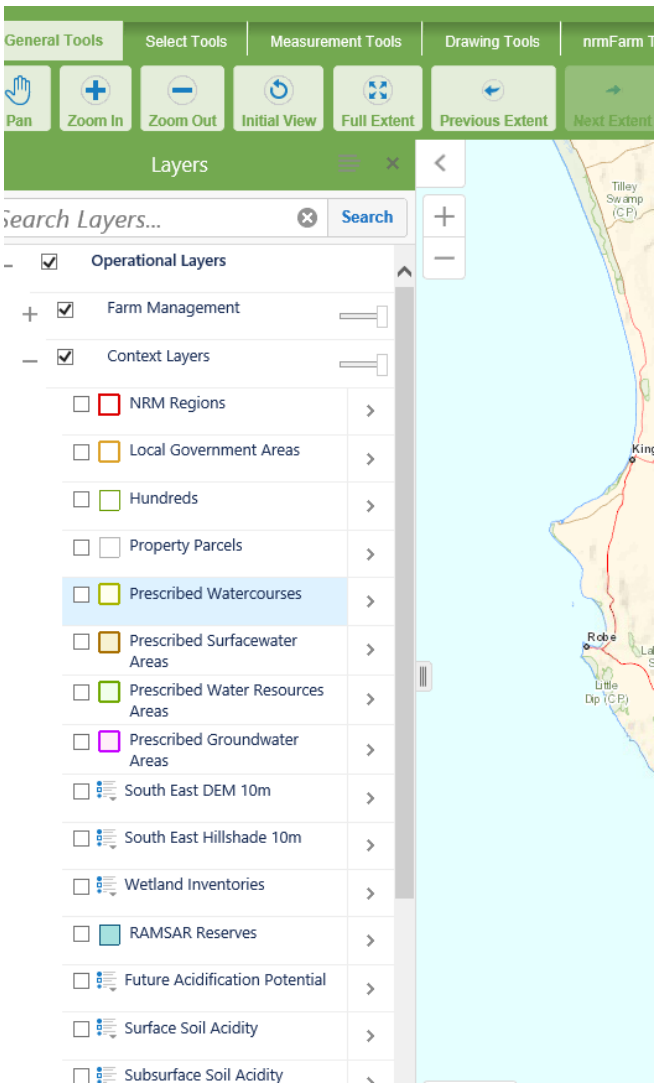
- **Street Map** - This can be considered a pseudo "Street Directory" type map which also includes the parcel cadastre when zoomed in far enough.
- **Imagery** - Is a tile cache of the South Australian Governments latest aerial photography



Layer List Panel

The Layer List Panel shows a list of all the layers currently available through nrmFarm. From here you can turn layers on and off as desired.

When you first open the Layer List you'll be presented with the top level folders e.g Farm Management and Context Folders.

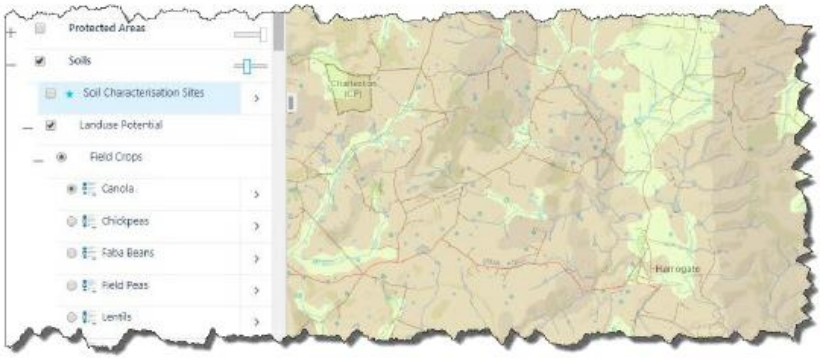


To expand the folder click on + the next to the Folder name, and check the box to activate the folder.
To turn a layer on click the check box next to the layer name.

If a layer name is greyed out and italic, this means that it has a scale dependency. You will be able to “check it on” but it won’t became active until you have zoomed to the appropriate scale.

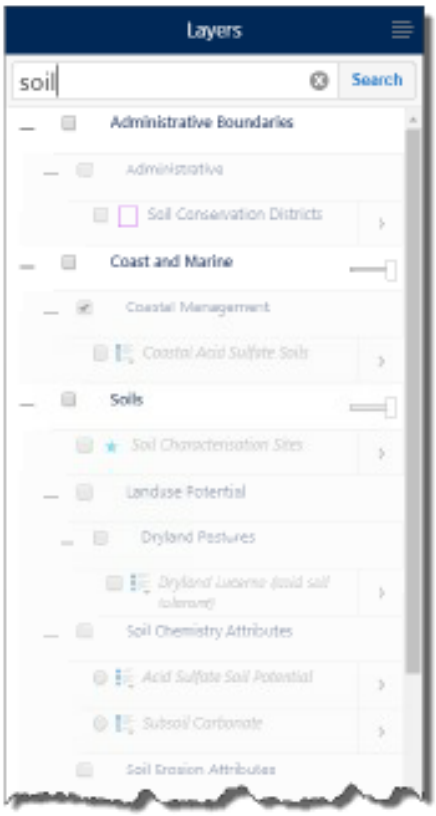
Transparency Slider

The Transparency Slider allows you to adjust the transparency of ALL layers under that folder in order to see the base map information underneath



Search the Layer List

When you begin typing in the **Search** input field, the layer list shows the layer names that match or contain the text in the **Search** field. If the matching layers are in folders, those folders are displayed and expanded to show the layer names.

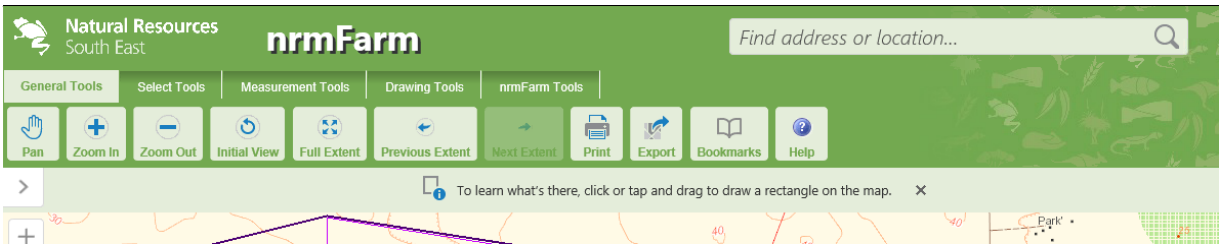


Toolbars

There are five toolbars in the application which can contain any number of tools, groups of tools, or tabs containing several groups of tools.

General Tools

The **General Tools** toolbar is shown below and has sections for navigating, tasks, advanced measurement and help.



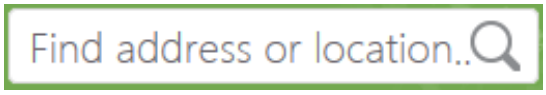
Open the Toolbar

If the toolbar is not visible when you first open the map, either:

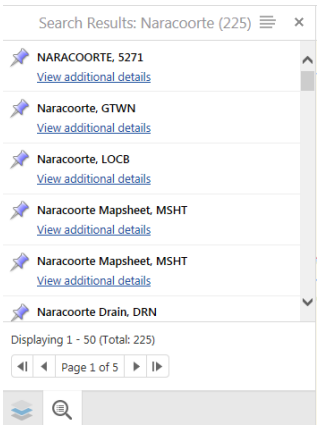
- Double-click anywhere on the title bar.
- Click the Show Toolbar icon in the top right corner of the map.

About Search

The Search box (in the top right hand corner of your screen) allows you to search for features on the map.



When you type a word into the Search box and click the **Search** icon , the results start to display in The Results List immediately, even though the search is continuing in the background. More items display in the Results List as they are found. When all the items are displayed, each type of feature is listed by ID and name with an identifying icon to make it easy to identify feature types.

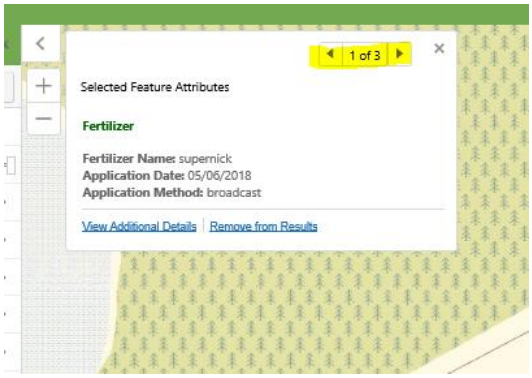


When you are searching a map with more than one layer, the results of the search are grouped by layer in The Results List.

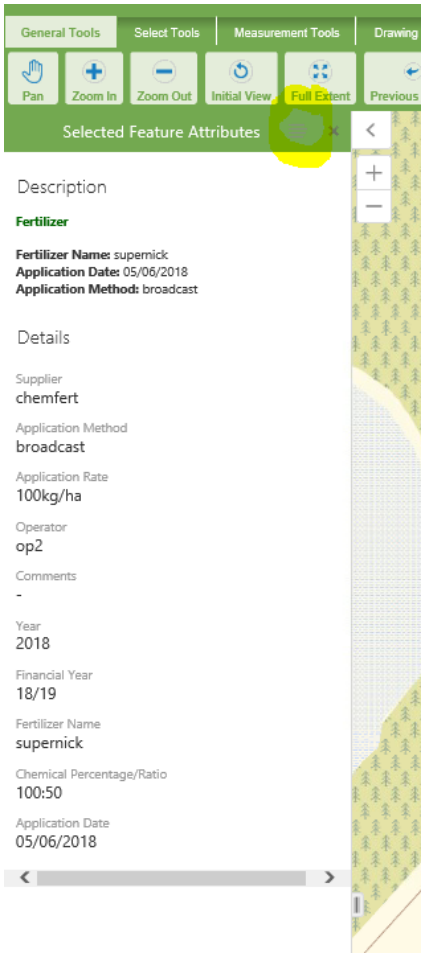
Identify Features You Have Created

After you have created features for your property, and they are ticked on in the Layers view then when you left click on any of your features it will bring up results. There are multiple options to view results.

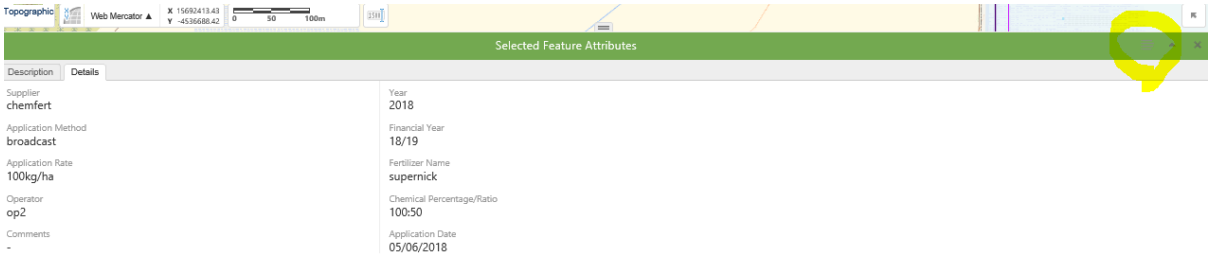
For example, from the base results window, you can cycle through results by using the arrow keys (highlighted). You can also remove an item from results. You can also view additional details by clicking on the hyperlink.



This will give a view which you can scroll through all fields e.g.

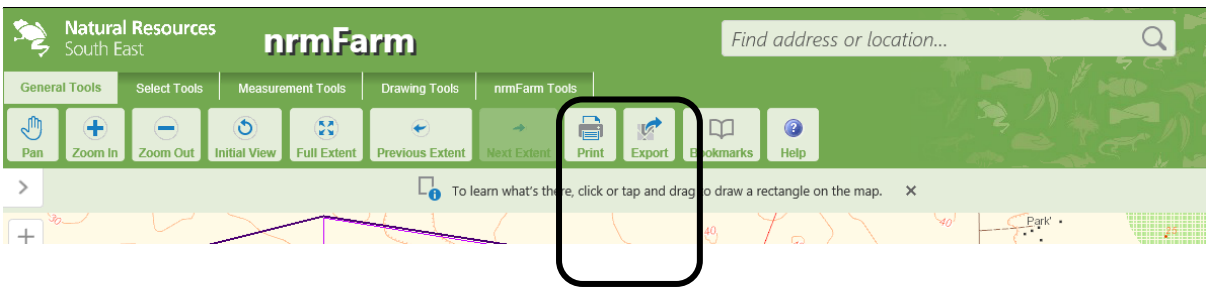


Moreover if you click on the 4 line icon as highlighted in the above picture there is an alternative view e.g.

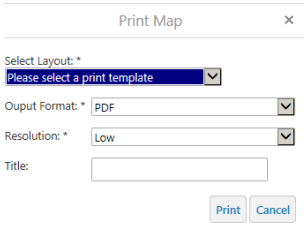


Printing your Maps

To print, zoom in to your desired extent and press the Print icon.



A form will appear to the left of the screen where you can fill in your printing preferences.



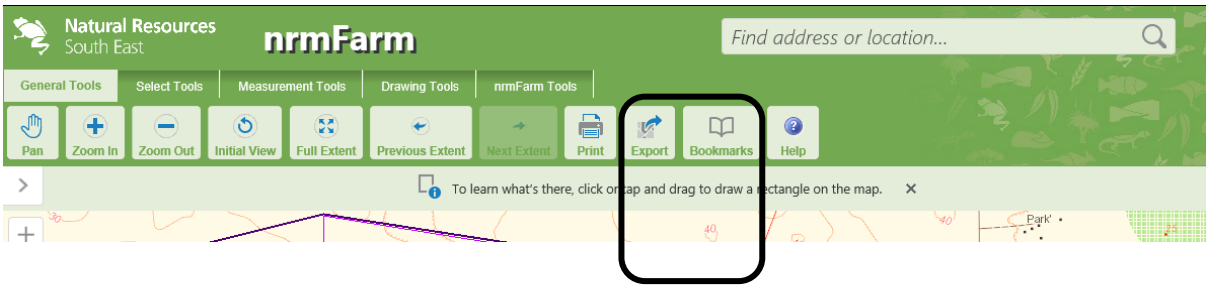
An example of an A4 portrait with legend is below

example
Cattle
Map data is compiled from a variety of sources and hence its accuracy is variable.
Animal Husbandry
Buildings
Crop Pasture
Fertilizer
Property
Paddock
Compiled: 15-Aug-2018
Generated at: http://maps.env.sa.gov.au
Datum: Geocentric Datum of Australia, 1994
Projection: Web Mercator (Auxiliary Sphere)
0
420 Metres
Natural Resources South East

Exporting a Map Image

At any stage you can export what you see on screen.

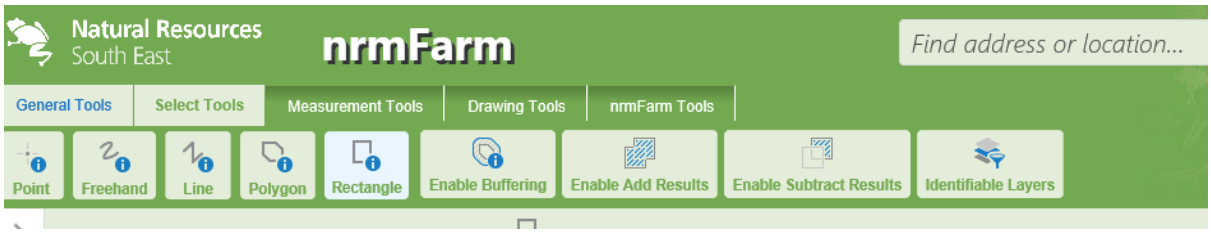
To export a Map image, click on the Export Icon.



Select the basemap image format you would like (aerial photo or topo or street view) and select export. You can choose one of the following formats: bmp, jpeg, geotiff, tiff or png.

You will then have the option to view the image from which you can save, print or email.

Selection Tools



Select can be used to view results or export results to excel.

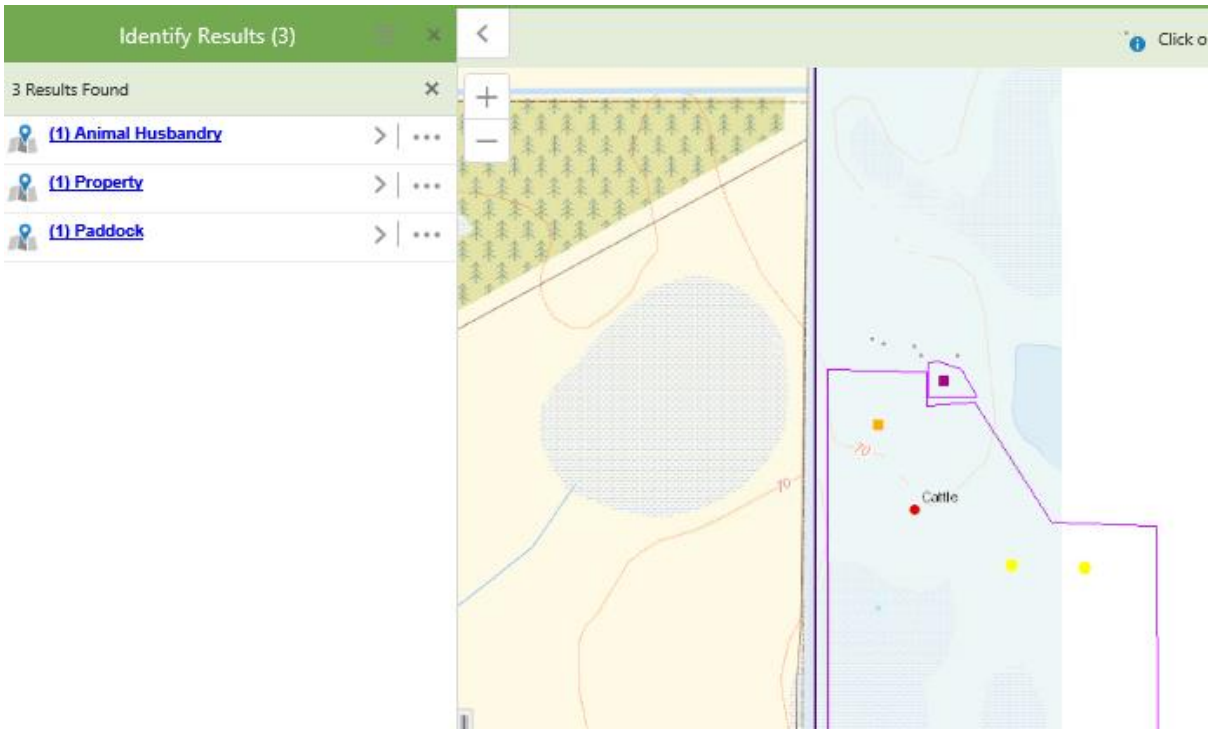
To identify features by drawing on the map:

To ensure that the layers you want to search are included in the identify process, click Layers to the bottom left of the screen.

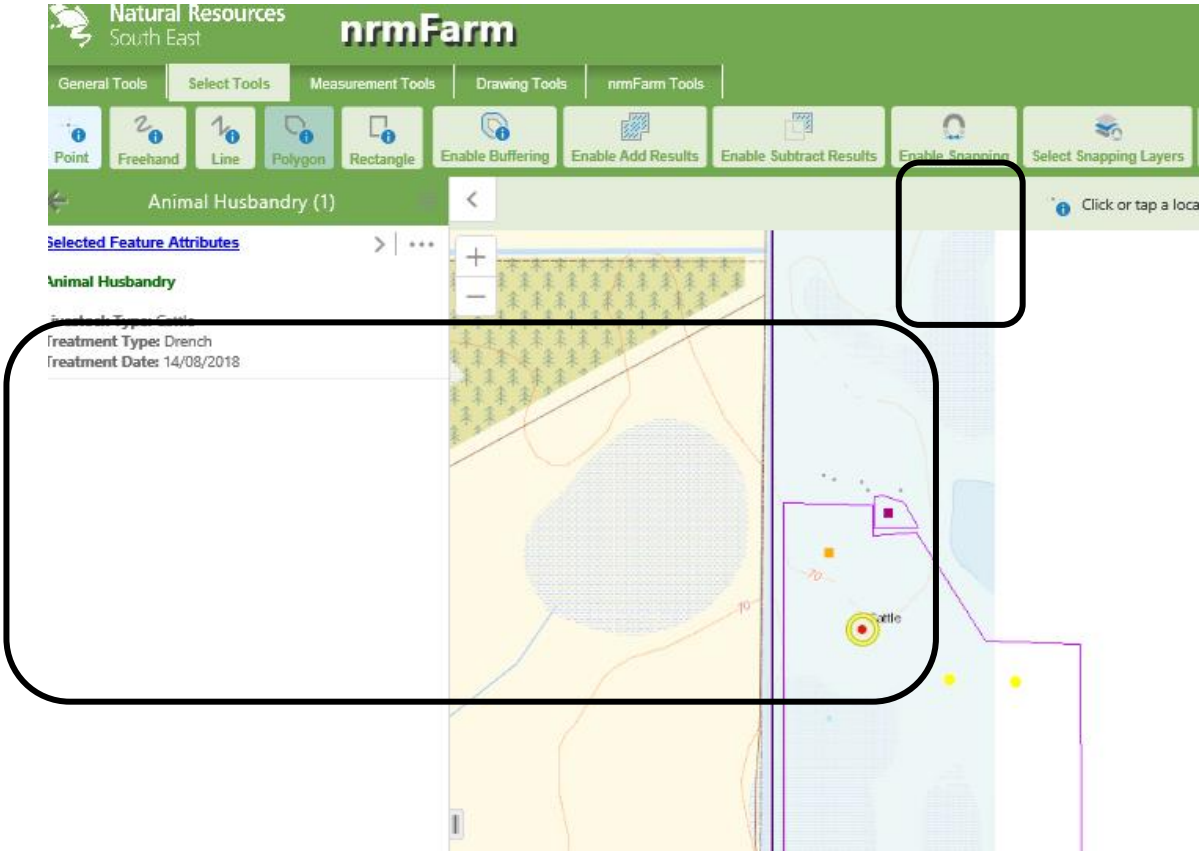
Select the farm management layers you want to search and then choose an identify tools option (see below).

To define an area to identify, do any of the following:

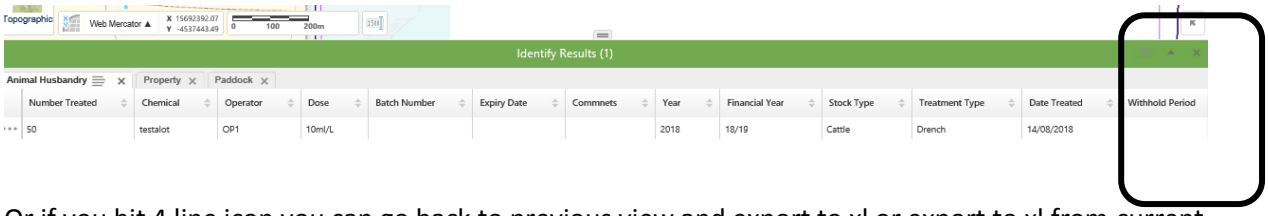
- Click **Point Identify**, and then click any point on the map. Any features found at that point on the map are included in the identify process.



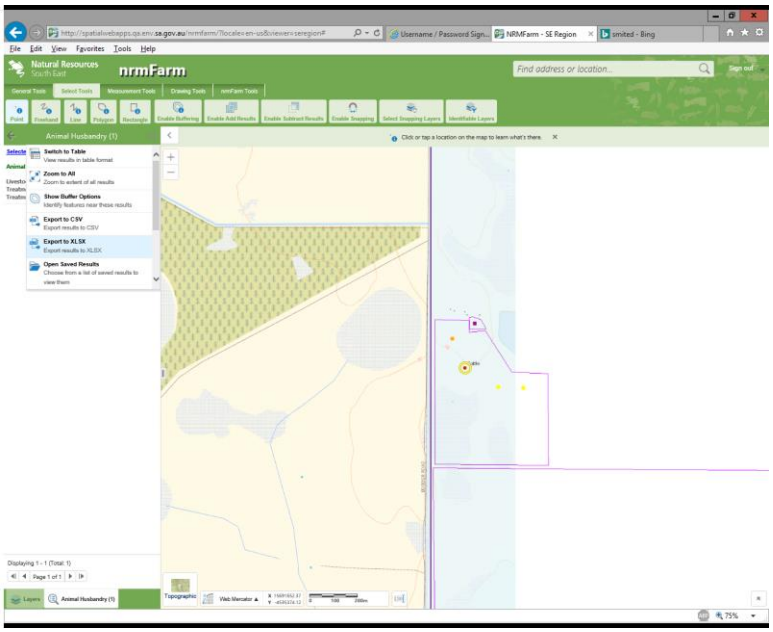
If you click on Animal Husbandry hyperlink by way of example you will get more details, and the sites will be highlighted by a yellow circle on the map.



If you click on the 4 line (horiziontal) icon you can also view in a table form e.g.



Or if you hit 4 line icon you can go back to previous view and export to xl or export to xl from current view.



If at any point the Layer View disappear it can be retrieved by pressing the arrow key (marked below).

Other options for selection include

- Click **Freehand Identify**, and then draw in any direction on the map over any features that you want to include in the identify process. When you lift your finger from the mouse, the identify process begins. All the features that intersect with the line are included in the identify process
- **Line Identify** – left click to start and double to finish

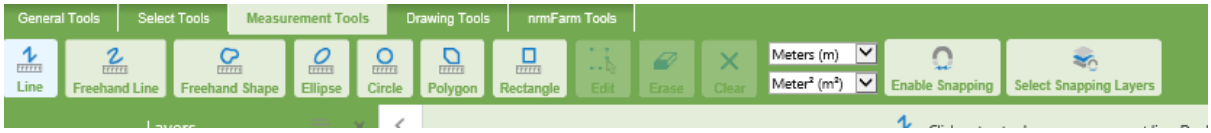
- **Polygon Identify**– left click to start and double to finish
- **Click Rectangle Identify** , and then drag over area of interest

Exclude layers from the Identify process

Once you have selected your Identify type a tab will be visible called “identifiable layers”. Turn the layers required on and ensure the layers that aren't required are turned off.

Alternatively, if they are not selected or turned on in the Layer view, then they will not be identified.

Measurement Tools



The Measurement tool allows you to measure features on your map in a number of ways including line, freehand line, polygon, freehand shape, circle and rectangle.

Line Measurement

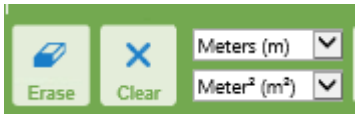
To measure a line select the **Line Measurement Tool** and click to start measuring a line, click at each direction change point then double click to finish.

For a precise measurement along a feature in the Layers List, enable **Snapping**. Snapping allows you to precisely measure a feature on the map by snapping to the nearest point, vertex or edge within the radius around the mouse pointer.

When snapping you must ensure that you select the Layer(s) you wish to snap to, using the **Select Snapping Layers** function

Examples are where you may want to trace property boundaries, fence lines, cadastre boundaries etc.

To remove the item from the map use clear or erase.



Of note you can change distance measurement to feet, yards, metres, kilometres, miles, and nautical miles.

You can also change area units of measurement to feet^2, metres^2, nautical miles^2, kilometres^2, Acres, Hectares.

Freehand Line and Area Measurement

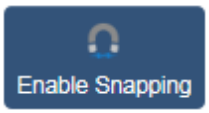
To measure a freehand line or shape, click at the starting point, keeping the mouse button pressed, draw the line. Release the mouse button to finish.

Note: The Snapping function is not supported with a freehand measurement.

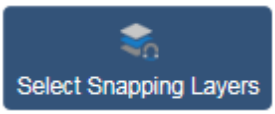
Polygon measurement

To measure a multi-sided shape (polygon), select the Polygon Measure Tool, click on the map to start, click at each direction change point then double click to finish.

For a precise area measurement of a feature in the Layers List, enable **Snapping**. Snapping allows you to precisely measure a feature on the map by snapping to the nearest point, vertex or edge within the radius around the mouse pointer.



When snapping you must ensure that you select the Layer(s) you wish to snap to, using the **Select Snapping Layers** function

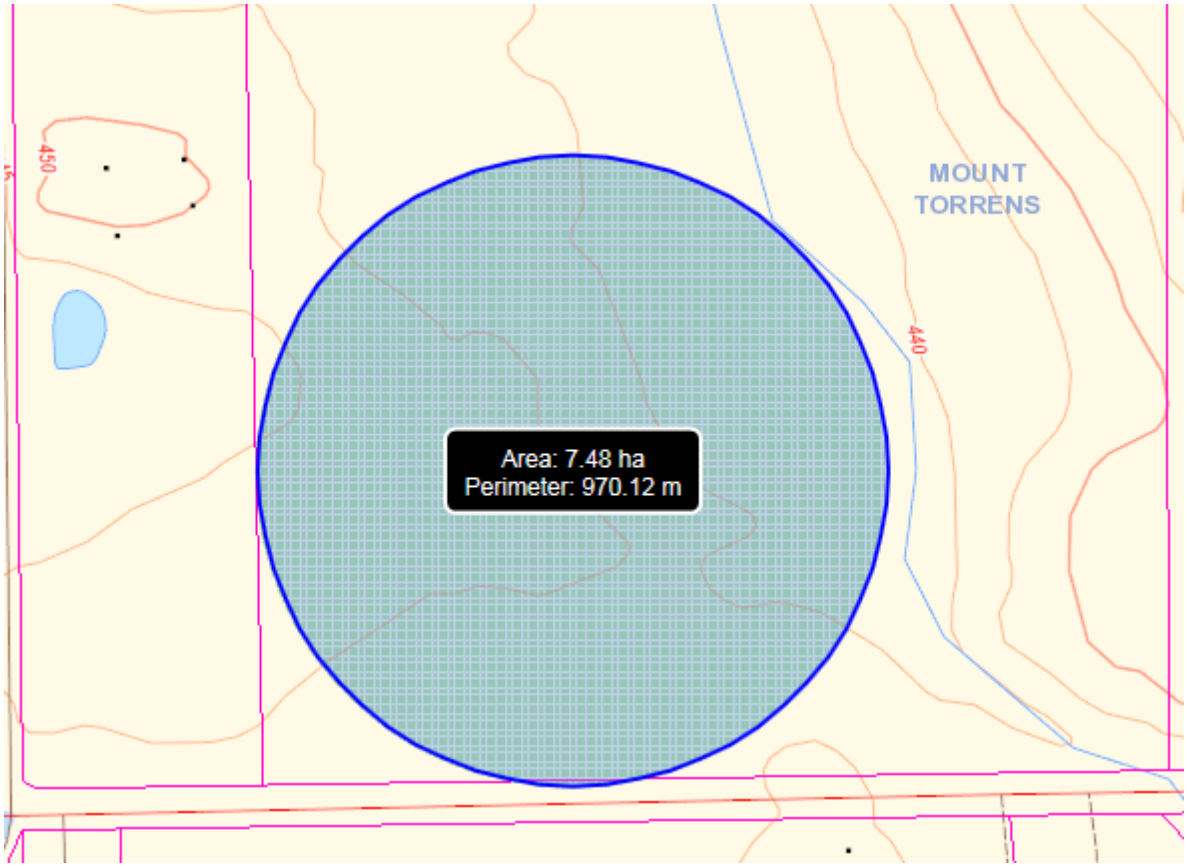


Elipse

Left click and drag out to size

Circle

To measure a circle on screen, select the **Circle Measurement** Tool, click a point on the screen and drag out the circle, then release the mouse button to finish.



Rectangle Measurement

To measure a rectangle on screen, select the **Rectangle Measurement Tool**, click a point on the screen and drag out the area, then release the mouse button to finish

Editing Measurements

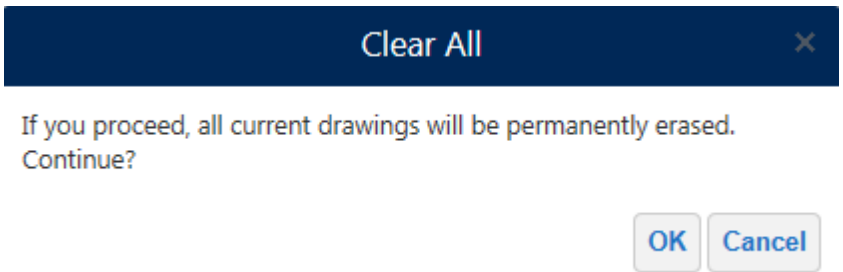
When a measurement is performed, the segment, perimeter, or area can be edited using the **Edit Tool**, the measurements are automatically recalculated and adjusted on the map. Click on edit tool again to finish

Erase

Measurements can be erased (deleted) using the **Erase** Tool. When selected, click on a measurement to immediately and permanently delete. Note: This cannot be undone

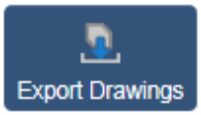
Clear

The **Clear** Tool permanently erases all measurements and drawings in the current map session. You will be presented with the following warning before proceeding.



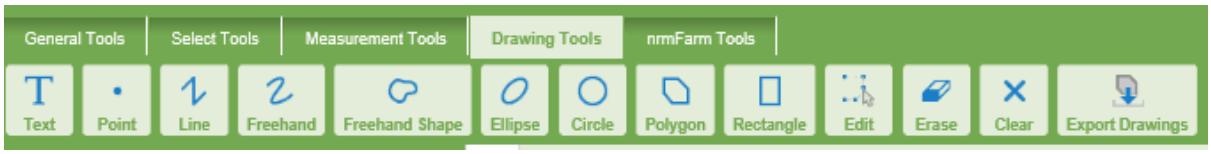
You can also export your measurement graphic as a Shapefile. However, the area, perimeter and segment lengths are **NOT** exported.

To export to a shapefile, open the **Draw Tools** tab and select the **Export Drawing** Tool. It will be exported out using the coordinate system selected in the map

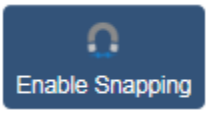


This will create a zipped point, line and polygon shapefile which can be used in GIS software or sent to consultants etc.

Draw Tools

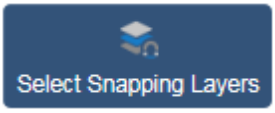


You can add text, point, line and polygon drawings to the map using the various drawing options under the **Draw Tools** Tab. These are not reportable using the nrmFarm tools, but maybe of use for mark-ups or provision of directions for contractors etc.

Some of the draw options also participate in the Snapping Function. 

Snapping allows you to precisely select features on the map by snapping to the nearest point, vertex or edge within the radius around the mouse pointer.

When snapping you must ensure that you select the Layer(s) you wish to snap to, using the **Select Snapping Layers** function



Note: the following draw options **do not** participate in the Snapping Function;

- Freehand Line
- Arrow
- Ellipse
- Circle
- Rectangle

Drawing Styling

There are a number of style choices for the various drawing options. These can be selected either prior to commencing the drawing or afterward by selecting the graphic with the **Edit** Tool active.

To select an appropriate style select the **Style Tool**

Text Styling

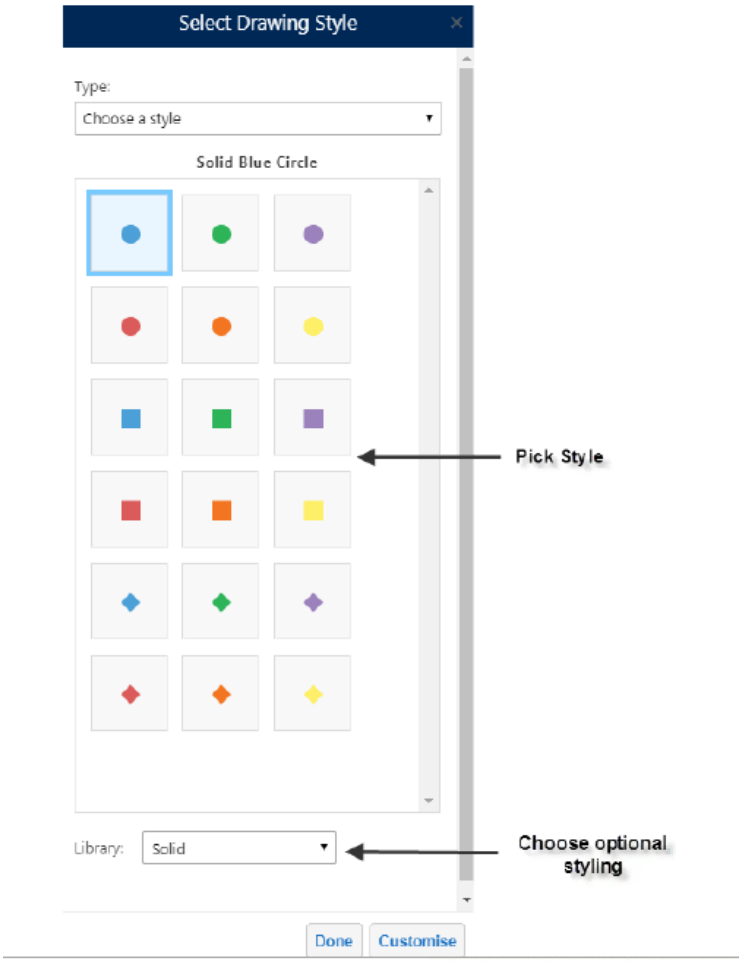
When applying text styling you can choose a predefined style and size.

Click **Done** to apply. Alternatively you can create your own custom text styling.

Click **Done** to apply

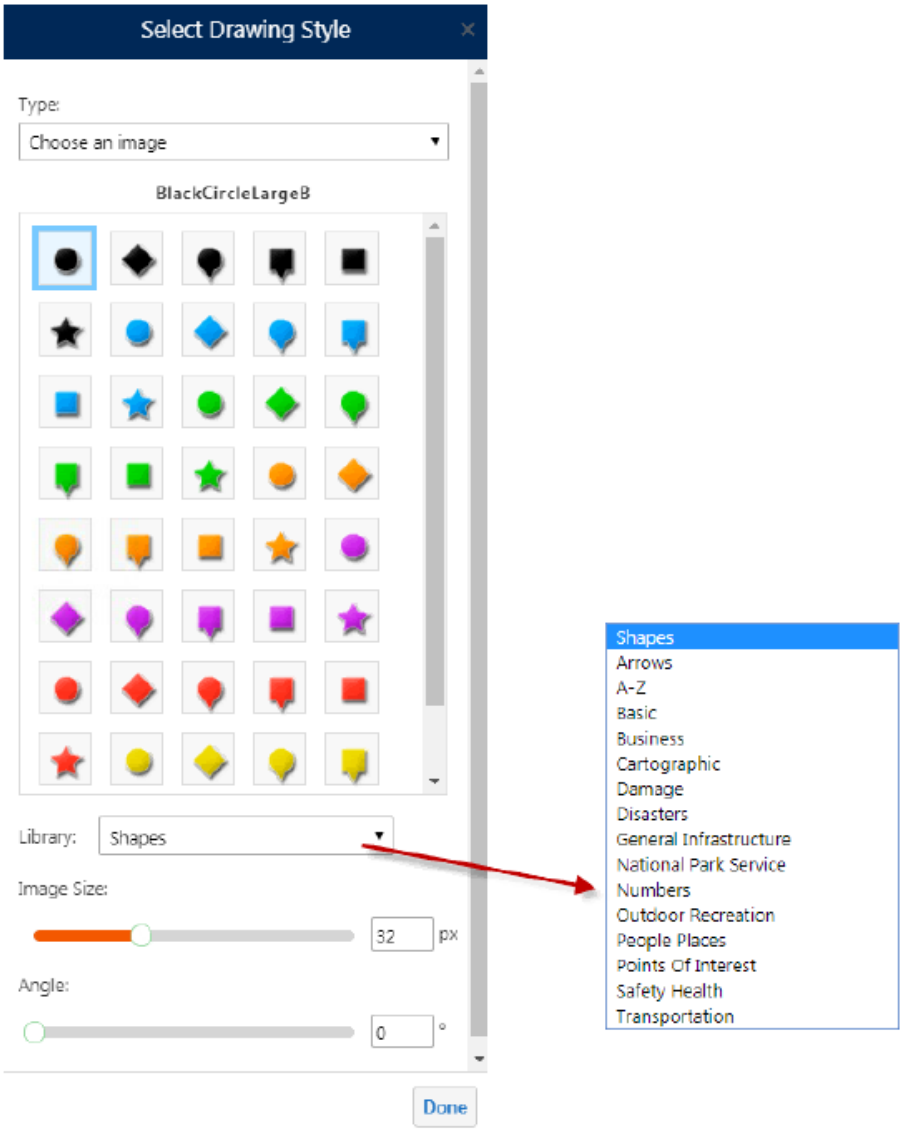
Point Styling

When applying point styling you can choose a predefined basic style and size.



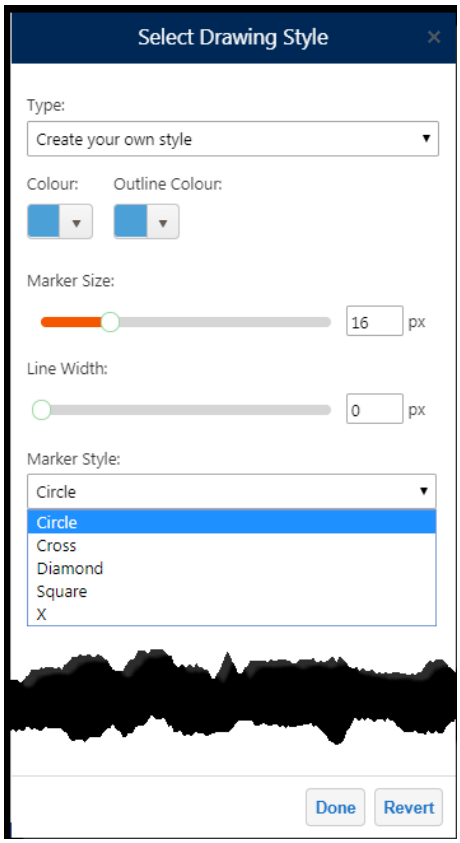
Click **Done** to apply

For more pictorial point symbols, select **Choose an image** from the type dropdown menu



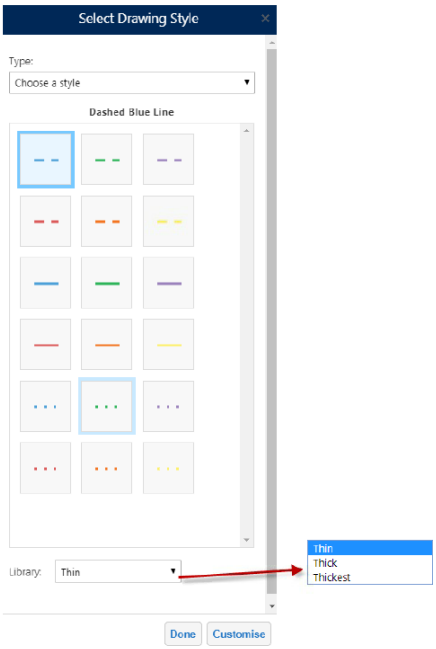
Click **Done** to apply

To create your own simple marker style, select **Create your own style** from the Type dropdown menu.

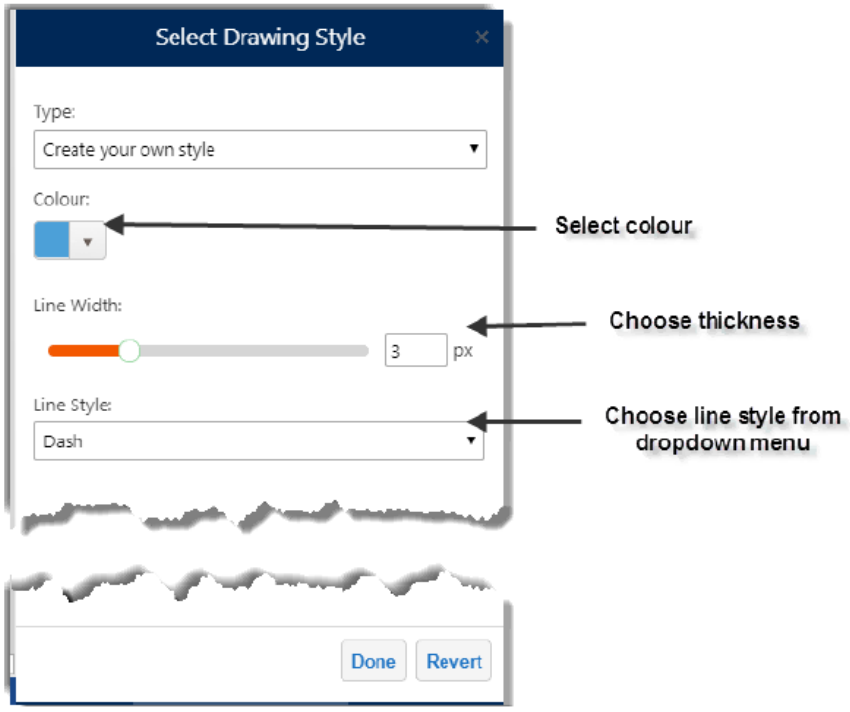


Line Styling

When applying Line styling you can choose a predefined basic style, colour and thickness. Click **Done** to apply. To create your own simple line style, select **Create your own style** from the Type dropdown menu.

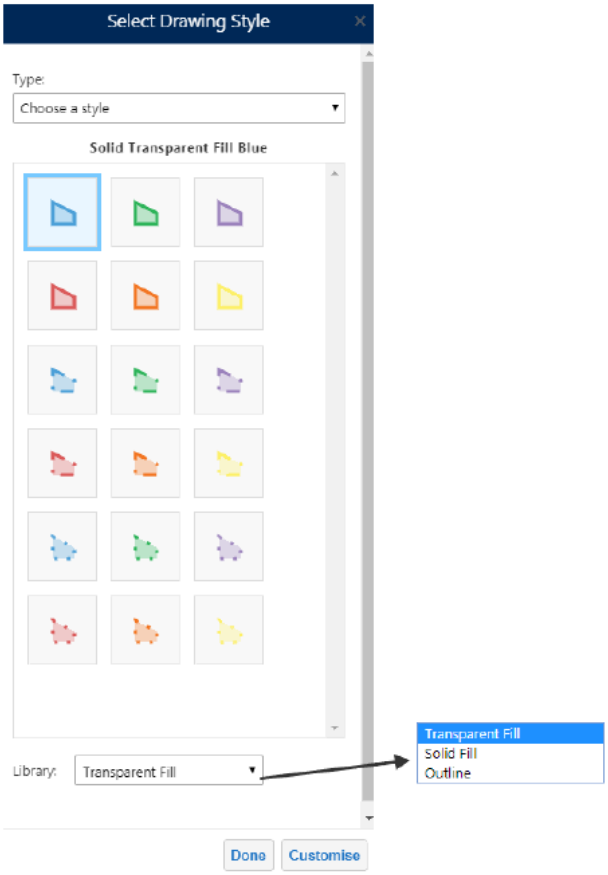


Click **Done** to apply
To create your own simple line style, select **Create your own style** from the Type dropdown menu.

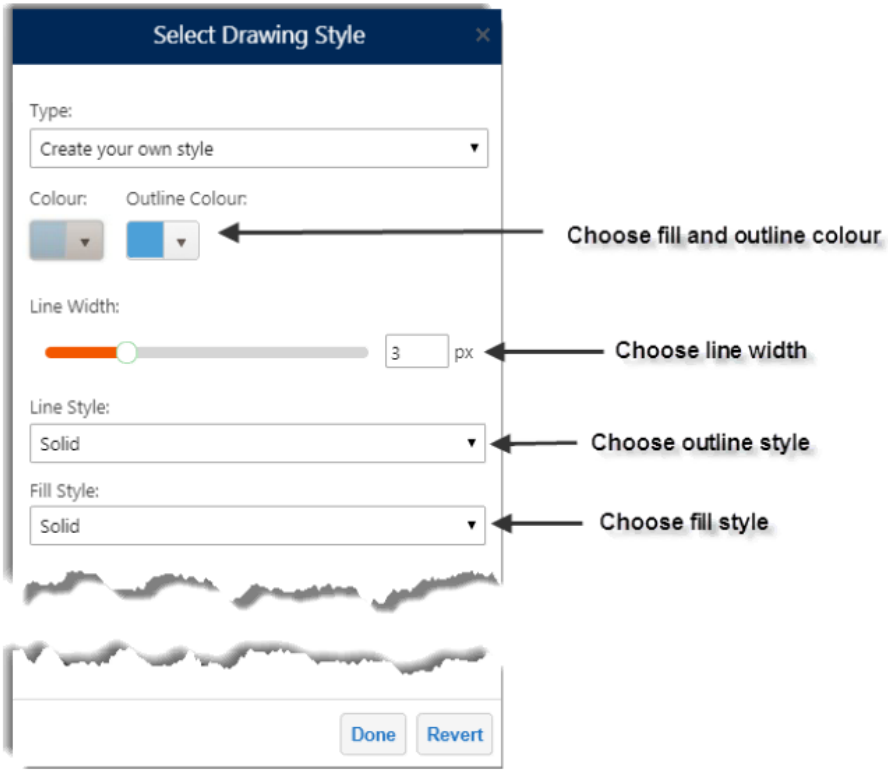


Polygon Styling

When applying Polygon styling you can choose a predefined basic style, colour and outline.



To create your own simple polygon style, select **Create your own style** from the Type dropdown menu



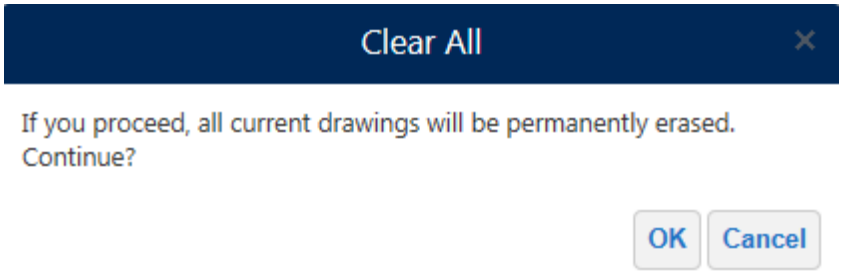
Tip: Use the Transparency Slider to adjust the fill transparency of the feature. Drag the slider right back to the left hand side to create a **no fill** feature

Editing Drawings

You can edit an existing graphic by using the **Edit** Tool. You can then resize, shape and restyle the drawing as desired

Individual drawings can be erased (deleted) using the **Erase** Tool**.** When selected, click on a measurement to immediately and permanently delete. Note: This cannot be undone

The **Clear** Tool permanently erases all measurements and drawings in the current map session. You will be presented with the following warning before proceeding.



Exporting Drawings

The **Export Drawings** Tool creates a shapefile(s) in an Export.zip file containing all of the drawings.

The shapefile format is a vector data format for GIS software developed by Esri. Shapefiles support point, line, and area features. A valid shapefile requires one .shp file as well as a .shx and .dbf file. If the Edit Drawings tool is enabled, the Export Drawings tool will be disabled.

When the **Export Drawings** tool is selected, a confirmation dialog will appear. Once accepted, the Export.zip file is saved to your PC.

The Export.zip contains the user's drawings as shapefiles. Separate shapefiles are exported for each type of drawing. For example, if a map contained multiple point drawings and multiple polygon drawings, the export will contain a combined point.shp file and a combined polygon.shp file. Combined shapefiles can have the following names:

- Point.shp
- Polygon.shp
- Polyline.shp

Exported shapefiles do not include any measurements, although the geometry values and scale will be preserved. Similarly, exports do not include text or drawing styles from the on-screen drawing.

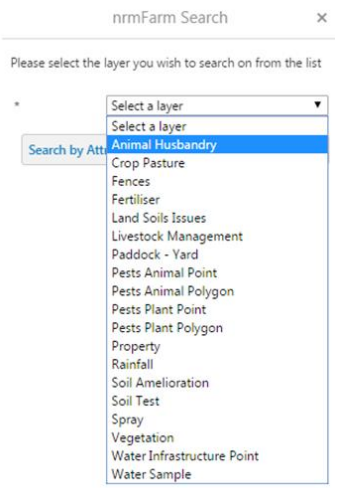
Note: Export Drawings is not available on Tablets or Smart Phones

nrmFarm Tools

The nrmFarm toolbar includes the functions specific to nrmFarm to allow you to create your map, detailing assets and attributes of your property. It also enables reporting of information at a property and paddock scale and the export of information to excel.

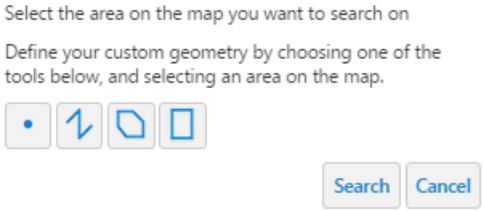
Search Tool

To activate the feature search click on the search tool (indicated above). The Search tool allows for the searching of the features shown in the screen shot below.

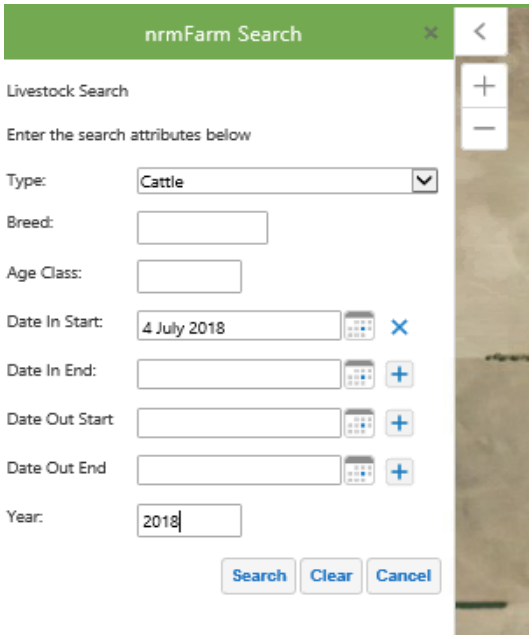


First select a layer from the drop down list (shown above). Next choose the type of search you wish to perform, (by selecting "Attribute" or "Geometry" search).

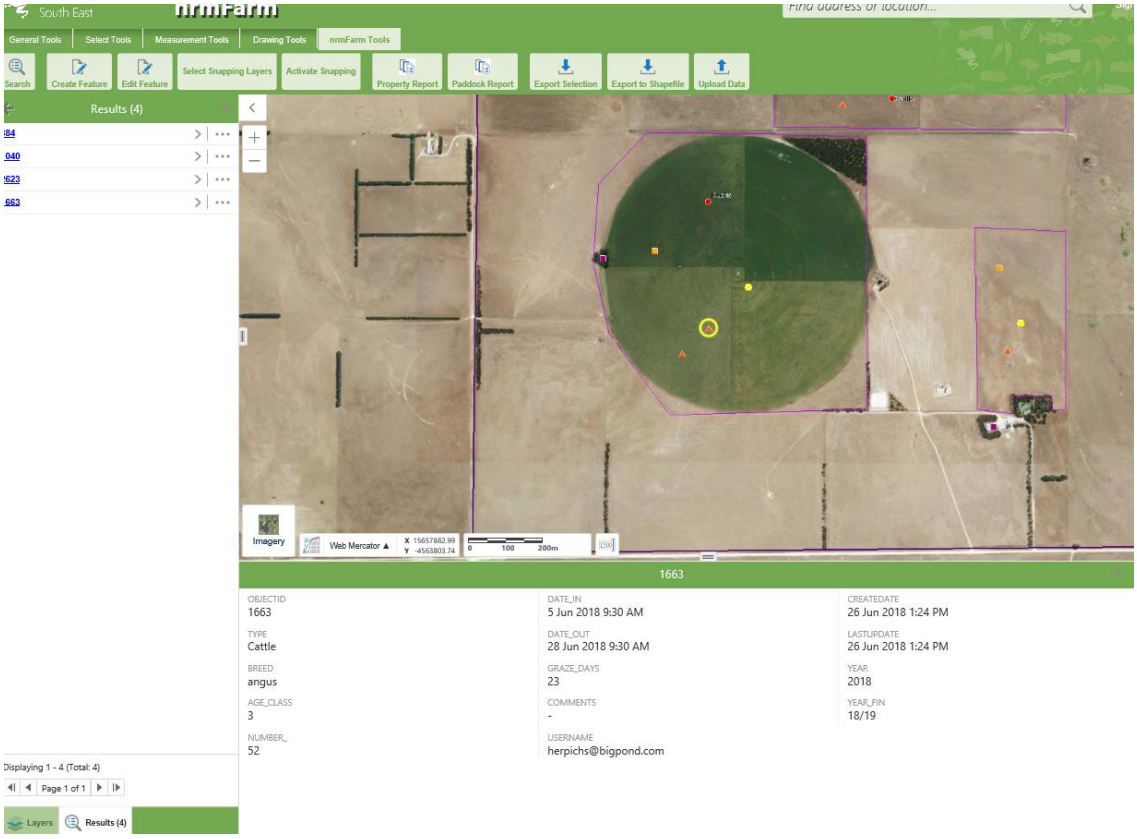
If "Search by Geometry" is selected you get the following tools to select the feature/s you wish to include.



Alternatively if you select "Search By Attribute" it displays the appropriate list of attributes depending on the feature type selected, for example the screenshot below is for the Livestock feature type, so all of the searchable fields are shown that relate to that feature type.



After search is selected it will highlight results in Layer which can be reviewed individually or as a group in table form. When you select a result it will zoom to that result. In the example below, it has zoomed to an area. The result of interest has a yellow circle and expanded details for the result are below the image**.**



Create Feature Tool

To activate the "Create Feature" tool click on the toolbar item indicated above.

The Create Feature tool allows for the creation of the following point, line or polygon features. Some attributes especially for type are mandatory fields whilst others are free text. If you see an * for a field description then it is mandatory.

Point Features

- **Animal Husbandry**

  Livestock Type – Alpacas, Cattle, Chickens, Deer, Ducks, Geese, Goats, Horses, Pigs, Sheep, Turkeys, Other.

- **Buildings**

  Type – barn, chemical shed, chicken shed, dairy, effluent storage, equipment shed, frost fan, fuel tank / shed, generator, grain storage, hay shed, house, implement shed, monitoring station, office, pig shed, power pole, pump shed, quarters, ruins, seed storage, shearing shed, shed, silage storage, silos, stable, wash down pad, water tank, weigh bridge.

- **Crop Pasture**

  Type – Annual, cover crop, grafted, mixed pasture, mixed species planting, perennial, root stock, stick, summer crop, tube stock, other.

  Establishment Method – conventional, direct drill, direct seed, fixed graft, mechanical, over - sowing, planting, seedling, other.

- **Fertiliser -**All free text

- **Gates / Grids**

  Type – gate, grid, regulator, sluice, weir, other.

- **Land Soils Issues**

  Type – chemical toxicity, compaction, contamination, gully erosion, hard setting, low fertility, non-wetting sands, nutrient deficiency, rockiness, salinity, seasonal inundation, seep / soak, sheet erosion, sodicity, soil alkalinity, subsoil acidity, topsoil acidity, water erosion, waterlogging, wind erosion, other

- **Livestock**

  Type - Alpacas, Cattle, Chickens, Deer, Ducks, Geese, Goats, Horses, Pigs, Sheep, Turkeys, Other

- **Pests and Disease Point**

  Pest / Disease name - is free text

Type – animal, disease, fungal, insect, plants, other.

Treatment - baiting, biological control, canopy spray, cut and swab, cut down, de-sucker, dusting, explosives, frilling, fumigation, hand pulled, heat treatment, hygiene, injection, mechanical cultivation, mechanically removed, misting, mowing, mulching, quarantine, relocation, ripping, shooting, slashing, spraying, spraying aerial, trapping, warren destruction, warren / den exclusion, weed wand / wiping, other.

Extent – Boundary, fence line, individual plants, isolated plants, main infestation, mature plants, outlying plants, partial paddock, roadside, seedlings, suckers, whole paddock, whole property, other.

Application timing – autumn, EL stage, growth stage, incorporated at sowing, post emergence, post-harvest, post sowing pre emergence, pre-harvest, pre-sowing, summer, spring, autumn, winter, other.

- **Points Miscellaneous** – free text
- **Rainfall** – free text
- **Soil test** – free text
- **Water Infrastructure Point**

  Type – bore, block valves, centre pivot, dam, drain, dripper line, effluent sprinklers, fire water, flood, handshift, irrigation main line, irrigation meter, irrigation sub surface drip line, mains water line, mains water meter, over canopy sprinkler line, pipes, pump, regulators, sluice gate, standing sprinklers, sub-mains, sub-surface drainage, sump, tank, tap, travelling irrigator, trough, under canopy sprinkler line, weir, other.

- **Water Sample**

  Water source – bore, brook, creek, dam, drain, effluent storage, lake, pond, pool, river, spring, soak, seep, sump, tank, tap, well, wetland, other

Line Features

- **Water Infrastructure Line**

  Type - Drain, dripper line, flood furrow, irrigation main line, irrigation sub main, irrigation sub surface drip line, mains water line, over canopy sprinkler line, sub surface drainage, under canopy sprinkler line, other.

- **Fences**

  Type – barbed wire, cyclone, cyclone / barbed, electric, enclosure, high fence, mesh, netting, plain wire, portable, post and rail, temporary electric, virtual, other.

Polygon Features

- **Centre Pivot –** free text
- **Property** – free text
- **Paddock – Yard**

  Type – arena, block, enclosure, Feedlot, field, grove, market garden, meadow, orchard, paddock, patch, pen, plantation, temporary paddock, vineyard, yard, other.

- **Pest and Disease Polygon -** Same as point.

- **Water Infrastructure Polygon**

  Type – Dam, aquaculture, flood irrigation bay, irrigation block / sector / zone, other

- **Polygon Miscellaneous – free text**
- **Vegetation**

  Type – plantation, remnant, revegetation, watercourses, other

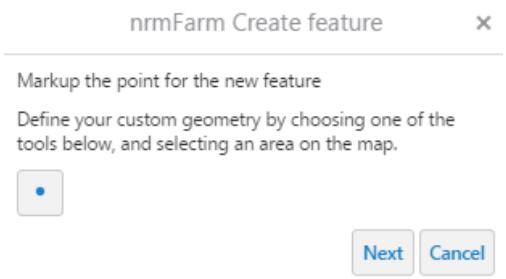
  Sub-Type – Amenity vegetation, biodiversity planting, block revegetation, erosion management, Fodder Shrubs, Forestry / Plantation, Infill plantings, Native Vegetation, Paddock Tree, Regeneration, Riparian, Scattered plantings, Scattered trees, Shelterbelt, Soil Stabilisation, Stock Shelter, Swamp Revegetation, Tree lines, Watercourse Revegetation, Wetland, Windbreak, Other.

- **Yard, stables and small enclosures**

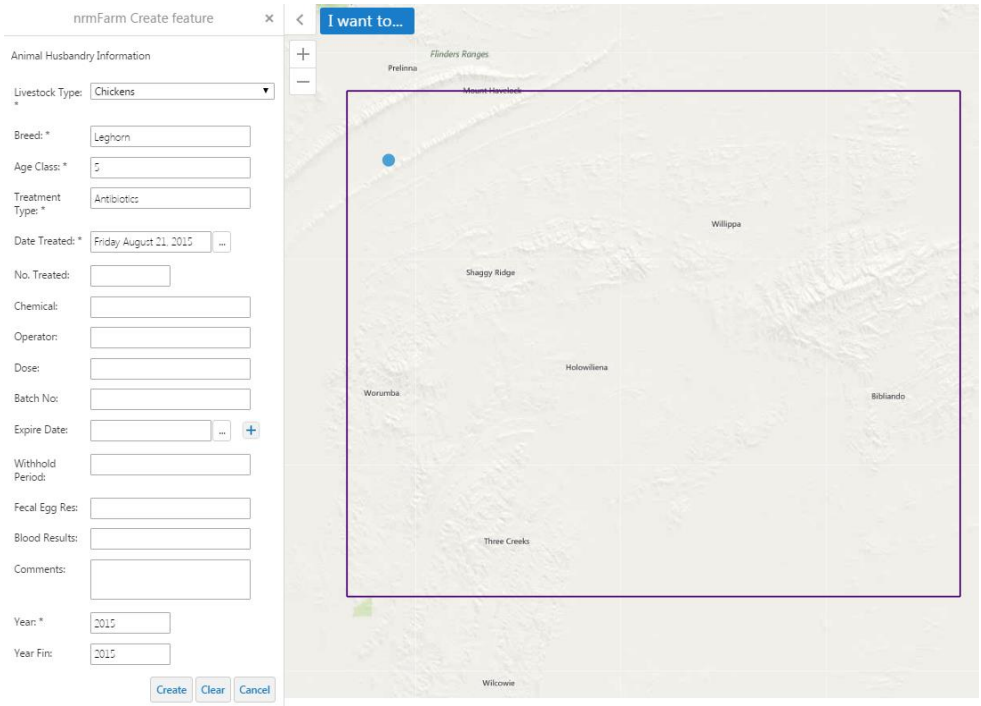
  Type – barn, barnyard, cattle yard, chicken shed, dairy, dog yard, enclosure, feedlot, horse arena, loading ramp, pen, pig shed, round yard, stock yard, sheep yard, stable, yards, other.

There are four ways of creating a feature as follows.

Point Feature Type



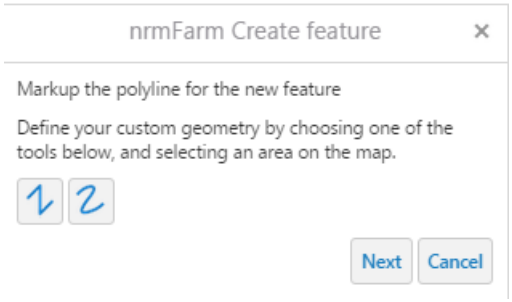
"Animal Husbandry" is an example of a point feature type and it gives you the option of selecting the point tool and clicking somewhere on the map to choose the location of the required point. Clicking next after doing this will display the attribute entry form, for the given item



Fill out the appropriate fields (fields denoted with an asterisk * are mandatory), and when finished click on the "Create" button to finalise the feature creation.

If you don't click on create your edits will be lost.

Line Feature Type



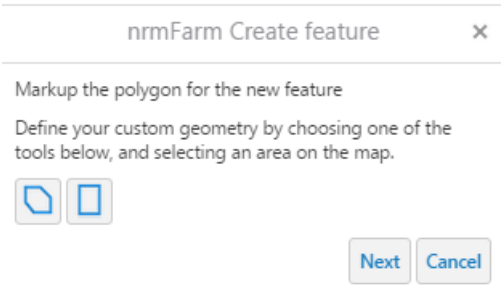
"Fences" is an example of a line feature type and it gives you the option of selecting:

- the add line by point tool where you can click on the map for each point vertex and double click to finish or
- the freehand tool and click and hold and drag the mouse to create the feature required and release the mouse button to finalise the feature.

Clicking next after doing this will display the attribute entry form, for the given item

Fill out the appropriate fields (fields denoted with an asterisk * are mandatory), and when finished click on the "Create" button to finalise the feature creation.

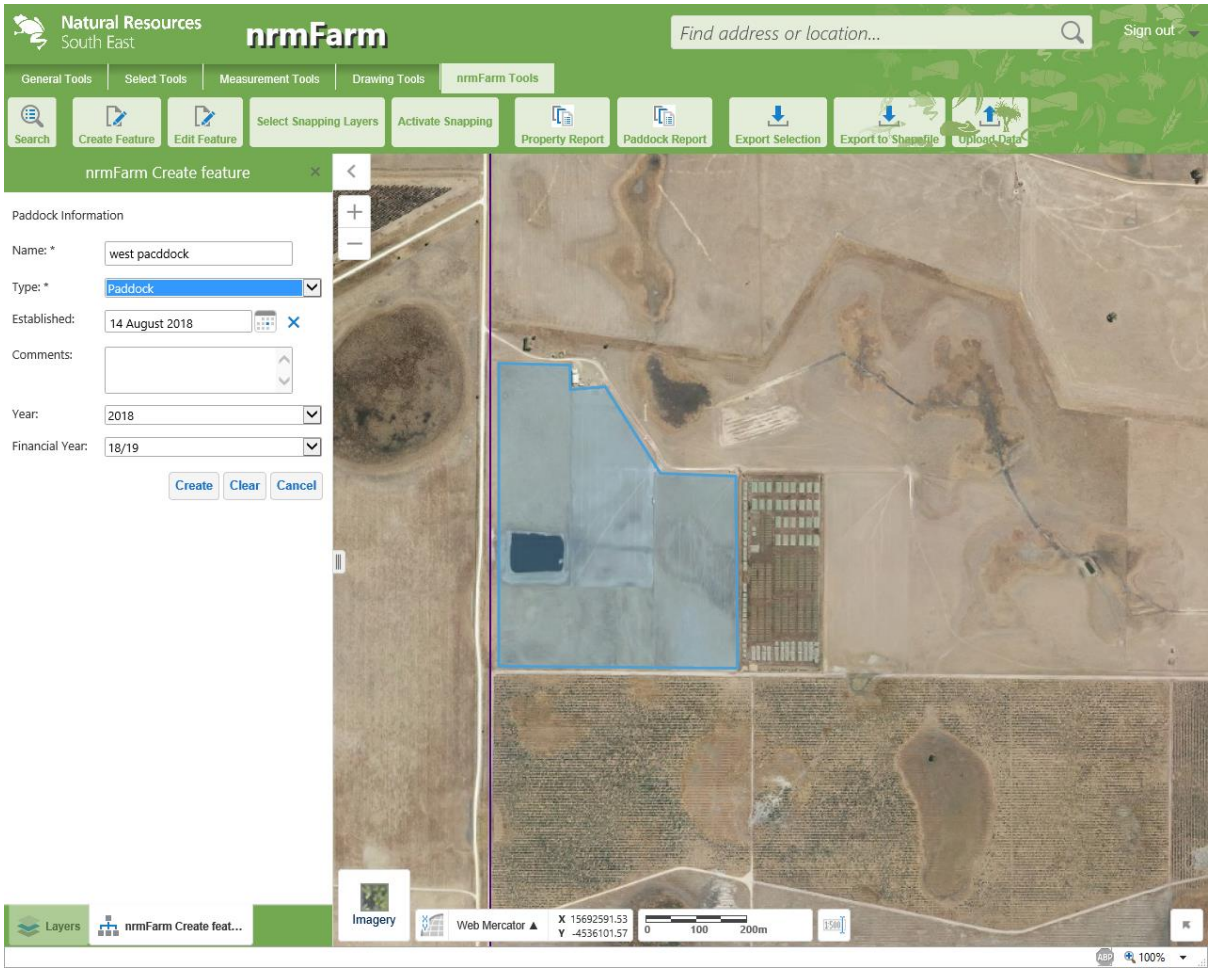
Polygon Feature Type



"Paddock - Yard" is an example of a polygon feature type and it gives you the option of selecting:

- the add polygon by point tool where you can click on the map for each point vertex and double click to finish or
- the rectangle tool and click and hold and drag the mouse to create the rectangle required and release the mouse button to finalise the feature.

Clicking next after doing this will display the attribute entry form, for the given item

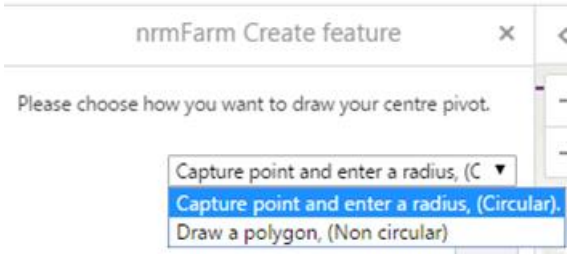


Fill out the appropriate fields (fields denoted with an asterisk * are mandatory), and when finished click on the "Create" button to finalise the feature creation.

Hints:

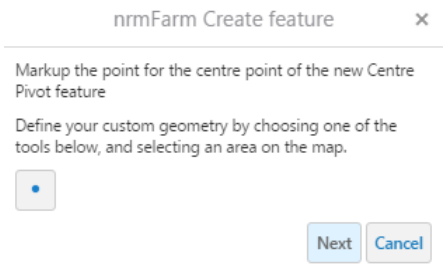
- use roller on mouse to scroll in and out
- Use arrow keys to move up and down while editing
- If you are going to collect rainfall, suggest you create a feature on the same spot. You can use the snapping tool and select rainfall as the snapping layer. This will avoid multiple points over your property depicting same information i.e they will all be on top of each other.
- If get invalid length message in a free text field it means you have gone over the character limit
- A shortcut key to turn snapping on and off is control + f key.

Centre Pivot Feature Type

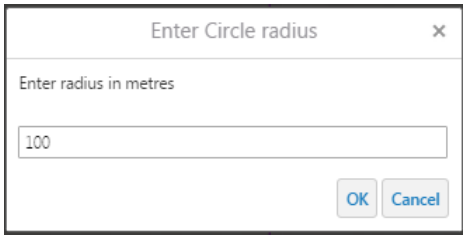


"CentPivot" is an example of a Centre Pivot type and is designed to allow two methods of creating the pivot feature. Users can either select "Draw a Polygon (Non Circular)" and the method to create the feature is identical to the "Polygon Feature Type" discussed previously. If "Capture a point and enter a radius, (Circular)" is selected the following workflow is triggered.

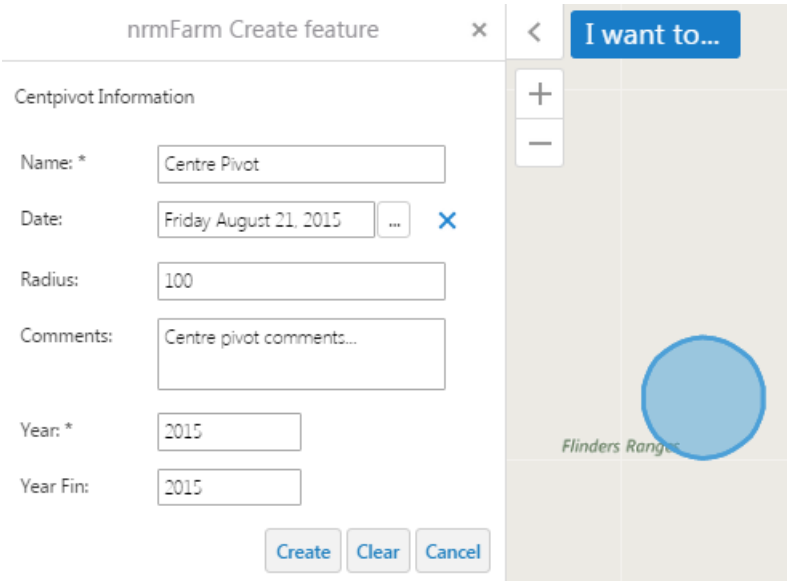
Select a point on the map to take the place of the centre of the circle to be drawn and click "Next".



The program prompts you to enter a circle radius in metres (as shown below).



A circle is drawn around the point you created with the radius you defined in the previous step



Finally you are prompted to enter attributes for your Centre Pivot feature (as shown above).

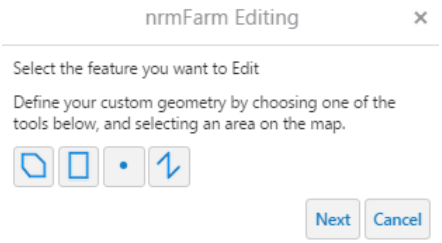
Edit Feature Tool

To activate the "Edit Feature" tool click on the toolbar item indicated above.

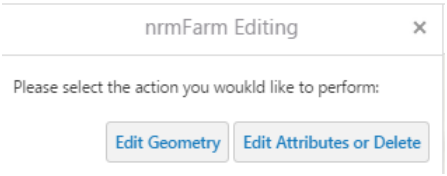
The Edit Feature tool allows for the editing of any of the created features. The process for editing is similar for each feature and is detailed below.

Select the feature you would like to edit from the drop down list (shown below)

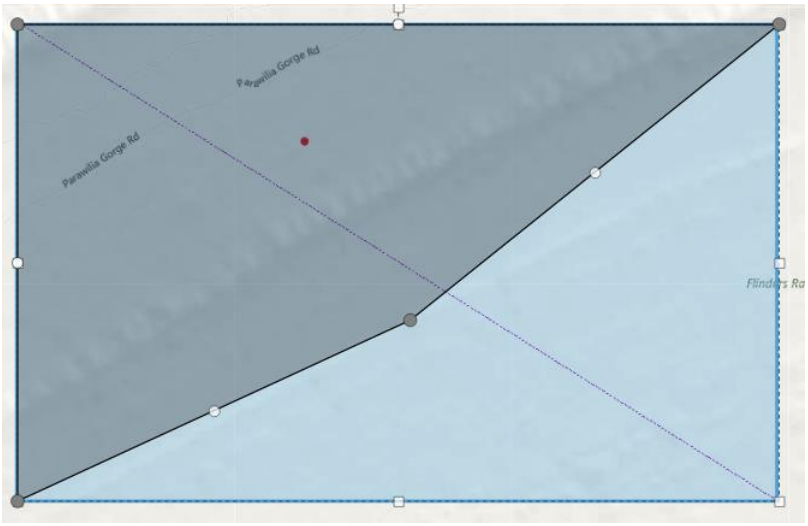
Select the area that your selected object exists using the spatial selection tools (shown below).



If a feature exists that matches the criteria then the workflow zooms to the extent of the feature and presents the user with a further two options, (shown below).

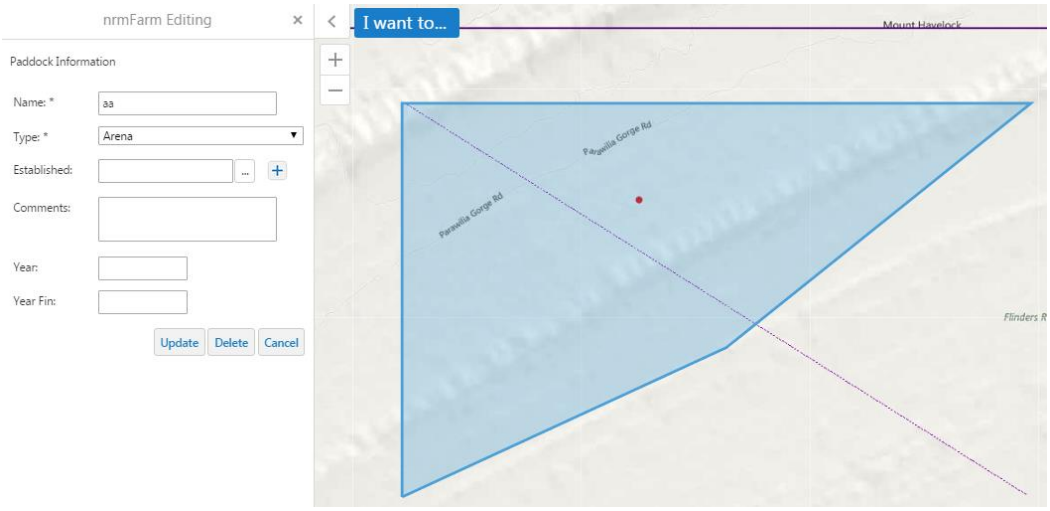


Edit geometry (as the name suggests) allows you to either rotate or move the feature or add/move/delete points in the feature. The handles shown in the screenshot (below) allow you to perform these operations.



Once finalized click off the feature and the changes are saved.

Edit Attributes or **Delete** allows you to edit the attributes for the feature, or it permits you to delete the feature completely, (see the screenshot below for an example of the Paddock feature).

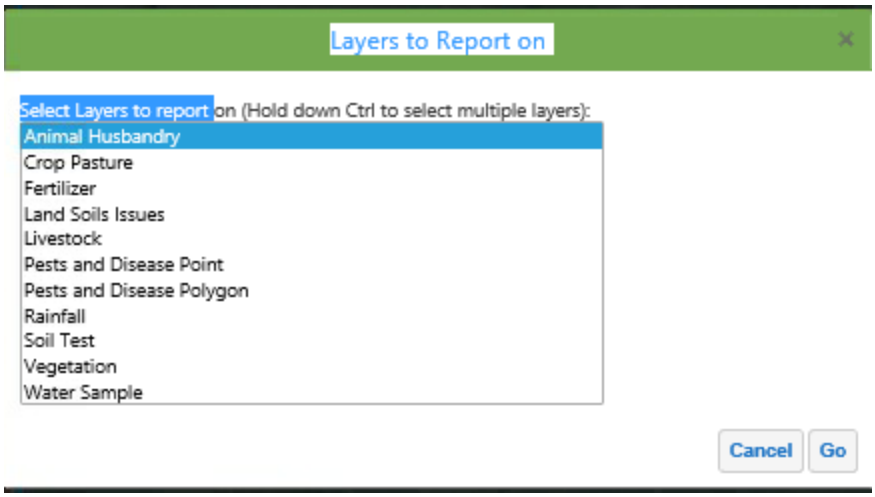

nrmFarm Editing
Paddock Information
Name: *
aa
Type: *
Arena
Established:
Comments:
Year:
Year Fin:
Update
Delete
Cancel
I want to...
Mount Havelock
Parawilla Gorge Rd
Parawilla Gorge Rd
Flinders R

Property Report Tools

The "Property Report" tool allow users to generate a report based on a chosen geometry. The process for producing both a property and paddock report is the same.

You can either select a point and place anywhere within your property of interest or select a rectangle or polygon and draw around the whole property.

You will then be asked to select features to report. Selections can be individual; groups (use control shift and left mouse key); or all (select top record, move to bottom record press shift key and whilst holding down, left click mouse button on bottom item).



You will then be asked to select dates for **start** and **end** of report.

Once complete press **search**. It will then process the report which can take some time.

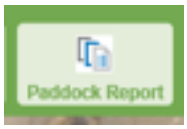
The report is generated as a pdf which can be viewed and saved.

It will provide a summary of all features within the overall propery and then generate individual reports for each paddock.

It is important to note that whatever image you have in background of map (i.e. aerial image or topo) will be displayed in reports.

The report tools are designed to list the area selected together with any related geometries that it contains. They will appear in sub-reports within the report. If the property does not contain any Paddocks then it will display a warning indicating this, however it will still generate a report, however it will have no related Paddock reports.

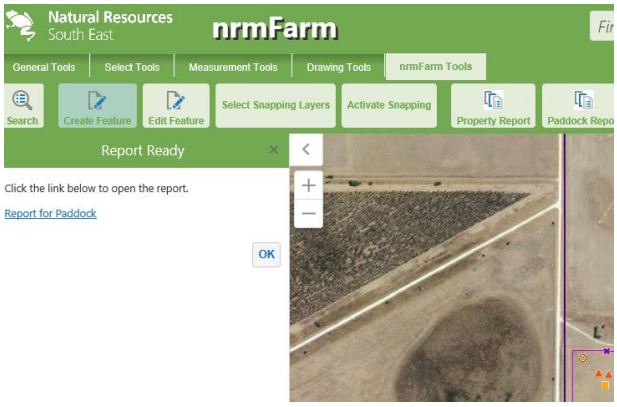
Paddock Report



Similar to property report place a point in paddock of interest.

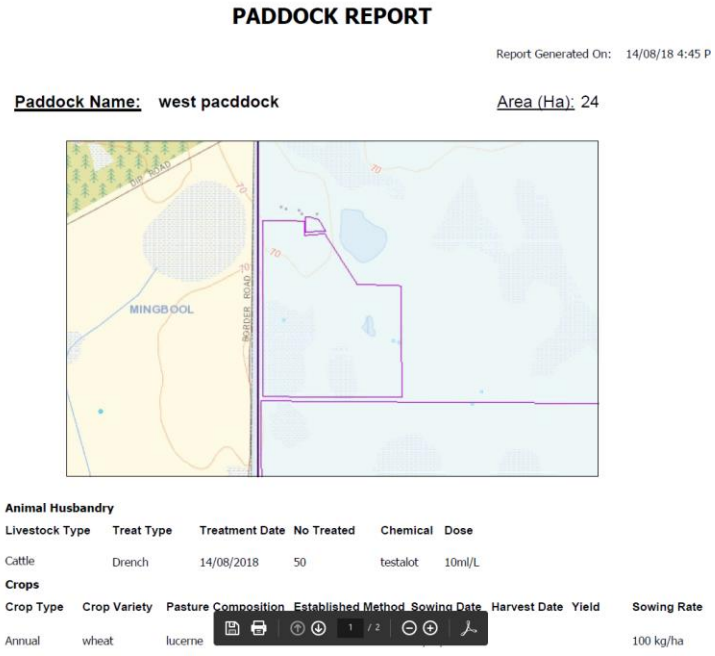
Select layers to report on and then choose date range. Once complete press **search**.

When ready there will be a hyperlink.



You can right click on it > select save target as > and save pdf to your computer or you can open by left clicking on link. You can view the pdf, print or save it.

This report will zoom into the paddock of interest. The base map image which you have displayed on screen will be displayed in reports. Below is an example of a topo image basemap and the first couple of features for that paddock.



PADDOCK REPORT

Report Generated On: 14/08/18 4:45 P

Paddock Name: west pacddock Area (Ha): 24

Animal Husbandry

Livestock Type	Treat Type	Treatment Date	No Treated	Chemical	Dose
Cattle	Drench	14/08/2018	50	testalot	10ml/L

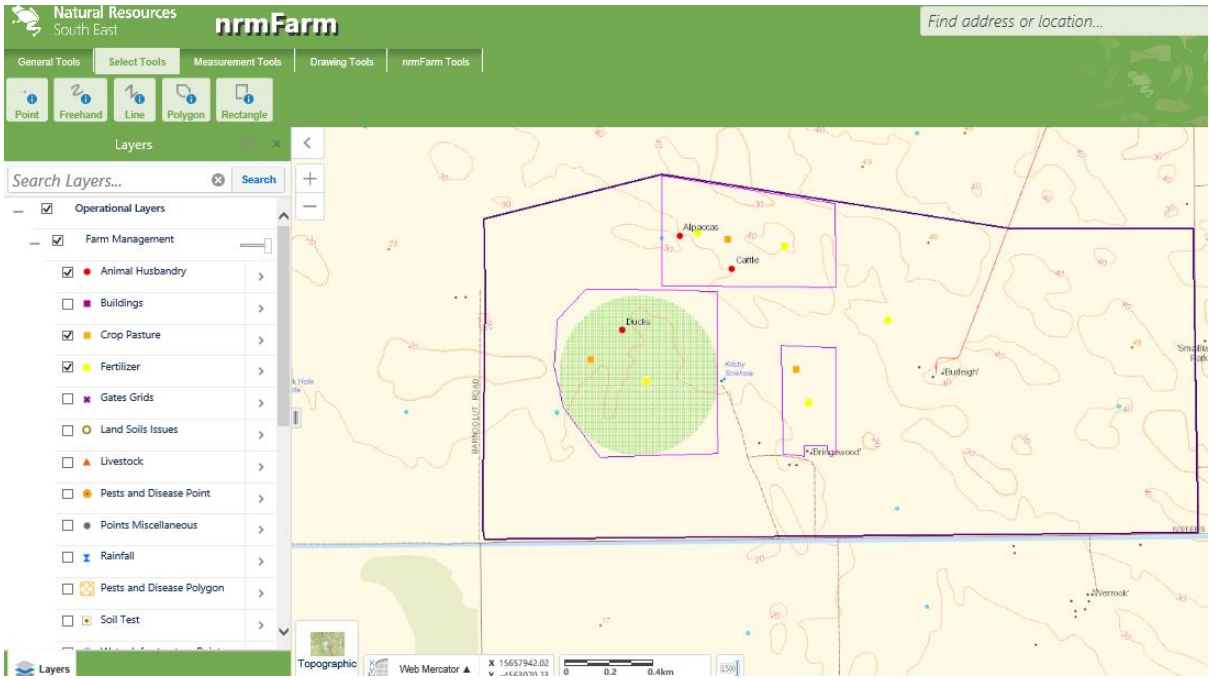
Crops

Crop Type	Crop Variety	Pasture Composition	Established Method	Sowing Date	Harvest Date	Yield	Sowing Rate
Annual	wheat	lucerne					100 kg/ha

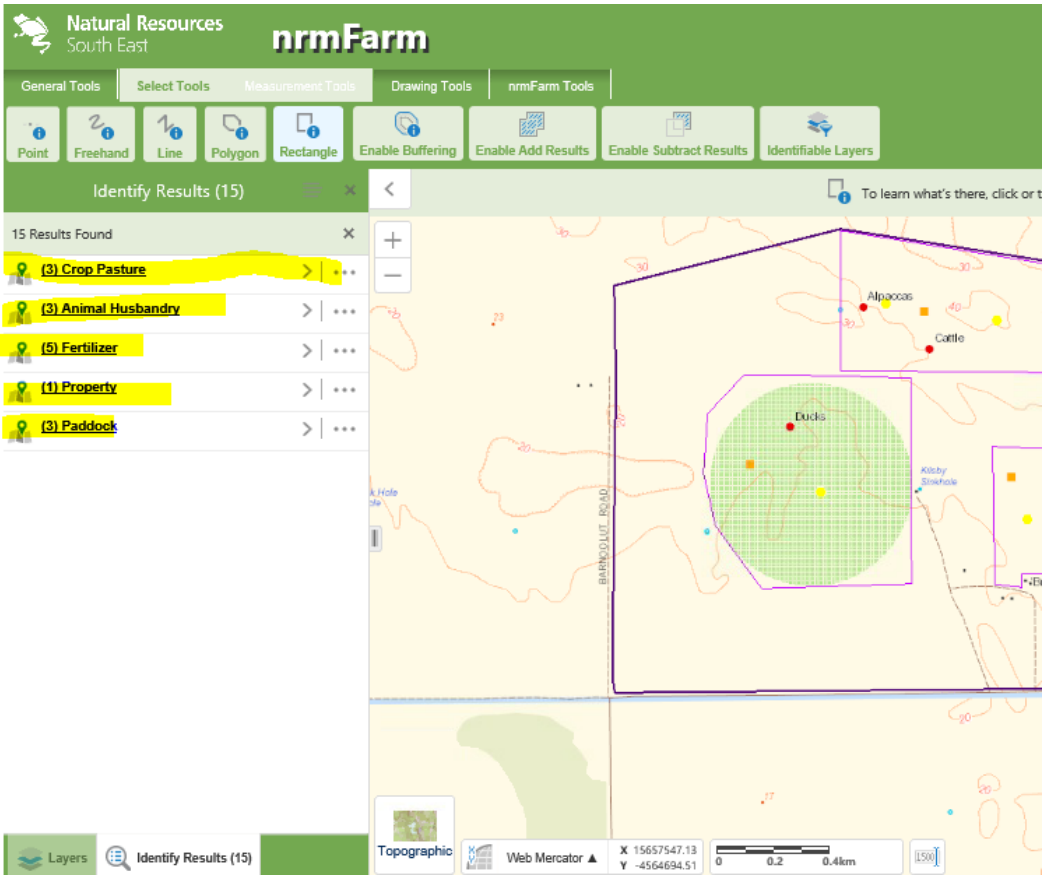
Export Selection Tool

The **Export Selection** tool allows the download of .xls or .xlsx files based on the current feature selection. You can do the same thing using the selection toolbar.

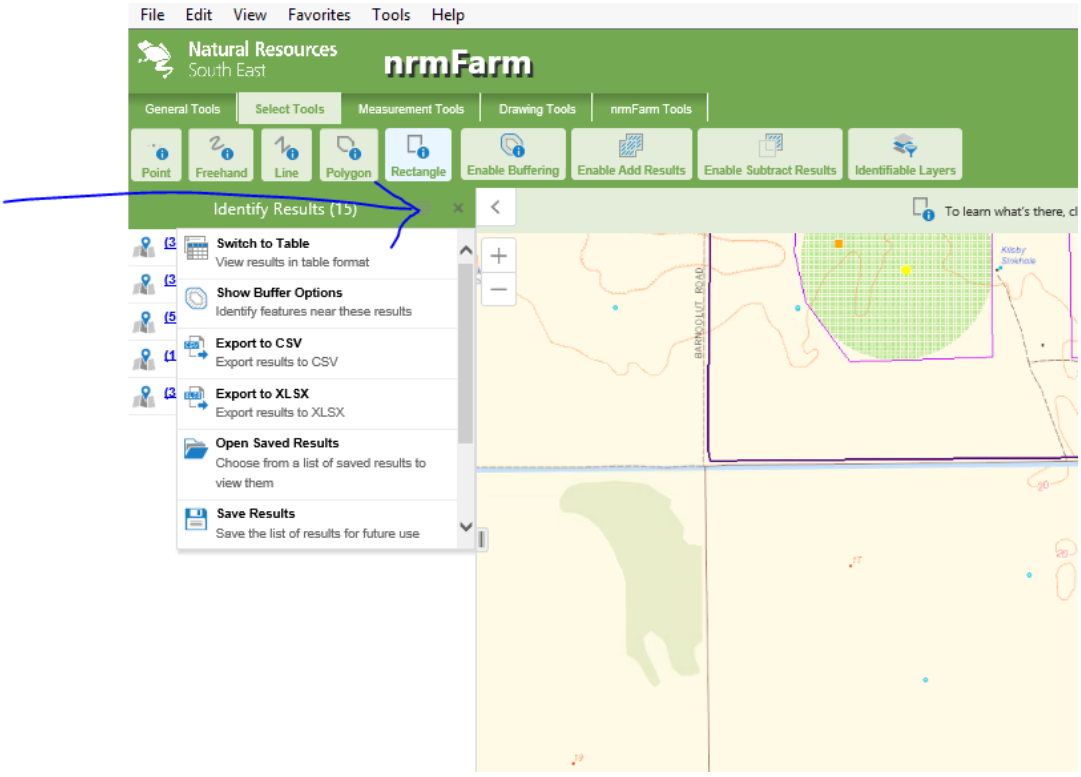
For “export to selection” to work you need to have the layers you want to get data back on turned on in the layer view. In the example below the Animal Husbandry, Crop Pasture and Fertiliser layers are turned on.



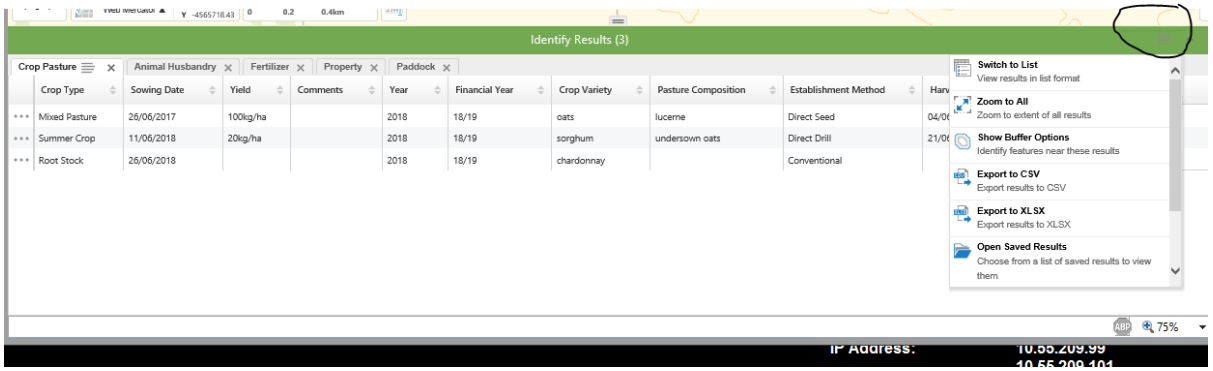
Use the select tool and **rectangle** selection to draw rectangle over whole property. This will generate results in the layer view. Results can be viewed individually by selecting the hyperlink e.g. those highlighted in yellow below.

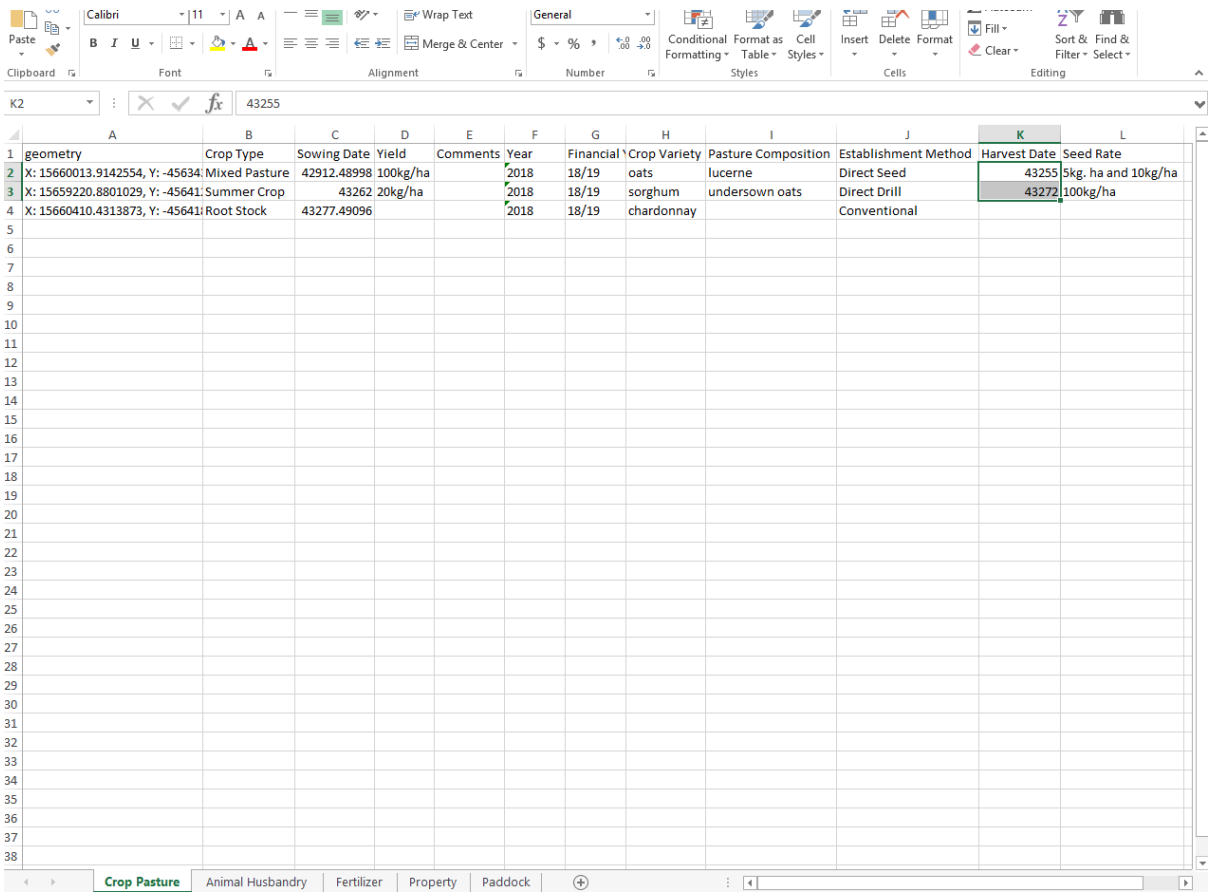


Or the results can be viewed in table form by left clicking on icon with 4 lines (horizontal) and choosing '"switch to table" option.



Which results in a tabbed table. If you select the 4 line icon again you can return to the previous view and export results to excel or you can export results to excel directly from the drop down list.





Note that dates come through unformatted. In this case select the column with dates. Right click mouse and select **format cells**, select **date** from category and select required date format from **Type** e.g. 14/03/2012.

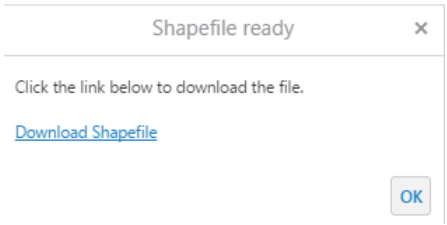
You then can format and review records.

Export to Shapefile

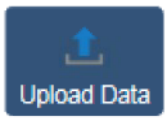
The "Export to Shapefile" tool allows users to export selected features to an ESRI shapefile.

To use the tool select the features you wish to export and click on the "Export to Shapefile" button.

This will process the features, create a zipped shapefile and will provide a download hyperlink (as shown below).



Upload File



The **Upload Data** Tool allows you to upload files containing spatial, coordinate or address data. The data is uploaded as a new feature layer, and can be interacted with as with any other layer. This includes support for identify, query and filter operations.

The uploaded data is only visible whilst the map is open, when the session ends the data is removed from the map.

Supported file types for upload include:

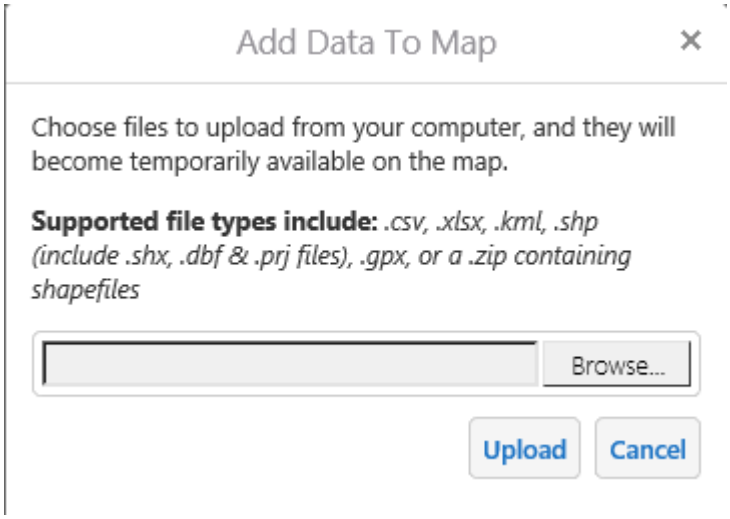
- .csv
- .xlsx
- .kml
- .shp
- .gpx
- .zip containing multiple shapefiles

Uploading Shapefile

To upload a shapefile, Select *Upload Data* option in the NRM Tools tab

The following screen will pop up:

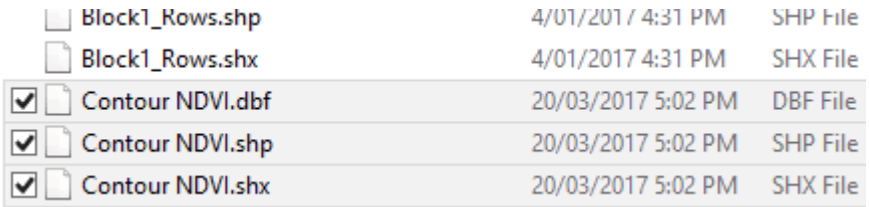
When uploading a single shapefile (.shp) you must also select all associated files, including .prj, .dbf, .shx etc.



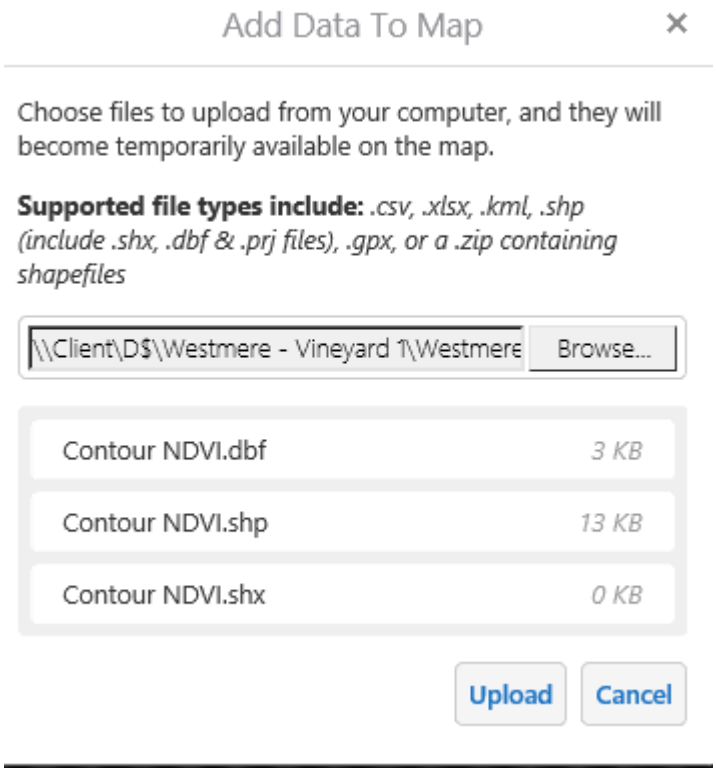
For the purpose of this help document we are going to upload a shapefile provided from Southern Precision relating to an NDVI measurement over a vineyard. NDVI stands for Normalised Difference Vegetation Index. It is measured remotely using airborne sensors. In this case NDVI is used to measure the greenness of a patch of land which may be related to productivity for a vineyard. No green leaves gives a value closer to zero and 1 indicates highest density of leaves.

Browse to where the shapefile is stored and select all files relating to the shapefile. A shapefile is a format used for GIS and stores information about projections / coordinate systems, data and shapes of data captured i.e. points, lines and polygons. It has three mandatory files with the filename extensions .shp, .shx and .dbf.

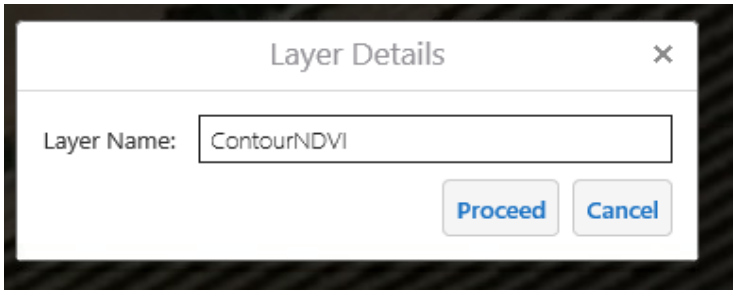
In the example below the .shp, .shx and .dbf extensions are selected for Contour NDVI.



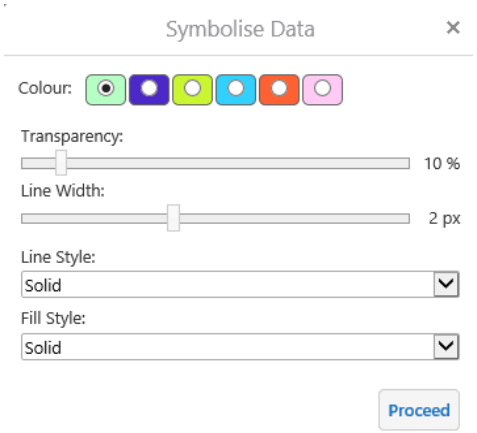
Select Open and you will be presented with the following pop up



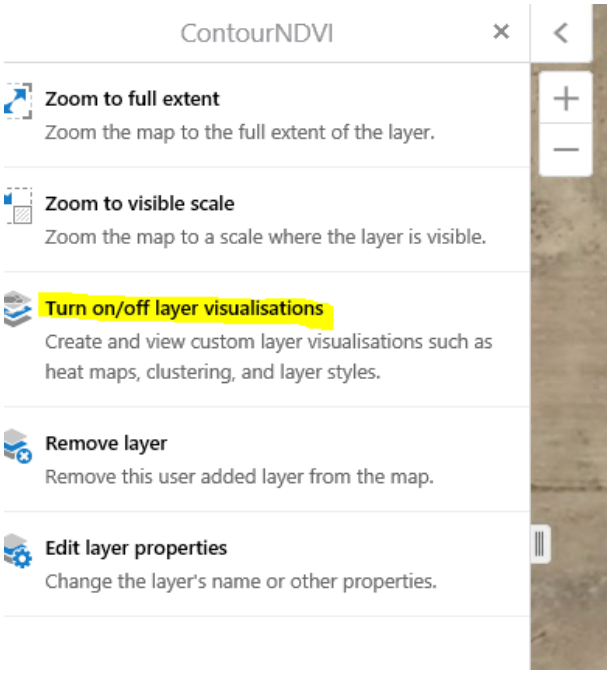
Select upload after which you can change the layer name or keep as is.



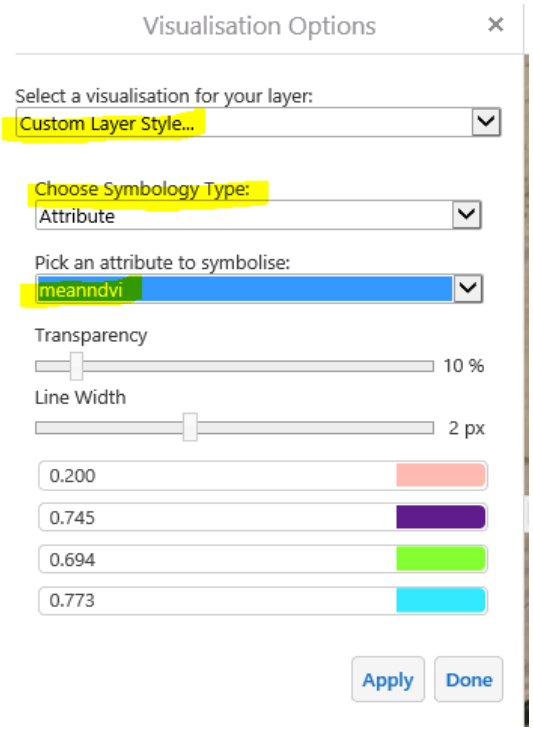
Then select proceed. You will then have the opportunity for symbolizing your data. For this example, leave the symbology options as default and the layer will be added to your map after you select Proceed.



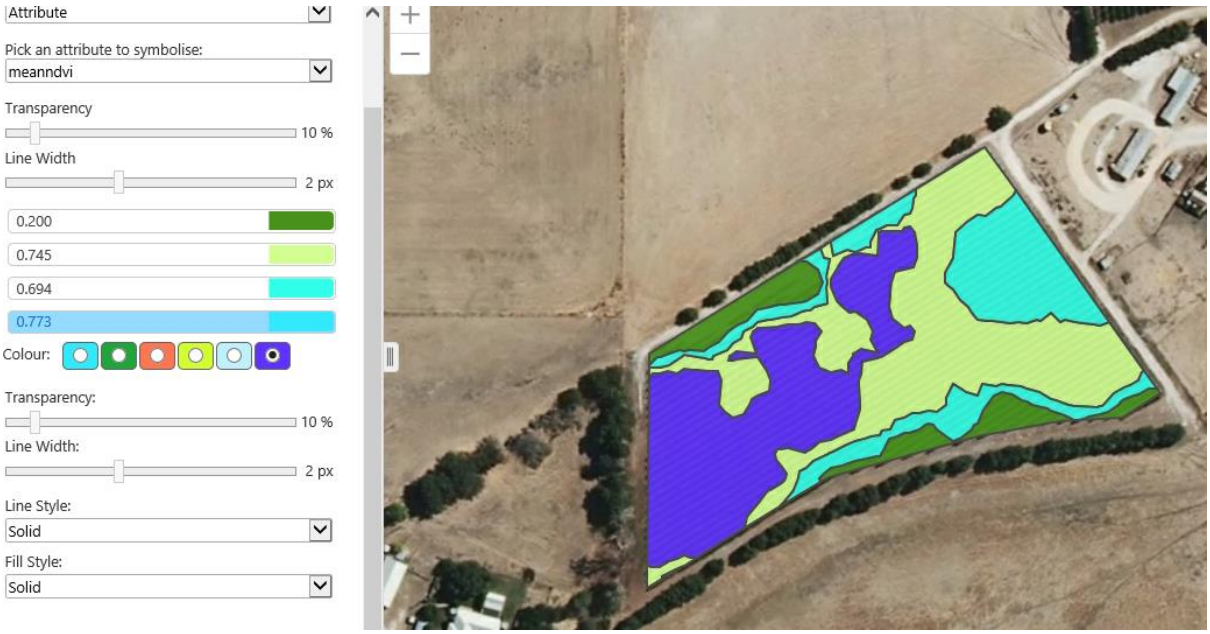
Symbology can then be customized by left clicking mouse on arrow to right of file in layer contents and selecting “turn on / off layer visualisations”. In this particular file the attribute Mean NDVI contains data about the paddocks productivity.



In this example you will select Custom layer style, attribute as symbology type and Mean NDVI as the field with the values or data. The values are illustrated below and range from 0.2 to 0.773.

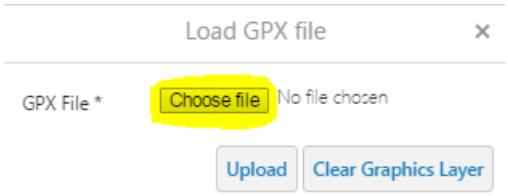


You can adjust the colours of the values to whatever suits. In this case the values were changed from red to blue with red indicated a value close to zero and blue indicating a value close to 1. Therefore in this case blue is more productive.

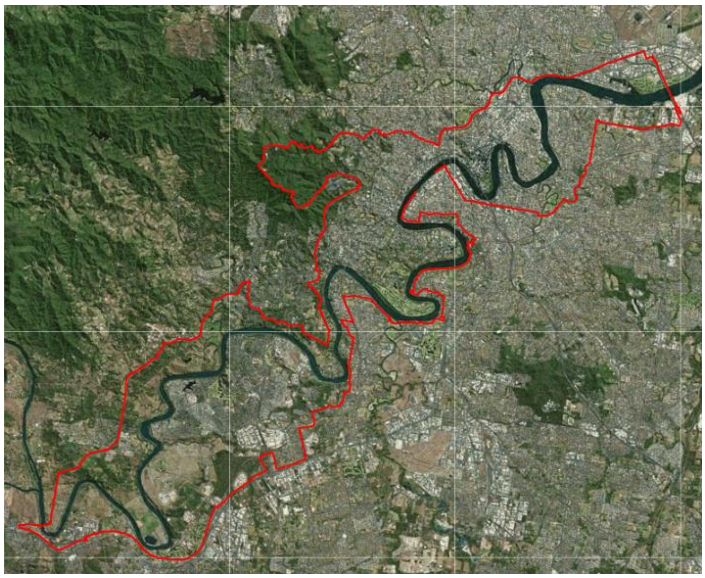


Upload GPX

The "Upload File" tool allows users to overlay **.gpx** files on the map. To use the tool click on the toolbar button, choose the .gpx file by clicking on the "Choose file" button (see below)

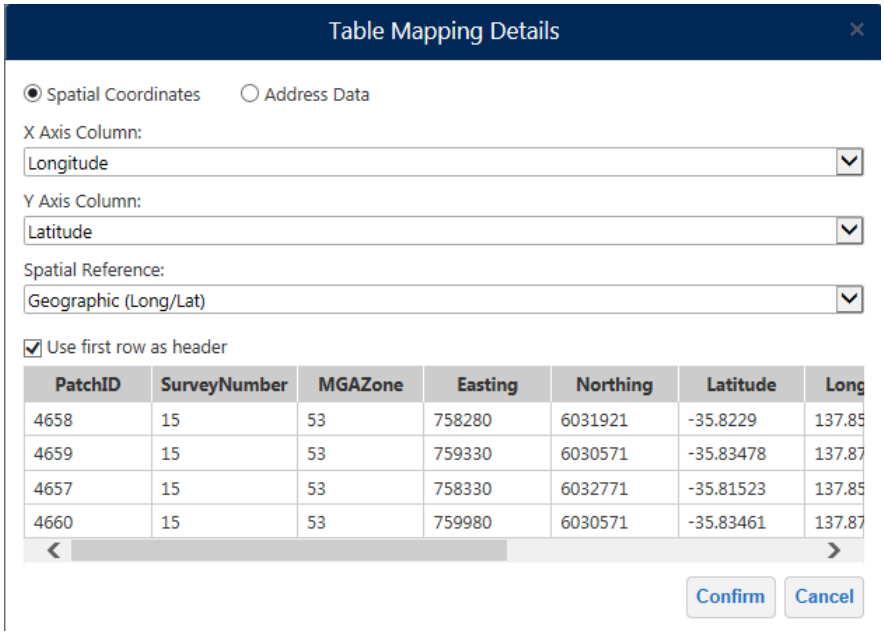


Once a .gpx file has been selected click on the "Upload" button to display the selected file in your map. Below is an example of how a .GPX file appears on the map.

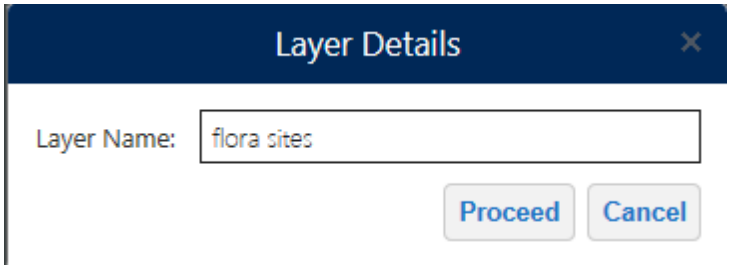


Upload CSV or XLS

Click **Browse** to find the file for upload, then click **Upload.** Select the X and Y axis columns and the appropriate Spatial Reference, then click **Confirm**

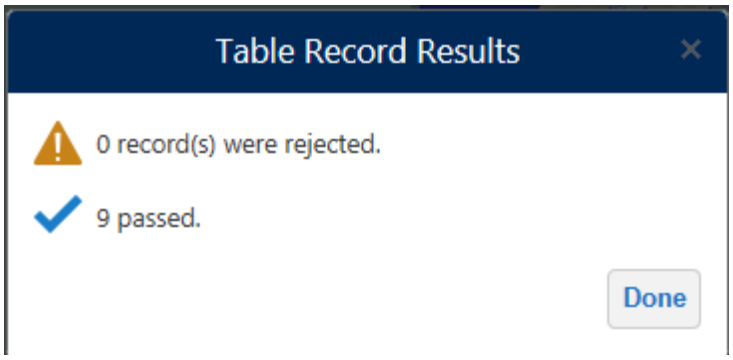


Enter the desired Layer name, then click **Proceed**

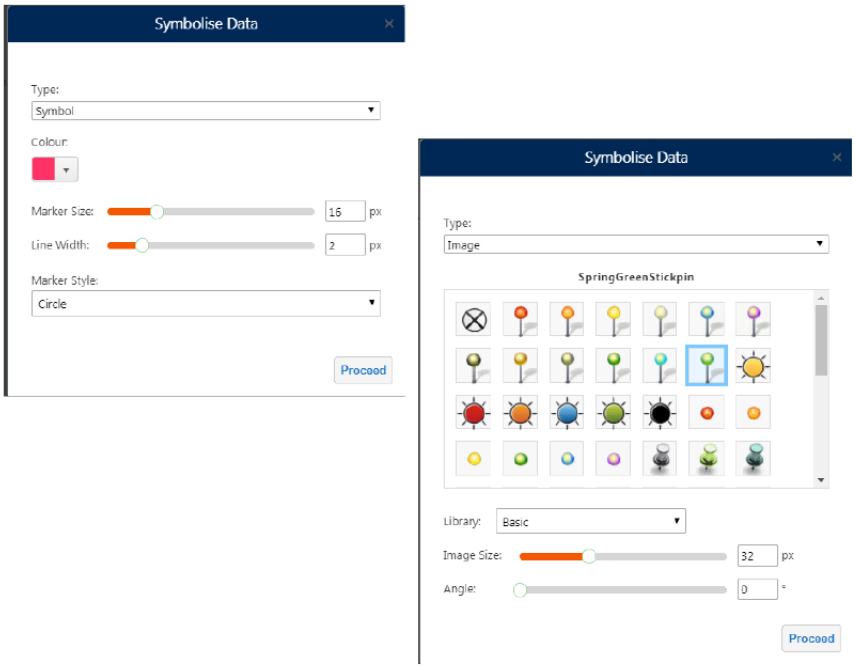


A dialog box will appear, stating how many records will be mapped and how many have been rejected e.g. Due to missing coordinates.

Click **Done**

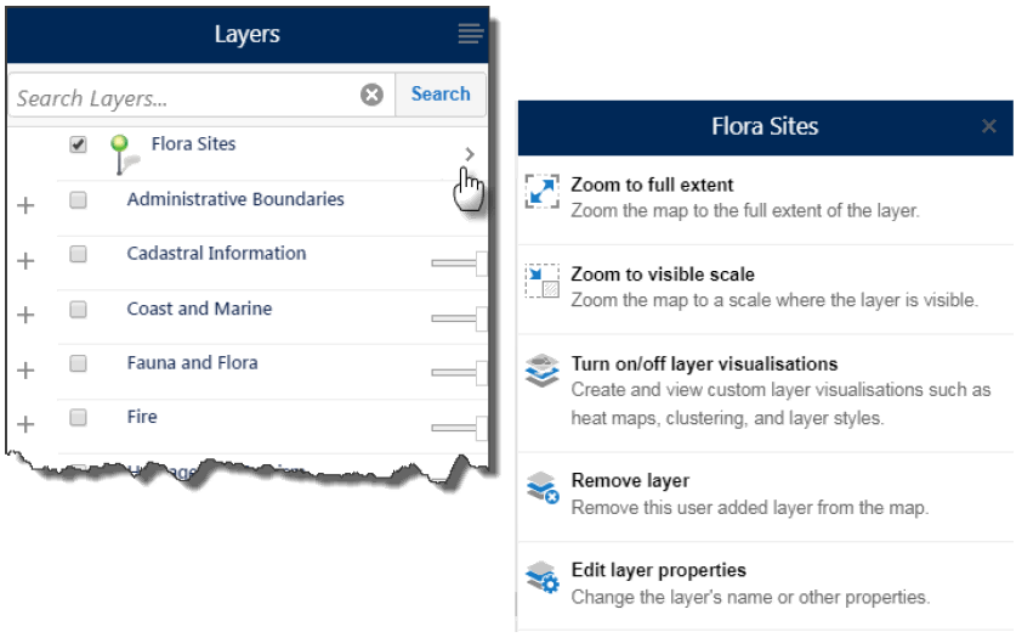


Select the desired styling, then click **Proceed**



The uploaded file is then displayed on the map

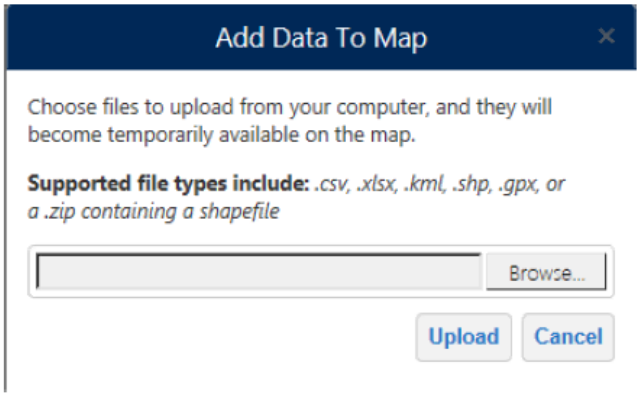
You can edit the uploaded Layers symbology and properties from the Layer Action Panel



Uploading a kml

Uploading a KML

Click **Browse** to find the file for upload, then click **Upload**



Enter the desired Layer name, then click **Proceed** and symbolise appropriately**.**

Additional Tools

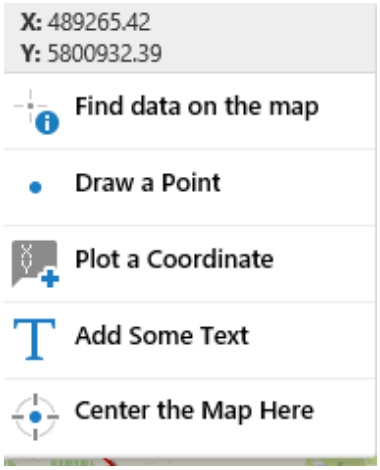
Plot a Coordinate

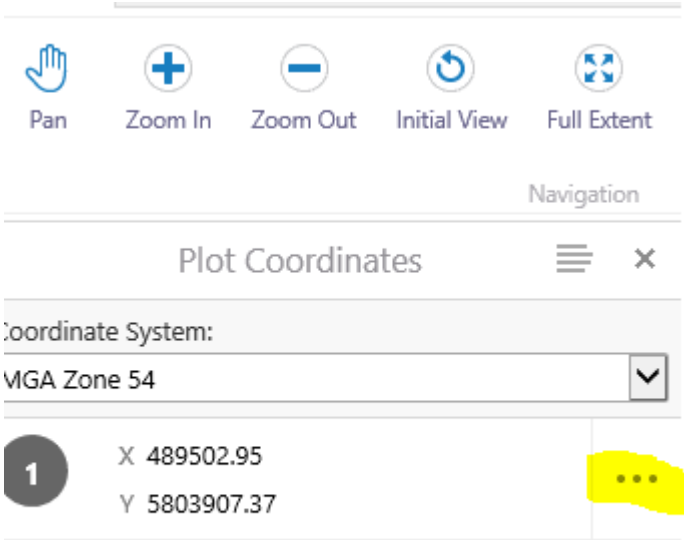
To Plot a coordinate

Make sure coordinate tab is in required units / datum / projection e.g. MGA Zone 54

In this example you have a report of smoke at easting 490350 and northing of 5801354

Right click mouse button, anywhere in the map, and then from the following pop up window, select plot a coordinate.





And then press the 3 dots, select edit and enter the easting (6 digit) 490350 and northing (7 digit) 5801354, and select update

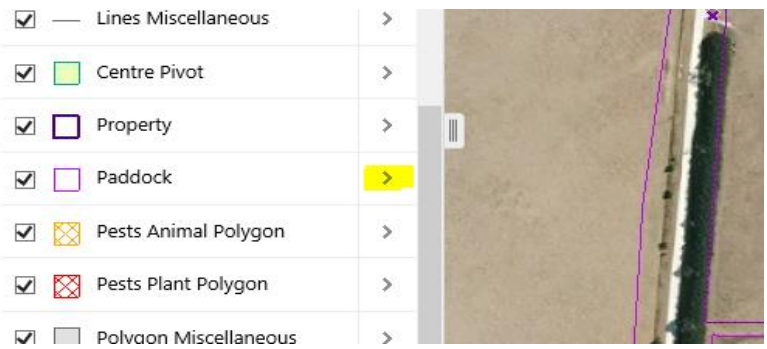
To erase – go to Tools….select Erase…select erase and then click on graphic

Add Text

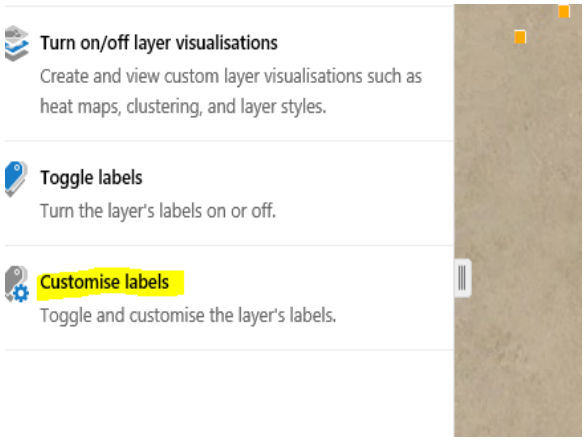
Right click anywhere in map and select *Add Some Text*

Label Features

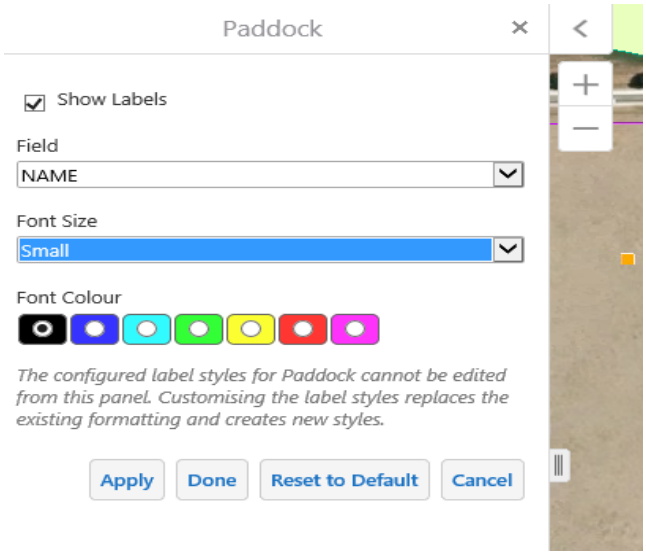
In this example you can add Paddock labels by clicking on the > to the right of the Paddock layer in the Table of Contents



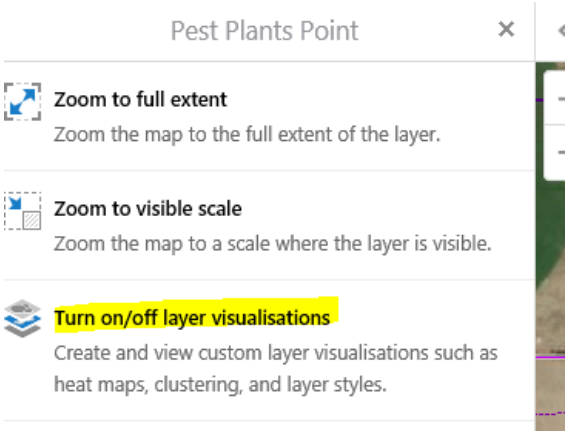
After which select *Customise labels*



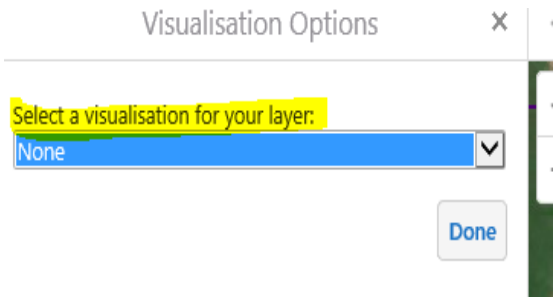
Tick *Show Labels* and Select the field you want labelled from the *Field* attribute, then select apply.



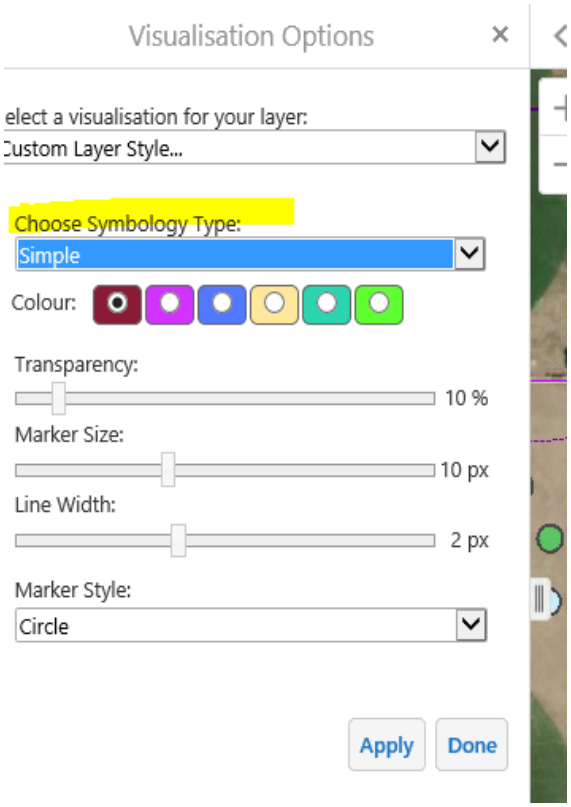
You can also change symbols based on attribute e.g. for the layer Pest Plant Points, *select turn on / off layer visualisations.*



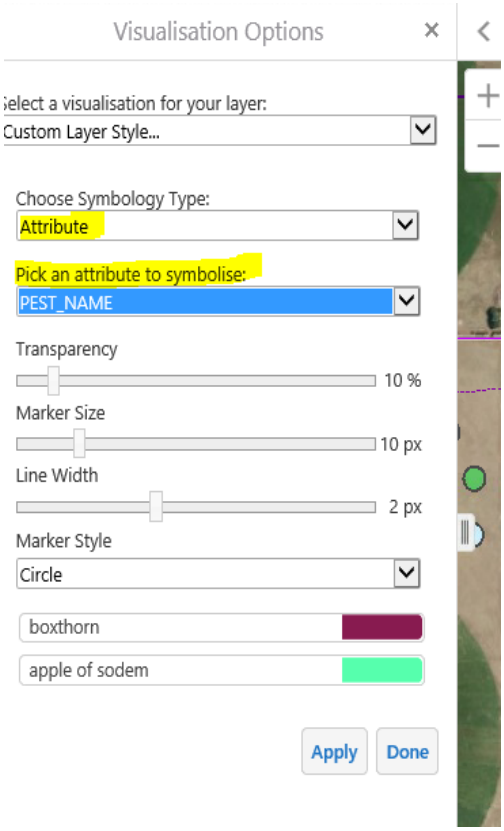
Select None to turn off



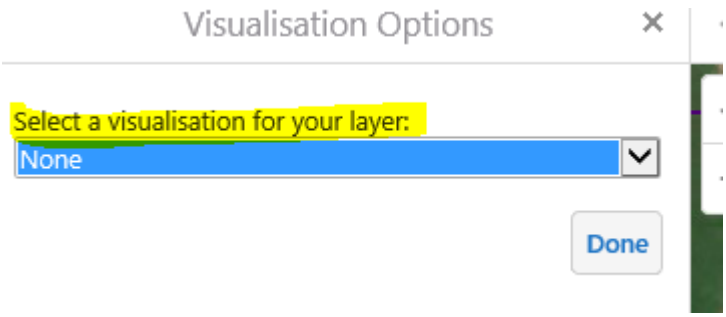
or Select custom layer style.. Then if you want to change symbols by attribute select attribute in drop down box for Choose Symbology Type.



In this case the Pest_Name attribute is chosen. You can also change symbol colour and style. When finished select Apply and Done



Remember, when you want to return to standard symbology you will need to go back and select *None* in drop down for *Select a visualisation for your layer*.



For Further Assistance

Contact your Regional NRM Office