Chapter 21: Linear Features

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21.0 Linear Features

Linear Features are drawn to highlight the spatial location of Cultural Boundaries, Woodland Edges, Transport links, Recreation features, Hazards and Water Features.

21.1 Create Linear Features

In the Data Editor choose Line Features from the Layer drop down menu and then Create from the Task menu.

Select the [pencil button] button and click on the screen to highlight the location of the line. Ignore the Feature Construction pop-up box.
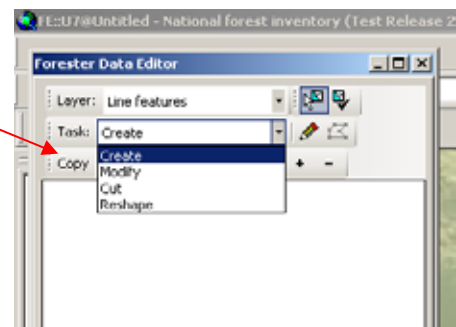
Double click to complete the line. Within the Data Editor window Data Fields will appear.

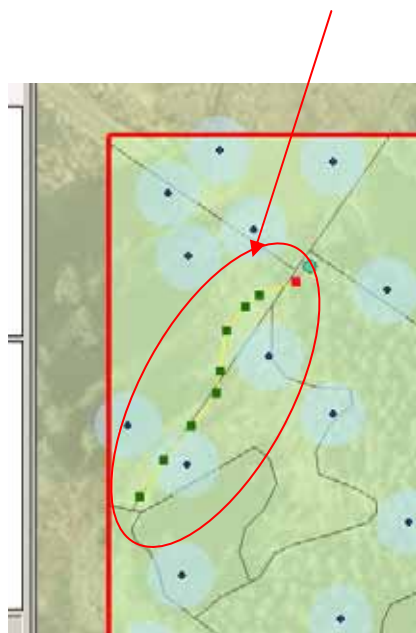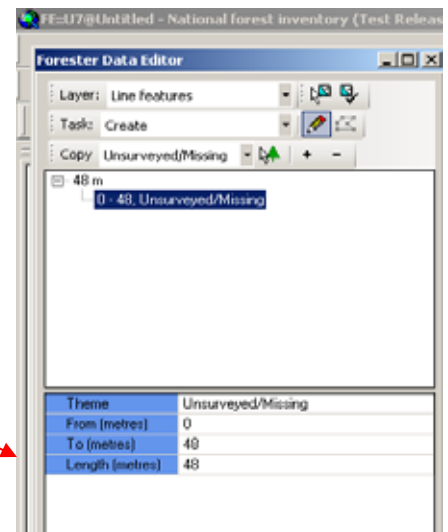A Linear Feature can denote a single or multiple Themes along a line. By changing the 'From' and 'To' Data Fields along the length of the Linear Feature different Themes can be allocated to a single line along different parts of the length. For example, a wall and a fence may share the same line in parallel or first one half and then the other.

Linear Features can be Added, Deleted, Zoomed To and Panned To by right clicking on the Feature length in the Data Editor window. Delete, Zoom To and Pan To can also be accessed by right clicking on the Linear Feature information.
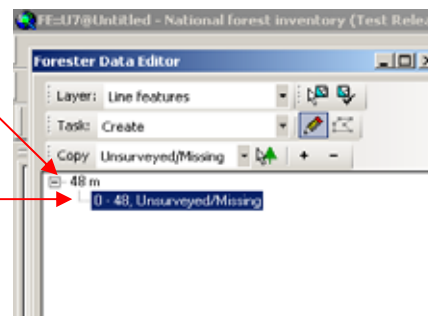
21.2 Theme Data

21.2.1 Initial Data Fields until Theme is chosen

Table 21 - 1: Linear Features Themes Data Fields

Data Field	Options	Comments
Theme	• Unsurveyed/Missing	• The line has been recorded, e.g. from map data, but not surveyed and no Theme added.
	• Cultural Boundaries • Woodland Edge • Transport • Recreation • Hazards • Water Feature	• Choose appropriate theme.
The next 3 Data Fields relate to where, on the Linear Feature, a Theme is.		
From (metres)	Set by the software initially but can be changed by surveyor	Change the value either using the Set buttons, the pen or by free text.
To (metres)	Set by the software initially but can be changed by surveyor	Change the value either using the Set buttons, the pen or by free text.
Length (metres)	Calculated by software	Do not change this value

21-4 **Remember to Save your Edit Session Regularly, Validate the information and Backup the Data**   Save Edits   **Last printed 6/6/2014 10:39:00 AM**

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21.2.2 Common Data Fields for all Themes

If a Theme other than Unsurveyed/missing is chosen the following data Fields appear:

Table 21 - 2: Theme Common Data Fields

Data Field	Options	Comments
Visit Status	• Unvisited	• The line has been drawn from map data but not visited yet
	• In progress • Completed • Refused Access • Inaccessible	In progress can be used if surveyor needs to leave the site before completing data entry (e.g. it gets dark before completion)
Reason for Change	• No change • Real change • Error change	• For use in the 2nd NFI • For use in the 2nd NFI • A change in the data due to an error found by IFOS
	• Spatial error	• As above but a Spatial error
	• 1st Assessment	• The normal Reason – the 1st assessment of the site
	• Original	• Unchanged data from IFOS

21.2.3 Cultural Boundaries Theme

Table 21 - 3: Cultural Boundaries Data Fields

Data Field	Options	Comments
Event Category	• Fence (internal or external)	• Any type of fence unbroken along its length but can be in good to very poor repair. If fence is broken map separate lengths. NB: Electric and Barbed wire fences also come under Hazards and should be assessed as both.

	• Wall	• As above but any type of wall
	• Hedge	• A hedge or hedgerow is a line of closely spaced shrubs and tree species, planted and trained in such a way as to form a barrier or to mark the boundary of an area.
	• Avenue	• Traditionally, an avenue is a straight road with a line of trees or large shrubs running along each side
	• Ditch	• A ditch is usually defined as a small to moderate depression created to channel water.
	• Woodbank	• A feature often associated with a ditch that in the past had a wall or hedge on top to keep grazing animals out.
	• Earthworks	• In archaeology, earthworks are artificial changes in land level often known as 'lumps and bumps'.
	• Historic (old) Pollarding	• Evidence of old pollarding. Pollarding is a pruning system in which the tree is cut back (tree stem or minor branches removed) above the browse line as part of management. This pruning encourages lateral branches and is normally done two or three metres above ground level.
Type	Choice is dependent upon Event Category:	

	Fence	
	• Deer	
	• Phesant pen	
	• Electrical	
	• Security fencing	
	• Stock	
	Wall	
	• Stone	
	• Brick	
	Hedge	
	• Dead Hedge	
	• Hawthorn	
	• Beech	
	• Mixed	
	• Ancient	
	• New	
	Avenue	
	• No 'Type' choices	
	Ditch	
	• No 'Type' choices	
	Woodbank	
	• No 'Type' choices	
	Earthworks	
	• No 'Type' choices	
	Historic (old) pollarding	
	• No 'Type' choices	

21.2.4 Woodland Edge

Where a Treed Section is adjacent to an Open Section (whether within or without the NFI external map boundary) which has a minimum mean width of 20m (including going outside the Square boundary) then a description of the woodland edge between the two Sections is required.

Table 21 - 4: Woodland Edge Data Fields

Data Field	Options	Comments
Event Category	• Abrupt Edge • Tapered By Height • Variable Density Ecozone	See below for details

21.2.4.1 Abrupt Edge

An Abrupt Edge is defined by an abrupt change from Treed to non-treed. Ideal examples of this are a treed section next to an agricultural field or a treed section adjacent to a public highway.
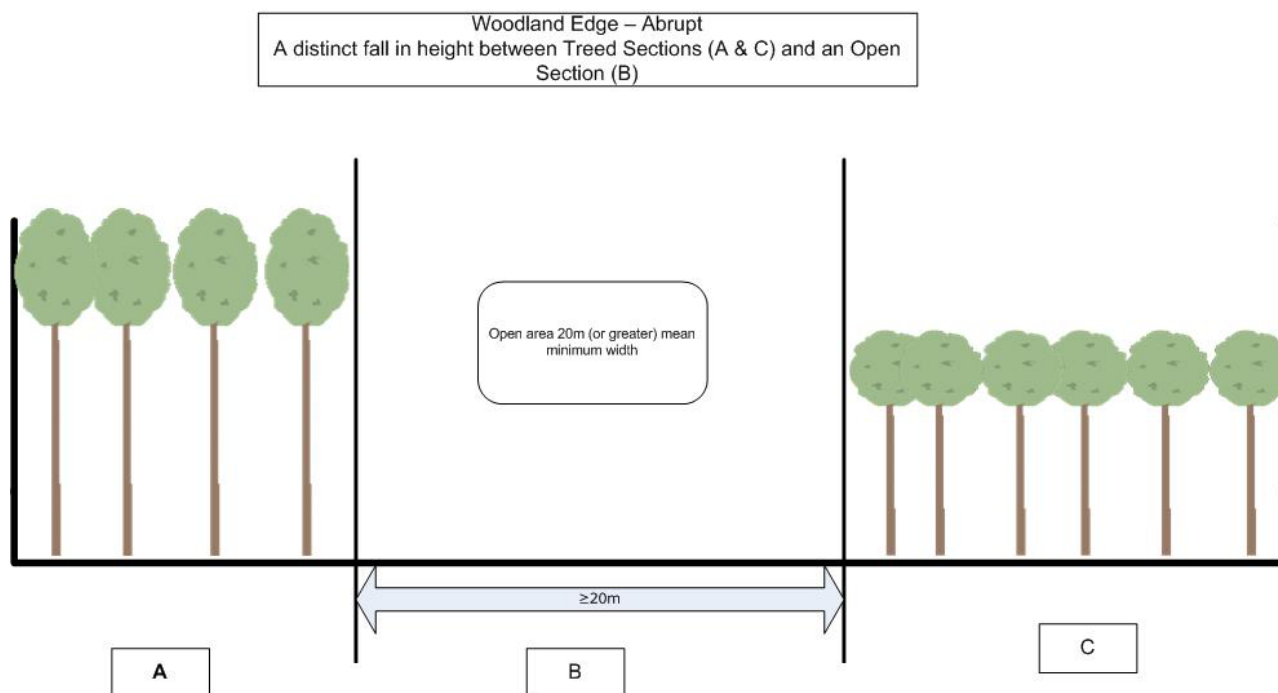
Figure 21 - 1: Woodland Edge - Abrupt

21.2.4.2 Tapered by Height

The boundary between the Treed Section and Open Section is less abrupt and gradually reduces moving from the treed section into the open area. An example would be natural regeneration spreading from the Treed Section out into an open area.
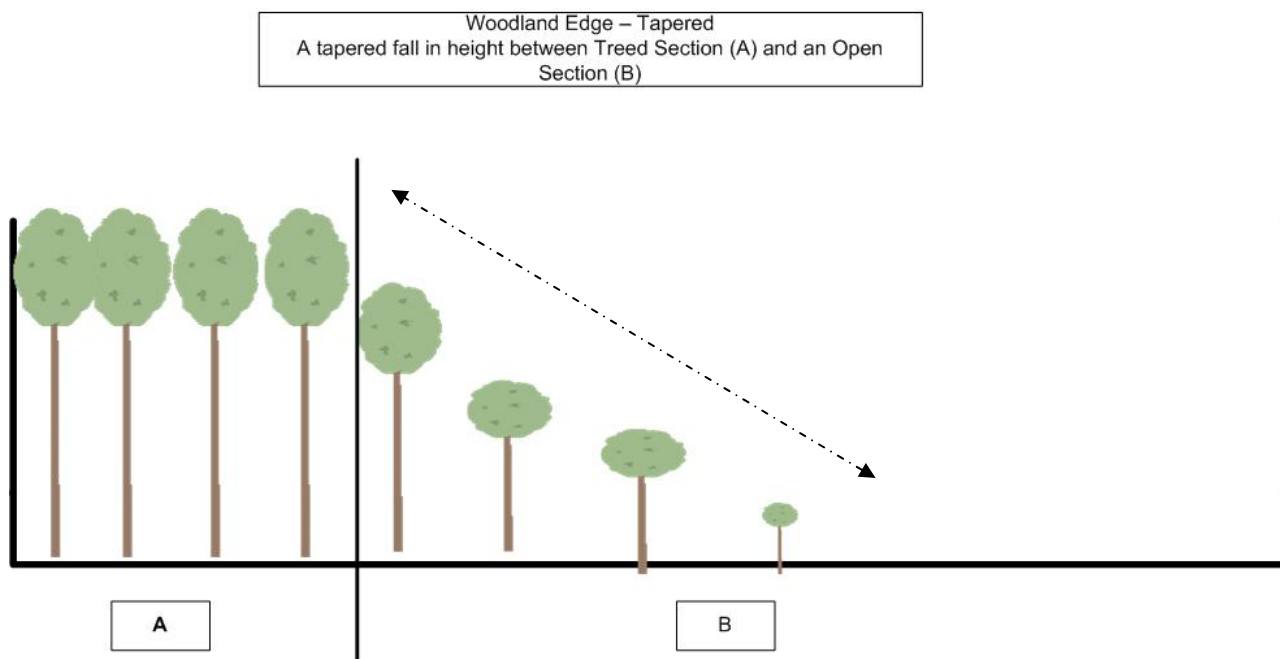

Figure 21 - 2: Woodland Edge - Tapered

21.4.2.3 Variable Density Ecozone

The fall in height from the treed section to the open section is more varied and tree heights do not decrease as regularly moving away from the Treed Section as in the Tapered Woodland Edge.
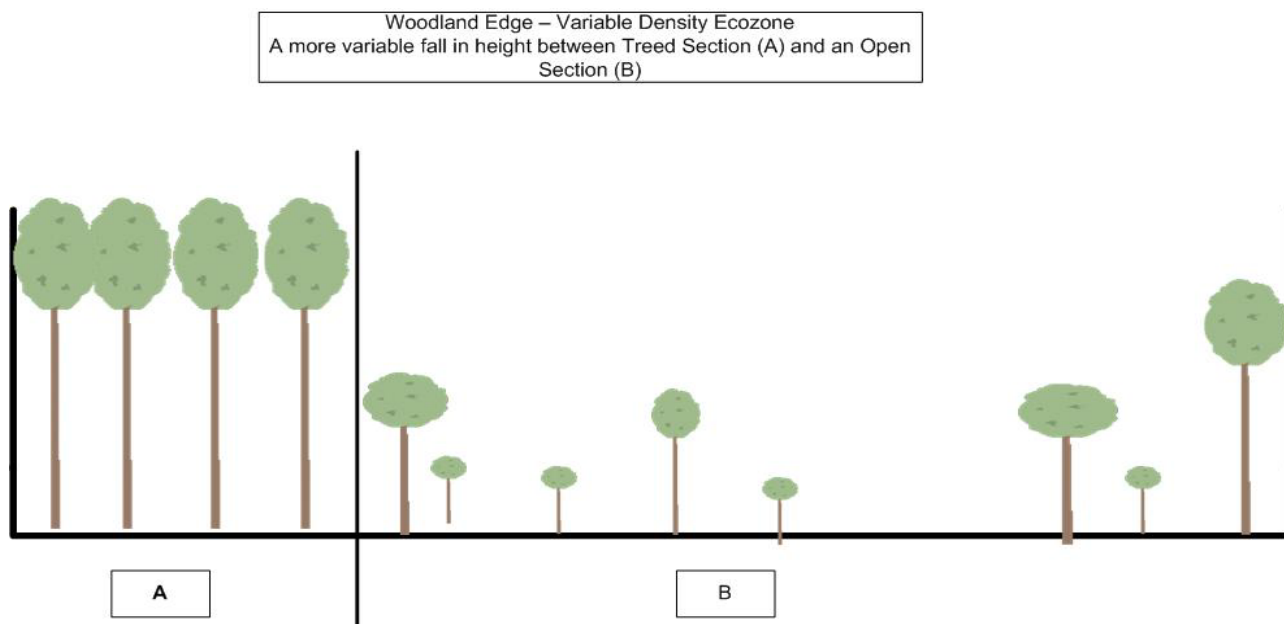

Woodland Edge – Variable Density Ecozone
A more variable fall in height between Treed Section (A) and an Open Section (B)

A   B

Figure 21 - 3: Woodland Edge – Variable Density Ecozone

21.2.5 Transport

Table 21 - 5: Transport Data Fields

Data Field	Options	Comments
Event Category	• Public Road	• A road over which the public has the right of access. Also includes Private roads.
	• Railway	• A railway track of any gauge
	• Public greenway	• A greenway is a historical right of way for any persons or vehicles usually denoted by a lack of surface, often used for recreation and pedestrian and bicycle traffic
	• Forest Road - sealed surface	• A road through the forest for use by the owner and workers – tarmacadamked

	• Forest Road - unsealed surface	• As above but metalled not tarmacadamked
	• Ride sealed surface	• Rides are often vegetated, un-metalled or un-surfaced corridors often giving access to or through a forest. They also include de-classified CAT 1A roads that are no longer maintained but still surfaced.
	• Ride unsurfaced	• Rides are vegetated, un-metalled or un-surfaced corridors often giving access to or through a forest.
	• Extraction rack – Dozed	• A dozed path through the forest that is used to extract timber (assign Linear Feature to the main Rack only)
	• Extraction rack	• A path through the forest that is used to extract timber (assign Linear Feature to the main Rack only)
	• Soil damaged and compacted through Ops.	• Soil that has been obviously damaged (e.g. deep ruts) and/or compacted by forestry vehicles
Road Width	Widths in 2m increments, e.g. 0-2m, 2-4m….	• Choose most appropriate for the mean road width within along the linear feature

21.2.6 Recreation

Table 21 - 6: Recreation Data Fields

Data Field	Options	Comments
Event Category	• Public Right of Way	• Footpaths, bridleways and byways which give members of the public the right to travel across land.
	• Informal Path	• Where people walk but there are no formal signs etc.
	• Formal path	• A planned and created pathway
	• Outdoor education	• Any linear outdoor education facility

	activity	
	• Off-road motorcycle tracks	• Tracks for off-road motorcycles
	• Bridleway	• A track along which the public have a right to walk or ride horses.
	• Cycle way	• Segregated cycle facilities are roads, tracks, paths or marked lanes designated for use by cyclists from which motorised traffic is generally excluded
	• Path with Way markers	• A path with markers to guide users along routes.

21.2.7 Hazards

Table 21 - 7: Hazards Data Fields

Data Field	Options	Comments
Event Category	• Powerlines overhead	• Self explanatory
	• Powerlines underground	• Self explanatory
	• Gas lines underground	• Self explanatory
	• Telephone lines overhead	• Self explanatory
	• Cliff	• Self explanatory
	• Steep ground	• A slope of ≥33% (≥18°)
	• Other Hazard	• Any other hazard
	• Scheduled Monument	• Self explanatory
	• Mine area	
	• No Go Area	• Self explanatory
	• Working quarry	• Self explanatory
	• Abandoned quarry	• Self explanatory
	• Dangerous scree/boulders	• Self explanatory
	• Electric fence	• Self explanatory
	• Barbed wire fence	• Self explanatory
Comments (if Other Hazard chosen in Event Category)	Free text	Make a note on what the hazard is.

21.2.8 Water Feature

Table 21 - 8: Water Feature Data Fields

Data Field	Options	Comments
Event Category	• Ditch/Drain	• The Main Ditch/Drains in a Section
	• Stream	• A stream is a body of water with a current, confined within a bed and stream banks. For the NFI the mean width of the stream along its mapped length must be <5m.
	• River	• A river is a natural watercourse, usually freshwater, normally flowing toward an ocean, a lake, or another river. For the NFI the mean width of the river along its mapped length must be ≥5m.
	• Canal	• Canals are human-made channels for water. There are two types of canal: I. Aqueduct (or water conveyance) canals that are used for the conveyance and delivery of fresh water, for human consumption, agriculture, etc. II. Waterway canals that are navigable transportation canals used for carrying ships and boats loaded with goods and people, often connected to existing lakes, rivers, or oceans
Water Feat. Width	Widths in 1m increments e.g.:0-1m, 1-2m… Up to: • 20m+	Estimate the MEAN width of the Water Feature over its mapped length.
Water Feat. Depth	• Depths in 1m increments, up to 5m+, plus • Dry	Estimate the MEAN depth of the Water Feature over its mapped length on the day of the assessment.

For Streams, Rivers and Canals the following also have to be completed		
Contaminants	• None • Woody harvesting and fallen tree debris • No list A, possibly min. list B litter present • Traces of list A and/or occassional List B • List A widespread & / or occassional or widespread List B	• Self explanatory See below for LIST A and B contaminants
Tree Shading %	Free text (numerical)	What proportion of the feature is shaded by trees.

21.2.8.1 Contaminants list

Table 21 - 9: Water contaminants list

List A contaminants	List B contaminants
Sewage derived litter and solids, including - faeces - toilet paper - contraceptives - sanitary towels - tampons - cotton buds Oils Non natural foam, scum or colour Sewage fungus Sewage or oily smells	General non sewage derived litter Builders waste Gross litter, including - shopping trolleys - furniture - motor vehicles - road cones - bicycles/prams