

# Survey Lines



## Rationale:

This tool creates a continuous survey of tracklines at a given azimuth and spacing to cover a user-defined area. Output consists of two vector shapefiles; one showing the trackline and one consisting of the waypoints to be used. An input polygon gives the area to be covered but the user can define whether the waypoints are on the edge of the area (giving coverage outside the area) or can be slightly inside the boundary as the swath will be wide enough to get to the polygon edge.

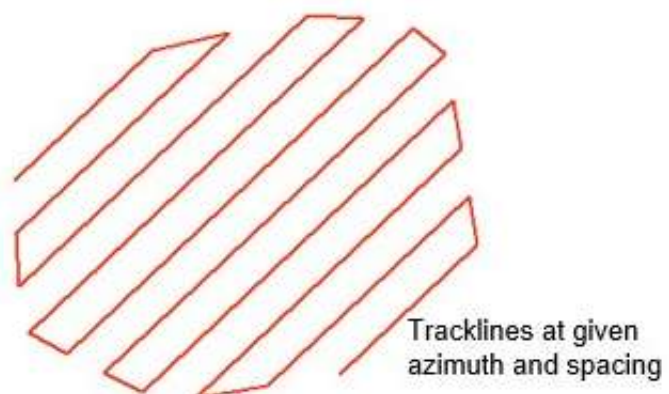
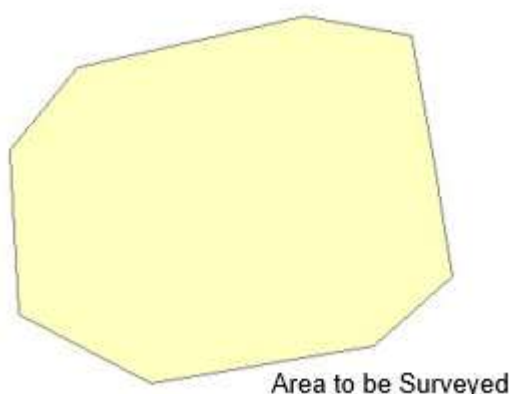
## Usage:

There are several parameters required for this tool:

- A polygon shapefile of the area to be surveyed. A simple polygon is best (e.g. rectangular but can be any shape or complexity. Concave edges may result in survey lines outside the area unless specified to be kept inside the polygon. In these cases the survey lines may not always be the most efficient.
- Direction (azimuth) of the survey lines – defined as 0 being North/South, 90 being East/West. Values should be (0.0 to 179.99). Default value is 0 but the user can change this as desired.
- Line spacing in metres. Default value is 100m but the user can change this as desired.
- The “Outside area coverage” tick box allows the waypoints to be on the polygon edge rather than within the area by the width of the swath (being half the line spacing).
- The “Start at far end” tick box reverses order of the output waypoints shapefile
- The “Reverse lines” tick box changes the start point of each main line so that the survey is flipped.
- The “Allow concave shape” tick box when ticked stops coverage lines in the concave area of the polygon. Useful when going round islands.

Outputs are two vector shapefiles and have default filenames and put in the same directory as the is the area polygon shapefile. The waypoints filename has “\_wayPoints” added to the name, and the survey lines filename has “\_surveyLines” added to the name. Format outputs are .shp (plus its associated companion files).

Example:



The wayPoints file has latitude and longitude values in the attribute table that can be copied and used in other software (such as Excel or Word), and then used for ship navigation systems.

The surveyLines file has a length of survey in metres in the attribute table.