

# Environmental Standard Operating Procedure

<b>ESOP Name</b>	Fen harvester cutting
<b>ESOP Number</b>	28
<b>Revision Date</b>	22/02/2024
<b>Related ESOPs</b>	<a href="#">2 Biosecurity</a> <a href="#">13 Breeding bird mitigation</a> <a href="#">25 Oil and fuel use and storage on site</a>



## Aim

Fens are dynamic systems that require a variety of management techniques to deliver biodiversity and conservation value, landscape and harvestable products such as reed and sedge. These management techniques, both traditional and modern, include large scale machine harvesting, livestock grazing, hand mowing and cutting and scrub removal. The techniques employed are dependent on a range of factors including habitat type and sensitivity, species present, size and ground conditions, man power, economics and timescale.

One such management technique is cutting with a fen harvester machine. These are specialised tracked machines with low ground pressures, designed specifically for cutting large areas of fen on wet, soft, or uneven terrain. The low ground pressure ensures the harvester is suitable for working on sensitive sites such as areas of fen and reed peatlands.

This document describes best practice use of the fen harvester to minimise any impacts on fen habitats.

## Standard Methodology

- Where a commercial reed cut is not feasible, cutting with the fen harvester should be planned to take place between late August till the end of February, to avoid the main breeding bird season.
- Aim for works on reed dominated or mixed fen sites. Site assessment is undertaken by an Ecologist to ensure the site and its vegetation type are suitable for cutting with the fen harvester. Fragile or sensitive plant communities will be cut by hand.
- The fen harvester can operate in wet conditions on the fen, although water levels for cutting should not exceed depths of 30- 40 cm to prevent damage to the underlying substrate. This water depth should only be considered where the operator is familiar with the site. This will help to ensure damage to the underlying substrate is limited, and the driver can still safely avoid any obstacles.
- The operating speed of the harvester should be kept low to ensure that tracking impacts, particularly when turning the machine, are kept to a minimum. Additionally, a slow speed allows the operator time to see obstacles such as stumps and areas of hover, as well as important plants such as sedge tussock's, which can be scalped by the cutting head. The cutting head can be raised in order to avoid hazards and/or sensitive low-growing areas.
- Aim to leave a 10-metre headland of uncut material which can be used as a turning area for the machine. The uncut material creates a barrier between the harvester and the peat layer helping to reduce any damage to the soil structure. When the ground is particularly soft, it is recommended to track over the cut route only once (*see figure 1*, red route). Additionally, raise the cutting bar when manoeuvring within the retained headland so that a mat is created when driving over the reed. Where conditions allow and the first pass has not compacted the ground, it may be suitable to reverse along the same route, manoeuvring in the headland and cutting the next pass in the same direction as the first (*see figure 1*, blue route).
- The use of track mats particularly on sensitive sites should be standard practice to avoid rutting and ensure damage to the peat substrate is minimal.
- Disposal points for the cut material should be in an agreed location with the site manager. Suitable disposal sites can be under a nearby tree line, but should be sited away from ditches to avoid nutrient leaching. These piles of cut arisings have been shown to reduce in size very quickly, and can offer excellent habitat for beetles and reptiles.

## Procedure

### Pre-works

- Ecologist to plan vegetation cutting. Meet with the harvester operator on a pre-works site visit.
- Method statement with cutting advice provided for harvester operator.
- Harvester access and disposal points to be agreed with the site manager and operator before works begin.
- Track mats and jet floats (where required) to be provided before the works proceed.

### Operational

- Leave a 10- metre headland of uncut material to manoeuvre harvester.
- Cut in a straight line and turn on the headland (see Figure 1 below).  
**OR** Cut in a straight line, reverse back along same route into headland, turn on headland and cut next line.
- Operate on a slow speed, particularly when turning.
- Avoid repeated tracking over the same area. Use track mats on sensitive areas.
- Dispose of the cut material at an agreed location e.g. in tree line away from ditches.
- Reduce damage to access points by entering via headland.
- Avoid repeated tracking over the same area, especially on soft substrate

## Consultation

The following must be confirmed by the Ecology team before works commence:

- Natural England assent if site is designated & works are not agreed within an agri-environment agreement, or if works deviate from agreement prescriptions.

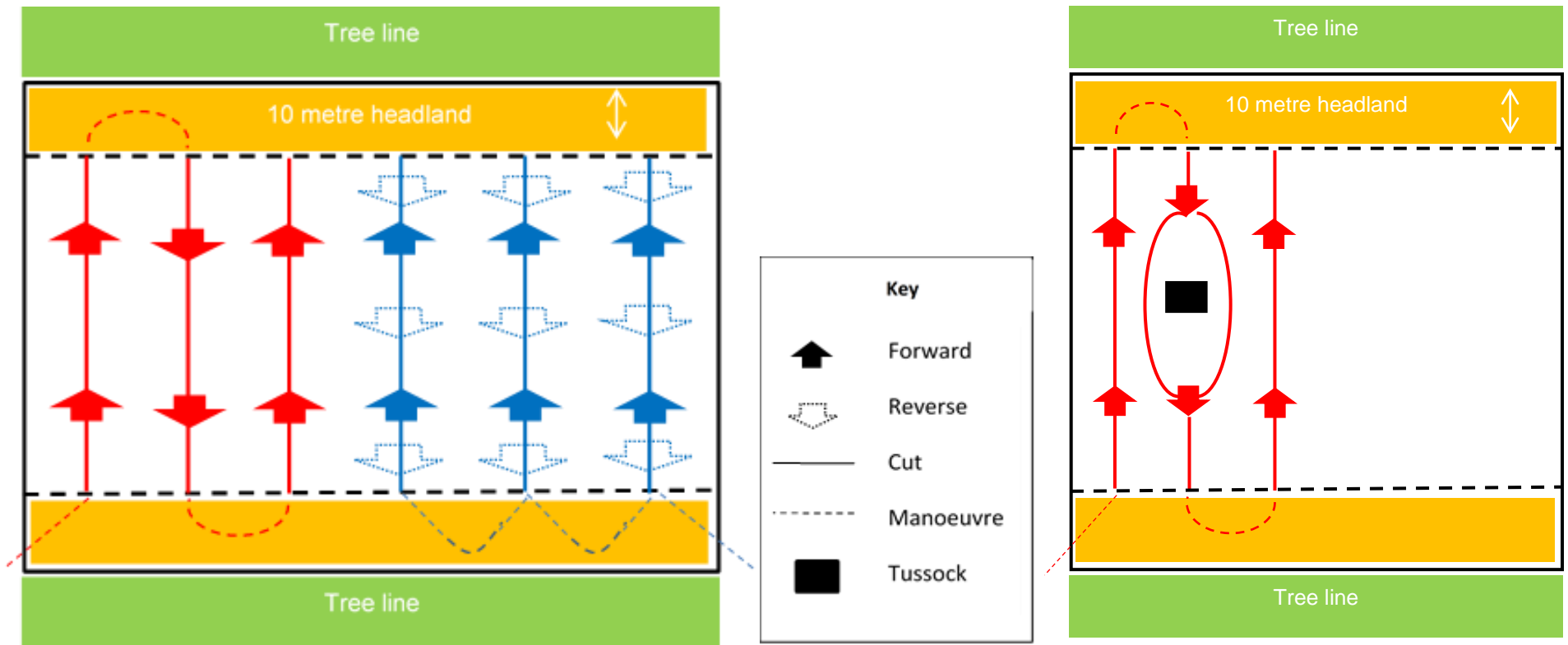


Figure 1: Fen harvester routes and manoeuvring

## Risk Assessment

Hazard	Initial Risk			Controls / Safeguards / Precautions	Revised Risk		
	S	L	R		S	L	R
Disturbance or destruction of breeding bird nests	4	4	C	Operate harvester outside of the main breeding bird period, and carry out breeding bird checks if necessary.	1	1	A
Damage to sensitive fen sites/plants	4	4	C	Operate harvester only where a site assessment has been undertaken and has identified that the site and vegetation type is suitable for use of the fen harvester. Fragile and sensitive plant communities should be cut by hand. Use cutting plans to avoid sensitive botanical features.	1	1	A
Compaction/ tracking damage to peat substrate	4	3	C	Operate the machine on a slow speed, particularly when turning. Avoid repeated tracking over the same area, especially on soft substrate. Use track mats on sensitive areas. Aim to turn the machine on an uncut headland.	1	1	A
Nutrient build up on sites from cut material	4	3	C	Agree a disposal point for the cut material with the site manager prior to cutting. Dispose material off the main fen/reedbed to avoid nutrient build up. Avoid placing cut material close to ditches to avoid nutrient leaching	4	1	B

Matrix

		LIKELIHOOD				
		Very unlikely	Unlikely	Moderately likely	Likely	Very likely
SEVERITY		1	2	3	4	5
<b>Low</b> (minimal, short-term disturbance levels and negligible damage to native habitats.)	1	A	A	A	A	A
<b>Medium</b> (moderate, short-term disturbance levels, some damage to native habitats/species. Regenerates quickly.)	2	A	A	A	B	B
<b>High</b> (high disturbance levels over a longer period and displacement of species. Damage to native habitats. Significant time to regenerate)	3	A	B	B	C	C
<b>Very High</b> (Long-term disturbance with displacement/death of species. Significant damage to native habitats that takes a significant time to regenerate.)	4	B	B	C	C	C

RISK	
A	OK. Work to provisions in risk assessment
B	Proceed with caution. Dynamically review risks.
C	Cancel task. Approach project in a different way.