

Typical management challenges and the use of plants as indicators of underlying environmental problems. In situations where the named plant becomes frequent across much of the meadow and dominant in some areas, management solutions are presented.

<i>Plant</i>	<i>What does this indicate?</i>	<i>Possible causes</i>	<i>Possible solutions¹</i>
Soft rush	Waterlogging Acidification Soil disturbance	Silting up ditches and grips Stock poaching in wet conditions	Restore surface drainage Apply lime Avoid overgrazing
Sharp-flowered rush	Wet soil Low nutrient availability	Silting up ditches and grips	Improve surface drainage and Consider addition of farmyard manure (FYM) ² Cut before flood likely, to drown shoots
Greater pond-sedge	Waterlogging Late or missed cuts resulting in a rank sward	Silting up ditches and grips Late (after 15 th July) or missed hay cuts, lack of management	Restore surface drainage Cut early (mid-June)
Reed sweet-grass, reed canary-grass	Ditch siltation and water overspill into meadow resulting in waterlogging	Silting up ditches and grips	Maintain ditches Cut twice (or at least once!)
Slender tufted-sedge, lesser pond-sedge.	Ponding of low-lying areas Consecutive wet summers	Silting up ditches and grips	Maintain surface drains Cut twice annually for 3 years (see case study 9.2)
Nettle	Eutrophication	Late or missed hay cuts Flooding with nutrient rich water	Cut early (mid-June); Cut twice annually (June & September) Maintain surface drains Work with agencies to reduce nutrient levels in wider catchment
Marsh ragwort ³	Waterlogging Soil disturbance	Silting up ditches and grips Stock poaching in wet conditions	Repair surface drainage; Cut early (mid-June) Avoid overgrazing Consider winter sheep grazing

¹ These possible solutions should be considered in the context of the sites conservation objectives. Some solutions may conflict, so action taken will be determined by overriding objectives.

² If FYM is applied then it is best to monitor the vegetation compositions and also sample for extractable phosphorus after a few years. Olsen P should ideally not exceed 15 mg/l.

³ Marsh ragwort is slightly toxic to stock so can be undesirable in a meadow at high density.

<i>Plant</i>	<i>What does this indicate?</i>	<i>Possible causes</i>	<i>Possible solutions¹</i>
Hogweed	Eutrophication Lowering of water level in the river or ditches	Flooding with nutrient-rich water Late or missed hay cuts Alteration of river management Over abstraction	Maintain surface drains Work with agencies to reduce nutrient levels in wider catchment and asses water levels Cut early (mid-June) Cut twice annually (June & September)
Curled dock	Waterlogging Eutrophication	Silting up ditches and grips Late or missed hay cuts	Restore surface drainage Cut early (mid-June)
Spear thistle, creeping thistle	Eutrophication Soil disturbance	Late or missed hay cuts Stock poaching in wet conditions	Cut early (mid-June) ⁴ Avoid overgrazing
Creeping buttercup, hard rush	Compaction resulting in waterlogging	Poor timing of grazing and vehicle access	Avoid vehicle access in wet conditions; avoid grazing when soil too wet to support animals
False oat-grass, creeping thistle	Accumulation of ditch spoil above the normal field level	Insensitive ditching works	Spread ditch spoil
Tussocks of coarse grasses (e.g. false oat-grass, cock's-foot, tufted hair-grass, Yorkshire fog)	Late or missed cuts Lack of grazing	Late or missed hay cuts Accumulation of litter through under grazing	Cut early (mid-June) Cut twice annually (June & September) Temporary fencing to keep animals in restricted areas Revise stocking densities/re-instate aftermath grazing

⁴Herbicide use is not generally recommended if there are other means available as there is a risk of collateral damage.