

Producing a Soil Management Plan for Environmental Stewardship

**RDS is part of the Department for Environment,
Food and Rural Affairs**

Introduction

This booklet provides **additional guidance** on how to produce a Soil Management Plan for Entry Level Stewardship (ELS) and Organic Entry Level Stewardship (OELS). It should be read alongside your ELS or OELS handbook which are referred to simply as 'the handbooks' in the remainder of this guidance. Further details will be available via the Defra Website later in the summer.

If you are considering the Resource Protection Options available under Higher Level Stewardship (HLS) you will need to complete an ELS/OELS Soil Management Plan before these can be funded. Proposals to implement HLS resource protection options are more likely to be successful in specific 'target areas'. You can find out whether you are in such a target area by looking at <http://www.defra.gov.uk/erdp/schemes/hls/targeting.htm> or by contacting your local RDS office. Even in targeted areas the Higher Level Scheme is competitive and discretionary so you may not be successful with your application.

The Soil Management Plan is a voluntary option that contributes 3 points/ha towards your ELS/OELS points target, **but is not available on unimproved land**, as defined in the handbooks. The points awarded for the plan assume you will use an adviser or consultant to help you prepare it. However, you may wish to do the work yourself using the guidance given here and contained in the Defra manual on controlling soil erosion (available from <http://www.defra.gov.uk/environment/land/soil/pdf/soilerosion-lowlandmanual.pdf>).

Some of the management practices you identify in your soil plan may coincide with options available under Environmental Stewardship. You may if you wish include some or all of them in your agreement such as not growing high risk crops like maize on high risk sites (ELS/OELS) or reverting cropped land to grass under HLS.

You should consider carefully which practices you can adopt on your farm. Although you will only receive payment for options you are able to include in an Environmental Stewardship agreement the environmental impacts of soil run-off and erosion must be reduced, particularly in sensitive catchments. The more you do voluntarily or as part of an agreement the less you may be required to do if restrictions are imposed later.

How to prepare an Environmental Stewardship Soil Management Plan (Option EM1/OEM1)

A guidance booklet (Cross Compliance Guidance for Soil Management PB 10222B) has already been sent to you which will enable you to complete a simple soil management plan as part of your Cross Compliance obligations in 2006. Details on how to complete this plan will be available later this summer. If you do not have the guidance booklet you should obtain one free of charge from Defra Publications, Admail 6000, London SW1A 2XX, Tel: 08459 556000; email: defra@iforcegroup.com or from <http://www.defra.gov.uk/farm/capreform/pubs/pdf/Soil-hb.pdf>.

To enter ELS/OELS you have to prepare a Farm Environment Record. As part of this record you have to identify fields at high risk of soil erosion using a simple key. The Soil Management Plan uses a more detailed assessment to identify varying degrees of risk of both run-off and erosion. It will help you plan to implement specific options under Environmental Stewardship to protect your soils and provide pointers to other measures that may be appropriate.

You must produce a map showing the varying levels of risk of run-off and water erosion across the whole farm and record how any soil issues or problems will be dealt with on a field-by-field basis. This record forms the basis of your Soil Management Plan and a worked example is provided below. When you or your adviser have produced the plan you should aim to follow it as closely as possible.

Defra are currently seeking legal advice to see if it will be necessary to complete a separate cross compliance soil plan should you already have an Environmental Stewardship Soil Management Plan. This will be clarified when further details are available. If it is decided you must produce both plans it will be much simpler to complete the cross compliance document should you already have a Stewardship Plan.

What do I have to do?

The following steps are recommended to prepare a comprehensive soil management plan. You or your adviser may wish to take another approach, which is acceptable, provided you:

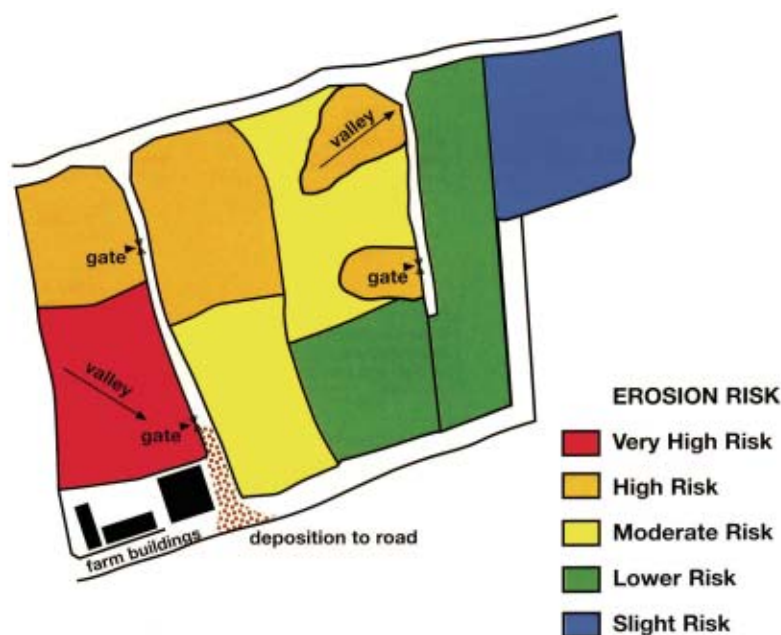
- have read the relevant publications as set out in Appendix 1 of the handbooks
- use the Defra manual on controlling soil erosion or the advice of a consultant to prepare an assessment of the risks of run-off and erosion for your whole farm. Produce a map showing the risk class for each field or part field, including the features described below
- record on a field-by-field basis the steps you will take during the coming year to minimise the risk of run-off and erosion, including how you will manage the soil to ensure good structure and maintain the infiltration of rainfall
- retain the plan and repeat the field-by-field assessment each year incorporating the experiences of previous years.

The recommended key steps are:

1. Obtain and read the relevant publications on controlling run-off and erosion detailed in Appendix 1 of the handbooks. Note that the Defra manual on controlling soil erosion has previously focused on the management of rill and gully erosion. The guidance it contains now includes problems of run-off or soil wash including from heavier soils and you should take this into account when preparing your Soil Management Plan.
2. Prepare a map of the whole farm showing the risk of run-off and water erosion. You will find it helpful to use a colour coding system to show this risk. This should be based on soil texture and slope and observations of what happens now or has done so in the past. You must also consider what might happen if you plan to change your cropping to one more likely to cause erosion. This is important, especially if your land is currently under grass.
3. Add to the map any flow pathways where water runs across the surface of your land. This water may come from within the farm or from run-off that enters your land from elsewhere. You do not need to include all the watercourses on your farm, but you should indicate areas that are affected if these flood or overflow on to your land.

Example of farm erosion risk map

A map showing the erosion risk categories should serve as a basis for planning crop rotations and management to reduce run-off risks and soil loss.



4. From this initial assessment decide if any simple measures such as moving gateways or other access points would be beneficial in stopping or diverting the flow. Mark these changes on the map.
5. Mark on the map, e.g. by cross/hatching, any fields or parts of fields that suffer from wind erosion.
6. Carry out an inspection of the soils on your farm using your Cross Compliance Guidance for Soil Management. Record their structural condition on a field-by-field basis and use this information as part of the decision making process.
7. Consider, on a field-by-field basis, any improvements that are needed to soil condition and how this might be achieved. For example by deeper cultivation, by subsoiling on tramlines or headlands (where soils are often more compacted) or soil loosening on badly compacted pastures. For the longer term you should consider if you need to increase the return of organic matter to the soil. If you do apply bulky organic manures you should include the nutrients they contain when planning your fertiliser policy. In Nitrate Vulnerable Zones you must follow the timing restrictions and maximum application rates that apply.

8. Identify on a field-by-field basis, or part field if appropriate, how the land will be managed. The following steps will enable you to do this:
 - Refer to the basic soil types in the Cross Compliance Guidance for Soil Management and consider how best to manage the issues and risks associated with each.
 - Compare your current or intended rotation with the risk of run-off and erosion risk. Consider how you can avoid having high-risk crops, practices or enterprises on high-risk fields or part fields.
 - If necessary prepare a modified rotational plan. Include areas that need to be taken out of production and/or grassed down. If these changes are permanent, such as grassing of valley bottoms, add these areas to the map.
 - Consider if new hedges, shelterbelts, woodlands, etc. could reduce the risk of erosion and enhance the environment.
 - Include in your plan measures that would protect watercourses from livestock, such as fencing the banks and installing bridges.
9. Prepare a field-by-field description of the specific management practices that will be required or will have to be avoided in order to minimise run-off and or erosion or ensure that soil conditions are maintained or improved. This will include how livestock will be managed, which in turn includes for example:
 - how you will control grazing to prevent poaching
 - how supplementary feeding will be managed
 - what specific precautions will be taken on outdoor pig and poultry units.

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Worked example

The following is an example of what your field-by-field plan might look like. For some fields, or possibly your whole farm, it might be as simple as the example given for field 1. For others there might be a number of things that could be done to improve your management such as for fields 2 and 3. Remember that livestock have a major impact on soil conditions and grassland fields must be included as for field 4.

Field Identification Use Rural Land Registry number or field name		Characteristics (soil, slope, soil permeability run-off and erosion) and land use.	Management Issue – refer to Cross Compliance Soil Guidance and your risk assessment	Management proposal	Note soil issues that arise during the year for annual review e.g. run-off and or erosion particularly of soil loss to the wider environment.
RLR No.	Field name or other identifier				
	1	Well-drained stable soil in combinable crop rotation. Soil structure good, no signs of run-off or erosion. Low risk of this occurring	None apparent	Maintain current management. Reconsider if cropping changes.	
	2	Adjacent to road and/or watercourse. Erodible soil. Rotation including main crop potatoes (high risk crop)	Soil/sediment deposition Risk of compaction increasing run-off and erosion	<ol style="list-style-type: none"> 1. Establish cereal crops early in autumn with coarse seedbeds. 2. Loosen tramlines if necessary to increase infiltration. 3. Attempt to increase soil organic matter with short-term green manures. 4. Establish grass buffer alongside water-course using long term set-aside or HLS Option if available. 	

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3	Steep gradient Erodible soil Rotation including main crop potatoes (high risk crop)	Risk of run-off Risk of compaction increasing run-off and erosion	<ol style="list-style-type: none"> 1. Avoid high-risk crop on high-risk land. Take up an appropriate ELS Option for this 2. Establish cereal crops early in autumn with coarse seed beds. 3. Loosen tramlines if necessary to increase infiltration. 4. Attempt to increase soil organic matter with short-term green manures. 5. Establish grass buffer alongside water-course using long term set-aside or HLS Option if available. 6. Consider reverting whole field to grass. Using long-term set-aside or HLS Option if available. 	Erosion down rows during irrigation. Consider alternative strategy next year
4	Heavy soils under permanent pasture. Slight to moderately sloping land. Beef cattle with an extended grazing season.	Run-off occurs in wet periods from poached areas in gateways and around feeding sites. Also run-off occurs from moderately sloping areas.	<ol style="list-style-type: none"> 1. Move feeding sites more regularly and to top of slope where possible. 2. Restrict late season grazing to better-drained areas. 3. Improve infiltration by removing surface compaction to reduce risk of run-off. 4. Install buffer strips alongside watercourses from which stock are excluded using ELS or HLS where available. 5. Reduce overall stocking rates on most vulnerable sites using HLS option if available. 	Run-off overwhelmed buffer strip. Consider more action to reduce surface compaction and widen buffer strip

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10. As the year progresses you should note any additional management you do to deal with soil issues and record any problems that occur, particularly of run-off and soil erosion. In the example above there is a final column for this purpose.

11. At the end of the year repeat the process modifying the risk assessment, soil assessment, rotation and intended/required management according to your experience. Add any additional areas that you may grass down or take out of production and make any other changes that experience indicates.

12. Update the plan each year.

13. Retain the plan for possible inspection and to inform any possible HLS agreement.

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