Farming for cleaner water and healthier soil

Make the most of Environmental Stewardship and the Campaign for the Farmed Environment

CAMPAIGN FOR THE FARMED ENVIRONMENT

NATURAL ENGLAND

www.naturalengland.org.uk/es

Farmers, land managers and farm advisers all have a part to play in ensuring a healthy natural environment which is essential for sustainable farming.

Your farm has environmental value

Your farm has wildlife, natural resources, farmland birds and historic features that need your protection.

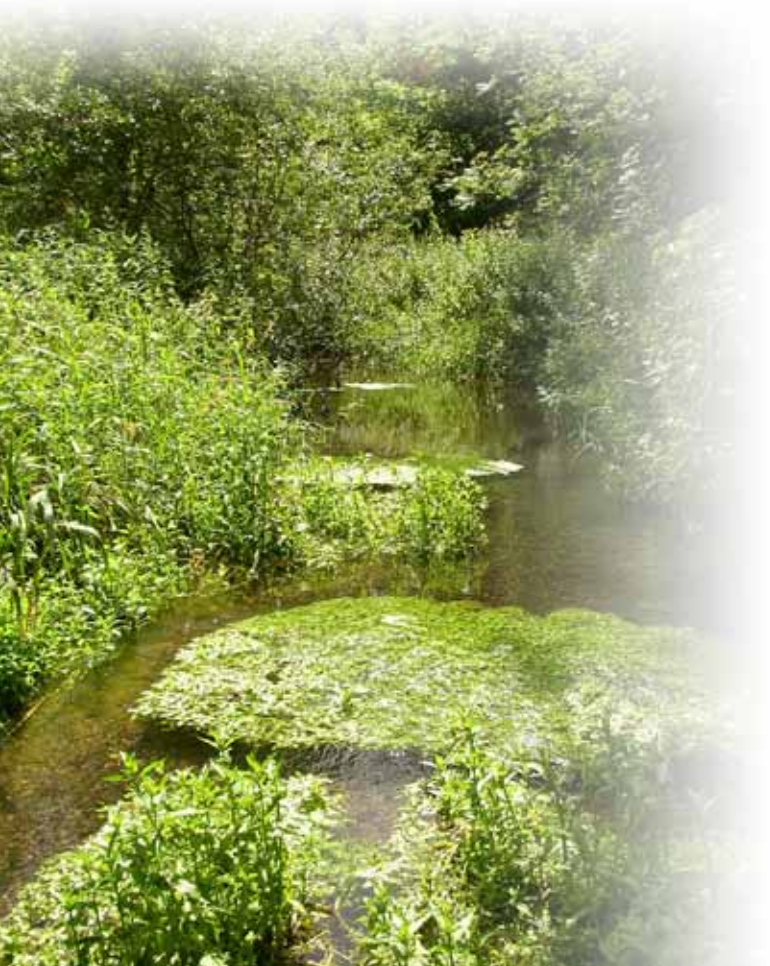
You make a difference

By adopting the options in this leaflet you can improve the quality of water and soil on your farm by tackling soil erosion and runoff at the source, slowing the pathways and protecting watercourses and other receptors.

Right options, right location, right management

This leaflet helps you choose the right options and put them in the right places to make the biggest difference. If you need additional help locating or managing these options, please contact Natural England for further information.

Chalk stream, Hellhoughton Common



Why is clean water and healthy soil important on your farm?

Soil is your farm's most valuable resource as the foundation for production. The most productive components of your soil lie in the top three to six inches of the profile – the layer most vulnerable to erosion. Erosion and runoff can result in valuable nutrients and, more importantly, environmentally damaging sediments, pesticides and dangerous disease organisms reaching water.

The water flowing over and through your farm can be almost as significant as the food you produce:

- Clean water is valuable for irrigation of your crops and drinking water for you and your livestock. Private sources of water can be particularly at risk from your farming practices.
- Agricultural pollution can cause harm to aquatic life including fish, water plants and invertebrates.
- Clean water and good quality wildlife habitats attract many people for outdoor activities such as fishing, boating and walking which are important for people and the rural economy.
- Other rural industries rely on clean water to ensure quality products and adherence to high standards.
- Localised flooding can cause damage to roads, houses and farmland.

Good agronomic practices are essential, but sometimes more is needed to avoid soil erosion and runoff of sediment and other pollutants into water.

What can you do to ensure clean water and healthy soil?

Soil type, landscape and weather can't be changed. However, land use and management can be adjusted and can make a big impact on reducing the amount of soil erosion and runoff from your farm.

What do you need to do?

Tackle the source of soil erosion and runoff
For example:

- managing maize crops to reduce soil erosion by reducing the likelihood of compaction and establishing a winter cover crop to protect soils that would otherwise be left bare.
- sowing a winter cover crop to capture excess nitrogen, improve soil structure and reduce runoff. Cover crops can reduce nitrate leaching by 50 per cent, enabling you to reduce fertiliser application, increase organic matter and potentially save money.

Slow the pathways of soil erosion and runoff
For example:

- grassing field corners to slow down overland flow of water or where runoff collects and makes it difficult to farm.
- grassing natural drainage pathways (eg valley bottoms) to reduce the channelling of runoff water that can produce rills and gullies.

The increased vegetation is also excellent for farm birds and other wildlife.

Protect the receptor
For example:

- fencing watercourses to prevent livestock from causing direct contamination and erosion of river banks.
- establishing buffer strips to slow, filter and trap pollutants before they enter ditches or watercourses.

What are the benefits for you?

Regular farm income:
Financial incentives are available through Entry Level Stewardship (ELS) to provide a six-monthly income for environmentally friendly land management that supports healthy soil and water.

Realise the wildlife potential of less productive areas:
Make awkward corners, small fields and wet areas of your farm work better for you by entering them into ELS options. The least productive areas of your farm are often (with the correct management) the best for protecting water and enhancing wildlife.

Contribute to Climate Change mitigation:
Those options which involve creating grass buffers and field corners in arable fields will lead to reductions in greenhouse gas emissions. This is due to reduced nutrient inputs and increased temporary carbon storage within the created grassland.

Work with the Industry's Campaign for the Farmed Environment:
Farming to protect soil and water using the options labelled overleaf will help contribute to the Campaign for the Farmed Environment (CFE).

Use the farm illustration overleaf to help you choose the best locations and ELS/CFE options to improve the quality of the water and soil on your farm.

Need further help and information?

For details of farm events in your region or further information please contact:

Natural England
Tel: 0300 060 1695
Email: farmevents@naturalengland.org.uk
Website: www.naturalengland.org.uk/farmevents

Campaign for the Farmed Environment
Tel: 024 7685 8892
Email: cfeonline@nfu.org.uk
Website: www.cfeonline.org.uk

Environment Agency
Tel: 08708 506 506
Website: www.environment-agency.gov.uk

The publication 'think**soils**: Soil assessment to avoid erosion and runoff' is available from the Environment Agency.

England Catchment Sensitive Farming Delivery Initiative
Website: www.defra.gov.uk/foodfarm/landmanage/water/csf/delivery-initiative.htm

If you are in an England Catchment Sensitive Farming Delivery Initiative priority catchment, you may also be eligible for free advice or capital grants.

Front cover: Chalk stream © Dougal McNeill.
Page 2: Hellhoughton Common © Dougal McNeill.
Fold out page: Maize field © Environment Agency; Infield grass area © Richard Smith;
Livestock fencing © Environment Agency;
White-clawed crayfish © Essex Ecological Services / Martin Paugh;
Otter © Debbie Cousins; Brown trout © Dave Key;
Fishing for trout © Martin Ryan; Sailing © T Baker;
Water crowfoot © Gary Morris; Riparian grassland © Environment Agency;
Buffer strip © ECSDFI.

CAMPAIGN FOR THE FARMED ENVIRONMENT

Campaign for the Farmed Environment partners – NFU, CLA, FWAG, LEAF, AIC, GWCT, AICC and CAAV – working in partnership with Defra and its agencies, Natural England and the Environment Agency, as well as the RSPB and other wildlife representatives.

NATURAL ENGLAND

Natural England is here to conserve and enhance the natural environment, for its intrinsic value, the wellbeing and enjoyment of people and the economic prosperity that it brings.

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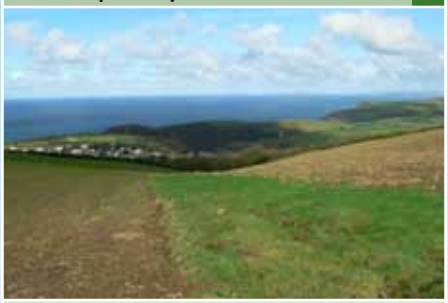
Tackle the source 1

Good farming practice can prevent runoff and erosion at source. There are also some ELS options available to help you manage the source of pollution including: undersown spring cereals, management of maize crops to reduce soil erosion and winter cover crops.

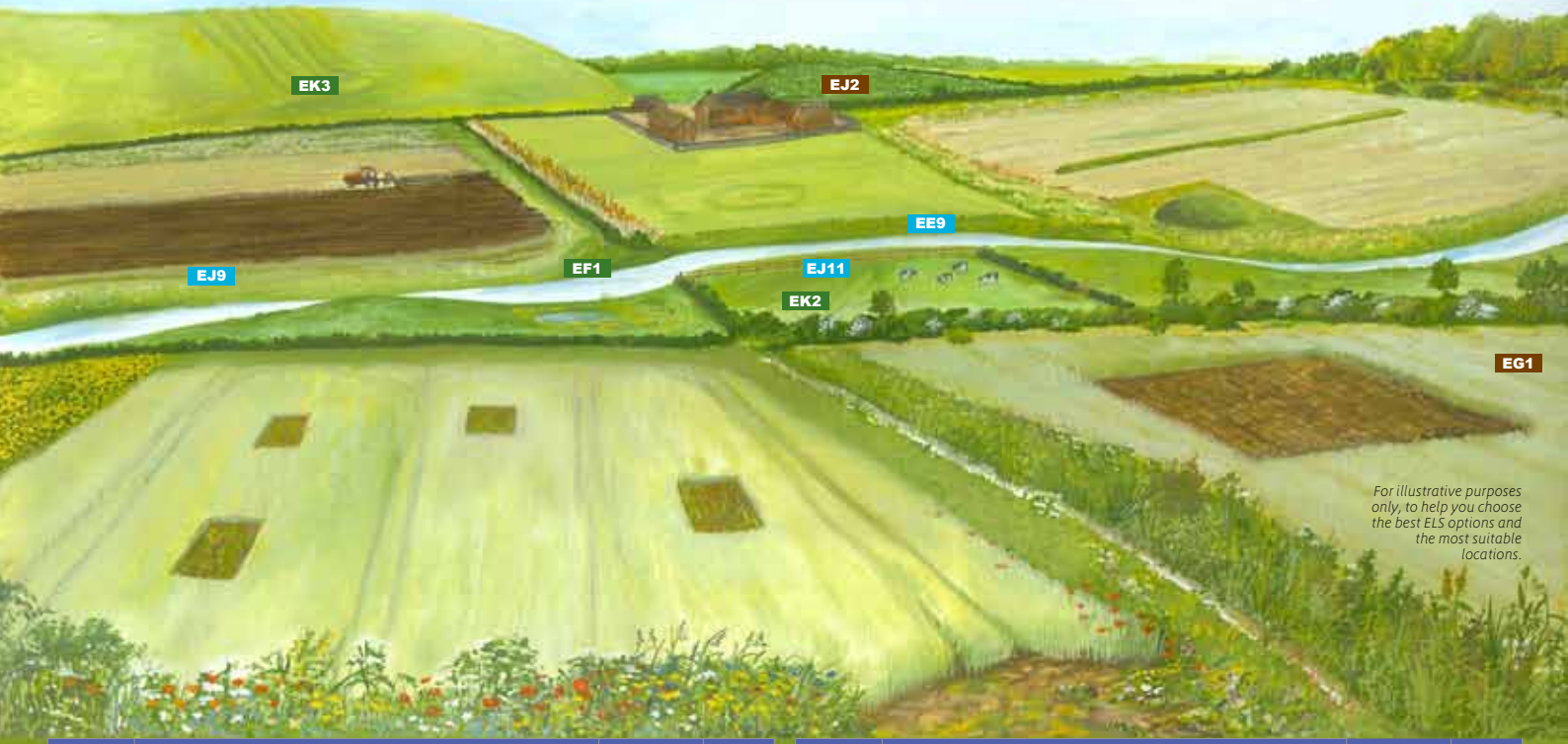
Slow the pathway 2



If you cannot control the source of a problem, there are a suite of ELS options available to help you manage the pathways of runoff and erosion including: in field grassed areas, beetle banks, taking field corners out of production and the sensitive management of grassland.

Protect the receptor 3

There are some ELS options available to help you create a barrier to pollution including buffer strips or watercourse fencing. It is important to remember receptor options represent the last line of defence for streams and ditches so always think about how you can tackle problems at source and/or better manage the pathway of any water flow from the field.



For illustrative purposes only, to help you choose the best ELS options and the most suitable locations.

ELS Code	Options	ELS/OELS Points	CFE code
1 Tackle the source			
Always try to tackle any resource protection problem or concern at the source – your Soil Protection Review should be used to address this			
EG1/OG1	Undersown spring cereals	200/150 per ha	
EJ2/OJ2	Management of maize crops to reduce soil erosion	18 per ha	
EJ10	Enhanced management of maize crops to reduce soil erosion and runoff	94 per ha	
EJ13/OJ13*	Winter cover crops	65 per ha	C7b
2 Slow the pathway			
EF1/OF1	Management of field corners	400/500 per ha	C3a/b
EF7/OF7	Beetle banks	580/750 per ha	
EJ5/OJ5*	In-field grass areas to prevent soil erosion and runoff	350 per ha	C2

ELS Code	Options	ELS/OELS Points	CFE code
2 Slow the pathway (continued)			
EK1/OK1	Take field corners out of management	400/500 per ha	
EK2/OK2	Permanent grassland with low inputs	85/115 per ha	
EK3/OK3	Permanent grassland with very low inputs	150/180 per ha	
EK4/OK4	Management of rush pastures	150/180 per ha	
3 Protect the receptor			
EE9/OE9	6 m buffer strip on cultivated land next to a watercourse	400/500 per ha	
EE10/OE10	6 m buffer strip on intensive grassland next to watercourse	400/500 per ha	
EJ9/OJ9	12 m buffer strips for watercourses on cultivated land	400/500 per ha	C1
EJ11/OJ11	Maintenance of watercourse fencing	4 per 100 m	
	Sown wildflower headlands		C13

** New options from 2010. At time of printing, these options had not received final approval and therefore may be subject to change.*


White-clawed crayfish


Otter


Brown trout


Fishing


Sailing


Water crowfoot


Riparian grassland


Buffer strip

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