

## **BUFFER STRIPS NEXT TO WATER COURSES and SOIL MANAGEMENT**

### **1 INTRODUCTION**

#### **1.1 Purpose of the workshop**

The workshop provided detailed information about the cross-compliance proposals for buffer strips next to watercourses and soil management, and offered stakeholders an opportunity to discuss relevant issues (an earlier workshop had discussed proposals for recapturing the environmental benefits of set-aside).

These workshops **were not a replacement for written responses to the consultation**, which should be sent to Defra, **no later than 27 May** (it would be helpful if responses arrived earlier).

This note, produced by the Institute for European Environmental (IEEP), provides a summary of the main points raised by participants [*and Defra's responses to questions*] during the discussion groups.

#### **1.2 Reference documents**

The following papers informed the discussions (They were circulated to participants before the workshop and are available at via the Defra website at: <http://www.defra.gov.uk/corporate/consult/gaec/>):

- Environmental Standards for Farming – consultation on proposed changes to standards in cross compliance GAEC and related measures in England (Defra March 2009)
- Proposed New Soil Protection Review (Defra April 2009)

#### **1.3 Presentations**

The workshop opened with three presentations, two of which are attached to this note (the NFU presentation has already been circulated with the note of the 23 April workshop):

- buffer strips next to watercourses – four options (Defra)
- buffer strips and the voluntary option to recapture the environmental benefits of set-aside (NFU)
- soil management (Defra)

### **2 SUMMARY OF ISSUES RAISED IN DISCUSSIONS**

#### **2.1 Soil Management – proposed new Soil Protection Review (SPR)**

##### ***Request for simplicity***

Farmers explained that on large farms, or those with small fields, the process of completing and annually updating the SPR for all fields individually would be very time-consuming and potentially expensive. An example was given of a 200 hectare

farm with 10 fields, for which it was likely to take a whole day to complete the SPR. Farmers suggested that it would be better first to identify low-risk fields then omit them from the remainder of the review, completing all the information only for high-risk fields and medium-risk fields that might become high-risk. Others questioned if low and medium risk fields should be omitted as that could still be damaged and become a source of pollution (from run-off) if managed inappropriately.

It was suggested that problems were likely to occur with using web-based forms in rural areas that have slow broadband access. Using a CD-based form could be an alternative, possibly an Excel spreadsheet with 'traffic lights' (using red, amber and green coding to denote levels of risk).

### ***Assessing the slope***

The focus of this discussion was on how to find a practical means of assessing slope as accurately as possible. There was no consensus on how accurately farmers did this by eye (some said they tended to overestimate, others that they tended to underestimate). Disposable clinometers were suggested as one possible solution. It was also pointed out that it is not necessarily the predominant slope that causes run-off problems.

### ***Maps and other information sources***

Farmers preferred maps rather than field numbers as a useful way of visualising and recording risk, and providing information.

It was agreed that both LIDAR data (on slope) and soil data would be useful for advisers assessing the risk of soil erosion, but some of the data is licensed and cost may be a significant barrier to access.

Participants made the point that having access to soil maps was important, because although farmers can be given guidance about how to identify their soil type, there may be different interpretations of 'medium' and 'heavy', and it would be better to use a consistent data set across England. EA emphasised the importance of in-field assessment - maps can never replace a spade! EA agreed to work with Defra on making data available.

### ***Clear guidance for farmers and advisers***

Clear, concise, targeted advice was seen as particularly important, and the CSF programme was identified as one potential source. Farmers would welcome advice on:

- slope/crop combinations that are difficult to mitigate;
- soil type definitions (the old SPR guidance was helpful);
- slope assessment (diagrams were helpful); and
- where to find more technical advice and guidance

Local demonstration farms, farm walks and similar events were seen as a particularly useful means of disseminating advice.

### ***Run-off and other risks***

There was some criticism of the emphasis on 'run-off', which is not the biggest risk for all soils – for example Cambridgeshire peat soils may have no slope but high

potential for wind erosion. The traffic light section on the form relates only to run off, and although other significant risks such as compaction, soil organic matter and waterlogging are then added to this, there is no final column in the current draft for recording the overall risk.

### ***Relationship of SPR with Entry Level Stewardship (ELS) Soil Management Plans***

It was pointed out that farmers who had prepared Soil Management Plans for ELS would already have collected much of the information needed to complete the SPR.

### ***Implementation of the land management identified by the SPR***

On many farms the SPR would be completed by advisers, and there was likely to be a problem of ensuring that farmers 'bought-into' the appropriate management of their soils at risk. It was suggested that the form should have an additional section to identify the person completing the assessment. *[Government's response - In the new SPR there will be a section identifying who filled in the assessment and who is responsible for ensuring the SPR is implemented.]*

### ***Compliance checks and penalties***

Farmers asked what the system would be for checking compliance, and whether it would be considered a breach if they selected appropriate management but then failed to carry it out.

### ***Waterlogged soil***

It was suggested that a column for the reason for accessing soil should be included in the SPR. There was one suggestion that new system would encourage farmers to access waterlogged soil.

New section needed under farm use for the new fruits and vegetable growers who will be eligible for SPS.

## **2.2 Buffer strips next to watercourses**

### ***Definition of 'watercourses'***

It was thought very likely that farmers would assume they understood what 'watercourse' means in this context, without checking the definition, and thus fail to appreciate that it includes drainage channels which may only carry water seasonally. *[Government's response - The Environment Agency (EA) and Defra working to provide definitive guidance on definition of a watercourse.]*

### ***Policy objectives and targeting***

It was suggested that the policy should be restricted to second order streams (<1 metre wide) because buffering wider watercourses will have no significant effect on their nutrient content. Concern was raised that the policy considers only phosphates and sediment, not nitrates. *[Government's response - nitrates were dealt with primarily through reducing inputs through the extension of the nitrates action programme no spread zone; vegetated buffer strips would be expected to reduce nitrate leaching into watercourses although this was difficult to quantify.]*

Rotational (and event non-rotational) grassland can also be associated with high run-off and some felt that these livestock systems should also be targeted, but it was recognised that this could be difficult because of lack of both ELS incentives and suitable advice channels. *[Government's response - outdoor pigs do feature in the current version of the discretionary guidance for buffer strip targeting.]*

EA stressed importance of infield management over and above use of buffer strips. Good soil, fertiliser and pesticide management should come first. Matching management to land capability is essential for resource protection. Buffer strips are there as a last resort to catch any residual sediment, nutrients or pesticides that may be lost.

The role of buffer strips as wildlife corridors or in providing shade to help mitigate thermal stress on streams was discussed, but the high nutrient status will limit biodiversity. It was also suggested that the role of buffer strips in protecting SSSIs and the historic environment should be recognised in the targeting strategy.

The consensus was that buffer strips were primarily for water protection and there was not a great deal that could be done to enhance benefits for biodiversity from relatively narrow buffer strips (6 metres) without reducing their effectiveness in preventing run-off. It would be necessary to explain to farmers the relationship between buffer strips and Local Environment Risk Assessment for Pesticides (LERAP).

### ***Use and management of buffer strips***

Crops such as Miscanthus or SRC were not considered a viable alternative to grassy buffer strips because they are likely to cause pollution to the watercourse during establishment and harvesting, and leave ground bare. Using buffer strips for vehicle access can reduce their effectiveness (as a result of compaction and possibly reduced ground cover). It was suggested that in some cases there might be conflicts between pollution control and landscape conservation - for example buffering dry valleys in chalk landscapes.

There are alternatives to vegetated strips for buffering watercourses, but experience with Environmental Stewardship (where woodland buffers have been offered) shows that farmers are generally unwilling to take these up, possibly because they require different management, are a long term commitment and take more land out of production.

### ***Advice on effective siting of buffer strips***

There is evidence to suggest that farmers do not understand that the headwaters and fine drainage systems are the most important to buffer, nor realise the relevance of total run-off length. It was agreed that the role of trained advisers was critical in explaining to farmers why action was needed and how to site buffer strips most effectively.

It is clear that the best cost-effective approaches require tailoring at the individual farm (for example buffer strips half way up a slope, or fewer, wider strips) but there is not scope to do this either through cross-compliance or through ELS (although there are plans to increase the level of advice provided with ELS, and it was suggested

that this should include an explanation of the objectives of management, and be targeted at both farmers and agronomists).

A variety of methods and routes of delivering advice should be used, including information sources already available (for example, agronomists). The farmers' preference was for an on-farm adviser to resolve the complex trade-offs between different objectives. There was recognition that advice provided through the Catchment Sensitive Farming Initiative had improved the uptake of buffer strips within ELS, but coverage is limited to forty priority catchments.

Demonstration farms were seen as particularly useful, and suggestions included peer groups rotating the responsibility and sharing lessons; identifying high-risk fields (or the locations of previous problems) and personally inviting other farmers with high-risk land to demonstrations.

The importance of target key farmers in high-risk locations because the effective use of buffer strips is so site-specific was highlighted. It was suggested that in some catchments the value to fisheries of reducing sediment could be a useful lever for changing farmers' behaviour. Threat of Water Protection Zones (WPZ) could also be a lever for changing behaviour. A view from a farmer was that the Water Framework Directive (WFD) was the biggest driver for the farming industry to change behaviour and improve performance - this was supported by the group.

#### ***Importance of compliance at catchment scale***

Farmers were concerned that the inaction of a small number of non-compliant farmers could have a disproportionate effect at catchment scale if it led to failure to achieve good water quality and the designation of a WPZ, which would adversely affect the farmers who had created buffer strips ie. these could no longer be funded through ELS. Peer pressure was seen as the key to avoiding this problem.

#### ***Buffer strips as an indicator of in-field problems***

In discussing the issue of older buffer strips, which become a source of pollution because over the years they accumulated quite large quantities of sediment and nutrients, it was pointed out that buffer strips should be regarded as a 'barometer' of soil management. If the buffer strip became overloaded it should be seen as an indicator of the need for improved soil management in-field, including possibly taking the land out of production. Greater frequency of "storm events" and high intensity rainfall means that farmers may need to take more action on soils and diffuse pollution than previously. In some cases new ditches will be running during high intensity rainfall, and minimum tillage techniques can cause increased lateral flow.

It was widely agreed that there was a pressing need to gather evidence about how to manage buffer strips to maintain their function in reducing water pollution in the longer term. Not only how to manage them but also placement and width.