

## Best Practice Information Sheet

# Infrastructure management

# Sheet 15.0a

## Diversions and settlement areas

### Why change?

Once rainfall runoff from tracks, trails, roads or yard areas enters your dirty water systems it can cause problems. Dealing with these problems is a substantial cost to your business, and is one of the most common causes of water pollution. By taking action to control runoff you can:

- reduce dirty water disposal costs
- reduce water damage to tracks
- minimise soil erosion
- reduce the risk of water pollution and the potential associated fines and negative publicity



*Dirty water runoff from fields.*

## Steps to success

- 1. Review the current situation** by checking runoff from all hardened areas including tracks, stock trails, farm roads, yards, gathering areas, as well as from soils that are capped, during or shortly after rainfall. Find the source of the runoff and decide how you might deal with it before it causes adverse impacts and adds to costs.
- 2. Identify potential opportunities** for control using channels or “sleeping policemen” to divert:
  - **clean runoff** (which has no suspended sediment or other matter) to ditches (including new ditches) or other watercourses before it can gather sufficient volume and momentum to cause erosion or damage. This would include roof water and clean road or yard runoff. Preferably, consider recycling this water
  - **coloured runoff from fields** (which is carrying sediment) away from wheelings and gateways into hedgerows or areas of rough grassland where the solids can settle out
  - **runoff from stock gathering yards** (contaminated with manure) into a dirty water system
  - **runoff from tracks and trails** into rough grass to dissipate the power of the runoff and settle any suspended solids
  - **runoff** (containing nutrients) through a wetland (which may be constructed for the purpose) where the sediment will settle and the nutrients will be taken up. In this case check if the wetland is protected or has important conservation value, since the runoff may change the character of the plants growing in the area and advice will be needed before proceeding.
- 3. Calculate the cost-benefit of these opportunities** by comparing the costs of providing the diversions and settlement areas, with the benefits related to lower costs of dirty water disposal, erosion, and damage to tracks and trails.
- 4. Implement the action plan** taking care to scale the development to take account of the runoff during and after heavy rainfall, which could overwhelm the diversions and settlement areas. The works should be planned after observations in wet weather, and the changes completed during a dry spell. It is a requirement of cross compliance that every farm in receipt of SPS must complete a Soil Protection Review.
- 5. Check** the new diversions and settlement areas during rainfall to ensure they are working effectively.
- 6. Monitor progress** with the runoff control systems, by checking benefits, such as cost reductions, and routinely checking watercourses to ensure pollution is being avoided.

## Infrastructure management

## Sheet 15.0b

# Diversions and settlement areas - Practical examples

### Dairy farm

In this actual example, a dairy farm with 120 cows has 1500m<sup>2</sup> of open yard area and silos. The parlour is washed down with a pressure hose. Some roof water also mixes with the dirty water and drains into the collection system of a low rate travelling irrigator.

A review of the sources of dirty water found that repairing gutters and downspouts, diverting some clean yard water, and careful use of the pressure hose could reduce the quantity of dirty water by 1000m<sup>3</sup> (37%).

Savings resulted from reduced costs of water, electricity and labour, as well as from less wear and tear to the irrigation system.

The total saving was estimated as £810/year. In addition the risk of water pollution was significantly reduced.

### Remember:

- Prevent runoff if possible
- Slow the runoff flow down so that suspended material settles in rough grass areas
- Ensure that the settlement area has no important conservation features. Take advice if necessary
- Runoff containing nutrients can result in changes in the plants e.g. high nitrate will encourage nettles
- Soakaways may need permission from the EA
- Make certain that there is no risk of chemical contamination e.g. pesticides



*Diverting runoff in the field to rough grass areas can reduce impact and costs in the farm yard*

## Remember

- Controlling runoff can reduce costs by minimising dirty water, erosion and damage to tracks and trails.
- Constructing a soakaway or wetland may require permission from the EA.
- Scale the development to take account of the runoff during and after heavy rainfall and to reduce the risk of water pollution. Check runoff to watercourses during or shortly after heavy rainfall.

For further information: Defra ([www.defra.gov.uk](http://www.defra.gov.uk)), Environment Agency ([www.environment-agency.gov.uk](http://www.environment-agency.gov.uk)), ECSFDI (<http://www.defra.gov.uk/foodfarm/landmanage/water/csf/delivery-initiative.htm>), Natural England ([www.naturalengland.org.uk](http://www.naturalengland.org.uk)), Cross Compliance Helpline 0845 345 1302 ([www.crosscompliance.org.uk](http://www.crosscompliance.org.uk)) and ART ([www.associationofrivertrusts.org.uk](http://www.associationofrivertrusts.org.uk))



This information sheet is part of a series providing farmers with advice on land management practices to protect water bodies, produced by Association of Rivers Trusts with support from the England Catchment Sensitive Farming Delivery Initiative. The advice will also enable farmers to use farm resources more efficiently and help meet Nitrate Vulnerable Zone and Soil Protection Review requirements under Cross Compliance and environmental regulation.



Based on Information Sheets originally created by the Westcountry Rivers Trust ([www.wrt.org.uk](http://www.wrt.org.uk)) and developed with EAGGF objective one funding and published under permission by DEFRA and ART