



Runoff and soil erosion risk assessment

How to assess the runoff and soil erosion risk of fields

The risk of runoff and soil erosion and the transfer of pollutants such as organic materials, nutrients, chemicals or sediment (carried in runoff water) to watercourses, either directly or via other pathways such as farm yards, or track ways or roads, is based on the consideration of three types of risk:

1. Inherent risk

This refers to the risk of pollution from naturally occurring land conditions, such as soil type. Factors to consider:

- soil texture - risk of soil detachment or poor infiltration;
- steepness of slope angles and slope length - to determine the relative overall risk of an area of land;
- flooding frequency - land that floods is susceptible to erosion and runoff, particularly when under cultivation.

This runoff may carry very fine soil particles, nutrients and pesticides or manures to watercourses. The observed water runoff is usually, but not always, discoloured.

Risk of runoff based on steepness of slope

Slope	Steep slopes 7% (12.3% gradient)	Moderate slopes 3°–7° (5.25-12.3% gradient)	Gentle slopes 2°–3° (3.5-5.25% gradient)
Runoff risk	High	Moderate	Lower

Slope length, soil texture and flooding frequency should then be considered and the risk class adjusted accordingly. For example, lighter soils on moderate slopes have a high risk of runoff leading to soil erosion. Land that floods regularly (inundated at least 1 year in 3) must be regarded as being at high risk of erosion and runoff (even at less than 2° slope).

2. Proximity and connection to a waterbody

The level of inherent risk of runoff may be less significant if the fields are not close or well connected to a waterbody such as a pond, lake, ditch, stream or river.

Risk of runoff based on closeness to a waterbody

Closeness to waterbody	Field directly adjacent to a target watercourse or waterbody	At least one field between assessed field and waterbody	Field distant from waterbody
Runoff risk	High	Moderate	Lower

Where there is little or no connection between the assessed field and the waterbody the risk of pollution is decreased.

3. Managed risk

This is defined by land use, land management practices and history of runoff and pollution problems on a field.

Risk of runoff based on amount of history of runoff or ponding

Runoff history	Runoff or ponding seen in most years during wet periods	Runoff seen in some years during wet periods in most years during very wet periods	Runoff seen in some years during very wet periods
Runoff risk	High	Moderate	Lower

The criteria given for the three types of risk above are guidelines. Applicants should use their knowledge, experience and judgement to upgrade or downgrade a site, taking into account additional factors such as:

- soil structure - sensitivity to compaction, detachment and transport
- organic matter content - higher organic matter content usually increased infiltration
- valley features - tendency to concentrate runoff water
- long unbroken slopes - 150m or longer
- rainfall - intensity relative to infiltration
- land use

WIYBY will not be available after March 2017.

Using the above risk assessment you must mark on the Farm Environment Record (FER) map, in brown hatching, all fields that have been identified as moderate or higher risk of surface runoff or soil erosion.

Fields are considered to be at risk from surface runoff or soil erosion if they have been identified as moderate or higher risk.

Many Countryside Stewardship options are designed to reduce the risk of runoff and soil erosion, or where they are necessary to buffer priority habitat. Certain options can only be used on land that is identified in the Farm Environment Record (FER) as at risk of soil erosion or surface runoff (moderate or high risk) (e.g. SW3, SW4, SW6, SW7, SW8 and SW9).

Some options cannot be used on parcels at risk (moderate or high) of soil erosion or runoff, as identified on the Farm Environment Record (FER) (e.g. AB2, AB5, AB6, AB7, GS4, HS9 or OP1). In addition, option SW5: Enhanced management of maize crops cannot be used on fields identified in the Farm Environment Record (FER) as **high** risk of soil erosion or surface runoff, as these are unsuitable for growing maize.

Applicants can use the table below to record the runoff and soil erosion risk of their field parcels.

Field parcel	Inherent risk	Connection to waterbody	Managed risk	Overall risk
AB12345678	Moderate	Little or no connection	Lower	Low
AB23456789	High	Adjacent	Moderate	Mod/High

If you need more rows, please use the separate continuation sheet.