Queensland
REEF WATER
QUALITY
Program

Reef protection regulations
Farming in Reef catchments

Sediment and erosion control guide

Version 2

(Agricultural environmentally relevant activity standard for sugarcane cultivation)

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Queensland Government

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Office of the Great Barrier Reef, Environmental Policy and Programs, Department of Environment and Science

Updated April 2022

STANDARD CONDITIONS 3, 4 AND 5: EROSION AND SEDIMENT CONTROL

Under the Reef protection regulations, the following standard conditions for minimum erosion and sediment control measures must be implemented and maintained as part of the Agricultural Environmentally Relevant Activity (ERA) standard for sugarcane cultivation – version 2:

Standard condition 3
Erosion and sediment control measures to minimise soil loss and surface water run-off must be implemented and maintained on the agricultural property.

Standard condition 4
Following harvest, all fallow blocks on the agricultural property must have a **cover crop** (which may include grass) established, or sugarcane trash in place, that maintains adequate surface cover.

Standard condition 5
If a prescribed methodology applies for the harvesting of sugarcane trash, sugarcane trash on the agricultural property must be harvested in accordance with the methodology.

Contents

Glossary

Activity: The environmentally relevant activity (ERA) to which this Agricultural ERA standard applies.

Appropriate person: Means a person who has professional qualifications, training or skills or experience relevant to completing a Farm Nitrogen and Phosphorus Budget. This must include the ability to give an authoritative assessment, advice and analysis relevant to the farm, block and/or management zone, using protocols, standards, methods or literature, where relevant.

A grower can be considered an appropriate person if they demonstrate they have the appropriate skills, qualifications, or experience to complete the Farm Nitrogen and Phosphorus Budget acquired through a recognised program endorsed by the department.

Commercial: For the purposes of this guide, commercial is defined as undertaking the activity (sugarcane growing) for a fee or reward.

Fallow: An area of land that is typically used to grow sugarcane, and that is left with either grass/weedy cover, green manure or a leguminous crop (i.e. crop or ground cover with low or no nitrogen demand) for a period of at least six (6) months. The fallow period begins on the harvest date of the previous sugarcane crop.

Great Barrier Reef catchment: Has the same meaning in the *Environmental Protection Act 1994.* The Great Barrier Reef catchment is the area shown on a map prescribed by regulation as the Great Barrier Reef catchment.

Gully erosion: Is the removal of soil along drainage lines by surface water run-off. Once started, gullies will continue to move by headward erosion or by slumping of the side walls unless steps are taken to stabilise the disturbance.

Measure: Refers to an action, or procedure, which is planned and implemented to minimise the risk to the environment of releases of sediment or nutrients into the environment as a result of the agricultural ERA.

Receiving waters: Means the *waters* into which the relevant agricultural ERA drains. *Waters* has the meaning in the *Environmental Protection Act 1994* and includes all or any part of a creek, river, stream, lake, lagoon, swamp, wetland, spring, unconfined surface water, unconfined water in natural or artificial watercourses, bed and bank of any waters, non-tidal or tidal waters (including the sea), and underground water. For the purposes of this standard, receiving waters also includes structures or features which may reasonably be expected to drain to *waters* including a stormwater channel, stormwater drain, or roadside gutter.

Rill erosion: Removal of soil by run-off from the land surface whereby numerous small channels are formed.

Sheet erosion: Removal of a fairly uniform layer of soil from the land surface by raindrop splash and/or run-off without forming noticeable channels.

Surface water: In this guide, surface water refers to all waters other than ground water.

Introduction

The *Environmental Protection Act 1994* requires **commercial** beef graziers, sugarcane growers, banana growers and horticulture and grain growers in the Wet Tropics, Burdekin, Mackay Whitsunday, Fitzroy and Burnett Mary regions of the **Great Barrier Reef catchment** to comply with commodity-specific minimum practice agricultural standards under the Reef protection regulations.

The purpose of the Reef protection regulations is to protect the health of the Great Barrier Reef by reducing pollutant run-off (nutrients, sediment and pesticides) in waterways that flow to the Reef.

The regulated minimum practice agricultural standards are based on the best available science and agricultural industry expertise to deliver significant water quality benefits for the Reef while driving better land management practices for profitable and productive farming.

The explanatory information in this document is to be used by growers, and others involved in providing advice on reducing sediment loss on agricultural properties.

Topsoil is the most valuable layer in a soil profile. The removal of topsoil by erosion reduces the productivity of the land and limits the ability of soil to store both carbon and water. Susceptibility to erosion depends on a number of factors, including rainfall intensity, how prone soil is to erosion, and the landscape, for example, steepness and length of slopes and the amount of surface cover. All soil types are susceptible to erosion during intense rainfall if there is no run-off control or surface cover.

Erosion and sediment control **measures** manage run-off by maximising ground cover and managing overland water flow, and are part of sustainable farming practices.

It is important to make sure that any erosion and sediment control measures you take do not cause problems elsewhere on your property or on neighbouring properties. You may be required to obtain other approvals under other legislation or regulations in regards to erosion and sediment control measures, in particular to meet requirements under the *Soil Conservation Act 1986*, *Vegetation Management Act 1999* and *Biosecurity Act 2014*. More information on biosecurity in the sugarcane industry can be found on the Plant Health Australia website.

The Great Barrier Reef catchment consists of Cape York, Wet Tropics, Burdekin, Mackay Whitsunday, Fitzroy and Burnett Mary natural resource management regions (Figure 1).

Producers in Cape York are not currently required to meet minimum practice agricultural standards as the region has met its Reef water quality targets (under the Reef 2050 Water Quality Improvement Plan 2017-2022).

You can find out if your property is in one of these regions by completing this online form available at www.qld.gov.au/ReefRegulations.

The online form gives you the number of hectares of your Lot/s in each Reef catchment. If a Lot on plan (i.e. the boundaries of your property) crosses the outer boundary of the Great Barrier Reef catchment, the Lot is considered within the Reef catchment if more than 75 percent of the Lot, or more than 20,000 hectares of the Lot, is within the Reef catchment boundary. If a Lot is located across the boundary of two Reef regions, the Lot is taken to be in the region where more than 50 percent of the Lot is located.

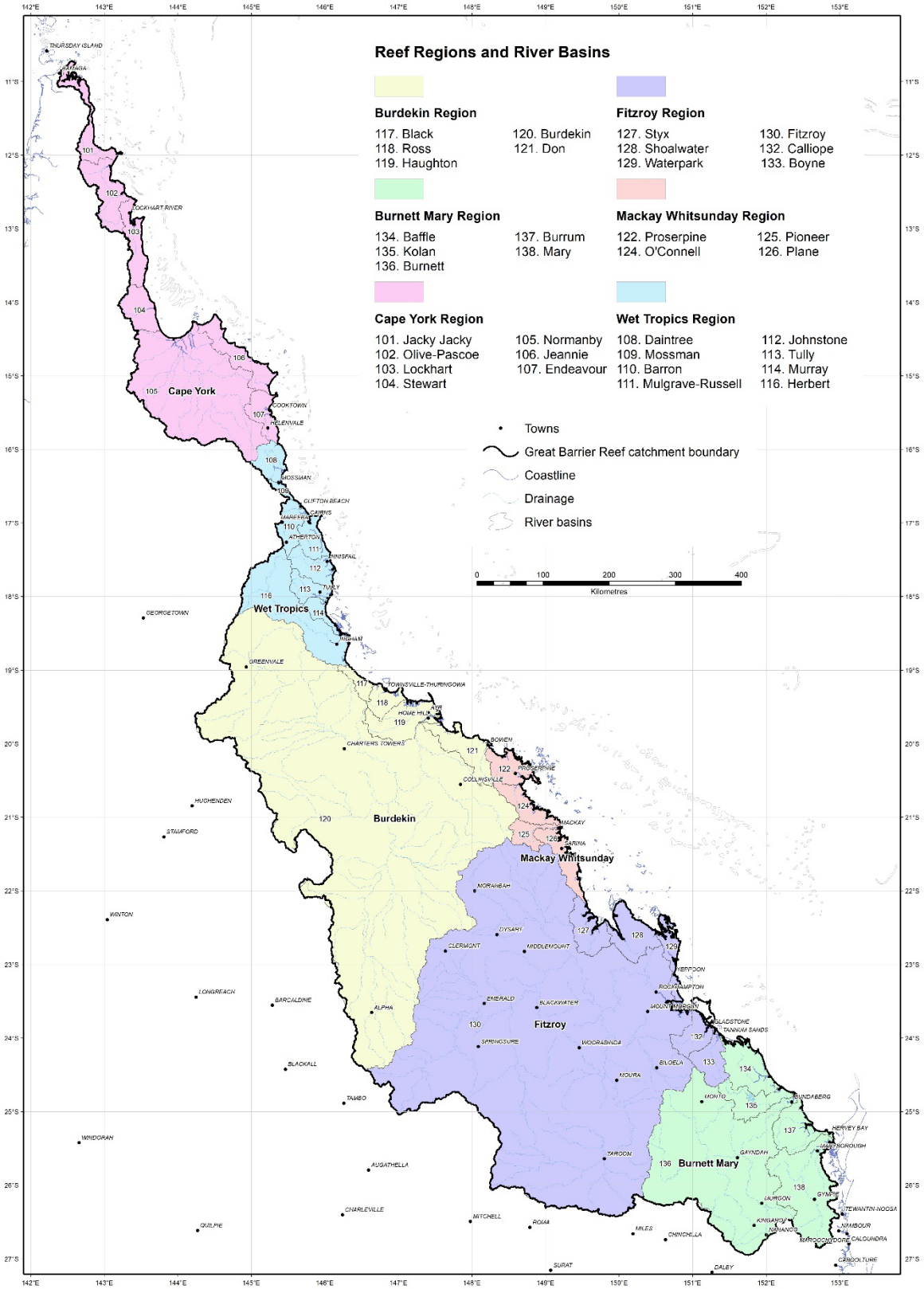

Figure 1: The Great Barrier Reef stretches more than 2,300 kilometres along Queensland's coastline. It receives run-off from 35 catchments which are spread over six natural resource management regions.

Purpose of this guide

The purpose of this guide is to provide practical information to enable you to comply with the standard conditions for erosion and sediment control on existing sugarcane growing properties in accordance with the Agricultural Environmentally Relevant Activities (ERA) standard for sugarcane cultivation – Version 2, under the *Environmental Protection Act 1994* by:

- outlining acceptable practices that can be used on existing farms; and
- providing information on where to find help and further information.

This guide outlines the minimum practice standards that you are required to use to meet the Reef protection regulations. You are not limited to these minimum practice standards, and higher standard practices are encouraged.

Regulations timeframe for commercial sugarcane growing

The Reef protection regulations apply to different regions at different times. Please refer to the table below for the timeframe for commercial sugarcane growing.

Commodity	Region	General record keeping requirements	Minimum practice agricultural standards
Sugarcane cultivation	Wet Tropics, Burdekin and Mackay Whitsunday	1 December 2019	1 December 2019
	Fitzroy and Burnett Mary	1 December 2019	1 December 2022
	All regions within the Great Barrier Reef catchment	From commencement of an environmental authority for ERA13A – Commercial cropping and horticulture in the Great Barrier Reef catchment – sugarcane cultivation	

What do I need to do?

Before undertaking erosion and sediment control measures you should seek professional advice from an **appropriate person** – see the Contacts section for more information.

There are no specific sediment and erosion control measures mandated under the minimum standards. A number of examples of erosion and sediment control measures are described in this guide, however they may not all be suitable or relevant for your property. When planning and designing erosion and sediment control measures it is important to understand how the natural landscape (for example, steepness of slopes, soil types) interacts with water, nutrient and erosion processes and their drivers (for example, management practices, weather events) (Wetland*Info* 2018a). Taking these factors into account, in conjunction with professional advice, will help you to determine which measures are most suitable for your property.

Further resources

- Detailed soil and land resource information is available from the Queensland Globe at qldglobe.information.qld.gov.au.
- Design specifications and considerations for the measures discussed can be accessed from the Soil Conservation Guidelines for Queensland, or at www.publications.qld.gov.au.

Measures to minimise soil loss and surface water run-off: standard condition 3

Erosion and sediment control measures to minimise soil loss and **surface water** run-off must be implemented and maintained at all times on your agricultural property.

The minimum standards do not mandate the implementation of specific measures. The measure/s you choose are up to you and should be the most suitable for your specific site. The design and size of any of implemented measures will depend on factors such as the topography and configuration of your property, the local climate, the catchment area and the area available for construction. You are

strongly encouraged to consult an appropriate person before you begin work on any of sediment and erosion control measures. Implementing the wrong measure for your property could create other unintended problems. See the Contacts section for more information.

The following are examples of measures that can be used to meet the erosion and sediment control requirements, and does not promote the use of one measure above others.

a) Adequate surface cover is in place on paddocks following harvest

As soon as possible following harvest, establishing and maintaining surface cover on all harvested blocks across the entire surface of the block will help to ensure that soil loss is minimised. This surface cover can include sugarcane trash, grass, a cover crop or weeds.

b) Maintaining a constant gradient

Ensuring a constant gradient of less than one percent across all areas under sugarcane cultivation helps minimise soil loss and erosion. A constant gradient is where the soil surface in the row direction is sloped, enabling furrow irrigation. This is the most effective surface drainage technique (Hurney et al 2008). Gradients of less than one percent are typically used (Holden and McGuire 1998), and the constant gradient is generally achieved by using laser or GPS-controlled equipment for the most precise results.

The exact gradient used will depend on your site characteristics. For example, steeper gradients will help reduce too much water intake by the soil nearest to irrigation outlets. On the other hand, if poor water penetration is an issue, slopes as low as 0.06 percent can be used to allow more time for water to filter into the soil.

It is important that top soil is not lost during the earthworks to create a constant furrow gradient. The top soil should be removed, stored and then replaced on top of the levelled sub-soil (Sugar Research Australia 2018).

Adding a constant furrow gradient means that water is less likely to pond in low lying areas, but may increase run-off. To manage this, you should ensure that any downstream water storage has enough capacity to receive the extra volume of water (Smith 2008). Water storages may be in the form of a recycle pit or constructed wetland.

Further resources

- Refer to chapters 6 and 12 of the Soil Conservation Guidelines for Queensland, available at www.publications.qld.gov.au
- Irrigation of Sugarcane Manual, available at www.sugarresearch.com.au

c) Surface water drainage structures

Drainage structures can be an effective way to manage surface water flow and prevent erosion. Drainage structures must be designed so that they minimise soil loss and surface water run-off by reducing run-off velocity. You should establish vegetated cover following construction of any structure and maintain this cover. An example of a suitable surface water drainage structure is a vegetated spoon drain:

Vegetated spoon drains

These structures (also known as constructed waterways or vegetated swales) are shallow, open, vegetated channels designed to collect run-off (Figure 2). They should be located where they can transport run-off to a drainage pathway or water storage (Wetland*Info* 2018b). Their shallow form prevents slumping and slows run-off, allowing coarse and medium sized sediments to settle. Because sediment can be deposited within the spoon drain over time, especially where run-off is collected from areas with poor ground cover, the spoon drains may require reconstruction and/or sediment removal to ensure discharge capacity is maintained. You should re-establish vegetated cover immediately following any maintenance works.

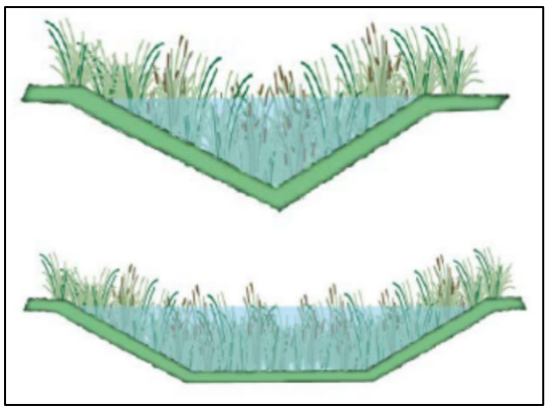

Figure 2: Diagram to show cross sections of vegetated drains (top) and vegetated swales (bottom). (Source: Department of Environment and Science, Wetland*Info* 2018b).

Regional considerations

Surface water drainage structures may need to be designed differently in regions with large volumes of intense rainfall, such as the Wet Tropics. In these regions, good drainage is needed at the top of slopes in addition to good vegetation in the drainage structures to maintain stability.

Further resources

You can access detailed information on the design and construction of surface water drainage structures, including spoon drains at:

- Vegetated swales and drains factsheet, available from the Department of Environment and Science Wetland*Info* website at www.wetlandinfo.des.qld.gov.au.

You can find a list of plant species suitable for vegetating waterways and/or drains in

- Appendix 4 of the Soil Conservation Guidelines for Queensland, available at www.publications.qld.gov.au.

d) Surface water detention structures

Directing all surface water (i.e. all waters other than ground water) to a suitable structure before reaching **receiving waters** can be an effective way to remove sediment and other pollutants from farm run-off.

Examples of suitable structures include:

Recycle pits

Recycle pits (also known as tailwater storage pits, sediment ponds or retention ponds) are structures designed to collect irrigation run-off water (also known as tailwater) for re-use on-farm (Figure 3). They are used in areas where surface furrow irrigation results in tailwater. Recycle pits do not treat the water but provide water quality benefits by ensuring that run-off water along with the sediments, nutrients and pesticides it contains, is re-used and does not enter waterways. You should monitor water levels within the recycle pit regularly and re-use the captured water as quickly as possible to ensure that enough capacity is maintained to capture future run-off (Wetland*Info* 2018c).

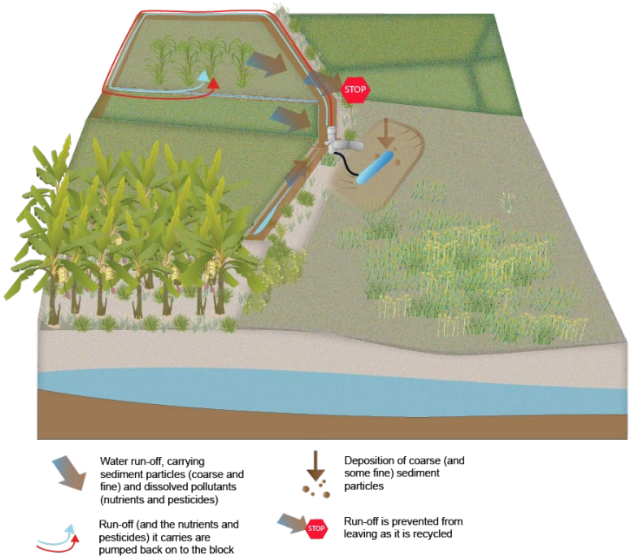

Figure 3: Example of how a recycle pit can be placed to capture run-off water on a farm.

Further resources

You can find further information on recycle pits, including important considerations, design and construction at the Department of Environment and Science Wetland*Info* website, at https://wetlandinfo.des.qld.gov.au/wetlands/

Constructed wetlands

Constructed wetlands copy the conditions found in natural wetlands but can be built in a range of locations (Department of Employment, Economic Development and Innovation 2011; Figure 4). They improve water quality by removing fine sediments, nutrients and other pollutants.

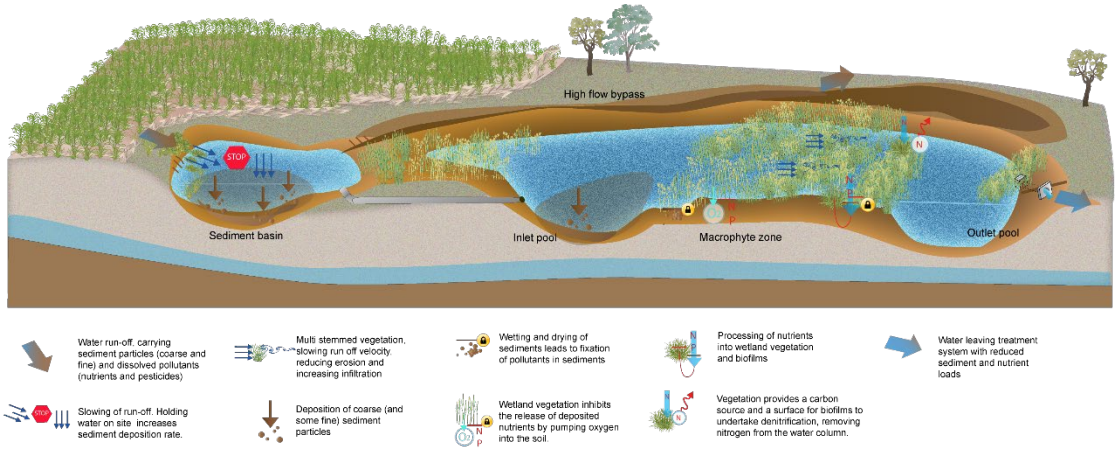

Figure 4: Features of a constructed wetland.

Further resources

You can find further information about the design, construction and management of wetlands on sugarcane farms in the SmartCane Riparian and Wetland Areas on Cane Farms booklet (Smith 2008), available online at www.smartcane.com.au.

Detailed information on the design and construction of constructed wetlands can be found online at https://wetlandinfo.des.qld.gov.au/wetlands/, including:

- Constructed (treatment) wetlands factsheet
- Treatment wetlands website information.

Sediment traps

Sediment traps (also known as silt traps or sediment basins) are structures that treat water by removing sediment, debris and litter suspended in run-off, by allowing it to settle out and be left behind when the water moves on. The size of the trap needed will depend on the area or size of the catchment and the expected size of rainfall events to be treated.

Sediment traps should be designed so that all run-off water from the catchment area is collected and detained long enough to allow coarse and medium sized sediment, debris and litter to settle. Regular maintenance will be required to remove sediment that has built up and to retain the capacity of the sediment trap (Wetland*Info* 2018e; Figure 5).

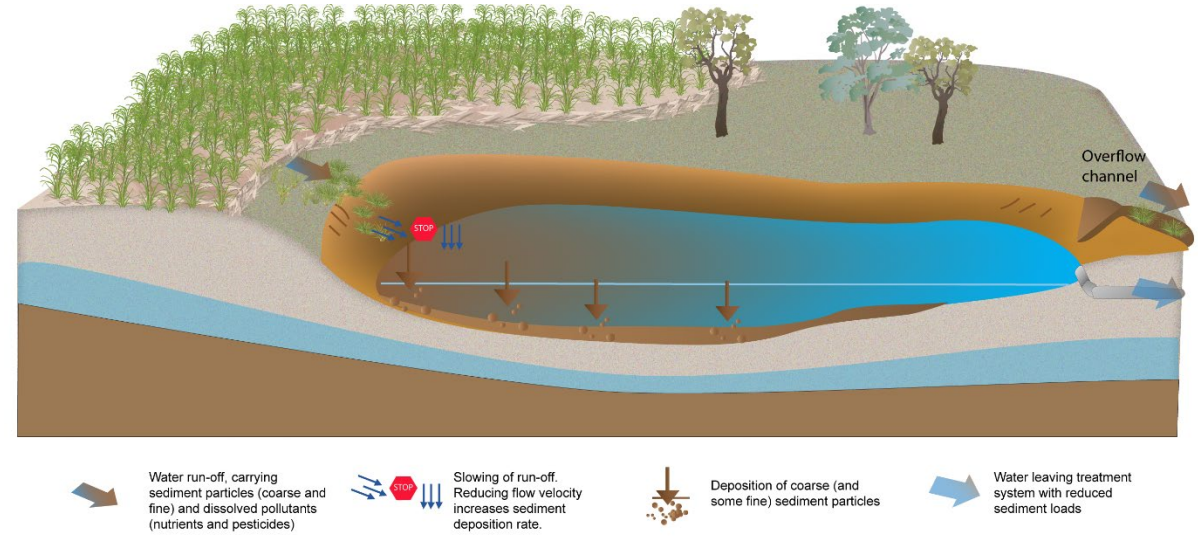

Figure 5: Top: Schematic to show how a sediment trap captures run-off water. Bottom: A newly constructed sediment trap (Source: Wetland*Info* 2018e).

Further resources

You can access further information on the placement, construction and maintenance of sediment traps at:

- Sediment basins factsheet, available at the Department of Environment and Science Wetland*Info* website, www.wetlandinfo.des.qld.gov.au.
- Soil Conservation Guidelines for Queensland: Chapter 12 Soil conservation in horticulture, available at www.publications.qld.gov.au.

e) Vegetated buffers

Vegetated buffers are an effective way to intercept the flow of water leaving a paddock and filter run-off containing sediment and nutrients before it enters a waterway (Carey et al 2015a; Figure 6). They should ideally be located adjacent to any receiving waters or riparian vegetation. The vegetated buffer should be at least five metres wide and should remain vegetated at all times. The overall width of the buffer should take into account soil loss rates, paddock size, land slope and the length available for the buffer strip.

A well-designed buffer strip will trap sediment generated during intense storms. Buffers in riparian areas can help reduce stream bank erosion (Karssies and Prosser 1999). Buffers are most effective when the vegetation they contain is:

- dense and uniformly distributed,
- perennial
- resistant to periods of flooding and drought (Prosser and Karssies 2001).

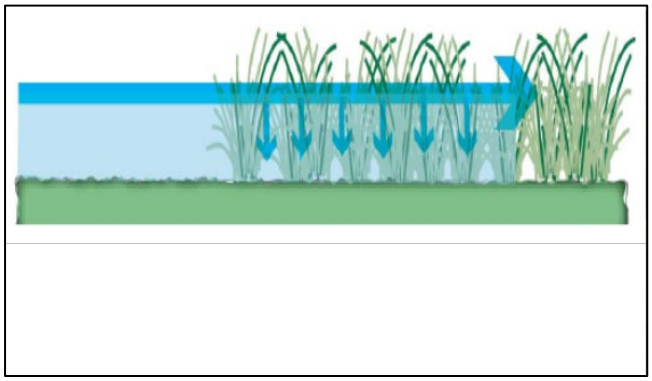

Figure 6: Diagram to show how vegetated buffers slow and filter run-off, and trap sediments through deposition as surface water flows through the vegetation.

Further resources

You can access detailed information, including specifications, on the design and construction of vegetated buffers at:

- Soil Conservation Guidelines for Queensland: Chapter 12 Soil conservation in horticulture, available at www.publications.qld.gov.au
- Buffer strips, available at Department of Environment and Science Wetland*Info* website, www.wetlandinfo.des.qld.gov.au
- Guidelines for riparian filter strips for Queensland irrigators, available from the CSIRO website, www.csiro.com.au.

High-value regrowth vegetation is protected in the Great Barrier Reef catchment. Vegetated buffers must comply with the requirements of the *Vegetation Management Act 1999*. Refer to the Vegetation Management guidelines, at www.qld.gov.au, for further information.

f) Diversion banks

Diversion banks are usually constructed above a paddock and are used to divert run-off from areas where it could cause problems (for example, cultivated paddocks or buildings) into a stable waterway such as a grassed channel, drainage line or water storage, where it can be safely disposed of (Figure 7; Carey et al 2015b; Queensland Government 2016).

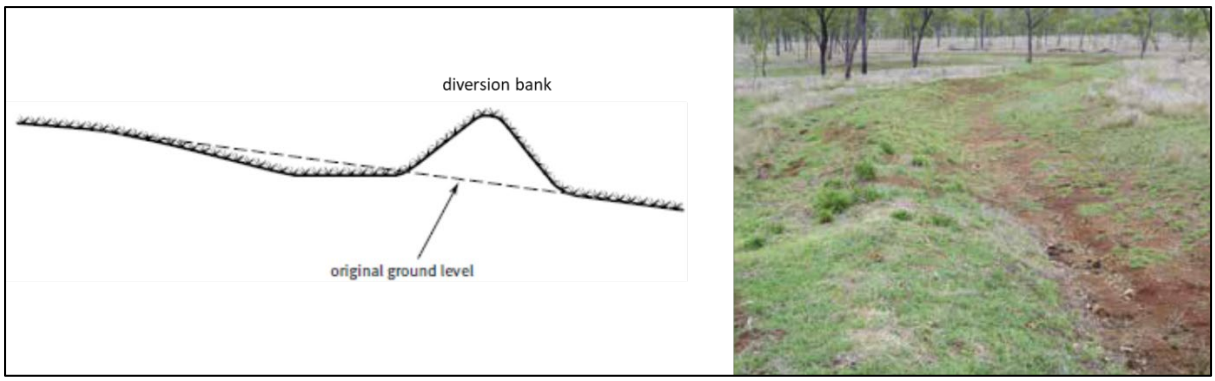

Figure 7: Left: Cross profile of a diversion bank. Right: Diversion bank in place on a property (Source: Soil Conservation Guidelines for Queensland Chapter 8).

Further resources

You can access detailed information and specifications on the design and construction of diversion banks, including information on creating a safe disposal area for run-off water from the following, available at www.publications.qld.gov.au:

- Run-off control measures for erosion control in cropping land
- Queensland Soil Conservation Guidelines: Chapter 2 Soil conservation planning
- Queensland Soil Conservation Guidelines: Chapter 8 Diversion banks.

Because diversion banks are usually located above the paddock, it may be possible to construct a diversion bank at any time during the crop cycle. You should seek specialist advice from an appropriate person on the correct placement, construction and maintenance of diversion banks.

g) Contour banks

Contour banks (also known as graded banks) are earthen banks constructed at intervals across a slope (Figure 8), with a slight gradient that is close to the natural contours of the land (Queensland Government 2016). They ensure that the flow velocity of run-off is slow enough to avoid erosion (Carey et al 2015a). In general, as the gradient of the land increases, contour banks should be constructed more closely together (Carey et al 2015c). Contour banks should be designed so that run-off is channelled into surface water drainage structures such as grassed waterways.

Figure 8: Example of well-maintained contour banks on a Queensland farm (source: https://www.qld.gov.au/environment/land/management/soil/erosion/management).

Further resources

You can access detailed information and specifications on the design and construction of contour banks, available at www.publications.qld.gov.au:

- Soil Conservation Guidelines for Queensland: Chapter 7 Contour banks
- Soil Conservation Guidelines for Queensland: Chapter 12 Soil conservation in horticulture
- Run-off control measures for erosion control in cropping land.

On sugarcane farms, contour banks can be a useful measure to implement between blocks where they will not interfere with cropping and harvesting activities, but help channel run-off into surface water drainage structures.

h) Any other measure that minimises soil loss and surface water run-off

The measures listed in the previous sections are not exhaustive, and you may choose to implement other erosion and sediment control measures that achieve the outcome of minimising the loss of soil to waterways.

Some examples of alternative measures include the following sections of the Soil Conservation Guidelines for Queensland, available at www.publications.qld.gov.au:

- Managing run-off with mounds, either cross-slope or down-slope. Chapter 12 (section 12.4.5).
- Managing run-off with terraces, by converting steeper land into a series of benches running across the slope. Chapter 12 (section 12.4.6).
- Other innovative measures that minimise disturbance and loss of soil.

Establish a cover crop on fallow blocks: standard condition 4

Following harvest, all **fallow** blocks must have adequate surface cover in place to help ensure soil loss is minimised. Ways that you can achieve this include establishing a cover crop, which may include grass, or by leaving sugarcane trash in place on the block (i.e. a green cane trash blanket).

Surface cover is widely used to provide protection of the soil surface during the fallow period for example, between the destruction of the final ratoon crop and establishment of the next plant crop (Carey et al 2015a).

The benefits of using cover crops or a green cane trash blanket include:

- protecting soil from erosion by reducing the impact of heavy raindrops
- reducing the volume and speed of run-off
- conserving soil moisture
- protecting the crop from weed competition
- helping break disease cycles
- creating microclimatic conditions in and near the soil surface which can enhance soil health and fertility by increasing soil carbon and microbial activity (Carey et al 2015a; Department of Environment and Science, 2010).

Suitable cover crops include legumes such as Dolichos lablab, cowpea and soybean (Hurney et al 2008; Figure 9). You can access further information on suitable cover crops, including those best suited to different climates in Chapter 12 of the Soil Conservation Guidelines for Queensland, available at www.publications.qld.gov.au or by seeking advice from an appropriate person. You can also comply with this standard by allowing grass to grow following harvest.

Figure 9: A legume cover crop.

Harvesting sugarcane trash: standard condition 5

If a prescribed methodology applies for the harvesting of sugarcane trash, you must harvest sugarcane trash on your property in accordance with the methodology. As at 1 December 2019, a trash harvesting methodology is not in place.

A prescribed methodology refers to a methodology prescribed by the *Environmental Protection Regulation 2008.*

Harvesting sugarcane trash refers to the post-harvest trash removal from the agricultural property for another purpose. It does not refer to harvesting of sugarcane that is transported to a sugarcane mill for the production of sugar.

Typically all trash created during the harvest process is left on the ground. Known as green cane trash blanketing, this is a common practice in many sugarcane growing areas. The green cane trash blanket (Figure 10) provides ground cover during the crop cycle and helps prevent erosion of the soil surface, retain moisture and suppress weed growth. Also, as the trash breaks down and becomes incorporated into the soil, it helps to increase soil organic matter and improve soil health (Carey et al 2015a; Department of Science, Information Technology and Innovation 2015).

If you choose to harvest trash for any purpose you must still provide surface cover across the entire block, in particular for the period of time until canopy closure.

Figure 10: Green cane trash blanket on a farm in Mackay.

Additional information

Land at greater risk of erosion

Some areas of land have a higher risk of erosion than others. This includes areas with, but not limited to:

- a land slope of 3% or greater. The simplest way to measure the slope of a block is by using Google Earth (see How to calculate the slope of your property) or you can use instruments such as a clinometer (Department of Infrastructure, Local Government and Planning 2015); or
- poor ground cover in terms of cover crops, fallow crops, or the sugarcane crop;
- evidence of erosion for example, abrasion, detachment or removal of soil from one point of the landscape to another. Examples can include active **sheet**, **rill**, and **gully erosion**;
- areas with long slopes, which allow run-off to concentrate and potentially become more erosive.

This list is not exhaustive and you may find that other areas of your property are prone to, or suffering from, erosion. If this is the case, you must take action to stabilise those areas and address soil loss.

Detailed soil and land information is available from the Queensland Globe at https://qldglobe.information.qld.gov.au/ and from the Soil Conservation Guidelines for Queensland at https://publications.qld.gov.au/dataset/soil-conservation-guidelines) that also include information on a range of soil and cropping situations.

How to calculate the slope of your property

Slope length is an important factor in determining erosion risk. For a given gradient, a longer slope allows run-off to concentrate, resulting in greater run-off volume and flow velocity, with an associated greater potential for erosion (Carey et al 2015a). You can measure the slope of specific blocks using Google Earth or by using hand-held instruments such as a clinometer (Department of Infrastructure, Local Government and Planning, 2015).

To calculate slope using Google Earth, use the following steps:

- Step 1: find the length between the endpoints of your slope by using the ruler tool (Figure 11).
- Step 2: using the mouse cursor, click on one end of the slope, move the mouse and click on the other end of the slope. The length of the slope will be displayed on screen. Change the units to metres if this is not already displayed.
- Step 3: find the elevation of the top and bottom of your slope by hovering the mouse cursor over the area and reading the elevation from the bottom of the screen. Subtract the lower from the higher elevation to calculate the difference in elevation between the top and bottom of the slope.

- Step 4: the difference in elevation divided by the distance (in metres) between the two points will give you the slope percentage. Multiple your answer by 100 to calculate the % slope (Quora 2014; https://www.quora.com/How-can-I-measure-the-slope-of-a-landscape-using-Google-Maps-or-Google-Earth).

You can find detailed information on how to calculate slope using a variety of hand-held tools at www.dlgrma.qld.gov.au.

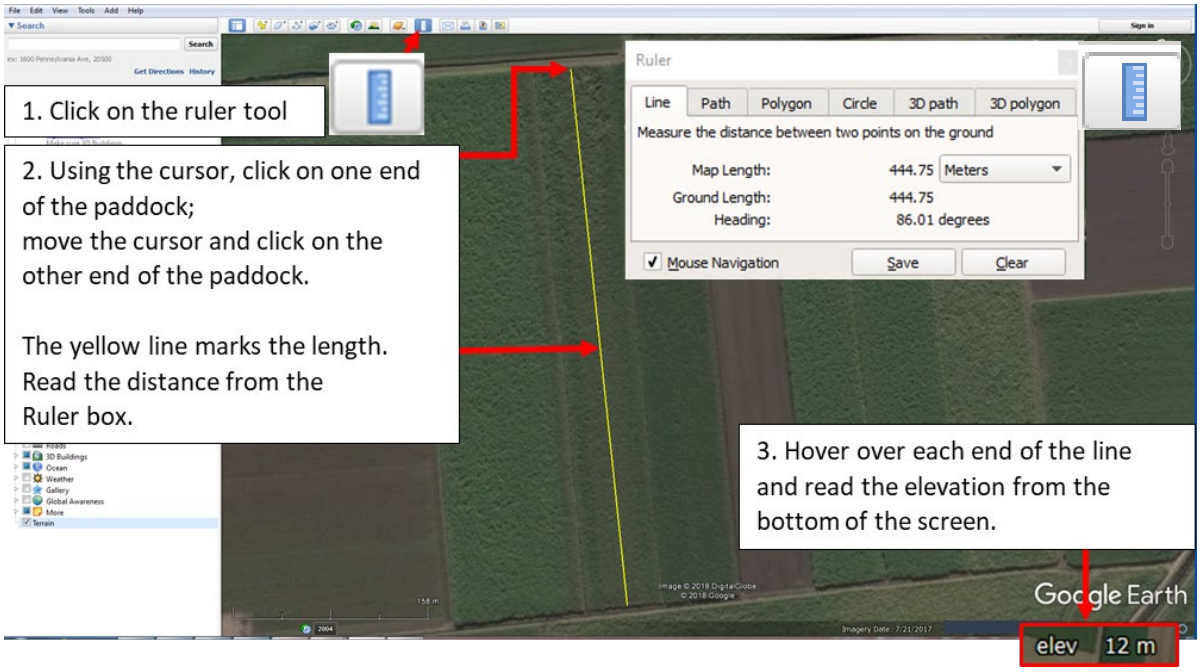

Figure 11: Example of how to use Google Earth to measure the slope of a particular area of land on your property. In this example, length of paddock = 444 m; elevation (top) = 12 m; elevation (bottom) = 3 m. To calculate the slope: 12 m – 3 m/444 m x 100% = 2%.

Contacts

For further information and to seek advice, you can contact the following organisations:

Department of Environment and Science (DES)
13 QGOV (13 74 68)
officeoftheGBR@des.qld.gov.au
www www.qld.gov.au/ReefRegulations

Department of Agriculture and Fisheries (DAF) extension officers can be contacted on:
13 25 23 (cost of a local call within Queensland), or 07 3403 6999
callweb@daf.qld.gov.au
www www.daf.qld.gov.au/about-us/contact-us
Contact details for regional offices can be found here:
www www.daf.qld.gov.au/contact/offices

Sugar Research Australia extension staff can be contacted on:
07 3331 3333
sra@sugarresearch.com.au
www www.sugarresearch.com.au/contact/

SmartCane BMP
07 3864 6444
info@smartcane.com.au
www www.smartcane.com.au

Natural Resource Management (NRM) groups
www www.nrmrq.org.au/find-your-regional-group

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