

5.7. ENHANCING GREAT BARRIER REEF REGULATIONS SUBMISSION TO EHP

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RECOMMENDATION

That Council resolves to support and submit the attached Enhancing Great Barrier Reef Regulations Submission to the Department of Environment and Heritage Protection.

EXECUTIVE SUMMARY

The Department of Environment and Heritage Protection invited Douglas Shire Council to provide a submission regarding Enhancing the Great Barrier Reef Regulations.

BACKGROUND

The Queensland Government is proposing to broaden and enhance its existing reef protection regulations to eliminate the most polluting practices from land-based activities (principally agricultural industries) in the Great Barrier Reef catchment. The proposed changes aim to support the government's reef water quality targets by improving the quality of water flowing to the Great Barrier Reef.

Whilst climate change is acknowledged as the single biggest threat to the Reef, poor water quality, caused by excess nutrients, sediment and pesticides from reef catchments, is one of the major causes of the poor state of key marine ecosystems. The Great Barrier Reef receives run-off from 35 major catchments (including the Wet Tropics), from Cape York in the north to the Burnett Mary in the south. The proposed enhanced legislation changes aim to address:

- Excess Nutrients (primarily nitrogen and phosphorous)
- Sediments (particularly fine sediments)
- Pesticides and other pollutants (e.g. herbicides, insecticides and fungicides)

The combination of these factors ultimately decrease the Reef's ability to recover from the impacts of climate change, such as bleaching events and more intense extreme weather events like storms and tropical cyclones.

The Queensland Government has drafted a discussion paper on 'Enhancing regulations to ensure clean water for a healthy Great Barrier Reef and a prosperous Queensland' which has been enclosed as **Attachment One**.

Condition of the Reef – Water Quality

The quality of water entering the Reef has deteriorated over the past 100 years and continues to have a detrimental effect on the marine ecosystem. Long term monitoring by the Australian Institute of Marine Science shows the GBR has lost half its coral cover in the past 27 years. According to the Reef Water Quality Protection Plan 2013 (Reef Plan) this loss was due to storm damage (48%), crown-of-thorns starfish (42%), and bleaching (10%).

Evidence indicates that elevated nutrient levels are linked to outbreaks of crown-of-thorns starfish. Sediment, nutrients and pesticides (including herbicides and fungicides) leaving agricultural land and draining into the Reef lagoon remain the largest contributors of elevated pollutant levels.

The latest GBR Report Card published in 2015 details progress towards the Reef Plan targets. Table One details the key results presented in the Report Card.

Table One: GBR Report Card 2015 Overview

	Indicators	2018 Target	GBR Overall Score	Wet Tropics Score
Inshore Marine Condition	Coral	-	C 44%	C 53%
	Seagrass	-	D 33%	D 27%
	Water Quality	-	C 43%	D 33%
Management Practices	Sugarcane	90%	D 23%	D 27%
	Grazing	90%	D 36%	D 35%
	Horticulture	90%	C 47%	C 56% (bananas only)
	Grains	90%	C 56%	not available
Catchment Indicators Catchment Loads	Ground Cover	70%	A 77%	A 88%
	Dissolved inorganic nitrogen	50%	E 18.1%	E 14.7%
	Sediment	20%	C 12.3%	B 13.6%
	Pesticides	60%	C 33.7%	C 31.9%

The long term goal of the Reef Plan is to ensure that by 2020 the quality of water entering the Reef from broadscale land use has no detrimental impact on the health and resilience of the GBR.

In addition to the annual GBR Report Card the Great Barrier Reef Marine Park Authority also provides a five yearly Outlook Report on the GBR. The latest Outlook Report, published in 2014, concluded that 'Even with the recent management initiatives to reduce threats and improve resilience, the overall outlook for the Great Barrier is poor, has worsened since 2009 and is expected to further deteriorate in the future. Greater reductions of threats at all levels, Reef-wide, regional and local, are required to prevent the projected declines in the Reef and to improve its capacity to recover.'

The Problem – Water Quality

The 2013 Scientific Consensus Statement on land use impacts on Reef water quality and ecosystem condition was prepared by an independent panel of 40 leading scientists. It identified the greatest water quality risks to the Reef to be from increased discharge of nutrients and fine sediments, while pesticides posed significant risk for coastal freshwater ecosystems:

- Excess nutrients (such as nitrogen and phosphorous) in the marine environment are linked to outbreaks of destructive coral eating crown-of-thorns starfish, excessive algal growth as well as increased susceptibility of corals to disease.
- Fine sediment discharge reduce light available to seagrass ecosystems and inshore coral reefs.
- Pesticides (specifically photosystem II herbicides) inhibit primary production, seagrass and coral growth and at high concentrations, can lead to mortality.

The main sources of nitrogen, sediments and pesticides are:

- The dominant sources of nitrogen and pesticides are from agricultural fertiliser and pesticide use in intensive cropping, predominantly sugarcane farms, where large amounts of nitrogen fertiliser are used to maximise crop production.
- Grazing lands contribute the most sediment (and associated particulate nutrients) delivered to the Reef. Efforts to reduce erosion and sediment run-off will also help in reducing particulate nutrient loads.
- Other land uses, such as industrial, mining, port development, dredging and urban development contribute relatively small loads of pollutants to the Reef but can be locally significant. These industries are generally more heavily regulated than agriculture.

The Water Quality Relative Risk Assessment prepared in 2013 highlighted the Wet Topics region (along with the Burdekin region) as a priority area for reducing nutrient (nitrogen and phosphorous) run-off.

The GBR Report Card 2013 shows not enough land is being managed using best management practices that have been proven to successfully reduce water pollution. Practices vary from industry to industry, but generally they include optimising fertiliser rates and the timing of application, maintaining ground cover through appropriate stocking practices, and maximising irrigation efficiency.

Existing Regulation

The main response to date for mitigating agricultural impacts (cane, grazing, cropping, grains, bananas and horticulture) has been encouraging farmers to voluntarily adopt best management practices.

From 2009, the Environmental Protection Act 1994 and the Chemical usage (Agricultural and Veterinary) Control Act 1988 regulated the application of nitrogen, phosphorus and chemical (pesticide) application, and also required an Environmental Risk Management Plan for certain cane and grazing activities in the Wet Tropics, Burdekin and Mackay Whitsundays catchments. However, in 2012, the previous Queensland Government moved away from a regulatory approach and encouraged cane growers and grazers to meet the regulatory standards voluntarily through the cane and grazing Best Management Practice (BMP) programs. The regulatory standards are reflected in these programs. The current

government has, however re-established a compliance program for the application of nitrogen, phosphorus and pesticides against the previous regulatory standards.

Point-source industrial activities (such as sewage treatment plants, aquaculture facilities, mining, dredging and quarrying) must meet water quality discharge requirements through a license under the Environmental Protection Act 1994. Urban development is required to be consistent with State and local planning instruments under the Sustainable Planning Act 2009, and other regulation dependent on the nature of the development.

Statutory provisions also already exist to protect wetlands and riparian vegetation, but this is limited to certain wetlands and vegetation in priority Reef catchments. Targets for reducing catchment pollution loads are outlined in the Reef Plan and the Reef 2050 Long-Term Sustainability Plan but are currently non-statutory.

Regulatory Proposals

The package of regulatory proposals directly responds to the recommendations of the Great Barrier Reef Water Science Taskforce (The Taskforce) Final Report released in May 2016. The Taskforce was established in May 2015 to provide the Queensland Government with advice on the best possible approach to working towards its ambitious water quality targets and recommend the priority actions for investing \$90 million of new funding. The Taskforce final report contains 10 recommendations to help accelerate progress towards the water quality targets. The Queensland Government has formally responded to the Taskforce Final Report and agreed, or agreed in principle, with all 10 recommendations.

Recommendations 4 and 5 directly relate to the proposed regulatory proposals, a summary of these enhanced regulatory proposals has been enclosed as **Attachment Two** (Extract from GBR Water Science Taskforce Final Report). In a formal response to the Taskforce Final Report, the Queensland Government has 'agreed' with recommendation 4 and 'agreed in principle' to recommendation 5. The initial regulatory proposals as described in the Discussion Paper have been outlined in Table Two. It is anticipated that further developments in the enhanced regulatory proposals will resemble the Taskforce recommendations.

Table Two: Regulatory Proposals

<p>Set or improve minimum practice standards targeting nutrient and sediment pollution for all key industries in all reef catchments</p>	<ul style="list-style-type: none"> • Minimum practice regulatory standards will be established for commercial banana, horticulture and grain production. • The minimum regulatory standards that apply for commercial sugarcane and grazing production will be improved. • The practices targeted for regulation will include fertiliser application, maintaining ground cover, irrigation management and keeping records. • Minimum practice standards will apply to producers in the 35 catchments that drain into the reef. • The government will recognise and reward the efforts of producers to become accredited against industry Best Management Practice programs by providing the ability for these programs to be legally recognised as an alternative pathway for producers to meet minimum practice regulatory standards. • Producers accredited against a recognised Best Management Practice program (or equivalent program) will be deemed as demonstrating compliance with the minimum practice regulatory standards. • The existing minimum regulated standards for urban development, stormwater management, and other intensive land uses (end-of-pipe pollution) will be reviewed and improved.
<p>Set pollution load limits for each reef catchment to target responses for managing risks to water quality</p>	<ul style="list-style-type: none"> • Catchment pollution load limits for the 35 reef catchments will be linked to regulatory and non-regulatory decision-making about the impacts of new agricultural, urban and other intensive land uses in catchments that release high pollutant loads into the reef. • Proposals to significantly expand or intensify agricultural, urban and other intensive land uses in reef catchments with high pollutant loads will be required to avoid, mitigate or otherwise offset any additional nutrient or sediment pollution.
<p>Provide a framework for water quality offsets to be used to counter residual nutrient or sediment pollution from new agricultural, urban and other intensive land uses</p>	<ul style="list-style-type: none"> • New activities that cannot be undertaken in a way to avoid or mitigate the release of additional nutrient or sediment pollution will be required to be supported by additional action that offsets residual pollution.

COMMENT

The thirteen questions on water quality outlined in the 'Enhancing regulations to ensure clean water for a healthy Great Barrier Reef and a prosperous Queensland' discussion paper have been addressed in the submission, enclosed as **Attachment Three**.

PROPOSAL

That Council resolves to support and submit the attached Enhancing Great Barrier Reef Regulations submission to the Department of Environment and Heritage Protection.

FINANCIAL/RESOURCE IMPLICATIONS

There are currently no additional financial or resource implications for Council in making an Enhancing Great Barrier Reef Regulations submission to the Department of Environment and Heritage Protection.

SUSTAINABILITY IMPLICATIONS

- Economic:** Complying with enhanced Reef regulations will require many industries to upgrade existing practices and invest in new infrastructure. However, by improving the water quality of the Reef, these practices will offer some protection to the estimated \$6 billion a year contribution to the Queensland and Australian economy from Reef related activities. The proposed regulatory changes could potentially impact Council operations, for example waste water treatment plants, stormwater management and landfills.
- Environmental:** The Reef's ecosystems grow best in waters that have naturally low concentrations of nutrients, sediments and pesticides. The proposed enhancement of reef protection regulations should reduce, if not eliminate most polluting practices from land-based activities in the GBR catchment. This will support the health and resilience of the Reef to respond to threats associated with climate change (e.g. coral bleaching and more frequent extreme weather events).
- Social:** Improving the water quality of the Reef will offer some protection to the estimated 69,000 Reef related (tourism, recreation, commercial fishing and scientific research) jobs which depend on a healthy Reef and ecosystem.

CORPORATE/OPERATIONAL PLAN, POLICY REFERENCE

This report has been prepared in accordance with the following:

Corporate Plan 2014-2019 Initiatives:

Theme 4 - Engage, Plan, Partner

4.2.3 - Work with regional, state, national and international stakeholders to promote beneficial partnerships to support strong, resilient and sustainable communities.

Operational Plan 2015-2016 Actions:

COUNCIL'S ROLE

Council can play a number of different roles in certain circumstances and it is important to be clear about which role is appropriate for a specific purpose or circumstance. The implementation of actions will be a collective effort and Council's involvement will vary from information only through to full responsibility for delivery.

The following areas outline where Council has a clear responsibility to act:

- Advocate** Supporting communities and groups by advocating for certain actions from other organisations (usually other levels of government)

CONSULTATION

- Internal:** Consultation has taken place within the Resource Management Team.
- External:** The Department of Environment and Heritage Protection.

COMMUNITY ENGAGEMENT

This is a Department-led engagement activity. The Department of Environment and Heritage Protection is providing the opportunity for wider public comment via its website. EHP has also indicated that there will likely be additional consultation with industry groups (for example, agricultural industries) as the minimum practice standards are drafted.

ATTACHMENTS

1. Discussion Paper on GBR Enhanced Regulations **[5.7.1]**
2. Extract from GBR Water Science Taskforce Final Report **[5.7.2]**
3. Enhancing Reef Regulations Submission to EHP - Douglas **[5.7.3]**



Enhancing regulations to ensure clean water for a healthy Great Barrier Reef and a prosperous Queensland

Discussion paper

March 2017



Message from the Minister

As Queenslanders, we share in both the privilege and the duty of protecting our precious Great Barrier Reef.

We all know that the reef is under increasing pressure. The twin pressures of ocean warming and acidification due to climate change, along with the increasing severity of extreme weather events and poor water quality due to pollution running off land, means the long-term survival of the reef is in jeopardy.

It is critical we act to reverse the decline in its health. While global efforts to reduce climate change are underway, we can act locally here in Queensland to reduce other pressures on the reef to build its resilience and ability to bounce back from the impacts of climate change. The most urgent priority is to improve the quality of water that runs into the reef lagoons.

We all have an important role to play in ensuring clean water flows to the reef. The Queensland Government recognises the good work of businesses, industry and the many dedicated agricultural producers using best management practices that reduce reef water pollution. The Queensland Government is also delivering record levels of investment for reef water quality initiatives.

But the great work being done by many is undermined by those who are yet to make improvements. Results from the most recent Reef Report Card make clear that the current rate of progress is not fast or widespread enough to deliver the level of water quality improvement we have committed to achieve and which is necessary to give the reef its best chance of survival.

We all need to intensify our efforts to reduce pollution in the water flowing into the reef, and we need to do it now—before it's too late.

The Great Barrier Reef Water Science Taskforce delivered its report on how best to meet Queensland's reef water quality targets in May 2016. The Taskforce found that a mix of tools and approaches would be required, including a strengthened regulatory framework to help eradicate the most polluting practices from land-based activities in the Great Barrier Reef catchment.

The Queensland Government accepts that broadening and enhancing the existing reef protection regulations is crucial to accelerating the improvement in land management practice we need to achieve for the sake of the reef.

This discussion paper details the regulatory proposals being considered and seeks your feedback to develop solutions that will accelerate our progress towards clean water for a healthy, resilient reef.

I encourage you to provide your comments, to help secure the future of our Great Barrier Reef and the future of everyone who depends upon and cherishes it.

Dr Steven Miles

Minister for Environment and Heritage Protection
Minister for National Parks and the Great Barrier Reef



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Introduction

Queensland is proposing to broaden and enhance its existing reef protection regulations to stamp out the most polluting practices from land-based activities in the Great Barrier Reef catchments. The proposed changes will form an important part of the comprehensive effort now underway to radically improve the quality of water flowing to the Great Barrier Reef to meet the government's reef water quality targets and community expectations for a clean and healthy reef.

The Great Barrier Reef is an international icon of Australia and one of the nation's cultural and ecological treasures. It is home to a breathtaking array of life, worth \$6 billion a year to the Queensland and Australian economies and supports over 69,000 jobs.

Protecting the Great Barrier Reef is both a duty and a privilege we all share.

Unfortunately, the reef is in serious trouble. Climate change is the single biggest threat to the reef, while nutrient and sediment pollution from reef catchments is one of the major causes of the poor state of key marine ecosystems.

With efforts to reduce global climate change underway, the focus is also on improving reef water quality to support the health and resilience of the reef to respond to the threats from climate change.

Nutrient and sediment in run-off from agricultural and urban activities, as well as end-of-pipe releases from urban and other intensive land uses, are the main sources of pollutants to the reef with agricultural production the main contributor.

These activities include sugarcane, grazing, banana, horticulture and grains production, as well urban development in reef regional centres, and other intensive land uses such as sewage treatment plants, intensive animal industries such as prawn farms and feedlots, mining, port development, roads, quarrying and landfills.

The great work of landholders is acknowledged along with industry efforts in Best Management Practice (BMP) programs.

Why is good water quality important for the Great Barrier Reef?

Great Barrier Reef ecosystems grow best in waters that have naturally low concentrations of nutrients (nitrogen and phosphorus) and sediment.

Murky water from increased nutrients and sediment reduces light, smothering corals, seagrasses and other plants, affecting their growth and survival as well as the survival of turtles, dugongs, fish and other animals that depend on them for food and shelter.

Increased nutrient levels are linked to outbreaks of the coral eating crown-of-thorns starfish.



The latest 2015 Great Barrier Reef Report Card shows some improvement in cutting the amount of nutrient and sediment pollution from land-based activity, but progress is too slow and not widespread enough.

This means Queensland is likely to fail to achieve the reef water quality targets essential for maintaining the health and resilience of the Great Barrier Reef.

The Reef Water Quality Protection Plan 2013 water quality targets:*

At least a 50 per cent reduction in anthropogenic end-of-catchment dissolved inorganic nitrogen loads in priority areas by 2018.

At least a 20 per cent reduction in anthropogenic end-of-catchment loads of sediment and particulate nutrients in priority areas by 2018.

* Based on comparisons with the 2009 baseline.

In 2015, the Queensland Government delivered on its election commitment to convene a Great Barrier Reef Water Science Taskforce (the Taskforce) to provide advice on the best possible approach to achieving the water pollution reduction targets for nutrients and sediment.

The Taskforce stated that one of the most manageable impacts on the reef is human-induced run-off of pollutants in rivers flowing to the reef.

In its final report to government, the Taskforce recommended the broadening and enhancing of regulations to reduce water pollution from rural and urban sources, supported by other measures such as education and extension, incentives and improved water quality monitoring.

The Queensland Government supports this recommendation and believes targeted and appropriate regulation is crucial to making serious headway towards improving the quality of water flowing to the reef.

This discussion paper provides information about the regulatory proposals being considered to complement other initiatives, and seeks your feedback on specific questions to help develop solutions that ensure clean water for a healthy, resilient reef and a strong and prosperous Queensland for everyone.

Your submission will support the government in further determining the costs and benefits of the regulatory proposals. The government will subsequently release a Regulatory Impact Statement, which will outline the costs and benefits of the regulatory proposals, for public consultation.

Submissions close on 7 April 2017.

For information on how to make a submission, visit www.qld.gov.au/greatbarrierreef.

Great Barrier Reef regions and catchments



- Cape York**
- Jacky Jacky Creek
 - Olive Pascoe
 - Lockhart River
 - Stewart River
 - Normanby River
 - Jeannie River
 - Endeavour River

- Wet Tropics**
- Daintree River
 - Mossman River
 - Barron River
 - Mulgrave-Russell River
 - Johnstone River
 - Tully River
 - Murray River
 - Herbert River

- Burdekin**
- Black River
 - Ross River
 - Haughton River
 - Burdekin River
 - Don River

- Mackay Whitsunday**
- Proserpine River
 - O'Connell River
 - Pioneer River
 - Plane Creek

- Fitzroy**
- Styx River
 - Shoalwater
 - Waterpark Creek
 - Fitzroy River
 - Calliope River
 - Boyne River

- Burnett Mary**
- Baffle Creek
 - Kolan River
 - Burnett River
 - Burrum River
 - Mary River

The Great Barrier Reef stretches more than 2300 kilometres along Queensland's coastline. It receives run-off from 35 catchments which are spread over six natural resource management regions.

Regulatory proposals—at a glance

<p>Set or improve minimum practice standards targeting nutrient and sediment pollution for all key industries in all reef catchments</p>	<ul style="list-style-type: none"> • Minimum practice regulatory standards will be established for commercial banana, horticulture and grain production. • The minimum regulatory standards that apply for commercial sugarcane and grazing production will be improved. • The practices targeted for regulation will include fertiliser application, maintaining ground cover, irrigation management and keeping records. • Minimum practice standards will apply to producers in the 35 catchments that drain into the reef. • The government will recognise and reward the efforts of producers to become accredited against industry Best Management Practice programs by providing the ability for these programs to be legally recognised as an alternative pathway for producers to meet minimum practice regulatory standards. • Producers accredited against a recognised Best Management Practice program (or equivalent program) will be deemed as demonstrating compliance with the minimum practice regulatory standards. • The existing minimum regulated standards for urban development, stormwater management, and other intensive land uses (end-of-pipe pollution) will be reviewed and improved.
<p>Set pollution load limits for each reef catchment to target responses for managing risks to water quality</p>	<ul style="list-style-type: none"> • Catchment pollution load limits for the 35 reef catchments will be linked to regulatory and non-regulatory decision-making about the impacts of new agricultural, urban and other intensive land uses in catchments that release high pollutant loads into the reef. • Proposals to significantly expand or intensify agricultural, urban and other intensive land uses in reef catchments with high pollutant loads will be required to avoid, mitigate or otherwise offset any additional nutrient or sediment pollution.
<p>Provide a framework for water quality offsets to be used to counter residual nutrient or sediment pollution from new agricultural, urban and other intensive land uses</p>	<ul style="list-style-type: none"> • New activities that cannot be undertaken in a way to avoid or mitigate the release of additional nutrient or sediment pollution will be required to be supported by additional action that offsets residual pollution.

The case for regulatory action

It is well established by science that the health of the Great Barrier Reef has declined due to climate change and poor water quality generated by land-based activities. The climate change risks of most concern are ocean warming and acidification and the increased intensity of extreme weather events.

Poor water quality from land-based activities results from polluted run-off containing excess nutrients and sediment (primarily from agriculture) entering local creeks and waterways as well as groundwater in catchments that flow to the Great Barrier Reef.

Sediment enters creeks from eroding gullies, streambanks and hills where there is insufficient ground cover. It is then transported to reef waters, making it cloudy and preventing corals and seagrass getting the sunlight they need to thrive.

Excess nutrients from the fertilisers used in agriculture leach into the soil and then groundwater, or are washed into creeks by rain or irrigation releases. These excess nutrients are linked to outbreaks of the coral eating crown-of-thorns starfish, excessive algal growth as well as increased susceptibility of corals to disease.

Urban and other intensive land uses including sewage treatment, intensive animal industries such as prawn farms and feedlots, mining, port development, roads and quarrying can also contribute to poor reef water quality.

While a smaller amount of land is devoted to these activities compared to agriculture in reef catchments, pollution from these sources can have significant localised impacts on the reef, particularly on inshore areas.

Pollution loads from reef catchments have increased substantially since European settlement. It is estimated that sediment and nitrogen loads have increased by 600 per cent and phosphorus loads by 900 per cent in the reef as a result of land-based human activities within the reef catchments.

According to Queensland Treasury projections, the population across the major urban centres of Townsville, Cairns, Mackay and Gladstone is expected to increase by approximately 370,000 people by 2036. This will require significant investment in sewage treatment and urban stormwater facilities.

The Queensland Government encourages continued economic growth in Queensland. This includes new industry opportunities, such as biofuels and preparation of a North Queensland Regional Plan, which will support growth in the agricultural sector as a key regional opportunity.



The Queensland Government believes that these opportunities can be realised in an environmentally sustainable way.

It is critical that the potential increase in pollution from new activities does not create a net decline in water quality. This would jeopardise the positive pollution reductions that existing producers, industries and communities have achieved so far, as well as the capacity to meet the water quality targets.

"The quality of the water flowing to the Great Barrier Reef is of paramount importance. Good water quality will reduce crown-of-thorns starfish numbers and provide the opportunity for the coral to adapt to the warming of our oceans. Without good water quality, reef-based tourism industries will disappear."

Col McKenzie, Executive Director, Association of Marine Park Tourism Operators (AMPTO).

AMPTO is the peak industry body for marine tourism within the Great Barrier Reef Marine Park.

Many farmers have improved their land management practices, and the momentum to adopt these practices more broadly is increasing. Businesses and local governments are also doing good work to limit nutrient and sediments entering local waterways. However, much more needs to be done.

The latest 2015 Great Barrier Reef Report Card shows not enough land is being managed using the best management practices that we know successfully reduce water pollution.

This means we are not getting the improvement in water quality that we need to give the Great Barrier Reef the best chance of long-term survival.

Instead, the overall condition of the inshore marine environment remains poor. This is not only bad news for the reef but also for those Queenslanders seeking to grow and maintain their reef-dependent businesses.

Broadening and enhancing the reef protection regulations will provide government with the additional tools it needs to target poor performance and ensure the worst polluting practices are stamped out.



What are the regulatory proposals?

The package of regulatory proposals directly responds to the recommendations of the Great Barrier Reef Water Science Taskforce Final Report released in May 2016.

The package will broaden and enhance the current reef protection regulations so that everyone plays their part in making sure only clean water flows into local creeks and waterways that feed into the reef.

The proposals will strengthen water quality standards for existing regulated development such as urban development, stormwater management and other intensive land uses. Minimum practice standards will be set for commercial banana, horticulture and grain production, and the minimum practice standards that already apply for commercial sugarcane and grazing will be improved.

The regulatory proposals also involve setting pollution load limits for each of the 35 reef catchments to target high polluting catchments. This will manage the amount of nutrient and sediment pollutants from new agricultural, urban and other intensive activities flowing to the reef.

Unavoidable pollutant loads from new activities (expansion or intensification) are also proposed to be managed through the use of water quality offsets. This initiative allows for nutrient and sediment pollution that cannot otherwise be avoided or mitigated to be offset by pollution reduction actions either onsite or elsewhere, for example, by introducing drip irrigation or enhanced efficiency fertilisers, or undertaking streambank repair works.

Each element of the package is explained in more detail below.

Set or improve minimum practice standards targeting nutrient and sediment pollution for all key industries in all reef catchments

Minimum standards—agriculture

Minimum practice standards will be established for commercial banana, horticulture and grain production. The standards that already apply for commercial sugarcane and grazing production will be improved.

The minimum standards will apply to commercial producers in the 35 reef catchments. However, not all farming practices are relevant to water quality.

The types of practices targeted for regulation will aim to minimise the loss of nutrients and sediments to the reef to accelerate progress towards the reef water quality targets, and maintain or improve productivity and increase profitability.

Practices vary from industry to industry. Standards will be specific to each agricultural industry or type of produce (i.e. specific to bananas or to sugarcane etc) and based on existing industry minimum standards and practices known to reduce nutrient and sediment losses.

Relevant practices include optimising fertiliser rates and the timing of application, maintaining ground cover through appropriate stocking practices, and maximising irrigation efficiency.

Record keeping will also be required so that producers can track what is happening on their farm and use this information to improve profitability and productivity, as well as provide evidence of compliance with the minimum standards or for accreditation against a Best Management Practice (BMP) program.

The government will work and consult with each agricultural industry over the next year to determine the minimum practice standards.

Where it is established that current standards are inadequate in reducing nutrient and sediment loss, or do not exist, new standards will be established in consultation with industry. The new standards will also consider barriers to practice adoption.

Following the development of the standards, it is proposed that timeframes will be set in legislation as to when the regulated minimum standards will come into effect. This will give producers certainty and time to adopt these standards where necessary.

These timeframes will be staged across different agricultural industries. This staging will consider the pollutant risk of the agricultural sector and the extent to which existing standards for water quality outcomes already apply.



Sustainable practices boost productivity and profitability

Farm trials funded by the Queensland Government for sugarcane production have proven sustainable practices improve productivity, increase profitability and protect the Great Barrier Reef. The RP20 trials were delivered in collaboration with Burdekin growers, Sugar Research Australia, the Department of Environment and Heritage Protection, the Department of Agriculture and Fisheries, and the Department of Science, Information Technology and Innovation. To date, the trials show farms are more profitable when adopting the industry standard SIX EASY STEPS™ and good farming practices. For example, if a grower applies 40-50 kilograms of nitrogen per hectare over and above the SIX EASY STEPS™ industry standard (which is a common occurrence) their net revenue would be \$70-\$130 less per hectare, depending on the crop cycle. For farms on lower productivity soils, following the SIX EASY STEPS™ standard could represent a 10-15 per cent cost saving. Further information on the trials can be found at www.qld.gov.au/environment/agriculture/sustainable-farming/reef-projects-current/

In the meantime, the government's existing compliance program will continue for sugarcane and grazing producers against the current minimum regulatory standards.

The government will also work and consult with agricultural sectors to determine the best method of record keeping and how to make records available so that benefits are realised for producers, industry and government without compromising privacy or commercial-in-confidence information.

Have your say:

1. Do you have suggestions for minimum practice standards?
2. How long should each industry be given to meet the new minimum standards once they have been determined?
3. What data should be collected by producers, industry and government?
4. How best can records be collected and made available to support producers and industry?

Recognising good performers

The government will recognise the hard work by industry and the good performance of those producers that are already doing their bit to minimise nutrient and sediment run-off.

Producers accredited against a recognised Best Management Practice (BMP) program (or equivalent program) will be deemed as demonstrating compliance with the minimum practice regulatory standards.

Voluntary industry BMP programs have already been established for sugarcane, grazing, bananas, horticulture and grains. The number of producers getting involved with these programs has increased significantly over the last 18 months.

BMP programs encourage the adoption of industry standards, or above industry standards, that have been designed to improve water quality, profitability and productivity.

BMP programs also provide a pathway for continuous improvement by ensuring the standards improve over time and encouraging producers to regularly benchmark their performance and maintain accreditation.

The government will recognise and reward the efforts of producers to become BMP accredited by continuing to support these programs and providing legal recognition.

In addition, producers accredited under a BMP or equivalent program in reef catchments will find they have greater access to government grant schemes for on-farm trials or other incentives. They will also remain outside the focus of compliance programs.

For producers who choose not to comply with their obligations, the government will use its legislative powers to take enforcement action to bring them into compliance.

It is proposed that the up-front requirement for an environmental risk management plan (ERMP) is removed. This requirement currently applies for certain sugarcane and grazing producers to ensure on farm risks to water quality are identified and managed.

Instead, an ERMP or similar tool will remain available to assist a non-compliant producer improve their practices if they are not already involved in a BMP program.

Minimum standards—urban and other intensive land-based activities

While a smaller amount of land is devoted to urban and other intensive land uses, pollution from these sources can have significant short-term and localised impacts on reef water quality, particularly on inshore areas.

Development approved under the *Sustainable Planning Act 2009* must meet erosion, sediment and stormwater management requirements set out in the State Planning Policy, both during and post construction.

Meanwhile, activities such as operating a sewage treatment plant, an intensive animal industry such as a prawn farm and feedlots, landfills and mining currently require an operating licence in the form of an environmental authority under the *Environmental Protection Act 1994* in order to release pollution to the environment.

When an operating licence is issued, it sets strict standards to ensure that environmental values, such as the water quality in local waterways, are maintained.

Under the Reef 2050 Long-Term Sustainability Plan, the Australian and Queensland governments committed to reviewing the standards for urban and point source discharges into the Great Barrier Reef World Heritage Area.

The existing minimum regulated standards for urban development, stormwater management and other intensive activities (end-of-pipe) pollution will be reviewed and improved.

A comprehensive evaluation of these standards will occur through the review of the Environmental Protection Regulation 2008, which is to be completed by September 2019. Where necessary, these standards will be updated.

The State Planning Policy (SPP) guides land use planning and development assessment and currently includes provisions to address the risk to water quality from the planning and design of urban environments.

The SPP is currently being reviewed with the revised SPP proposed to recognise the outstanding universal value of the Great Barrier Reef and ensure that measures are in place to enhance water quality. Further information can be found at www.qld.gov.au/planninginterests.

Have your say:

5. What incentives or assistance might best encourage compliance with minimum practice standards?
6. How could good performance by producers be best rewarded?



Set pollution load limits for each reef catchment to target responses for managing risks to water quality

Catchment pollution load limits will be used to target regulatory and non-regulatory effort into those catchments that contribute the highest pollutant loads to the reef as a result of new land-based activities.

What are catchment loads?

Catchment loads are an estimated measurement of the amount of a pollutant, e.g. nutrients or sediments, flowing past a defined end point of a catchment. They are most often calculated based on measurements made at monitoring stations in waterways.

The Paddock to Reef Integrated Monitoring, Modelling and Reporting Program monitors and models pollutant loads (sediment, nutrients and pesticides) within the reef catchments. The program is a collaboration involving the Queensland and Australian governments, industry bodies, regional Natural Resource Management bodies, landholders and research organisations. It is recognised as being best practice in the catchment modelling industry. In addition, 16 extra monitoring sites are currently being installed across the reef catchments to improve estimations of catchment loads.

How will catchment pollution load limits be set?

It is proposed that catchment pollution load limits will be based on the pollution reduction targets to be established for each of the 35 catchments draining into the reef.

The catchment targets will be determined as part of the update to the Reef Water Quality Protection Plan, expected to be completed later in 2017. They are based on the nutrient and sediments loads that can enter the reef and still meet the water quality guidelines for the reef.

Limiting pollution loads to drive pollution reduction is also being applied elsewhere, such as Chesapeake Bay in the United States and Lake Taupo in New Zealand.

Chesapeake Bay sets pollution limits

In 2010, the United States Environmental Protection Agency established the Chesapeake Bay Total Maximum Daily Load (TMDL), a historic and comprehensive “pollution diet” with accountability features to guide sweeping actions to restore clean water in the Chesapeake Bay and the region’s streams, creeks and rivers.

Chesapeake Bay covers 64,000 square miles. It is the largest and most productive estuary in the United States.

The Bay and its rivers were overweight with nitrogen, phosphorus and sediment from agricultural operations, urban and suburban run-off, wastewater, airborne contaminants and other sources. The excess nutrients and sediment lead to murky water and algae blooms, which block sunlight from reaching and sustaining underwater Bay grasses. Murky water and algae blooms also create low levels of oxygen for aquatic life such as fish, crabs and oysters.

The TMDL set limits equating to a 25 per cent reduction in nitrogen, 24 per cent reduction in phosphorus and 20 per cent reduction in sediment by 2025.

Since the Bay TMDL was established in 2010, the wastewater sector has cut nitrogen release levels from 23.5 million kilograms to 17 million kilograms annually. This reduction far exceeds the 2017 interim pollution goal under the TMDL, and, at present, effectively meets the 2025 TMDL target for this sector.

See www.epa.gov/chesapeake-bay-tmdl for further information.



How will catchment load limits be used to manage risks to water quality?

Catchment pollution load limits for each catchment will be linked to regulatory and non-regulatory decision-making about the impacts of new agricultural, urban and other intensive land uses that pose a high risk to catchment water quality.

Regulations already exist to manage the impacts from new urban and other intensive activities, which includes meeting certain objectives for water quality.

For example, building a new sewage treatment plant is subject to the regulatory requirements of an environmental authority along with a development permit.

New urban and other intensive activities that result in unavoidable residual nutrient or sediment loads in high polluting catchments will be required to avoid, mitigate or otherwise offset any additional nutrient or sediment pollution.

It is proposed that only those urban and other intensive activities that currently require an environmental authority would be subject to additional requirements as a result of applying catchment load limits to regulatory decision-making.

Other non-regulatory approaches guided by the catchment load limits will include, for example, targeted education and extension activity, incentives and compliance effort.

The catchment pollution load limits could also be used to inform government decisions when planning for sustainable long-term growth of the agricultural sector in Queensland.

Have your say:

7. How often should catchment pollution load limits be reviewed to determine whether load limits are being exceeded?
8. What other decisions could catchment load limits help inform?

Proposals to significantly expand or intensify agricultural land use in catchments with high pollutant loads will be required to avoid, mitigate or otherwise offset any additional nutrient or sediment pollution.

This could include conditions about land management practices, buffering of unfarmed land on streambanks and improving poor quality soils prior to cultivation.

There are a number of ways new agricultural activities might be defined. The government will work with and consult stakeholders to determine what constitutes a new agricultural activity. The definition would be carefully crafted to avoid triggering best practice activities, such as crop rotation.

To ensure that only agricultural activities with a high risk of increasing pollutants are captured, the activities requiring government assessment will be determined in consultation with industry and producers.

It is proposed that following an assessment of the proposed new agricultural activity, additional requirements to avoid, mitigate or offset increased pollutants might be imposed.

Have your say:

9. What types of new agricultural activities should be subject to the additional requirements?
10. Should new water quality requirements apply only to new agricultural, urban and other intensive activities in those reef catchments that are exceeding or close to exceeding their catchment pollution limit or should they apply across all reef catchments?



Provide a framework for water quality offsets to be used to counter residual nutrient or sediment pollution from new agricultural, urban and other intensive land uses

Water quality offsets are proposed to ensure existing and new development (expanding or intensifying activities) can occur without adding to the challenge of meeting the water quality targets.

The objective of applying water quality offsets is to ensure there is no net increase in pollution loads from these new activities.

Water quality offsets also provide a cost-effective way for new development to continue without imposing additional requirements on existing operators, beyond meeting minimum standards.

New activities that cannot be undertaken in a way to avoid or mitigate additional nutrient or sediment pollution will be required to be supported by additional actions that offset residual pollution.

An offset means that the additional pollution from the activity will be counter-balanced by reducing pollution somewhere else, either on or off-site.

A water quality offset would only be approved when it can be shown that an equivalent or better pollutant reduction can be achieved.

New agricultural activities, urban developments, and other intensive activities including sewage treatment plants, sugar mills and intensive animal industries such as prawn farms and feedlots will be eligible to use offsets.

Actions that could qualify as water quality offsets include streambank repair works, wetland enhancement, gully remediation works, constructing nutrient traps or supporting improved farm management practices, for example by introducing drip irrigation or enhanced efficiency fertilisers.

It is proposed that the offsets should occur in the following order of preference:

- in the same catchment as the impact
- within a catchment where load limits are being exceeded
- in a targeted area.

It may not be cost-effective to require every new activity to identify and secure a suitable location for an offset, and be liable for the on-going success of the offset. Therefore, it is proposed to provide an option that allows a predetermined financial contribution for nutrient and sediment pollution that cannot be avoided or otherwise mitigated.

Financial contributions could then be combined and used to fund strategic pollution reduction works across the reef catchments. The proposed approach would allow the government, or recognised third parties, to identify suitable projects for strategic pollution reduction.

Beaudesert Nutrient Offsets Project

Solutions for point source or end-of-pipe water quality improvement typically return less and less pollution reduction at higher and higher costs. The government has recognised this and wants to provide flexibility to find the most cost-effective way to reduce pollution.

In 2014, the Department of Environment and Heritage Protection introduced the Voluntary Market-based Mechanism for Nutrient Management.

In 2015, the Queensland Urban Utilities' Beaudesert Nutrient Offsets Project was awarded the Healthy Waterways Water Services Award.

In an Australian-first, the project spent \$1 million to regenerate and rehabilitate an eroded riverbank to prevent five tonnes of nitrogen and 11,000 tonnes of soil from entering the Logan River.

This alternative action was undertaken to avoid an \$8 million upgrade to the Beaudesert Sewage Treatment Plant that was considered necessary to meet regulated discharge standards.

It is proposed that the implementation of a water quality offsets framework is staged and starts with a pollution reduction scheme for nitrogen.

Have your say:

11. Can you foresee any circumstances where an offset would be inappropriate?
12. How could financial contributions be determined?
13. Is the proposed order of preference for where an offset should be located appropriate?

Have your say

The Queensland Government wants to hear from industry, producers and community members about the regulatory proposals outlined in this discussion paper.

This will help ensure that we implement a strengthened reef regulatory framework in the most cost-effective, efficient and equitable manner.

Send your feedback on the questions and other comments to:

Email: officeofthegbr@ehp.qld.gov.au

Mail: Reef Regulations Discussion Paper Submission
The Office of the Great Barrier Reef
Department of Environment and Heritage Protection
GPO Box 2454
BRISBANE QLD 4001

Please indicate whether you prefer your feedback to remain confidential. If this is not indicated, your response may be published or quoted in public documents.

For more information, email officeofthegbr@ehp.qld.gov.au, visit www.qld.gov.au/greatbarrierreef or call 13 QGOV (13 74 68).

Submissions close on 7 April 2017.

Glossary

Reef water quality targets—the Reef Water Quality Protection Plan 2013 set targets to quantify the amount of improvement to be achieved in water quality parameters including nutrient, sediment and pesticide loads.

Nutrients are one of the parameters for which there are reef water quality targets. Nutrients targets are set for dissolved inorganic nitrogen (DIN), particulate nitrogen (PN) and particulate phosphorus (PP).

Sediment is one of the parameters for which there are reef water quality targets. The sediment target is for total suspended solids (TSS).

Minimum practice standards refer to minimum management practices or processes that are known to reduce nutrient and sediment losses.

Regulations are rules which have the force of law. They focus on the inputs, processes and procedures of a particular activity. Compliance programs are used to monitor compliance with these rules and where non-compliance is identified, action may be taken to enforce them.

Environmental Authority is the licence to undertake an environmentally relevant activity (ERA). ERAs are industrial, resource or intensive agricultural activities with the potential to release pollutants into the environment.

Catchment loads are estimated average annual loads of key pollutants (nutrients and sediments) for each of the 35 catchments that drain into the Great Barrier Reef.

Water quality offsets are where the additional nutrient or sediment loads from an activity, where these cannot be otherwise offset or avoided, have to be counter-balanced by reducing pollution somewhere else, either on or off-site.





Great Barrier Reef Water Science Taskforce Final Report

Taskforce Recommendations relating to Enhanced Regulations

#	Taskforce Regulatory Recommendations
4	Establish greater use of incentives and market approaches to support water quality improvements
4.1	Targeted use of market approaches such as tenders/reverse auctions (for example, for purchasing nitrogen reduction) should be used where practical.
4.2	Develop new incentives to accelerate adoption of improved management practices or support land use change (for example, incentives for practice change, acquiring areas, and stewardship payments for restoration)
4.3	Explore innovation approaches to support existing tools and management risk (for example, yield insurance, concessional farming loans).
4.4	Water quality trading approaches may be viable in some settings in the future but will require a staged pathway of regulation and detailed farm level information to support implementation.
5	Implement staged regulations to reduce water pollution throughout the Reef regions.
5.1	Set and progressively reduce catchment pollution load limits in legislation to provide a regulatory framework to help drive load reductions to meet water quality targets.
5.2	Incentives to continuously improve practices should be complemented by staged regulations that should: <ul style="list-style-type: none"> • Improve existing minimum regulated standards (for example for urban, stormwater and point source) over time. • Establish minimum standards across all agricultural industries to address sediment and nutrient pollution. • Mandate the provision of farm level yield data, nutrient and other relevant data across all agricultural industries. • Consider progression to other approaches, including farm-based caps, if other stages are not successful within 5 years.
5.3	Minimum standards must be set in consultation with affected industries and have explicit regard to the cost and benefits of those standards.
5.4	Extend regulations to protect riparian areas and natural wetlands to all Reef regions, taking into consideration any impact this may have on landholders' ability to trade in ecosystem services.
5.5	Establish regulations to ensure no net decline in water quality from intensification and expansion in the agricultural sector.
5.6	Establish a water quality offset framework that can apply across industries (urban, ports, agriculture).
5.7	Seek continuous improvement in regulations and compliance capacity for point source pollution, stormwater, erosion and sediment control in urban and industrial areas.
5.8	Improve management of irrigation to maximise water use efficiency and to minimise pollutant losses and associated impacts on water quality.

Extract from the [Great Barrier Reef Water Science Taskforce Final Report 2016](#)

ENHANCING GREAT BARRIER REEF REGULATIONS

*A submission to the Department of
Environment and Heritage Protection*



DOUGLAS SHIRE
COUNCIL

*Improving Environmental Performance
Ngaral Kulji Bubungu - Eastern Kuku Yalanji
Pulmpa dakit jarral-a-kaling - Yirrganydji*

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Introduction

The Douglas region is comprised of World Heritage listed areas of natural beauty, ancient and complex ecosystems and is renowned for the biodiversity of its flora and fauna. The economy of the Shire relies largely on tourism with 1.2 million visitors annually and is supported by a strong agricultural base. Agriculture in the Douglas Shire is dominated by sugarcane; however cattle, cut flowers and tropical fruits are also important industries for the Shire.

Douglas Shire Council (Douglas) recognises the economic, environmental and social benefits of broadening and enhancing regulations to enhance the water quality of the Great Barrier Reef (GBR). Douglas is located in one of 35 Reef catchment areas (Wet Tropics) and is an active member of the Great Barrier Reef Marine Park Authority's Reef Guardian Council stewardship program.

Submission

Minimum Standards - Agriculture

1. Do you have suggestions for minimum practice standards?

Douglas has limited expertise in agricultural best practices; however it is aware of a number of practices which work well and not so well within the Douglas Shire.

- Green Cane Harvesting and Trash Blanketing – this practice has reduced the need for traditional cane burning in the Douglas Shire. In addition to the social and health benefits of fewer fires, the practice has been proven to protect soil from erosion, increase soil moisture and provides weed, nutrient and soil health advantages.
- Organic Farming – reducing the amount of pesticides used in agriculture treats the problem at the source, as it will result in less pesticide run-off into the GBR lagoon.
- Contour Ploughing – whilst contour ploughing can be an effective practice to reduce soil erosion, it can prove to be a hindrance to farmers during prolonged periods of heavy rainfall (e.g. Wet Season). This is because it results in the land being water logged for a longer period of time. In cane growing areas, the use of mechanical harvesters will limit the ability to contour plough on sloping land due to the manoeuvrability of the harvesters and cane haulers.
- Retention Basins and Wetlands – there is a need to establish a series of retention basins incorporating a wetland system along agricultural drains and discharge points. These basins, constructed to allow for a pre determined detention time, will allow sediment to settle out of the drainage water and attached nutrients to be taken up by flora.
- Agricultural Vibration Grids - the use of vibration grids in agricultural activities which may move soil onto roadways. Instances would include vibration grids at the exits of paddocks

for use by cane haulage vehicles. Currently much of this dirt is lost onto roadways and washes into roadside drainage and eventually into river systems leading to the Reef.

- Feral Pest Control - government assistance in the control of pests such as feral pigs which are a known contributor to sediment movement into waterways that directly effects water quality in the GBR lagoon.

Douglas recognises the importance of minimising the movement of sediment, nutrients and herbicides/pesticides into the GBR lagoon. Best practice standards to minimise soil tillage, prevent erosion, avoid overstocking and reduce the overuse of fertilisers and herbicides/pesticides all need to be included in minimum practice standards.

2. How long should each industry be given to meet the new minimum standards once they have been determined?

Twelve to twenty four months is considered a desirable target to allow industries the necessary time to meet the new minimum standards. However, Douglas acknowledges that many farmers and businesses will need financial and structured technical support in order to meet the minimum standards. Structured technical support is vital to ensure that farming practices are able to be successfully implemented without compromising productivity.

3. What data should be collected by producers, industry and government?

A range of data relating to agriculture should be collected by relevant parties on:

- Soil health and nutrients – including details on the amount of nitrogen, phosphorous and pesticide/herbicides/fungicides (pesticides) used and the locations of areas of application.
- Irrigation and drainage works – including erosion, sediment management and details on ground cover.
- Weeds, pests and diseases information – including prevention and treatment practices.
- Water quality data – data needs to be obtained from agricultural drainage systems, stormwater systems, industry and government point sources, estuaries and the GBR lagoon. Meaningful water quality data will allow for the monitoring of trends in pollution loads.

All of the above will allow for a wide range of trends relating to the Reef, biodiversity and erosion to be monitored over time.

4. How best can records be collected and made available to support producers and industries?

To minimise administration time and costs, records should be inputted into an electronic reporting system where possible. However, Douglas recognises that there are populations, particularly in rural areas without access to Internet facilities. In addition, there are frequent Internet outages within Far North Queensland which may impact on the timeliness of entries into an electronic system.

There should be a verification process checking the information provided, this could be completed through authorised audits and spot checks.

Information needs to be made available through a public website and other, more detailed, information for local governments in catchment areas, other government agencies and industry bodies through a separate portal.

Recognising Good Performers

5. What incentives or assistance might best encourage compliance with minimum practice standards?

Best practice sharing industry specific workshops offering structured technical support would assist agricultural businesses to adopt the minimum practice standards. A level of financial assistance may be required depending on the final minimum standards adopted. Ease of access to technical support and expertise is vital to ensure that farming practices are able to be successfully implemented without compromising productivity.

Legal protection, through compliance with the minimum practice standards is necessary. Penalties will be necessary for those who remain non-compliant.

6. How could good performance by producers be best rewarded?

Positive media coverage and recognition by Department of Environment and Heritage Protection (EHP) could be an effective, lower cost method of rewarding the good performance of producers. Innovative producers could be further acknowledged through the existing GBRMPA Reef Farmers stewardship program.

Catchment Loads - new agricultural, urban and other intensive land uses

7. How often should catchment pollution load limits be reviewed to determine whether load limits are being exceeded?

Catchment load reviews annually is considered appropriate to allow problem catchments to be identified and action strategies to be developed. Periods greater than annually will not allow for timely intervention and action to be undertaken.

8. What other decisions could catchment load limits help inform?

The catchment load limits could help to determine eligibility for State water quality grants and funding, for example something similar to the withdrawn Water and Sewerage Program (WASP). The Douglas Shire has several rural communities located in close proximity to the Reef which are not currently connected to sewerage mains. Whilst a well maintained septic tank can be effective at filtering phosphates, most by themselves are ineffective at removing nitrogen compounds. Connecting these communities to the sewerage mains and upgrading existing sewage treatment plants located in the Reef catchments would have a positive impact on the Reef, but to do so local governments would require additional funds. Another project which could be delivered through an effective Reef grant program could include gross pollutant traps. In the Douglas Shire and many

other areas located in Reef catchments, stormwater receives no treatment before ending up in the GBR lagoon. Gross pollutant traps treat stormwater to some extent by removing litter, sand, gravel and other sediments. Load limit data would also be useful in prioritising the installation of the retention basin/wetland system mentioned in answering question 1 above.

Catchment load limits must also include the impact on sewage dumped in the GBR lagoon from commercial vessels. This dumping of sewage and grey water appears to be overlooked by the State government and its contribution to catchment load limits and the impact on the GBR lagoon ignored in current discussions.

Additional Requirements

9. What types of new agricultural activities should be subject to the additional requirements?

Low intensive farming practices such as organic farming should be promoted in Reef catchment areas, whilst intensive animal industries and crops generating high nutrient loads and pesticide use should be subject to additional requirements.

10. Should new water quality requirements apply only to new agricultural, urban and other intensive activities in those reef catchments that are exceeding or close to exceeding their catchment pollution limit or should they apply across all Reef catchments?

The regulations should be designed in a way which promotes and rewards continuous improvements in water quality. New agricultural, urban or other activities in a Reef catchment area shouldn't be unnecessarily penalised for simply being a late entry. New water quality requirements must apply across all Reef catchments and include agricultural, urban and other intensive activities. In addition, the Reef catchments need to include all contributing factors such as upstream agricultural, urban and other intensive activities that are not currently being captured. An example is the Mowbray River which flows from outside the Douglas Shire. The water quality of this river is impacted by cattle farming, sugar cane and other agricultural industries and yet the Mowbray and it's catchment are not included in the proposed catchment map in the Discussion Paper. As previously stated, the new water quality requirements must apply across all Reef catchments and include all agricultural, urban and other intensive activities contributing to water quality that impacts the Reef.

Water Quality Offsets

11. Can you foresee any circumstances where an offset would be inappropriate?

State financial support for local government must be considered. For example, an appropriately funded program whereby local government extends the provision of mains sewerage infrastructure to remove the many diffuse discharges into the Reef (e.g. septic tanks). If, as a consequence, the local government upgrades or builds a new sewage treatment facility to accommodate the increased volume of sewage, the local government should not incur any offset liabilities. Such initiatives should be promoted through targeted State and Federal government funding and should be extended, where warranted, to industries which invest in infrastructure to improve discharges. An example

would be a sugar mill in a catchment area investing in treatment plants to recycle water and/or improve the quality of water discharged off site.

12. How could financial contributions be determined?

Financial offset contributions should be determined using a similar system to the National Carbon Offset Standard where considerable effort has already been expended to develop a potential system.

13. Is the proposed order of preference for where an offset should be located appropriate?

Yes the proposed order of preference, as detailed below, is considered appropriate.

“It is proposed that the offsets should occur in the following order of preference:

1. *In the same catchment as the impact*
2. *Within a catchment where load limits are being exceeded*
3. *In a targeted area”*

Additional Information

Any requirements for local governments around monitoring, reporting and compliance should undergo further targeted consultation.

Douglas strongly encourages both the State and Federal governments to give consideration to other impacts on Reef water quality including:

- Diffuse sources such as beach communities on septic tanks systems;
- Old non-tertiary sewage treatment plants and funding options to assist local governments to upgrade or replace plants that do not meet the necessary water quality targets;
- The impact of vessel discharges, particularly nutrient rich sewage, in the GBR lagoon and strategies to minimise this practice. The Environmental Management Charge currently applied to commercial operators and visitors to the Reef could be used to help facilitate the change required;
- Funding assistance to seal priority unsealed roads that may be impacting on the Reef;
- Climate change mitigation strategies will be vital to the ongoing health of the Reef.