Stop farm pollution harming the Reef

Over 50% of the Reef's coral has died since 1985. If there had been no pollution-linked outbreaks of Crown of Thorns Starfish, the Reef would have almost three times the coral it has now.

The Reef's most damaging pollutants are wasted farm chemicals. Applying the right amount of chemicals at the right time can boost profitability, by keeping chemicals on-farm and not in the Reef polluting.

Farm innovation can simultaneously boost agriculture, and cut Reef pollution – thus also benefitting tourism and regional communities. Indeed no other local action can rebuild the Reef's glory at the scale needed. Past efforts have begun to address pollution but fall well short of what the Reef needs – with pollution cuts of up to 80% required in key catchments such as the Wet Tropics.

The solutions are known. And now the public will exists to support the scale of investment needed to arrest the Reef's decline. A multi-billion dollar investment would fast-track new farm practices which boost profitability and re-build the Reef's water quality and catchments.

Hard-won pollution cuts must not be wasted. Reef pollution must be capped and steadily reduced, with all new development helping not harming the Reef. In the future, polluters need to be held accountable to reef-safe practice standards.

This pollution reduction package will not only benefit farmers and their vital supply and processing sectors, but also the tourism and fishing industries, and the communities that rely on a healthy Reef.

An economic and environmental powerhouse at risk

The Reef is an environmental wonder and an extraordinary economic asset – generating $6 billion each year and supporting up to 70,000 jobs in tourism, fishing and other sectors in the many regional communities that rely on the Reef's long term health.

However, the Reef and the economic wealth it brings are threatened. The *Great Barrier Reef Outlook Report 2014* found that even with recent initiatives, the overall outlook for the Reef is poor, and expected to further deteriorate in the future.

Agricultural pollution is a key threat to Reef health. While reefs have a natural cycle of storm damage and recovery, increasingly frequent Crown of Thorns Starfish outbreaks have played havoc with this delicate cycle. Outbreaks have been linked to excess fertiliser run-off, particularly in the Wet Tropics, which boosts the food available for juvenile starfish, allowing them to build to plague proportions. Adult Starfish can eat their body size in coral each day.

Solution: Reef Recovery Targets, Investment and Trading

1. Identify the pollution reduction targets to secure the clean water the Reef needs.

2. Fund the on-ground action to meet these targets, including:

- an extension army to support farmers adopt best practices
- low interest loans to assist with the up-front costs of improved practices
- investment in R&D to identify the next wave of innovation
- holding polluters accountable to reef-safe standards

3. Restore key areas of the catchment which best boost Reef health and wildlife.

4. Put a cap on pollution levels, and establish a water quality trading market to drive pollution reductions at the least cost.

The solution is to implement new farm practices which cut pollution. These practices also benefit the farm business – keeping soil and chemicals on-farm boosting production rather than in the Reef polluting.

We have begun the task of cutting the pollution that runs off our farms and catchments. The latest Reef Report Card estimated that in the 5 years to 2013 there had been a 28% reduction in pesticide pollution, an 11% reduction in sediment, and a 16% reduction in fertiliser pollution (or DIN).

However, the 2013 pollution reduction target for DIN was 50%. To achieve the Reef Plan 2020 goal – that water quality will have no detrimental impact on the Reef – it is likely that cuts of at least 70% will be needed. We are a long way from Reef-safe water quality.

Boosting farms, tourism, communities, coastal ecosystems and the Reef

To get to Reef-safe levels of pollution there needs to be a step change in the level of investment and on-ground action. The first task is to identify what are the specific pollution cuts needed in each catchment to achieve Reef-safe water quality. Only then can we identify the actions and level of investment needed to achieve the 2020 goal.

Regional NRM groups are rising to this challenge through the development of Water Quality Improvement Plans which identify the most cost-effective actions to take to achieve Reef-safe pollution levels.

The next Queensland Government needs to provide greater support to the development of these plans and then commit to an investment package to deliver the plans including: extension to bring all farmers up to best-practice standards, financial support to implement these practices, outcome-based incentives, as well as research and development to identify the next generation of profitable pollution-cutting practices.

This will take a significant investment, likely billions of dollars. It is a big investment, but it will bring big dividends. We will have a much more productive agricultural sector which can not only compete in international markets on price but will be able to market their Reef-safe credentials. We will achieve significant pollution cuts which will give the Reef its best chance of restoring its health and building resilience to climate change. This will in turn boost the tourism and fishing industries, securing the future of revenues and regional communities.

Funds would also go to restoration of rivers and wetlands that are not only of enormous value in themselves, but are also vital to the health of the Great Barrier Reef. Investment in ecosystem repair would bring multiple returns on any given investment including: improved water quality, provision of food, shelter and breeding grounds for many Reef species, flood mitigation, and carbon storage.

Put a Cap on Reef pollution: Water quality trading to fast-track pollution cuts

Investment alone will not achieve Reef-safe water quality.

We need clear Reef-safe standards and strong enforcement for any businesses which continue with outdated polluting practices – whether this be in agriculture or other industries.

New development will increase pollution loads – and if there is broadscale agricultural expansion these loads will be significant. All new development should achieve a net-benefit for the Reef, with a water quality improvement a critical aspect for Reef health.

These two actions will effectively place a cap on pollution, and encourage investment and trading in water quality reductions.

Current water quality programs have reduced agricultural pollution but have fallen well short of Reef Plan targets. Queensland's programs have yet to result in demonstrable pollution cuts. Further, foreshadowed increases in agricultural development have the potential to completely overwhelm any achieved pollution reductions.

A framework is needed which can simultaneously reduce pollution from existing land uses whilst addressing pollution arising from new development. Placing a cap on pollution and establishing a market for trading in key pollutants would achieve these aims. Much of the policy, science and legislative framework already exists to establish a trading system.

The government has already committed under the draft Reef 2050 Plan that all new development is to achieve a 'net benefit' – which if properly implemented across all development, including agriculture, would result in a cap on pollution. Initially all new development would simply be required to achieve pollution reductions to ensure there is a net benefit for water quality – through on-site treatment and catchment actions. This one change would create a significant investment stream for water quality works, and ensure new development does not increase pollution.

A Water Quality Bank should be established where entities can sell and buy water quality credits. This would make achieving water quality objectives more streamlined. On-ground actions which achieve water quality improvements would be paid for and held by the Water Quality Bank. Developers could then simply purchase water quality credits rather than having to identify and implement pollution reduction actions themselves. In many instances water quality outcomes could be met at a lessor cost by developers thereby reducing overall construction costs.

Ultimately there would need to be assignment of pollution rights on a catchment basis and a progressive reduction in the size of the cap – until regional ecologically relevant targets were met. Each cane area would have its own rolling cap, allowing decisions on the most productive use of fertiliser to be made at the mill area scale. The costs and management challenges associated with a full cap and trade system could be addressed as part of the pollution reduction investment package.

We must put a cap on pollution – to ensure new development and outdated practices do not ruin the sustained efforts being made by farmers and many others to achieve Reef-safe water quality. Establishing an effective market for water quality trading would finance the most cost-effective actions to reduce pollution which a centralised command and control system, whether regulation or incentives, cannot achieve.

Strong Reef Protection

- **Protect precious wetlands and pristine areas of the Reef coast forever**
- **Protect our rivers, bushland and community rights through strong and fair laws**

Past development has significantly damaged the Great Barrier Reef. However, we now have the science to ensure new developments are Reef-safe.

Despite this, plans for destructive developments abound. This includes plans to dredge sensitive seagrass and sea-beds and then dump the waste in Reef waters or into coastal wetlands which provide sanctuary for birds and other wildlife. There are also plans for numerous new dams to fuel a massive expansion in agriculture which would wipe out bushland areas and pollute the Reef.

There is no longer any reason to allow damaging development. Future decisions must be based on science and strong laws, to allow good projects to proceed, and halt poor development which pollutes the Reef and damages rivers, wetlands and wildlife. The protection of catchment and coastal ecosystems are critical to the long term health of the Great Barrier Reef, and the businesses and communities that rely on it.

The Reef's Life Support System at Risk

The catchments which run into the Reef contain a wealth of wetlands and other natural wonders. There are the World Heritage Wet Tropics rainforests and the unspoiled beauty of Cape York. The Fitzroy and Burdekin catchments are the largest on the east coast of Australia and support vast fish nurseries.

These areas deserve protection in their own right, but they also play a critical role for the health of the Reef and regional communities. Rivers and wetlands are the nursery and feeding ground for the barramundi and many Reef fish. Healthy, freshwater flows flush out food for marine species triggering explosions in prawn and fish numbers. Healthy rivers and wetlands capture and slow floodwater, protecting downstream communities.

Solution: Strong Reef Protections

Queensland laws need to be implemented which:

- Stop the dumping of pollution on the Reef from all industries
- Protect precious places – including Cape York, the Greater Fitzroy Delta and the Reef's rivers and wetlands.
- Safeguard our bushland – strong remnant and non-remnant vegetation protections to ensure endangered ecosystems and habitats recover as well as protection of fragile soils and high slopes from inappropriate land clearing and development to avoid sediment loads being dumped on the Reef.
- Protect our rivers – protection of watercourses, riparian buffers and ecologically sustainable flows – requiring demand management prior to consideration of new dams.
- Enhance legal rights to challenge development to give communities a far greater say in how Queensland is developed.
- Protect the Outstanding Universal Value of the Reef.

These outcomes will be delivered by key measures including:

- State legislation which sets ecologically sustainable development as the benchmark for catchment, water, vegetation, and wetland management.
- Regional plans which establish clear no-go areas, as well as Reef-safe standards for development in other areas.

- New national parks and protected areas for high value areas.
- Ensuring all new development not only minimises impacts but improves the condition of the Great Barrier Reef, addressing cumulative impacts.
- Requiring agriculture developments to meet legal standards placed on other industries – removing exemptions for vegetation clearing and pollution.
- The Australian Government maintaining its international responsibilities to assess and approve major Reef impacting developments.

However, our catchments, rivers and wetlands are being degraded, putting at risk all the benefits we receive. The clearing of riparian areas, filling of wetlands, and levying of floodplains has made floods bigger, faster and more damaging. Over-irrigation raises groundwater levels and threatens agriculture in the Lower Burdekin. Dams block fish passage, impacting on feeding and breeding. We have cleared vast areas of bushland, wiping out millions of animals as well as causing massive erosion and consequent dumping of sediment into Reef waters.

In the past we allowed damaging development through ignorance. We now know the impact bad development can have. Future development must be properly planned and controlled to protect the Reef, drawing on the strong scientific knowledge we already have.

Plans to massively expand agriculture without proper controls would lead to a huge spike in Reef pollution and would be a body blow for corals, seagrass and marine animals. Industrial scale agribusiness would necessitate broad-scale land clearing and dam building. The massive loss of sea life would be matched by huge losses of bird, fish and other wildlife on land and in our rivers.

An independent review of Reef laws commissioned by the Australian Government found that agriculture was "largely ungoverned". It recommended the Outstanding Universal Value of the Reef be better protected in laws and plans. It also found that Queensland's regional plans needed to provide clear guidance to planning and development to protect the Reef. These, and other weaknesses in legislative protections, need to be addressed.

Healthy Reef – Healthy economy

The next Queensland Government must protect the values and functions of our bushland, rivers and wetlands. For example, the reef catchments in Cape York are some of the least affected by development, and thus the offshore coral reefs are the healthiest. Yet plans are in place to advance agriculture, mining and port development in these areas. Recent legislative amendments have removed protection of old growth, endangered regrowth and riverine vegetation, and made it much easier to take large volumes of water, opening up large areas of Reef catchment to tree clearing and pollution.

With sensible laws and planning, Queensland will have development which doesn't destroy the Reef and the natural resources all Queenslanders rely on, as well as provide sufficient investment certainty for the development sector. Areas important to wildlife and Reef health must be established as no-go areas. In other areas development should be properly planned and controlled so it doesn't damage our land nor pollute our water. All development should achieve a "net-benefit" to the Reef.

Ban industrial dumping and minimise dredging in the Reef WHA

Recent proposals for a string of industrial-scale dredging and spoil dumping projects along the Great Barrier Reef coast have created a wave of concern among Queenslanders and Australians from all walks of life, as well as the international community.

Expert scientists have spoken out strongly highlighting the threat that dredging and sea-dumping pose to water quality, seagrass beds, coral reefs and marine wildlife. Professor Terry Hughes, a director of the Australian Research Council Centre of Excellence for Coral Reef Studies says "*polluted reefs nearer to the coast are in rapid decline … the only lasting solution is to reduce runoff and ban dredging and dumping anywhere near the Great Barrier Reef World Heritage Area*." Unrestricted dredging and dumping have the potential to reverse the water quality gains made by farmers and Government through the Reef Rescue Plan.

The Australian Academy of Science has stated its support for a permanent ban on sea dumping of any dredge spoil within and adjoining the Great Barrier Reef World Heritage Area. Sea-dumping of dredge spoil is clearly an outdated practice that is no longer acceptable to the Australian community. Dredging new channels to allow more and more ships to criss-cross the Reef also causes major environmental impacts, and widespread public concern.

Most industries that operate in the Great Barrier Reef have undergone significant reforms to improve their environmental performance and reduce their impacts on the Reef. It is time for the ports and dredging industry to also lift its game and meet new standards based on scientific evidence and community expectations.

A shared Queensland and Commonwealth responsibility

The Great Barrier Reef (GBR) World Heritage Area is jointly managed by the Queensland and Commonwealth Governments through the GBR Intergovernmental Agreement 2009. The Queensland Government has legal jurisdiction over those parts of the World Heritage Area (WHA) that are outside the Commonwealth GBR Marine Park, including the GBR Coastal Marine Park; Queensland state waters; declared Port areas; and offshore islands.

Minimising dredging and banning dumping of dredge spoil across the whole World Heritage Area will therefore require coordinated action from both the Queensland and Commonwealth Governments.

Solution: ban dumping and minimise dredging in Reef World Heritage area

1. Minimise dredging

Reduce demand for new dredging operations by maximising the efficient use of existing port infrastructure, for example, by enabling third parties to take up unused capacity at existing export terminals.

Permanently prohibit new (capital) dredging in Queensland state waters outside designated Priority Port Development Areas (PPDAs).

Within PPDAs, new capital dredging should be subject to annual caps that keep impacts within the assimilative capacity of surrounding marine ecosystems. This is likely to mean new capital dredging along the Reef coast will be limited to less than:

- 1 million cubic metres per calendar year in total.
- 300,000 cubic metres for each PPDA.

All capital dredging should be subject to a full Environmental Impact Assessment. The relevant ports corporation should present a transparent business case for the project and no public funds should be used to undertake or subsidise new (capital) dredging.

Maintenance dredging must be managed to minimise impacts on the Great Barrier Reef World Heritage Area. This should include:

- A total annual cap on maintenance dredging volumes across the GBR WHA, below the current average rate.
- Regional caps that reflect the receiving environment's assimilative capacity.
- Offsets to deliver benefits for water quality and ecosystem health in the local catchment.

2. Ban dumping of dredge spoil within the Great Barrier Reef World Heritage Area

- For new (capital) dredging projects, immediately prohibit the dumping of dredge spoil in all Queensland state waters within the GBR World Heritage Area.
- For maintenance dredging, immediately prohibit the dumping of dredge spoil in the GBR State Marine Park, and phase out sea-dumping of maintenance dredge spoil in other Queensland state waters within the GBR World Heritage Area by 2020.

3. Strict environmental standards for beneficial reuse and onshore disposal of dredge spoil

- Give preference to beneficial re-use of dredged material for sustainable construction, agricultural or product uses or environmental enhancement.
- No spoil disposal in or adjacent to sensitive and high conservation value environments, including coastal wetlands, protected areas, the tidal zone, etc.
- Best practice treatment of acid sulfate soils and other potential contaminants

4. Port master plans to set new benchmarks for best practice environmental management of existing ports.

- Identify and permanently protect conservation significant habitat within port boundaries.
- Establish operational standards that meet receiving water quality requirements.
- Determine adequate level of waste reception facilities.
- Establish a regime for identification and control of introduced marine and terrestrial pest species.
- Establish benchmarks to reduce and minimise the port's environmental footprint.
- Instigate independent auditing of performance, effective penalties for non-compliance, and mandatory rehabilitation.

Bring back our fish, turtles, dugong and precious wildlife

The next Government has the opportunity to turn the tide for Queensland's fisheries and marine wildlife.

Some of the Reef's most iconic wildlife lives closest to the coast - turtles, dugong and dolphins. Yet this is also where human impact on reef ecosystems is greatest - particularly between Port Douglas and Bundaberg where just 600 dugong survive - the lowest number recorded since surveys began.

Queensland needs a fresh approach to the management of fisheries resources and marine wildlife based on clear science-based policy frameworks and strong regional and Indigenous community involvement.

Queensland's fisheries need to be brought up to world's best practice using ecosystem-based management, with smaller, science-based, fairly allocated and unitised quotas on all major species; fewer commercial boats making more money; net free areas and better fishing gear to cut bycatch; better information systems including a robust fisheries observer program, satellite tracking of commercial boats and electronic logbooks; and, new fisheries compliance powers to support a more strategic fisheries compliance regime.

Indigenous communities are already playing a critical role in bringing back dugong and turtle populations, just as they had sustainably managed these resources for more than 40,000 years. To help them play an even bigger role, an expanded Indigenous Reef Ranger program is needed with incentive based community turtle and dugong management plans to support identify, fund and implement the recovery of some the Reef's most iconic wildlife.

Solution: Bring back the Reef's fish and marine wildlife

1. More Reef Rangers and Indigenous community incentive programs
2. Introduction of best practice fisheries management
3. Enhanced fisheries monitoring, reporting and compliance
4. Reducing fishing industry wildlife interactions

Reef Rangers and Indigenous community incentive programs

Utilise the power of the local knowledge, enthusiasm and commitment of Traditional Owner groups through the establishment of a coordinated network of Reef Rangers as part of a broader community empowerment program – including a reward system for instituting hunting permit systems or moratoriums, to enhance populations of marine wildlife across the Great Barrier Reef.

- Increasing the number of new Reef Rangers to 50 positions by 2018, with at least 25 new Rangers in place between Cairns and Bundaberg, to manage and protect their Sea Country and species like turtles and dugong.
- By 2016 establish an incentive program to reward communities for foregoing or limiting their customary legal rights to harvest marine resources.

Introduction of best practice fisheries management

The World's best reef can only be maintained with the World's best management systems. In some areas of the Reef, over 80% of the coral trout have gone. Local fishers are finding it hard to find the fish they once did, or it takes far longer to find them. Queensland needs to implement a new fisheries management framework with clear policy direction and increased property rights in the form of regionalised catch quotas for commercial fishers. The new arrangements must consider the impacts of fishing on not only target species, but also bycatch species and the broader environment.

- Allocate an extra $15m per year for two years to improve the social, economic and environmental sustainability of Queensland's fishing industries by adopting best practice ecosystem based fisheries management by 2018, with regionalised and unitised commercial fisheries which are managed with a management goal to maximise community economic benefits.

Enhanced fisheries monitoring, reporting and compliance

By adopting a new management framework, Queensland has the potential to become a world leader in the supply of sustainably sourced tropical seafood with fishers obtaining premium prices for their product on the world market. This management framework needs to be supported by better information systems, and more timely and accurate reporting.

- Enhance stakeholder confidence in the quality of the fisheries management framework by implementing electronic tracking of all commercial fishing vessels, establishing a statistically robust fisheries observer program, rolling out electronic logbook reporting, and providing greater strategic fisheries compliance capacity through the refinement of powers of inspectors by 2018. Funding requirements are included in the above value.

Reducing fishing industry wildlife interactions

The reef north of Cooktown is the healthiest region of the Great Barrier Reef, and also the lightest fished area of the Queensland coast. The closure of this large area of the Queensland coast to large mesh nets would provide a significant insurance policy and refuge for wildlife species and the net fishery which has struggled to limit its impacts on marine wildlife.

- Allocate $2m to remove all large mesh netting from the lightly net fished area north of Cooktown by 2017, and to phase out all unsustainable large mesh netting practices in Queensland by 2018 through the establishment of regional, enforceable industry codes of practice developed in consultation with the local stakeholder groups.

Turn down the Heat on the Reef – Making Queensland a Renewable State

The next Queensland Government can turn down the heat on the Reef with targets, programs and smart investments to support renewable energy for all Queenslanders.

The Reef's greatest long term threat

The 2014 Great Barrier Reef Outlook Report finds the impacts of global warming and climate change as the greatest long term threat to the Reef.

The future survival of the Reef therefore requires successive Queensland Governments to take a lead on measures to cut State carbon pollution and actively rally national and global governments to do more to keep global warming well below a 2 degree temperature rise.

For Queensland, the sunshine state, renewable energy is an obvious solution. The transition away from dirty fossil fuels to sustainable renewable energy will not only cut the state's carbon pollution but will drive growth in investment and sustainable jobs, lower electricity prices, and produce cleaner air and water.

Solution: Renewable energy provides a brighter future for Queenslanders and the Reef.

1. Support higher national emissions reduction targets of at least 25% of 2000 levels by 2020, and at least 40% of 2000 levels by 2025.

2. Support a national emissions trading scheme.

3. Support for the national RET to remain at 41,000 Gwh by 2020 and increase to at least 50% by 2030.

4. Set a state based goal of 50% renewable energy by 2030, to be achieved by:

    - A Million Solar Roofs by 2020 program focused on homes of low income public housing, day-care centres, schools and public/community buildings.

    - Fair export price for solar - should be determined by The Queensland Competition Authority (QCA) using a best practice terms of reference based on consumer and public benefit rather than on the needs of the utilities.

      The principle is that families should be paid a fair rate for the power they export, while also recognising that there are costs associated with providing the electricity transmission and distribution network.

      Regional renewables program[1] to support medium and large scale renewable projects

[1] The Regional Renewables Program could receive additional support from the Clean Energy Finance Corporation, The RAR Industry Program (I-RAR) operated by ARENA; The Community and Regional Renewable Energy Program (CARRE) operated by ARENA; and the federal Government.

in remote and regional Queensland, including: establishing a grant program to support the development stage of community renewable energy projects, fair export price for medium to large scale renewable energy produced by landowners in regional communities, and support for distributed “off grid” generation, such as battery storage etc.

- Program to support greater industry and household energy efficiency.

- Ban on new build or extensions of coal fired power stations; and accelerate the phase-out of Queensland’s oldest and most polluting coal power stations to make way for renewable energy generation.

5. Remove state-based fossil fuel subsidies and invest the money in the above renewable investment strategy.

Conserving the places we love

National parks and nature refuges

Protected areas – national parks and private land nature refuges – are vital for saving Queensland's unique wildlife from extinction. Without national parks, like Astrebla Downs and Epping Forest, iconic Queenslanders like the Bilby and Northern Hairy Nosed Wombat would already be extinct in Queensland.

Visitors to our national parks pump more than $4 billion a year into Queensland's economy. More national parks is an investment in the state's $23 billion a year tourism industry.[1]

Protected areas have other direct benefits for the economy. They conserve soil and water; moderate regional and global climate; and conserve commercially important species like the Macadamia or Queensland Nut the foundation of an international trade worth over $300 million a year.[1]

The State's national parks system has grown steadily since the foundation of the Parks Service in 1975. The Bridled Nailtail Wallaby was saved by buying and protecting its last remaining refuge at Taunton National Park in 1979. At that time parks covered 0.64% of Queensland's land area. Now, as a result of successive governments applying a science-based strategy, parks cover 5% of the State and about 166 threatened animals and plants have reached minimum habitat protection standards, over half in the past decade alone. [1]

Queensland uses the latest nature conservation science to identify high priority properties, many of which are in Great Barrier Reef catchments. Protection of these properties would help secure habitats for over 200 threatened species and over 1,500 ecosystems that are still poorly protected. Protecting these properties would also help reduce sediment pollution flowing into the Great Barrier Reef and provide more nature tourism opportunities. [i]

Ongoing growth of national parks and refuges to protect Queensland's wildlife must be matched by growth in resourcing of protected area management to ensure it's the best it can be.
In 2014/15, Queensland allocated $17 million for the strategic growth of parks and nature refuges. WWF warmly welcomed that allocation.

Solution: Build nature's safety net

The next state government to commit $55 million over the next five years 2015- 2021 toward strategic growth of national parks and nature refuges, continue transfers of state forests to national parks, and to increase base funding for protected area management by at least $4 million a year.

Queensland should also improve the quality of management of national parks and nature refuges by fostering active involvement in management by Traditional Owner, and non-

government conservation, regional natural resource management (NRM) and Landcare organisations.

Sustainable agriculture and conservation on private land

Healthy native vegetation and natural landscapes lay the foundations of the rural economy by:

- providing abundant clean water;
- creating and conserving topsoil;
- preventing waterlogging and salt contamination of soil;
- providing shelter for crops, stock and dwellings from wind and weather;
- conserving a benign rainfall and temperature regime; [ii] and
- providing habitat for crop pollinators, predators of pest insects and animals and other beneficial species like Queensland (Macadamia) nuts.

The Queensland Government's State of the Environment 2011[iii] reports that:

- up to 30% of coastal wetlands – vital for good water quality – have been lost[iv];
- inland rivers are depleted by over-extraction of water for irrigation or urban use, as high as 56% in some cases;[v]
- fertility of topsoil across the main grain growing regions is severely depleted costing industry about $144 million a year to supplement;[vi]
- exotic weeds and pest animals cost society about $800 million a year destroying wildlife, degrading habitats and reducing water quality; [vii]
- coastal rivers loaded with high sediment and chemical pollution degrade inshore ecosystems[viii];
- large areas of high value native vegetation continue to be cleared or are at risk of clearing;[ix]
- Queensland lists 794 species of animals and plants as threatened with extinction[x];
- Queensland lists 90 regional ecosystems as "endangered" and 532 as "of concern" as a result of past and ongoing clearing of native forests and woodlands[xi].

WWF urges the Queensland Government to enhance the productivity of our existing cleared land, end the broadscale clearing of native vegetation and restore degraded land and watercourses by:

- Introducing a practical system of native vegetation conservation for agricultural, industrial and residential development, that prevents further loss and which ensures recovery of endangered species and ecosystems to the point they can be taken off the danger list.
- Strategic growth of new nature refuges by incentivising voluntary agreements with private landholders (see 2.1 above);
- Supporting credible, third-party certification systems, including supporting the marketing of products from certified sustainable properties and providing assistance to landholders to enable them to become certified. [xii]

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[i] For more details see WWF's special report http://www.wwf.org.au/news_resources/resource_library/?11700/Building-Natures-Safety-Net-2014

[ii] Rezaul, M. et al. 2014. Land cover changes and their biogeophysical effects on climate. *International Journal of Climatology* 34, 929-953.

[iii] http://www.ehp.qld.gov.au/state-of-the-environment/report-2011/index.html

[iv] Department of Environment and Heritage Protection (2012) 'Part 4 State' - State of the Environment Queensland 2011. State of Queensland (http://www.ehp.qld.gov.au/state-of-the-environment/report-2011/pdf/state.pdf), p 72.

[v] Department of Environment and Heritage Protection (2012) 'Part 4 State' - State of the Environment Queensland 2011. State of Queensland (http://www.ehp.qld.gov.au/state-of-the-environment/report-2011/pdf/state.pdf), p90, Figure 38

[vi] Department of Environment and Heritage Protection (2012) 'Part 5 Impacts' - State of the Environment Queensland 2011. State of Queensland (http://www.ehp.qld.gov.au/state-of-the-environment/report-2011/pdf/impacts.pdf), p177.

[vii] Department of Environment and Heritage Protection (2012) 'Part 5 Impacts' - State of the Environment Queensland 2011. State of Queensland (http://www.ehp.qld.gov.au/state-of-the-environment/report-2011/pdf/impacts.pdf), p 176.

[viii] For example see p. 44 in Department of Environment and Heritage Protection (2012) 'Part 3 Pressures' - State of the Environment Queensland 2011. State of Queensland (http://www.ehp.qld.gov.au/state-of-the-environment/report-2011/pdf/pressures.pdf)

[ix] Department of Environment and Heritage Protection (2012) 'Part 3 Pressures' - State of the Environment Queensland 2011. State of Queensland (http://www.ehp.qld.gov.au/state-of-the-environment/report-2011/pdf/pressures.pdf), pp24-28.

[x] Accessed at http://www.ehp.qld.gov.au/wildlife/threatened-species/ (6/11/14)

[xi] Department of Environment and Heritage Protection (2012) Executive summary - State of the Environment Queensland 2011. State of Queensland (http://www.ehp.qld.gov.au/state-of-the-environment/report-2011/pdf/executive-summary.pdf), p. ix; see also Changing Land Use report (http://awsassets.wwf.org.au/downloads/sp154_changing_land_use_to_save_australian_wildlife_10nov14.pdf).

[xii] For more details see WWF's special report Changing land use to save Australian Wildlife at http://www.wwf.org.au/?11441/Changing-land-use-to-save-Australian-wildlife