

# AMENDING THE INTEGRATED PLANNING ACT 1997 TO MITIGATE THE IMPACTS OF CLIMATE CHANGE

A submission to the 2006 review of the Integrated Planning Act 1997  
from the Wildlife Preservation Society of Queensland.

Ver 1.0

An Executive Summary.

## INTRODUCTION

The onset of climate change has made it imperative that all native vegetation in Queensland be protected, and since the Integrated Planning Act 1997 and the South East Queensland Regional Plan 2005-2026 are now the primary causes of the ongoing loss of native vegetation in this State, this paper goes to considerable lengths to demonstrate the importance of amending those two pieces of legislation in order to halt that loss.

This paper reports the current state of protection for native vegetation in Queensland, and identifies the specific sections of the Integrated Planning Act 1997 and the South East Queensland Regional Plan 2005-2026 which severely limit the protection for native vegetation which would otherwise be provided by the Vegetation Management Act 1999.

Because the fundamental reason offered for protecting all of our native vegetation is to mitigate the impacts of climate change, a summary of what the climate change literature is predicting for the planet, for Australia, for Queensland, and for flora and fauna generally is presented before the case for improving the protection of our native vegetation is presented.

Specific recommendations for amendments which will remedy the identified problems are provided. The benefits and costs of implementing those recommendations in full are identified. Benefits are numerous. Costs are negligible, because all the recommendations of this paper are amendments to legislation.

The consequences of implementing and not implementing those recommendations are explored, and, finally, a timeframe is put on the issue, to underline the urgency of action. Because the sooner we act, the greater the benefits to be had. And the longer action is delayed, the less point there is in acting at all.

## RECOMMENDATIONS IN BRIEF

The Wildlife Preservation Society of Queensland makes the following recommendations for changes to the Integrated Planning Act and its subordinate legislation in order to mitigate the impacts of climate change upon our native vegetation:

- That "natural environment" be defined in the dictionary (Schedule 10) of the Integrated Planning Act 1997.
- That s1.2.1 of the Integrated Planning Act 1997 be amended to declare the protection of the natural environment is a Purpose of the Act.
- That s1.2.3 of the Integrated Planning Act 1997 be amended to better protect the natural environment.
- That the definition of ecological sustainability in s1.3.3 of the Integrated Planning Act 1997 be redefined to prioritise consideration of the natural environment over the manmade environment.
- That s2.1.23 of the Integrated Planning Act 1997 be amended to increase local government powers to protect land from development.
- That s 3.1.6 of the Integrated Planning Act 1997 and all sections of the Act and the Regulations that relate specifically to s 3.1.6 be deleted to remove an existing means of bypassing the restrictions of planning instruments.
- That s 3.5.21 item (6) (a) of the Integrated Planning Act 1997 be amended to reduce the currency period from 4 years to 2 years in order to limit the currency period of development applications that involved the clearing of native vegetation, thus limiting the loss of native vegetation through prior-existing development approvals.
- That s3.5.23 of the Integrated Planning Act 1997 be amended to prohibit the extension of the currency period for any development application to the extent that that development application involves operational works in order to reduce the loss of native vegetation from pre-existing development approvals.
- That s 3.5.30 of the Integrated Planning Act 1997 be amended to redefine conditions that may be applied to a development approval in order to increase the scope of protection for the natural environment available to assessment agencies.
- That s3.5.31 of the Integrated Planning Act 1997 be amended to allow any condition at all to be imposed on a development approval.
- That additional limitations on compensation under ss 5.4.2 and 5.4.3 be added to s 5.4.4 in order to allow Councils to act to protect the environment without fear of unreasonable compensation claims.
- That the time limit for claiming compensation under s5.4.6(b) be reduced to match that in s5.4.6(a) in order to achieve uniformity of time limits.

- That s 5.6.3 of the Integrated Planning Act 1997 be amended to remove the exemption for public housing that makes operational works (which includes vegetation clearing) for public housing exempt development.
- That s 5.8.6 of the Integrated Planning Act 1997 be amended to require the Environmental Protection Agency to prepare all EISs at the expense of the proponent of the development application in order to ensure that EISs are comprehensive and balanced, and prepared without bias that favours the interests of the proponent.
- That s 5.8.8 of the Integrated Planning Act 1997 be amended to ensure that the authors of all submissions on any draft EIS are protected by law from legal action by any person on the grounds of libel, defamation, or damages.
- That item (g) be deleted from Schedule 8 Table 4 (1A) of the Integrated Planning Act 1997 to make development applications that include clearing of native vegetation in urban areas assessable.
- That Schedule 8 Section 7 item (c) be amended to require referral coordination if the development shares a common boundary with or is within 1km of the boundary of the nominated areas, instead of just 100m, to better protect environmentally valuable areas.
- That the Regulations of the Integrated Planning Act 1997 be amended to require Environmental Impact Statements for all development applications that have the potential to damage the natural environment.
- That Schedule 2 Table 3 Item 4 (Acid sulfate soils) of the IPA Regulations be amended to make the chief executive under the Land Act 1994 a concurrence agency instead of an advice agency in order to better protect the natural environment when acid sulfate soil is present.
- That native vegetation be protected in South East Queensland by amending the South East Queensland Regional Plan 2005-2026 in the manner described in recommendations 20(a), 20(b), 20(c), and 20(d).
- That the maps associated with the South East Queensland Regional Plan be made available on paper at cost, and digitally free of charge, to allow for appropriate democratic scrutiny of the impact of the Plan.

## GLOBAL CLIMATE CHANGE

The case presented in this paper for amending the Integrated Planning Act 1997 and its subordinate legislation (including the South East Queensland Regional Plan 2005-2026) in order to better protect our native vegetation in Queensland requires a knowledge of climate change and the predicted consequences of climate change for the planet, for Australia, and for Queensland in particular.

So what is the predicted global climate change? In the executive summary of the IPCC report *Climate Change and Biodiversity* (p1), the IPCC predict that:

"For the wide range of Intergovernmental Panel on Climate Change (IPCC) emissions scenarios, the Earth's mean surface temperature is projected to warm 1.4 to 5.8°C by the end of the 21st century, with land areas warming more than the oceans, and the high latitudes warming more than the tropics.<sup>1</sup>

Note especially the opening phrase "For the wide range of Intergovernmental Panel on Climate Change (IPCC) emissions scenarios". The real meaning of this statement is rarely understood. The predicted temperature rise is offered as a range, not so much because of difficulty estimating it, but more because each scenario inserted into the climate change models as input produces a different temperature rise output. And the range predicted is the spread from that predicted using the scenario that predicts the lowest temperature rise to that predicted using the scenario that predicts the highest temperature rise.

And what are these scenarios that are inserted into the climate change model as input data? Broadly speaking, they are estimates of the pattern of greenhouse gas emissions over the period addressed by the model (which is typically 1990 to 2100). These scenarios can be thought of as ranging from the excessively optimistic one of halting virtually all greenhouse gas emissions as soon as the IPCC Third Assessment Report was released, to the excessively pessimistic one of "business as usual" without change until 2100. So the 1.4°C prediction roughly equates to the excessively optimistic do-everything-at-once scenario, and the 5.8°C roughly equates to the excessively pessimistic do-nothing-business-as-usual scenario.

And, regrettably, reality since the Third Assessment Report was written has been such that the do-nothing-business-as-usual scenario is now the most likely scenario. The industrial world has done very little to reduce their greenhouse gas emissions, and some of the developing countries (particularly in Asia) which were low emitters back when the Third Assessment Report was written have experienced a booming economy since then and have now become major emitters of greenhouse gases.

So whenever a range of temperatures is offered as a prediction, it is the upper end of that range which is the most likely.

## CLIMATE CHANGE IN AUSTRALIA

So what are the climate change predictions for Australia?

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<sup>1</sup> H. Gitay *et. al.* (eds), *Climate Change and Biodiversity*, IPCC Technical Paper V, Intergovernmental Panel on Climate Change, April 2002, p 1.

"Based on the SRES scenarios used by the IPCC, and regional changes in climate simulated by nine climate models, annual average temperatures in Australia are projected to increase by 0.4 to 2.0 °C by 2030, and 1.0 to 6.0 °C by 2070, relative to 1990. There would be associated increases in potential evaporation and heatwaves, and fewer frosts. Warming is expected to be greater inland than near the coast".<sup>2</sup>

"When rainfall changes are combined with increases in potential evaporation, a general decrease in available soil moisture is projected across Australia, with droughts likely to become more severe."<sup>3</sup>

Note that the Australian material is predicting a temperature rise range for Australia in 2070 that is similar to that predicted by the IPCC for the entire planet in 2100. The Australian estimate is the more valuable of the two, since it takes into account local climatic conditions and expresses the temperature rise that may be expected for the Australian land mass, whereas the IPCC estimate expresses the average temperature rise expected by 2100 across the entire planet, including the water masses. The two estimates are therefore measuring different things, and the apparent disagreement is therefore probably not actually a disagreement at all.

Clearly Australia is not going to escape the impacts of climate change. But inevitably some areas will be hit harder than others - and the climate changes most relevant to this paper are those for Queensland, not Australia.

## CLIMATE CHANGE IN QUEENSLAND

So what is the predicted climate for Queensland?

"According to the work being conducted by CSIRO on behalf of the Queensland Government, the trend towards higher temperatures will accelerate, with projections showing increases in average temperatures of between 0.3 °C and 2 °C by 2030 and between 0.4 °C and 6 °C by 2070, with inland areas tending to warm more rapidly than coastal areas."<sup>4</sup>

"Projected annual average [rainfall] ranges tend toward decrease over much of the state by up to 13% by 2030 and up to 40% by 2070."<sup>5</sup>

"The combination of reduced rainfall and increasing temperatures is also expected to cause a marked decline in soil moisture, particularly in inland areas, and reduce the availability of water for primary producers, industry and regional and urban communities."<sup>6</sup>

Let's put a perspective on this. Let's put this into some sort of time frame and magnitude of change perspective. What does history have to tell us about global average temperature change?

[ ] the year-to-year variation of the planetary mean temperature is around *a few tenths of a degree*, and is of a similar magnitude even on a decadal timescale. Many climate scientists recognise that the planet has only warmed around 5°C between the last glacial maximum (around 20,000 years ago) to the current interglacial temperatures. This 5°C increase has brought about a major redistribution of ecosystems, as well as extinctions and the emergence of new species."<sup>7</sup>

So, when we use historical global temperature change patterns to put the predictions for the future from Australia's foremost authority on climate change research into some sort of perspective, and discard the temperature predictions from climate change models that used scenarios that assumed greater reduction in greenhouse gas emissions this century than now seems likely, we get...

**Within the lifetime of our grandchildren, and, for some of us, our own children, the temperature rise in Queensland is very likely to exceed the global temperature rise since the last ice age 20,000 years ago!**

## HOW WILL CLIMATE CHANGE IMPACT OUR WILDLIFE?

So what are the predicted consequences of rising temperature and increasing aridity?

Well, the first things many people think of are an increased need for air conditioning, and problems with water availability for drinking. But what about the biosphere upon which we are totally dependent for our very survival (even

<sup>2</sup> B.Pittock (ed.), *Climate Change: An Australian Guide to the Science and Potential Impacts*, Australian Greenhouse Office, Canberra, 2003, p4.

<sup>3</sup> B.Pittock (ed.), *Climate Change: An Australian Guide to the Science and Potential Impacts*, Australian Greenhouse Office, Canberra, 2003, p4.

<sup>4</sup> M.Gabriel et. al., *Climate Change: the Challenge for Natural Resource Management*, Department of Natural Resources and Mines, Brisbane, 2004, p8.

<sup>5</sup> W. Cai et. al., *Climate Change in Queensland under Enhanced Greenhouse Conditions*, Final Report 2002-2003, Annual Report 2003, CSIRO Atmospheric Research, Aspendale Victoria, May 2003, p47.

<sup>6</sup> M.Gabriel et. al., *Climate Change: the Challenge for Natural Resource Management*, Department of Natural Resources and Mines, Brisbane, 2004, p1V.

<sup>7</sup> Allen Consulting Group, *Climate Change Risk and Vulnerability: Promoting an efficient adaptation response in Australia*, Final Report, Australian Greenhouse Office, Department of the Environment and Heritage, Canberra, March 2005, pp32,33.

though most of us in the city don't realise how dependent upon it we are)? What about our vegetation, and the wildlife that depend upon that native vegetation for habitat? How will they fare under climate change?

The short answer is: very poorly.

"Climate change is projected to affect individual organisms, populations, species distributions, and ecosystem composition and function both directly (e.g., through increases in temperature and changes in precipitation and in the case of marine and coastal ecosystems also changes in sea level and storm surges) and indirectly (e.g., through climate changing the intensity and frequency of disturbances such as wildfires). Processes such as habitat loss, modification and fragmentation, and the introduction and spread of non-native species will affect the impacts of climate change."<sup>8</sup>

Fauna can't air-condition their homes, so when the climate becomes intolerable where they are, they have to move house to somewhere where the climate is more like what they are accustomed to. I.e. further up the mountain, or further south. And if they can't find anywhere suitable, or can't find a wildlife corridor that might take them to somewhere suitable, what then? They die. Simple as that. And without producing another generation to replace themselves.

Flora can't migrate on an individual level, and on a species level it will take decades, or even centuries, for most species of flora to migrate any meaningful distance, so if temperature and aridity rises faster than individual flora can cope with, then they die. Simple as that.

Is there anything that can be done to help preserve our State's wildlife and biodiversity?

Yes there is. There is a lot that can be done. But most of the strategies for assisting them are beyond the scope of this paper. This paper focuses on one specific strategy for assisting our wildlife to survive climate change: the preservation of all existing bushland in Queensland. Because that objective can be achieved simply and easily, with just a few trivial changes to the Integrated Planning Act 1997 and its subordinate legislation, the South East Queensland Regional Plan 2005-2026.

But although the scope of this paper is thus constrained, implementing the recommended changes to that Act and that Plan is, nevertheless, the simplest, the cheapest, and the most beneficial change that the State Government could make that would make the biggest difference to the survival chances of our State's wildlife.

## **A MITIGATION PROPOSAL: THE PROTECTION OF ALL OUR REMAINING NATIVE VEGETATION**

This paper presents the merits of a proposal for the protection of all native vegetation in Queensland, irregardless of whether it is urban or non-urban; irregardless of whether it is classified as endangered, of concern, or not of concern; and irregardless of whether it has been assessed as environmentally valuable, as a mitigation strategy against the impacts of climate change. And the means of implementation of the proposal is a few trivial amendments to the Integrated Planning Act 1997 and the South East Queensland Regional Plan 2005-2026 as per the recommendations of this paper.

The case supporting the proposed mitigation strategy requires a knowledge of the current state of protection for native vegetation in Queensland and what legislation is limiting that protection. Accordingly, that necessary prerequisite knowledge is presented first, before the case for extending the protection of native vegetation in Queensland to cover all of Queensland is presented.

## **THE CURRENT STATE OF NATIVE VEGETATION PROTECTION IN QUEENSLAND**

Queensland has come a long way since the days when many people summed up the Australian philosophy as "If it moves, shoot it. If it doesn't, chop it down" - but there's a long way to go yet before the natural environment is accorded the status it must have if it is to survive the explosion of human population across the planet and their impact upon the planet.

Perhaps the greatest advance in that regard in Queensland came with the Vegetation Management Act 1999 (VMA). If there was a continuum of consideration for the natural environment in Queensland legislation, at one extreme would be the Vegetation Management Act, and at the other would be the Integrated Planning Act 1997.

But as good as the Vegetation Management Act is, native vegetation is still being cleared in Queensland. That legislation hasn't banned all clearing of native vegetation. There are circumstances under which clearing of native vegetation is still legal under that Act - but most of the vegetation that is lost now is lost not because of the Vegetation Management Act 1999, but because of the Integrated Planning Act 1997 and its subordinate legislation, including the South East Queensland Regional Plan 2005-2010.

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<sup>8</sup> H. Gitay *et al.* (eds), *Climate Change and Biodiversity*, IPCC Technical Paper V, Intergovernmental Panel on Climate Change, April 2002, p1 (Executive Summary).

In the case of the Integrated Planning Act 1997, it is largely because development applications for operational works (which includes clearing) in urban areas for urban purposes are exempt from assessment, which means that nobody, anywhere, has even the opportunity to reject the application.

And in the case of the South East Queensland Regional plan 2005-2026, it is because the Regulatory Provisions of the Plan exempt the Urban Footprint from assessment and require impact assessment for the other areas, not code assessment. And it is the seven pages of Regulatory Provisions that have upholdable meaning under law, not the 130 pages of very appealing sales pitch that comprise the rest of the document.

The South East Queensland Regional Plan 2005-2026 makes all the right noises about the natural environment and ecological sustainability, but when you prise away the decoration and get right down to the legislative core of it - the Regulations of Part H - one discovers that the reality of what the Plan actually does is quite different to what the convincing soft-sell of the other 130 pages says that it does. Those 130 pages present a perception of what the Plan does for the environment that simply does not match up with the truth.

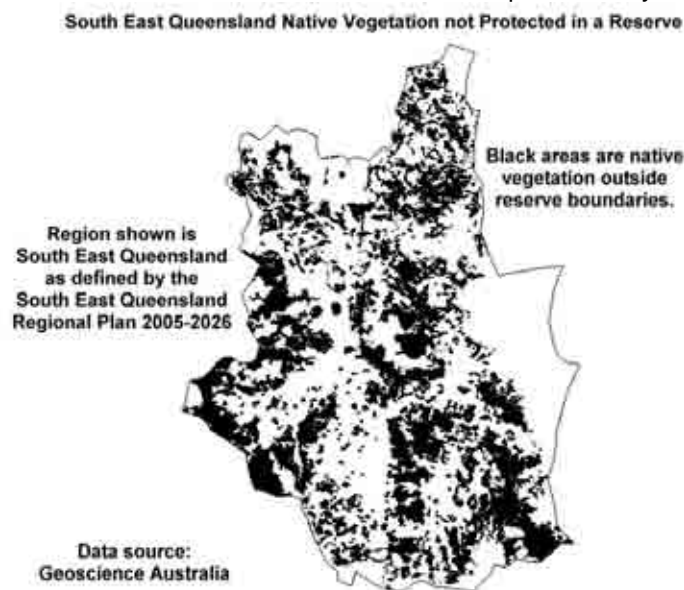
The South East Queensland Regional Nature Conservation Strategy presents a far more truthful assessment of the South East Queensland Regional Plan 2005-2026!

A large proportion of the areas of nature conservation significance is available for development. Only some 15 percent of these areas are within the State's protected area network, dedicated as national parks, conservation parks, nature refuges and co-ordinated conservation areas.<sup>9</sup>

In other words, **only 15% of the land identified as of nature conservation significance by the South East Queensland Regional Nature Conservation Strategy is protected from loss to development!**

And because the South East Queensland Regional Plan 2005-2026 overrides all else, nothing else and nobody else can protect what the South East Queensland Regional Plan does not!

The attached map shows the native vegetation in South East Queensland that is not protected by the South East



Queensland Regional Plan 2005-2026.<sup>10</sup>

Significant improvement in the protection for native vegetation in Queensland can not be achieved without amending both the Integrated Planning Act 1997 and the South East Queensland Regional Plan 2005-2026. And the places that the amendments to those two pieces of legislation will most assist are urban areas throughout the state, and South East Queensland.

### **WHY IS THE CLEARING OF NATIVE VEGETATION STILL LEGAL IN THOSE AREAS WHERE IT IS?**

Large scale clearing of native vegetation is still legally able to continue in many areas of Queensland because:

- The Integrated Planning Act 1997 Schedule 8 Table 4 (1A) has an exception that excludes development applications for operational works (which is the category that covers vegetation clearing) in urban areas for urban purposes from assessment.
- The South East Queensland Regional Plan 2005-2026 excludes the Urban Footprint regional land use

<sup>9</sup> *Regional Nature Conservation Strategy for South East Queensland 2003-2008*, Environmental Protection Agency, Brisbane, 2003, p30.

<sup>10</sup> Data for the map was sourced from Geoscience Australia and is copyright Commonwealth of Australia 2006.

- category from the Regulatory Provisions that relate to assessment of development applications.
- The Vegetation Management Act 1995 permits the clearing of native vegetation if the proportion or quantity of that vegetation type remaining in Queensland is more than a specified amount.

But it is the first two which allow most vegetation clearing to happen. The amount of clearing that is still permitted by the Vegetation Management Act 1999 is trivial in comparison.

## **WHY ALL OUR REMAINING NATIVE VEGETATION SHOULD BE PROTECTED FROM CLEARING**

Queensland is changing rapidly as a consequence of two factors: climate change, and population growth. The speed of those changes is far greater than the present system of environmental protection can handle. To cater for population growth, extensive areas of native vegetation are cleared every day, and what isn't cleared to cater for population growth is at risk of loss from climate change.

Under climate change, there will be substantial losses of vegetation as the temperature and aridity tolerance limit of each species is exceeded and as the increased prevalence of wildfire takes its toll. So the net result of climate change will be the same as if the clearing of native vegetation had been allowed to continue. (Unless mitigation measures are successfully applied, of course.)

Loss of native vegetation means loss of habitat for our wildlife. And as suitable habitat diminishes, so too do wildlife populations. Once wildlife populations shrink below minimum viable thresholds, then entire species go locally extinct and local biodiversity diminishes. When this happens everywhere, then species don't just go locally extinct, they go nationally extinct. And since so much of Australia's wildlife is endemic to Australia, this usually means their becoming globally extinct!

The unique nature of climate change means that very few options exist for preserving our State's native vegetation and the wildlife that depend upon that vegetation for habitat: protecting as much of our native vegetation from loss through human action as we can; doing whatever can be done (within available financial and human resources) to keep alive all the native vegetation that we can; and revegetating with species that are more heat and aridity tolerant as the existing vegetation dies (be it from wildfire, rising temperatures, or "drought".) This paper focuses on the first option - protecting as much of our native vegetation from loss through human action as we can - because unless we do that, then we don't have the other two options.

The case for the protection of native vegetation in Queensland is already well established, and so well established that it convinced the government to introduce the Vegetation Management Act 1999 and to strengthen it in 2004. This paper presents a case for protecting what native vegetation isn't already protected - as a mitigation measure against the impacts of climate change.

Climate change makes it extremely important that all native vegetation in Queensland is protected. And the only way to do that is to amend the Integrated Planning Act 1997 and the South East Queensland Regional Plan 2005-2026 to allow the Vegetation Management Act 1987 to afford its protection to ALL of Queensland without exception!

So why should that legislation be amended to protect all our native vegetation?

- To minimise the consequences of wildfires
- To minimise the consequences of habitat fragmentation
- Because it's wildlife habitat
- Because all native vegetation is environmentally valuable
- To minimise the urban heat island effect
- To minimise greenhouse gas emissions & maximise sequestration
- To minimise eutrophication
- To maximise the potential for weed management and revegetation as mitigation strategies
- To maximise accessibility to suitable research sites for researchers
- To maximise cloud cover
- To maximise transpiration
- To maximise the chances of survival of our native vegetation
- To maximise intergenerational equity
- To comply with the precautionary principle
- Because clearing native vegetation is not sustainable development
- Because there is insufficient water in south east Queensland to cater for any population growth
- Because development should be restricted to land that is already environmentally destroyed
- Because it's consistent with the *National Biodiversity and Climate Change Action Plan*

(These reasons are examined in depth in the full paper.)

## WHAT ARE THE CONSEQUENCES OF PROTECTING ALL OUR NATIVE VEGETATION AS PROPOSED?

Implementing the recommendations of this paper in full will:

- Generate employment to process additional development applications
- Generate revenue from development application fees to fund the additional employment requirement
- Hasten development of the Western Corridor, as specified in the South East Queensland Regional Plan 2005-2026 as an objective of the Plan.
- Provide an opportunity to redirect population growth to where water can be provided for that population growth.
- Minimise temperature rises in urban areas by minimising the urban heat island effect.
- Significantly reduce future greenhouse gas emissions by minimising the loss of the native vegetation carbon sink.
- Minimise wildlife deaths and extinctions (both flora and fauna).
- Contribute significantly towards meeting Australia's Kyoto Protocol emissions target
- Maximise the amount of native vegetation that will avoid devastation by wildfire
- Maximise sequestration of carbon from the atmosphere into a harmless carbon sink.
- Maximise opportunities for weed management and revegetation to assist the survival of areas of native vegetation through the long period of climate change
- Maximise availability of research sites for researchers studying how to assist our native vegetation to survive climate change
- Maximise cloud cover, with resultant benefits for ground level temperature and evaporation rates over our urban areas and dam catchments
- Maximise transpiration, with potential resultant benefits for precipitation.

Protecting native vegetation from development will not halt development. The development will still happen somewhere; it just won't happen where the land contains native vegetation. And the jobs lost clearing vegetation will be more than compensated for by the jobs created to prepare and process the additional development applications.

And amending the Integrated Planning Act 1997 and its subordinate legislation (including the South East Queensland Regional Plan 2005-2026) in the manners proposed in the recommendations in this paper will NOT result in any liability for compensation under any of those pieces of legislation.

## WHAT ARE THE CONSEQUENCES OF RETAINING THE *STATUS QUO*?

What are the consequences of retaining the *status quo* and not implementing the recommendations of this paper? All the dire predictions of the climate change literature for our biodiversity come true, and all the dire predictions of the climate change literature for our crops and forests come true. And what are those dire predictions?

In a nutshell? It all dies. Sooner or later, it all dies - and is replaced with species more tolerant of the new climate at that location. But in the meantime, we have massive species extinctions (both flora and fauna), and the space vacated by their deaths is taken up by species that can migrate or spread quickly and easily. In the case of flora, the species that can and do spread most easily are commonly known as "weeds". In the case of fauna, they're commonly known as pests.

But this scenario isn't inevitable. Fast but sensible mitigation action will limit the losses and maximise the chances of our native vegetation surviving, and surviving in a state not too radically different to what we know now. But it will take resources, and it will take planning, and it will take a lot of determination by a lot of very dedicated people prepared to stand up for what they believe in against those who oppose them.

And it will take full implementation of all the recommendations of this paper.

## HOW URGENT IS IT THAT OUR NATIVE VEGETATION BE FULLY PROTECTED IN THE MANNER PROPOSED?

More urgent than most people think. Extremely urgent, in fact. Because the longer the action is delayed, the less benefit is to be had from the action - until eventually the day comes when there is so little benefit to be had from doing it that there is no point doing it at all.

And when is that day? Nobody can say for sure, but it's not as far off as most people believe. Climate change is here, now. Temperature rises from climate change are already a reality. How much temperature rise does it take before it starts to exceed the temperature tolerance of our native vegetation ?

"The present temperature range for 25% of Australian *Eucalyptus* trees is less than 1 °C in mean annual

temperature."<sup>11</sup>

For some, not a lot. Not very much at all, in fact. Even if these eucalypts have a wider temperature tolerance than their latitude span suggests, it clearly isn't wide enough to guarantee the long term survival of the species in their present location. The executive summary of the IPCC report *Climate Change and Biodiversity* (p1) makes that very clear.

"For the wide range of Intergovernmental Panel on Climate Change (IPCC) emissions scenarios, the Earth's mean surface temperature is projected to warm 1.4 to 5.8°C by the end of the 21st century, with land areas warming more than the oceans."<sup>12</sup>

The sooner the changes recommended in this paper are implemented, the more vegetation we have a chance of saving. The longer we delay, the less. When is it too late to act? Well, fifty years is definitely much too late.

*"Grim climate warning: Climate change threatens to leave us sick, hungry and thirsty*  
by Environment Correspondent Alex Kirby

With another major international conference on climate change starting in Argentina on Monday, delegates will be pondering a sombre message from a panel of respected British climatologists. Scientists from the Hadley Centre on Climate Change, part of the UK's Meteorological Office, have published a new scenario of climate change. [ ] It predicts that tropical forests in Northern Brazil will die back in the 2050s, and globally tropical grassland will be transformed into desert, or at least temperate grassland. For the first half of the 21st century, vegetation will absorb CO<sub>2</sub> at a rate of about 2- 3 billion tonnes (1bn tonnes = 1GtC) per year. Human emissions of CO<sub>2</sub> are about 7GtC a year. But from 2050 onwards, vegetation dying under the impact of climate change will itself add about 2GtC a year to greenhouse emissions, further intensifying global warming."<sup>13</sup>

Of course, this outcome is not totally inevitable. Mitigation strategies can affect this. Ongoing revegetation with species that are more heat and aridity tolerant can enable areas of native vegetation to survive as temperatures rise and aridity worsens. But that strategy is more viable in some areas than others. It is most viable in urban areas, where human resources are most available to do it. But native vegetation in urban areas is denied protection by the Integrated Planning Act 1997 and the South East Queensland Regional Plan 2005-2026.

The sooner the mitigation strategies proposed in this paper are implemented, the greater the results and the less serious will be the consequences of climate change for our bushland, our biodiversity, and our wildlife. The longer we delay, the less benefit, until eventually the point is reached where there is no point in doing anything at all – because it's too late.

## CONCLUSION

This paper has described the consequences of climate change for our State's native vegetation, and reported what native vegetation is already protected, and what is not. It has presented a case for protecting that portion of our native vegetation which is not already protected, and demonstrated that the predicted impacts of climate change are such that the protection of all our native vegetation is imperative to maximise the quantity and quality of that which will survive climate change. And it has proposed specific legislative action which will achieve these objectives.

Stabilising the atmosphere will take decades, if not centuries. Very few countries have reduced their emissions below 1990 levels, and many have actually raised them. The atmosphere can not stabilise until long after emissions match extraction of carbon dioxide from the atmosphere, and there is so little prospect of that occurring this century that the climate change literature makes hardly any reference to the possibility. And a stable climate in Australia will not occur till centuries<sup>14</sup> after the atmosphere stabilises. Act now, and we have a chance of retaining at least some areas of native vegetation throughout that long period of climate change. Fail to act, and we could very well lose the lot.

The lot. Everything. Every last tree. And every last species that depends upon those trees.

Unless we act now to save them.

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<sup>11</sup> B.Pittock (ed.), *Climate Change: An Australian Guide to the Science and Potential Impacts*, Australian Greenhouse Office, Canberra, 2003, p97.

<sup>12</sup> H. Gitay *et. al.* (eds), *Climate Change and Biodiversity*, IPCC Technical Paper V, Intergovernmental Panel on Climate Change, April 2002, p1 (Executive Summary)

<sup>13</sup> A.Kirby, *Grim climate warning: Climate change threatens to leave us sick, hungry and thirsty*, Sci/ Tech., British Broadcasting Commission, 07: 09 GMT Monday, November 2, 1998. <http://news.bbc.co.uk/1/hi/sci/tech/205867.stm>. (The Hadley Centre does the same work for the UK on climate change as CSIRO does for Australia)

<sup>14</sup> B.Pittock (ed.), *Climate Change: An Australian Guide to the Science and Potential Impacts*, Australian Greenhouse Office, Canberra, 2003, p3.