

Sustainable Waikato questionnaire to Waikato Regional Council candidates 2016

1. What do you think are the top three challenges facing the Waikato region that WRC could influence over the next five to ten years?

I will list four issues because the first of these is really a political one, and I appreciate the focus of the question is likely to be more toward specific environmental concerns.

1. Effectively countering any potential attempts to dilute the environmental values embodied in the Resource Management Act that may be made by central Government, or indeed other elected Councillors who are willing to discard environmental protections for spurious reasons (for example, misleading arguments about rates). It is essential that regional councils lead the local and national understanding that the health and wellbeing – and economic earning capacity – of current and future generations are completely dependent on the long term sustainability of all of our environmental systems – ecology, soil, air and water.
2. Dealing with diffuse and cumulative agricultural pollution at source, using strong and balanced regulation as I understand is now the norm in several European countries. I don't see why we need to repeat the worst errors of other countries before starting cleaning up our own act. Our problems include (but are not limited to) increasing nutrients (N and P) entering waterways, microbial contamination of waterways, accumulation of trace contaminants (cadmium and fluorine in soils and zinc in sediments), habitat destruction, loss of soil function and versatility, and (as farming intensifies) increasingly large emissions of the greenhouse gases nitrous oxide and methane. My impression is that previous WRC elected Councils have been dominated by farmers, and consequently have a poor track-record of either understanding, or being willing to confront, the serious environmental problems that continue to be caused to our region by intensive farming.
3. Reversing our overall performance with respect to loss of biodiversity. It is not enough to merely attempt to slow the rate of decline of biodiversity – the regional council must become forward-thinking enough to seek to reverse biodiversity losses through a combination of intelligent and properly funded measures including education, incentives, targeted programmes, concerted support for community initiatives, pressure for an industry levy, and regulation. Forest fragments should become forest pathways, pest species should be properly eradicated rather than the currently system of fire-fighting each incursion with inadequate resources, stream ecosystems should be systematically remediated to allow fish passage and adequate protection of native species, and farming should not be allowed to take precedence over genetic diversity in areas where biodiversity is still broad.

Sustainable Waikato questionnaire to Waikato Regional Council candidates 2016

4. Dealing with poor urban air quality in winter – particularly in Tokoroa, Taupo, Te Kuiti and Putaruru where national environmental standards for ambient air are still exceeded every winter. WRC has been slow to come to grips with this responsibility. To give them credit they have funded replacements of old wood-burners for cleaner forms of heat (for example heat pumps, gas or new standard-compliant wood-burners) – however the total amount devoted to this purpose in the current LTCCP is only sufficient to replace up to about 50 wood-burners per year. This rate of improvement has been much too slow, because meeting national standards for air quality in either Taupo or Tokoroa would require the replacement of thousands of wood-burners. It is mystifying to see how little WRC money spends on air quality, compared with the massive amounts spent on transport, given that air quality problems could be solved easily. Of other regional councils or unitary authorities, Environment Canterbury and Nelson City Council have performed very well in this area despite having much worse air quality to begin with, and aspects of their approaches provide models for Environment Waikato to follow.

In addition to these broad issues the region needs to understand its own role in the global climate change area, and deal with a range of specific environmental problems that are not readily covered by resource consents for point-source discharges. Specific high-ranking diffuse contamination problems faced by the Waikato region, for which a regional policy response would be warranted include: global and regional generation of greenhouse gases, nutrients and microbes in rural waters, loss of soil versatility, accumulation of inorganic contaminants in soils from fertilisers and facial eczema remedies (cadmium, fluorine, uranium and zinc), presence of arsenic in the Waikato River system, altered flow regimes and increased sediment in surface waters, discharges of natural hormones to waterways from farmed animals, high levels of arsenic in some rural ground-waters (e.g. Reporoa), high profile contaminated sites (e.g. Tui Mine tailings dump, Rotowaro Carbonisation Plant), low profile but high-risk contaminated sites (e.g. old sheep-dips), and mercury from Hauraki peatland drainage entering the Firth of Thames.

2. Do you believe the Regional Council has a role in economic development and in what ways?

I consider the core responsibility of WRC to be oversight of environmental and natural resources in a manner that ensures their long-term health (environmental sustainability). Therefore, any economic development that WRC promotes, encourages, funds etc must be undertaken in accordance with this principle.

Sustainable Waikato questionnaire to Waikato Regional Council candidates 2016

Any development that WRC funds should 'walk the talk' - embrace all concepts of sustainability which can then be 'show cased' to the community as the future. The current council missed a golden opportunity with the cycle drome. It should have been built in Hamilton with bike tracks created throughout the city as part of the development to encourage less cars on the road and connect the people of Hamilton to their environment. The development should also have included an outdoors track for the general public so it could have been used by all Waikato rate payers and not the elite. Where possible locally sourced sustainable materials should have been.

Environmental sustainability as is the key principal of the Resource Management Act 1991:

Section 5 of the Resource Management Act 5:

Managing the use, development and protection of natural and physical resources in a way, or at a rate which enables people and communities to provide for their social, economic, and cultural well-being and for their health and safety while:

- (a) Sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and
- (b) Safeguarding the life-supporting capacity of air, water, soil, and ecosystem; and
- (c) Avoiding, remedying or mitigating any adverse effects of activities on the environment.

3. What do you consider to be the main biodiversity and biosecurity issues within the Waikato region, and how can WRC best address them?

For the purpose of this survey biological diversity within the region should be separated into three main areas: land; freshwater; and coast. The main issues for each and my initial survey of possible solutions are presented below.

Land: Waikato has lost many of its native land animals as a result of land clearance and primary production (agriculture, horticulture and forestry), which depend entirely on introduced species. While some introduced species now are, or could become pests and weeds, others play a valuable role in ecosystems that have been changed, or where native species have been lost.

Issue: Protecting ecosystems and habitats - many distinctive natural habitats and ecosystems are under-represented including lowland and coastal forest remnants, dunelands, natural scrublands and wetlands.

Sustainable Waikato questionnaire to Waikato Regional Council candidates 2016

Possible solutions:

- Promote and encourage initiatives to protect, maintain and restore habitats and ecosystems that are important for indigenous biodiversity on land outside of protected areas.
- Promote landowner and community awareness of opportunities to conserve and sustainably use indigenous biodiversity, and to protect and maintain habitats and ecosystems of importance to indigenous biodiversity on private land.
- Investigate our ability to set (and lobby at national level for) a levy on agricultural production to provide a large investment fund that could be used to protect and restore ecosystems. To negotiate political hurdles, developing the basis for such a fund would initially benefit from targeted technical work to highlight links between land-use activities, ecosystem degradation, and associated environmental costs which are currently externalised.

Issue: Habitat fragmentation - fragmentation of natural areas through ongoing land use changes has produced many isolated remnants that are important for biodiversity but vulnerable to continuing degradation.

Possible solutions:

- Continue funding the excellent work on restoring and reconnecting fragmented, degraded or scarce habitats for indigenous species.
- As above – investigate establishing an industry-levied scheme to adequately fund this work.

Issue: Plant and animal pests - invasive introduced species pose serious threats to ecosystem functioning and the survival of indigenous species in many natural areas, on both public and private land.

Possible solutions:

- Continue the current pest management options to ensure that the current 'line is held'.
- Advocate and fund research into, and development of, new technologies and techniques to combat existing and emergent threats from plant and animal pests to indigenous biodiversity.
- As above – get an industry funded scheme in place to adequately fund this work.

Issue: Threatened species – a number of species are at risk from insufficient or degraded habitat, plant and animal pests, or the adverse effects of human activities. Many populations of threatened species continue to decline as attention and funds are focused on a small number of highly threatened, and often most visually appealing, native species.

Sustainable Waikato questionnaire to Waikato Regional Council candidates 2016

Possible solutions:

- Advocate that recovery programmes include other threatened or poorly known species.
- As above – get an industry funded scheme in place to adequately fund this work.

Freshwater: The region has a number of water bodies which are home to native fish (of which only eight are considered common), insects and invertebrates. All of these water bodies have been modified and as such include introduced species. Wetlands represent some of the most diverse ecosystems, but few remain – swamps, bogs and marshes. While many of the remaining wetlands are degraded to varying degrees, the Firth of Thames is large and has internationally significant biodiversity values.

Issue: Managing freshwater habitats and ecosystems - many land use practices adversely affect freshwater biodiversity, through their effects on freshwater habitats and ecosystems, including underground water systems. These practices include drainage, flood control schemes, removal of riparian vegetation, stock access and the addition of sediment, nutrients and contaminants from agricultural, forestry, industrial, residential and urban runoff.

Possible solutions:

- Continue the world-first work and research currently being undertaken by WRC staff into fish passage (removing barriers and facilitating passage).
- Expand monitoring procedures (and establish new ones) for freshwater bodies (including lakes, rivers, underground systems, wetlands and geothermal systems) important for indigenous biodiversity to enable early action to maintain these ecosystems.
- As above – work toward boosting funding where needed through an industry levy. As noted above, the rationale for the levy would be the primary production sector should make good on damage to the environment that is caused by their own activities. This type of damage is currently treated as an externalised cost, meaning the environment is effectively being mined as a means of maximising profits.

Issue: Protection of freshwater habitats and indigenous freshwater species - indigenous freshwater species are threatened from a variety of causes, including land use impacts and competition or predation from pest species.

Possible solutions:

- Provide advice and support to land managers and communities (both rural and urban) who wish to protect freshwater waterways, wetlands and habitats in their area to encourage the protection of areas that are a priority for indigenous freshwater biodiversity.
- Better funding *via* industry levy as discussed above.

Sustainable Waikato questionnaire to Waikato Regional Council candidates 2016

Issue: Freshwater biosecurity and pest control - Many freshwater ecosystems are subject to a high degree of invasion by introduced pest species, significantly affecting indigenous habitats and ecological processes.

Possible solutions:

- Prevent, control and manage plant and animal pests that pose a threat to indigenous freshwater biodiversity using technologies that work.
- Ensure adequate funding of this work (see above). For invasive pest species this may be more a mix of ratepayer and taxpayer funded solutions.

Coastal: The coastal marine area includes estuaries and inshore and offshore areas which accommodate both resident and migratory marine species. However, as the coast and marine environment is used by a variety of interest groups and responsibilities for its management are shared between a range of central and local government agencies a co-ordinated management approach is considered necessary for any biodiversity protection. WRC needs to take a leading role to ensure:

- The full range of marine habitats and ecosystems that represent Waikato' indigenous marine biodiversity is protected;
- That natural marine habitats and ecosystems are maintained in a healthy functioning state and that any degraded marine habitats are recovering;
- That any marine development is done in an informed, controlled and ecologically sustainable manner; and
- That no new undesirable introduced species are established, and threats to indigenous biodiversity from established exotic organisms are being reduced and controlled.

A key pressure in this area will come from central government's desire to increase the amount of coastal aquaculture. Such developments will need to be very carefully managed.

4. What are the major challenges to improving freshwater quality in the Waikato region, and, as a councillor, what would be your priorities?

Poor water quality is directly related to nutrient loading on the land.

Monitoring results from sites along the Waikato River clearly shows (WRC website) that the greatest decline in water quality occurs directly after leaving Lake Taupo. Across the remainder of the region the decline is relatively constant. This suggests that urban catchments are having little to no impact on water quality, particularly when compared with the wide-scale impact of intensive agriculture.

Sustainable Waikato questionnaire to Waikato Regional Council candidates 2016

Therefore, the main causes of poor water quality in the region are considered to be associated with agricultural practices, and primarily come down to the discharges of nutrients, sediment, and microbes. However, in saying that it is important to note that since agriculture is an important part of our economy, the smartest methods of reducing the impact of farming on water quality will need to also ensure that agriculture itself remains a viable economic activity.

In my view, there are many examples of cases where good environmental practice works out as either equivalent to, or less expensive than, current practices. For example, correcting problems that cause massive topsoil erosion losses in Pukekohe also mean that organic-rich topsoil is retained, and new soil organic matter does not need to be trucked into the farm system. Often the main barrier to change may be the natural inertia of traditional farming habits, rather than any good economic argument. Quantifying the real cost and benefits is an area where WRC's environmental economists could shed useful light.

A publication by WRC titled *The Condition of Rural Water and Soil in the Waikato Region* dedicates a chapter to what WRC is doing, what they are going to do in the future and what other interested parties are doing to improve water quality. It also includes a chapter on what farmers can do to improve water quality. Whilst these chapters provide an excellent mixture of non regulatory instruments for controlling 'non point source' discharges on agricultural land WRC without doubt needs to include regulatory controls that prevent nutrients applied to agricultural from entering waterways.

- 5. What are the priority coastal marine issues in the Waikato region, and what do you think WRC needs to do to address them more effectively?**
- Development pressures – New Zealanders show a propensity to congregate in coastal areas. The Waikato region has some of the most beautiful beaches and harbours in New Zealand and it is only a matter of time before we see development in these areas akin to other major coastal cities in New Zealand which will put increasing pressure on the coastal environment.

- Eutrophication - the publication by WRC titled *The Condition of Rural Water and Soil in the Waikato Region* documents that the regions estuaries and harbours do not show excessive nutrient levels. However, the report implies that this will change as current levels of nitrogen reaching the sea do not reflect the large increase in nitrogen use in recent years. NIWA has modelled the effects of increased nitrogen inputs into the Firth of Thames and they have estimated that algal blooms could extend into the Firth up to a distance of 10 km if there is a five-fold increase in nitrogen reaching the Firth. Unless something is done about the current levels of nitrogen loading on pastoral land then we are likely to see 'lifeless' coastal bodies that have little to no chance of recovery as experienced by England. Note – as mentioned above, central government moves are afoot to promote new aquaculture developments and this issue would place additional pressure on these ecosystems so any such developments would need to be very carefully controlled.
- Sea level rise – sea-levels in New Zealand rose by 17 centimetres last century and they have risen on average 1.8 mm/year over the last 40 years due to the expansion of ocean water and the melting of land-based ice. Impacts on the coastal environment are likely to include: damage to the coast environs and any associated property from coastal inundation - storm surge, higher tides and increased wave action; accretion on sandy beaches; erosion on gravel beaches; and larger tidal ranges. From what I can gather, significant sea-level rises are now effectively locked into the system, and will occur almost regardless of the success of future controls on carbon dioxide. This implies that we will be forced to adapt to this aspect of climate change.

6. Do you think WRC has a responsibility to have policies to mitigate climate change and manage its impacts? Could you please give some examples?

Climate change is real, and there is overwhelming evidence that it is caused by human activity, rather than by some natural process. The Intergovernmental Panel on Climate Change latest report documents that average temperatures have warmed by over 0.7°C in the last 100 years. Some of the predicted impacts of a moderate rate of climate change for Waikato include sea level rise, changes in average temperatures and a change in weather patterns (wetter and warmer). Climate scientists estimate that Waikato's temperature could be up to 3°C warmer and 20% wetter with more varied rainfall patterns in 70 to 100 years.

Extreme weather events are likely to become more frequent or severe causing:

- Coastal inundation and associated damage;
- Infrastructure and property damage - replacing or repairing damaged roads, bridges, houses and stormwater drains; and
- Increased soil erosion and loss of soil nutrients.

Warmer temperatures could also cause the following impacts:

- An increase in demand for air-conditioning systems and therefore for electricity in summer - resulting in greater 'carbon emissions';
- Increased mortality rates;
- Increased competition from exotic species as well as the spread of disease and pests, affecting both fauna and flora;
- Reduction in some critical habitats, increasing the risk of localised extinction; and
- Damage to transport infrastructure - buckled railway lines and rutted roads, with associated disruption and repair costs.

Much more severe impacts are likely as time progresses, and some of these relate to the ultimate habitability of different parts of the globe leading to food and water shortages, and mass migrations. Australia will experience a longer return period between rainfall events, leading to more droughts, more wildfires, more floods, and less potable water. Other areas will face mass starvation as traditional water supplies dry up or severe weather events cause more large scale natural disasters such as the flooding currently going on in Pakistan. New Zealand and its economy will not be able to isolate itself from these events.

Benefits may occur such as better crop growing conditions, faster pasture growth and new crops however, these beneficial effects will only be temporary if we don't reduce our greenhouse emissions.

Even though WRC is a member of the 'Communities for Climate Protection Programme' they need to take a leading role in the reduction of greenhouse gas emissions. One simple solution is to 'walk the talk' by implementing in-house policies to show the community how it can be done. For example a lower emission vehicle fleet, converting to energy efficient heating, offsetting carbon emissions and by ensuring any future development is 'carbon neutral' (uses renewable energies, energy efficient and offsets any materials etc that is not).

WRC Regional Energy Strategy promotes energy efficiency and the use of renewable energy. However, their current Annual Plan and the Long Term Community Consultation Plan do not reference this plan. This is considered a priority and should be developed with Territorial Authorities and the community in the foreseeable future.

In his book *Requiem for a Species*, Australian academic Clive Hamilton argues that placing most of the emphasis for carbon dioxide on personal actions is a government cop-out, because most of the problem needs to be fixed at source, by changing industry practices. He is particularly critical of 'clean coal.' I am interested in further exploring this idea, and in particular the ability of Regional Councils to require more direct leadership from central government to direct changes to industrial practices.

7. What do you see as the priorities for transport in the Waikato region over the next five to ten years, and how could WRC bring about transportation improvements?

From a regional governance role, I would take the approach that the best solution would have to be the one showing the greatest long-term benefits for environmental sustainability and public good. As such if I were part of a decision-making body these are the principles I would follow:

What is the most sustainable approach?

- From an energy efficiency perspective?
- In relation to the desirability for regulatory lead to support development of carbon neutral technologies?
- In relation to inner urban air quality? *e.g.* diesel buses result in more particulates, but full buses result in fewer cars, offsetting the particulate emissions of the bus. The worst air quality outcome would be empty buses, causing the same number of cars, but more road congestion and total emissions.

What would be the best way of encouraging more use of public transport and less dependence on private vehicles?

- Would running an after-hours service (over time) be likely to generate more passengers? This seems likely. (It is clear that **not** running an after hours bus service would be the best way to ensure zero patronage!)
- Could we use smaller more user-friendly buses on some routes to get a better match between the size of the vehicle and passenger numbers?
- Could we look at running promotions to get people on and familiar with bus travel, perhaps in conjunction with local events being run by the city council?

We know that global oil reserve extraction has passed its peak, and the future for fossil fuels is not bright. I am also of the view that the Regional Council should take a lead role (and set an example) in reducing any Council-linked greenhouse gas emissions to the greatest extent possible. These factors alone argue strongly for a future with **less dependence of private vehicles and more public transport**. I can confirm that I would support this general direction, because this general direction is clearly consistent with the intent of the RMA.

WRC should grow some vision and take on the role of **developing** an integrated public transport system for the Waikato region. In my view it would not be sufficient for WRC to only sit on the sidelines as one of several possible contributors – instead, WRC should bring together all of its policy tools to make sure that things actually do happen. These tools might include a component of ratepayer-funded cross-subsidies, but the range of tools at WRC’s disposal is actually broader than this. For example, under the RMA 2005 amendment, WRC can say things in its Regional Policy Statement (RPS) that the territorial authorities (City and District Councils) must then ‘give effect to’ the next time that they revise their own policies and rules. In other words, through its RPS, WRC can require City and District Councils to do specific things. An example in this area might be to maintain a suitable inter-city bus terminus in each town.

8. How do you think WRC can best assist community groups and individuals who undertake environmental initiatives?

The current recession has resulted in WRC reducing the amount of money available and staff support to community groups. Some community groups may no longer be funded by council. For example the Long Term Community Consultation Plan documents that there is a number of new schools that wish to join the ‘Enviroschools’ programme but the current council has (short-sightedly) reduced its funding in this area.

The cost of protecting significant sites is increasing.

Partnership - community group’s often become disillusioned as a result of the perceived lack of council involvement. Membership wanes, task that the group has agreed to can no longer be completed and funding is withdrawn. Council staff that are involved with community groups need to ensure that the commitments they have agreed to are met.

The main way WRC can help these groups is to provide a consistent vision, and back this with clear objectives that survive through Council electoral cycles, secure forms of funding, and suitable recognition of community efforts. My impression of the WRC previous approach is that it has been patchy, well-meaning at times, but often minimalistic. The way to develop a long-term vision in this area would be for Council staff to develop a stronger Environmental Initiatives strategy, and Council to adopt this Strategy as policy.

9. What can WRC do to support businesses, schools, families and individuals to make more sustainable choices?

One simple solution is to ‘walk the talk’ by implementing in-house policies to show the community how it can be done. For example a lower emission vehicle fleet, converting to energy efficient heating, offsetting carbon emissions and by ensuring any future development is ‘carbon neutral’ (uses renewable energies, energy efficient and offsets any materials etc that is not).

Sustainable Waikato questionnaire to Waikato Regional Council candidates 2016

Also any development that WRC funds should 'walk the talk'. Please see my answer to question two.

Please see my answers to question eight as I consider the solutions for this question to be the same.

I would like to take this opportunity to state that the current Waste Officers of the regional council do a fantastic job in this area with such limited resources. The Waste Strategy includes a number of well thought out methodologies to support businesses, schools, families and individuals on a 'shoe string' budget.

10. What have been your most significant contributions to enhancing environmental, social, cultural and/or economic wellbeing in the Waikato region?

For the last 11 years I have run my own environmental consultancy, CSI (Contaminated Site Investigations) from Hamilton. I consider the work that I do contributes significantly to the environmental wellbeing of the Waikato region. Primarily I undertake contaminated land investigations as per the requirements of the RMA and the National Environmental Standard for contaminated land. As part of this work I ensure that any impacts to the environment are mitigated by the owner/developer and that the land can be once again used.

Best regards,

Guy Sowry
Hamilton
September 2016