



**NATIONAL ECONOMIC DEVELOPMENT AND LABOUR COUNCIL**

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**DRAFT REPORT OF THE WATER QUALITY RISKS TASK TEAM**

**1. BACKGROUND**

1.1. The Trade and Industry Chamber agreed to set up a Task Team, the Water Quality Risks Task Team, for the purpose of :

1.1.1. Undertaking work on how best to implement the consolidated recommendations aimed at addressing water quality challenges in South Africa, which are contained in the Water Quality Risks report commissioned and adopted by the Chamber; and

1.1.2. Offer recommendation(s) to the Chamber on how best to implement the recommendations

**2. PROCESS AT NEDLAC**

2.1. The Task Team comprised representatives from Business, Labour and Government from the Trade and Industry Chamber. (A list of representatives is attached hereto as Annexure 1).

**2.2.** The Task Team convened meetings on the following dates to deliberate on the issues at hand:

- 2.2.1. 02 November 2010
- 2.2.2. 26 January 2011
- 2.2.3. 07 February 2011
- 2.2.4. 15 April 2011
- 2.2.5. 14 June 2011
- 2.2.6. 12 July 2011
- 2.2.7. 26 July 2011

**2.3.** The following documents were submitted during the course of engagements and are attached:

Annexure 2:	FRIDGE Study on the stakeholder Accord on water conservation- Review of water quality report and catchment management plans- Water quality Risks
Annexure 3:	Input by Government
Annexure 4:	Input by Labour
Annexure 5:	Input by Business

### 3. AREAS OF AGREEMENT

#### 3.1. LOCAL GOVERNMENT SERVICE DELIVERY (ADDRESSING BOTH DRINKING WATER QUALITY AND SANITATION ISSUES, AND MICROBIOLOGICAL AND EUTROPHICATION PROBLEMS)

3.1.1. Recommendation 1- Multidisciplinary Task Team to determine the root cause of the high prevalence of mortality from intestinal infectious diseases proposes solutions and over see their implementation.

3.1.1.1. Constituencies agreed with the recommendation of establishing a Multidisciplinary Task Team. The mandate of this task team would be to determine the prevalence of water borne illnesses and mortalities focussing on identifying root causes and particularly to address local government challenges in providing water that is fit for use.

3.1.1.2. Such a Task Team should inter-alia support on-going surveillance into the occurrence of intestinal infectious diseases as well as the possible linkage to mortality as a result thereof as undertaken by Government (water quality surveillance the responsibility of Department of Water Affairs and health surveillance the responsibility of Department of Health).

3.1.2. Recommendation 2- Ongoing surveillance of national mortality due to intestinal infectious diseases to be carried out.

3.1.2.1. Constituencies disagreed with the recommendation and proposed that monitoring mortality rates and diarrheal related illnesses should continue to be done by the Department of Health. It was agreed that the Department of Water Affairs will also note mortality rates from symptoms of diarrhoea. This will assist in investigations to be conducted and to also supply credible information to the Multidisciplinary Task Team.

3.1.3. Recommendation 3: Microbiological hotspots requiring urgent attention in different parts of the country to be identified and action plans developed together with responsible local authorities.

3.1.3.1. Constituencies agreed with the recommendation and further agreed that a hotspot is where poor water quality causes harm to human health and to the environment.

3.1.4. Recommendation 4: A National eutrophication monitoring system to be developed and implemented.

3.1.4.1. Constituencies agreed that there should be a review of the current National eutrophication monitoring system instead of developing a new one.

3.1.5. Recommendation 5: A National Eutrophication Strategy, developed with input from all stakeholders, is to be established within the NWRS. This strategy is to take due consideration of the impact of land use practices on eutrophication, and each CMA must develop a Eutrophication Strategy for its respective WMA that is aligned to this National Eutrophication Strategy.

3.1.5.1. Constituencies agreed that a National Eutrophication Strategy be incorporated into the National Water Resource Strategy (NWRS) as part of an overarching resource water quality strategy. It was agreed that the focus should be on critically reviewing and updating the existing water quality strategy rather than developing a new one.

3.1.6. Recommendation 6: All formal and informal settlements are to be provided with adequate sanitation facilities that are inspected and maintained regularly.

3.1.6.1. Constituencies agreed in principle with the recommendation and further agreed that sanitation is deserving of separate focussed attention rather than it being placed under the eutrophication umbrella.

3.1.6.2. Constituencies further agreed that over and above providing adequate sanitation facilities, the appropriateness of sanitation services should be taken into consideration as well as the socio-economic, environmental and geographical considerations.

3.1.7. Recommendation 7: Investigate and implement opportunities for flow manipulation in rivers affected by eutrophication:

3.1.7.1. Constituencies agreed with the recommendation and further agreed that there were various mechanisms that could be explored to solve the challenges. Flow manipulation is recognised as but one of the remedial solutions for eutrophic river systems and impoundments. Constituencies further agreed that managing eutrophication needs to be implemented with due consideration of all the other available options taking a preventative, hierarchical approach.

3.1.8. Recommendation 8: Eutrophication concepts to be incorporated within the National Classification System for aquatic ecosystems and resource management objectives that include eutrophication problem criteria to be set.

3.1.8.1. Constituencies agreed with the recommendation and further agreed that what was required is an efficient system that works, bridges the gap between science and policy and guard against implementation being onerous and complex.

3.1.9. Recommendation 9: All Wastewater Treatment Works nationally to be audited to ascertain their permit status, compliance to operational standard practice, performance levels (particularly sterility and phosphorous level of discharge) and technological capabilities.

Upgrade and retrofit projects are to be planned and implemented where required, with progress reported centrally:

3.1.9.1. Constituencies agreed with the recommendation and proposed that the Green Drop Certification programme should be utilised as a better enforcement tool and for achieving greater transparency.

3.1.9.2. In addition Constituencies agreed that other means of conventional regulation must be expedited to ensure authorities and owners are held accountable.

3.1.10. Recommendation 10: Design and implement an eutrophication capacity building programme to assist and educate all water user groups in affected catchments as to their contribution to eutrophication and the actions they can take to minimise this impact.

3.1.10.1. Constituencies agreed that capacity building should focus on water quality management in general and then following from that the specific focus areas within it.

3.1.11. Recommendation 11: A model to be developed that can be applied nationally (In local catchments) to project expected algal growth patterns based on nutrient status.

3.1.11.1. Constituencies disagreed with the recommendations and agreed that existing models need to be used as a tool to drive action and would be adapted where ever necessary.

3.1.12. Recommendation 15: Investigate the reasons for high levels of noncompliance nationally to SANS: 241 drinking water heavy metals specifications.

3.1.12.1. Constituencies noted the progress made in terms of the review and amendment of SANS 241 as well as the awareness drive undertaken by Government to ensure

that the public was aware of water quality matters that are being implemented.

3.1.12.2. Constituencies noted that Government agrees to investigate noncompliance to SANS: 241 drinking water heavy metals specifications where it occurs, being cognisant that the potential occurrence of heavy metals in drinking water is mostly limited to a few water supplies, but if present, concentrations are usually below the specification of the drinking water standard (SANS 241). Constituencies also noted publication of the revised SANS 241 which requires municipalities to be aware, but also monitor control measures for any risks to their water supplies. Assessments such as Blue Drop will ensure that the public stays informed.

3.1.13. Recommendation 39: Compliance to SANS 241 measurement standards to be enforced at all WSA's. Action plans for each WSA to be formulated to address water quality deficiencies, and a monitoring programme to be implemented to assess progress.

3.1.13.1. Constituencies agreed with the recommendation.

3.1.14. Recommendation 41: Preventive maintenance programmes for all purification plants to be developed and implemented.

3.1.14.1. Constituencies agreed with the recommendation and further agreed that the Green and Blue drop certification programmes should be used to identify priority interventions to improve the performance of water and wastewater treatment works. Gaps in existing initiatives to do this should be identified and addressed.

3.1.14.2. Constituencies further agreed that the grant system should be relooked at all levels of Government in order to ensure that refurbishment and maintenance grants should

be catered for as well, above the Municipal Infrastructure Grant within the Inter- Governmental relations Framework.

3.1.14.3. Constituencies further agreed that the funding model for local authorities in respect of support for water and wastewater services should be reviewed as a matter of urgency.

3.1.15. Recommendation 42: The capacity of individual plants to be reconciled to demand, and investments planned to enable the requisite capacity to be installed.

3.1.15.1. Constituencies endorsed the recommendation but proposed that the element of reconciling inflow demand and wastewater treatment capacity be given a higher priority due to the nature of Green Drop findings. However attention should also be given to water demand management and available water treatment capacity to allow for a reduction in usage and losses, thereby minimising the need for huge infrastructure expenditure in enlarging capacities where water use behaviour can be amended instead.

#### **4. IMPACTS RESULTING FROM MINING ACTIVITIES**

**4.1. The following recommendations were made by the FRIDGE Report. Regarding the below aspects and based on these recommendations, Constituents agreed as follows:**

4.1.1. Recommendation 12: Best practice guidelines for management and control of AMD, addressing the life cycle of mines, to be developed and disseminated and Recommendation 13: Mining regulations regarding impacts on water quality to be implemented.

4.1.1.1. Constituencies agreed that the existing guidelines needed greater enforcement where enforcement has been limited and that there should be a greater focus on the enforcement of regulations on issues relating to water.

- 4.1.2. Recommendation 21: Quantify the extent of the mine remediation problem, identify the root causes for inadequate remediation of mining operations and implement a project to correct the problem.
- 4.1.2.1. Constituencies agreed with the recommendation and further acknowledged work currently being done to address the matter.
- 4.1.3. Recommendation 33: Illegal small-scale mining to be addressed, since these operations show disregard for environmental standards.
- 4.1.3.1. Constituencies agreed that the matter should not only be restricted to small scale mining and should include all mining activities.
- 4.1.4. Recommendation 34: Small scale miners and communities to be trained on environmental management and health and safety, including the impacts of mining activities on water quality.
- 4.1.4.1. Constituencies agreed that the matter should not be restrictive but should include all mining activities.
- 4.1.5. Recommendation 35: Ongoing environmental monitoring of small-scale miners required to ensure that water quality impacts are minimised.
- 4.1.5.1. Constituencies agreed that the matter should not be restrictive but should include all mining. Constituencies further agreed that all applicable Government Departments will need to continue to interact closely to support environmental monitoring and enforcement action. Should the situation warrant it, Government will commence legal steps as per the requirements of the enforcement protocol.

**5. IMPACTS RESULTING FROM LAND-USES SUCH AS AGRICULTURE, INDUSTRY, ETC. (ADDRESSING INCREASED PESTICIDES, ENDOCRINE DISRUPTING COMPOUNDS, SEDIMENTATION HEAVY METAL CONTAMINATION AND SALINATION PROBLEMS)**

**5.1. The following recommendations were made by the FRIDGE Report; regarding the below aspects and based on these recommendations, Constituents agreed as follows:**

5.1.1. Constituencies agreed that recommendations 16, 17, 18, 19, 20, 22, 23, 24 and 25 should be considered in a grouping versus dealing with each individually in the different catchments and regions and should be considered nationally. Below are the various recommendations and agreement reached by Constituencies on all of these recommendations.

5.1.1.1. Recommendation 16: Continue with the dilution of the Vaal Barrage water with releases from the Vaal Dam. Implement a waste discharge charge in the Vaal, with revenues to be used to compensate downstream users for “dis-benefit”.

5.1.1.2. Recommendation 17: Implement an upgraded water quality monitoring system in the Vaal River System.

5.1.1.3. Recommendation 18: Evaluation of the impact of increased TDS export from the Vet River on Bloemhof Dam and the downstream river system to be carried out.

5.1.1.4. Recommendation 19: Identify and implement opportunities to employ desalination of discharges and treated water in all areas impacted by high salinity, in order to reduce the impacts of salinity on users.

5.1.1.5. Recommendation 20: All dischargers in the Vaal River System to reduce TDS load by 50-60% by 2014.

5.1.1.6. Recommendation 22: Land use practices that increase the salinity of water resources to be controlled.

5.1.1.7. Recommendation 23: The risks of a sudden salinity increase in the Vaal River due to salt retention in the Vaalharts scheme to be assessed and a detailed response plan to be developed and implemented.

5.1.1.8. Recommendation 24: Catchment management Plans for all catchments to be expedited, beginning with priority catchments.

5.1.1.9. Recommendation 25: Warning signs to be placed at all sites nationally where salinity levels pose a risk to human health.

5.1.1.2. With reference to recommendations 16, 17, 18, 19, 20, 22, 23, 24 and 25 Constituencies agreed that there should be an overarching and holistic approach to address salinity in all catchments which are affected. Constituencies further agreed that the issue of salinity should be dealt with at a local/ catchment level.

5.1.2. Recommendation 14: A National policy regarding the location and management of waste sites in close proximity to water resources to be developed and implemented.

5.1.2.2. Constituencies agreed that waste sites were one of the contributors to heavy metal contamination and further agreed that the recommendation should be expanded to state that all causes and sources of heavy metal contamination must be considered. As far as developing a policy regarding the location of waste sites the constituencies agreed that adequate regulatory instruments are in place for achieving this purpose.

5.1.3. Recommendation 26: National capability to analyse samples for dioxins and aldicarb to be established, and these substances to be included in future studies on estrogen and estrogen-mimicking substances.

5.1.3.1. Constituencies agreed to the provision of monitoring in affected waters and that the new drinking water standard will require monitoring for dioxins and aldicarb should it be that substances are identified as a risk in drinking water supplies. The new drinking water standard also makes provision for monitoring at both salination and reclamation plants.

5.1.4. Recommendation 27: National prevalence of estrogen and estrogen-mimicking substances in water resources, including drinking water, to be mapped and monitored on an ongoing basis.

5.1.4.1. Constituencies agreed with the recommendation for ongoing monitoring but noted that monitoring can only occur for known substances as methodologies allow. Constituencies agreed that should a risk exist, actions such as the use of treatment options and other control measures to remove estrogen and estrogen-mimicking substances from drinking water supplies are preferable.

5.1.4.2. Constituencies further agreed that Government in collaboration with State and Tertiary Research Institutions should ensure ongoing monitoring.

5.1.5. Recommendation 29: A national pesticide monitoring programme to be established to determine, on an ongoing basis, the extent and impacts of pesticide pollution.

5.1.5.1. Constituencies agreed with the recommendation and further agreed that the focus should be on identifying where the matter of pesticides is an issue and how it was going to be addressed and managed.

5.1.6. Recommendation 30: Holistic policy measures governing the use of pesticides to be developed and implemented in order to minimise the impacts on water resource quality and human health. Input from the agricultural sector, the health sector, scientists and specialists to be obtained in devising and planning interventions for affected areas, and in the determination of policy.

5.1.6.1. Constituencies agreed that the Policy was in place and called for the implementation of the existing Policy.

5.1.6.2. Constituencies further agreed that this issue should be dealt with in the review of pesticide Policy and legislation.

5.1.7. Recommendation 31: A capacity building programme for pesticide monitoring and management targeting all stakeholders to be developed and implemented.

5.1.7.1. Constituencies agreed with the recommendation and agreed that pesticide residue in the water environment should form part of the overall water quality monitoring program, particularly in catchments where pesticide usage is significant.

5.1.8. Recommendation 32: Each CMA to develop and implement catchment-based land use strategies and policies to control the level of suspended solids in surface water resources.

5.1.8.1. Constituencies agreed that the matter of suspended solids should not be looked at in isolation; it should be viewed under the overarching issue of water quality, such as coloured water and other matters.

5.1.9. Recommendation 43: All CMA's to produce an integrated strategy as part of the catchment management strategy for the management of solid litter

5.1.9.1. Constituencies agreed that the above recommendation should deal with solid waste (the term “waste” preferred over “litter”) and that the responsibility should not only be restricted to CMA’s but should extend to Local Government as they are responsible for the collection of municipal solid waste, which is a significant source of river pollution.

5.1.10. Recommendation 44: The extent of radionuclide contamination of South African surface and groundwater resources, both in the form of dissolved metals and immobilised contaminants in sediment to be determined and risks to human and animal health to be assessed.

5.1.10.1. Constituencies agreed that there was a need for a strong and efficient regulatory system to ensure compliance to protect against radionuclide contamination. It was further agreed that this requires investment to support the efforts (including research, monitoring, etc.) already underway to respond to this matter.

## **6. OVERARCHING ASPECTS RELATING TO WATER QUALITY, INCLUDING STANDARDS, MONITORING, AND CAPACITY BUILDING**

**6.1. The following recommendations were made by the FRIDGE Report regarding the below aspects and based on these recommendations, Constituents agreed as follows:**

6.1.1. Recommendation 28: Established international health-based standards (e.g. those developed by the WHO and the EPA) to be adopted by DWA in order to afford a level of protection consistent with the provisions of the South African Constitution.

6.1.1.1. Constituencies agreed that should a problem be detected, the risk will be monitored and actions taken to minimise the risk.

If a problem is identified as part of the risk assessment process stipulated in SANS 241, and the standard does not specify a limit for the identified risk, acknowledging also that if it is a health risk addressed in SANS 241, Local Government has to refer to the most updated WHO guidelines to adhere to the latest provisions to protect public health.

6.1.2. Recommendation 37: **NON- POINT SOURCE MANAGEMENT-** A National Non-point Source Strategy (NNPSS) to be developed as part of the National Water Resource Strategy (NWRS).

6.1.2.1. Constituencies agreed with the recommendation.

6.1.3. Recommendation 38: National water quality data, pollution source data and pollution modelling needs to be assessed and a programme implemented to ensure that water quality management in all catchments is adequately supported.

6.1.3.1. Constituencies agreed with the recommendation.

6.1.4. Recommendation 40: A national audit of water purification skills at individual WSA's to be undertaken and a strategy to address skill gaps to be formulated.

6.1.4.1. Constituencies agreed with the recommendation; such a strategy should be developed and implemented by the appropriate structure/s, taking into account Regulation 2834<sup>1</sup> which relates to the skills of process controllers.

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<sup>1</sup> Regulation 2834 relates to process control skills requirements

## **7. CROSS CUTTING AND REOCCURRING THEMES THAT WERE FURTHER AGREED TO BY CONSTITUENCIES**

### **7.1. POLLUTER PAYS PRINCIPLE**

7.1.1. Constituencies agreed that the polluter pays principle as adopted in South African Law applies to hold all those accountable for polluting and contaminating water.

### **7.2. CAPACITY BUILDING PROGRAMMES AND REQUIREMENTS**

7.2.1. Constituencies agreed that the implementation of capacity building programmes is an essential requirement to support the ongoing efforts to address the management of water quality and management matters.

### **7.3. EXPEDITING THE WATER RESOURCE AND WATER SERVICES REGULATIONS STRATEGIES**

7.3.1. Constituencies agreed that it was critical for the above strategies to be expedited in order to resolve the quality of water, which will give more clarity in terms of the route that is to be undertaken to resolve the challenges.

### **7.4. INFUSION OF INCREASED FUNDING FROM THE FISCUS**

7.4.1. Constituencies agreed that water is central to the development of South Africa and that in order to fully realise the potential and contribution water can play in such development, more financial resources and investment needs to be infused in water from the Fiscus in order to adequately address water quality challenges in South Africa.

## **8. AREA OF DISAGREEMENT**

8.1.1. Recommendation 36: Tax relief and incentives must be promoted for environmentally acceptable mining, specifically including water quality impacts.

8.1.1.1. Constituencies agreed that all regulatory instruments at disposal should be considered in the promotion of environmentally acceptable mining, specifically including water quality impacts; however Constituencies could not reach consensus on the appropriate use of tax relief and incentives in this area.

## **9. CONCLUSION**

This report therefore concludes considerations at NEDLAC on Water Quality Risks. The Report is submitted to the Minister of Water and Environmental Affairs and other Ministers in terms of Section 8 of the NEDLAC Act. No 35 of 1994.

# **ANNEXURE 1**

## **TASK TEAM MEMBERS**

### **WATER QUALITY RISKS TASK TEAM MEMBERS**

<b>Government:</b>	<b>Labour:</b>	<b>Business:</b>
Leonardo Manus	Neil Newman	Martin Ginster
Nadine Slabbert	Lance Veotte	Nic Opperman
Mariette Swart	Vincent Vena	Sizwe Gcayi
Marius Keet	Jaques Hugo	Tony Wentzel
Helgard Muller	Andre Venter	
	Willem van Heerden	

## **ANNEXURE 2**

**Fridge Study on the Stakeholder  
Accord on Water Conservation.  
Review of Water Quality Report.**

## **ANNEXURE 3**

## **INPUT BY CONSTITUENCIES**

## **MATRIX REFLECTING POSITIONS BY LABOUR, GOVERNMENT AND BUSINESS ON RECOMMENDATIONS HIGHLIGHTED IN THE FRIDGE WATER QUALITY STUDY**

### **Note:**

Business proposes that some of these recommendations be re-grouped into cross cutting themes of a National focus. However, it is recognized that there are many ways in which water quality risks can be viewed. It is suggested that recommendations should as far as possible in the first instance not be specific to a water quality parameter but focused on a specific “issue” like:

- Hotspots (regardless of polluting substances – there is merit to address priority hotspot water contamination issues)
- Sanitation (known water quality issue – includes the provisioning of sanitation services and waste water treatment plants)
- Drinking water (particularly SANS 241)
- Land use
  - Agriculture
  - Mining (AMD) and Industry
  - Rural and urban development
  - Ecological / ecosystem services and protection
- Regulations (including economic incentives/ disincentives)
- Infrastructure
- Point source vs. non-point source pollution

However, in taking this approach also requires focused consideration on specific water quality parameters which include:

- Microbiological contamination (bacterial and viral pathogens)
- Eutrophication (nutrients (N and P) and organic and high oxygen demand)
- Heavy metals (or trace elements)
- Salinity
- Estrogen/ estrogen mimicking substances
- Pesticides/ insecticides
- Suspended solids
- Solid litter
- Radionuclides

Other cross cutting issues include institutional arrangements (like Catchment Management Agencies), local government, etc. Note, this is not an exhaustive list but is provided as a basis for discussion.

### Recommendations for the very high risk water quality categories

RECOMMENDATION:	GOVERNMENT	LABOUR	BUSINESS	ADDITIONAL COMMENTS
<b>BACTERIAL AND VIRAL PATHOGENS</b>				
<p><b>Recommendation 1:</b> Multidisciplinary task team to determine the root cause of the high prevalence of mortality from intestinal infectious diseases proposes solutions and over see their implementation.</p>	<p><b>Disagree</b> - The likelihood of doing an objective and credible study to determine the causes of mortality is extremely difficult when there is no position to compare pathogens in specific water and stool samples. Thus would it be more feasible to continue with the current Health surveillance but to intensify the monitoring of diarrhoea cases. This agreement was reached with D.o.Health. However the intensifying of the surveillance will necessitate an increment in funding resources.</p>	<p>Disagree that establishing a Task Team is not the best approach. Disagree that determining the causes of infant mortality is as complicated as Government is stating. Agree that monitoring both diarrhoea cases and related infant mortalities should be undertaken. Moreover, these results should be compared with bacteriological water quality monitoring data and performance standards of municipal water supply and sanitation systems. Disagree that contamination of raw water by sewage is a water resource</p>	<p>Constituting a task team may not be the best approach. If this approach is adopted it must be done with a clear scope and defined objectives and focus specifically on water borne diseases. Firstly ascertain from expert views and available information the prevalence of infectious diseases (including mortality rates) due to water pollution. Priority must be given to infants and vulnerable communities.</p> <p>The cause of the infection is clearly contamination of raw water by sewage, which is a water resource</p>	<p>Government undertook to consider Labour's request, consult and revert.</p>

RECOMMENDATION:	GOVERNMENT	LABOUR	BUSINESS	ADDITIONAL COMMENTS
	<p>The Resource Quality Services of DWA is busy with epidemiology study projects in this regard.</p>	<p>management matter – it is a cooperative governance matter which should strategically be addressed by a coordinated effort from Cogta, DoH and the DWA. The overlapping responsibilities in this regard reaffirm the need for a task team.</p> <p>The Task Team has to be established urgently so as to deal with the recommendations of the Nedlac Task Team.</p>	<p>management matter. Why the infection has such a high mortality rate is a health issue and beyond the scope of this discussion. Could support a recommendation that DOH be requested to investigate</p>	

RECOMMENDATION:	GOVERNMENT	LABOUR	BUSINESS	ADDITIONAL COMMENTS
<p><b>Recommendation 2:</b> Ongoing surveillance of national mortality due to intestinal infectious diseases to be carried out</p>	<p><b>Disagree</b> - To study only the mortality would leave major gaps since normal diarrhea outbreaks will be missed in the process. Diarrhoea is a more acceptable indicator.</p>	<p>This should be the responsibility of the task team.</p> <p>Agree that studying only mortality would leave major gaps. Surveillance of both mortality and diarrhea outbreaks should be conducted. Agree that this monitoring is a DoH function. Results from this monitoring should however be compared with bacteriological monitoring of water resources, and with monitoring of performance of water supply and sanitation systems in local government, both of which are DWA functions. This reaffirms the need for a task team on which the correct officials from DWA,</p>	<p>Firstly determine the success of the current surveillance programme for both monitoring the prevalence and mortality ascribed to domestic use of contaminated water (some surveillance is in place although the effectiveness of these mechanisms needs to be verified). This must be a request to DOH. It is not a DWA function.</p>	<p>Business also undertook to consult and revert.</p>

RECOMMENDATION:	GOVERNMENT	LABOUR	BUSINESS	ADDITIONAL COMMENTS
		<p>DoH, and Cogta are present. The Task Team should use the outcome of these comparisons to determine priority for intervention and implementation of solutions.</p>		
<p><b>Recommendation 3:</b> Microbiological hotspots requiring urgent attention in different parts of the country to be identified and action plans developed together with responsible local authorities.</p>	<p><b>Noted</b> - The National Microbiological Monitoring Programme already monitors identified hotspots in the country (KZN, WC, Gauteng, Limpopo and Mpumalanga. The Department (together with WRC) introduced the Wastewater Risk Abatement Plan (W<sub>2</sub>RAP) Concept for municipal wastewater a part of the Green Drop regulation initiative. However more attention</p>	<p><b>Agree</b> -Although the National Microbiological Monitoring Programme is a good initiative, the results from this programme is not compared with mortality rates and diarrhea cases, It can therefore not be claimed that it is successful in identifying 'hotspots'; Comparisons between actual water quality data, mortalities and outbreaks, and performance of water</p>	<p>Business would support a focused attention on microbiological contamination hotspot areas (applying the 80:20 rule). These need to be identified, prioritized and action plans developed with responsible local authorities. Further, a rigorous monitoring programme needs to be in place. (Addressing all forms of contamination hotspots should be a cross</p>	

RECOMMENDATION:	GOVERNMENT	LABOUR	BUSINESS	ADDITIONAL COMMENTS
	is to be given over a wider area and over other disciplines such as agricultural and informal settlement run-off as well.	supply and sanitation systems should be used to identify priorities	cutting recommendation as this would be an effective way of addressing water quality issues).	
<b>EUTROPHICATION</b>				
<b>Recommendation 4:</b> A national eutrophication monitoring system to be developed and implemented.	<b>Noted</b> - The National Eutrophication Monitoring Programme monitors eutrophication in 78 selected impoundments. RQS programme.	<b>Agree</b> -The current National Eutrophication Monitoring Programme need to be reviewed, to confirm that the 78 selected impoundments are the highest priority for selection. In addition, the results of this monitoring programme should be compared with data on performance of local government sanitation systems, as well as with	Business recognizes eutrophication as a serious water quality issue and recognizes that it can be both a natural or man-made phenomenon. The implications for water use and ecosystems can have both significant economic and social (health) consequences.	

RECOMMENDATION:	GOVERNMENT	LABOUR	BUSINESS	ADDITIONAL COMMENTS
		<p>agricultural activities and fertiliser industries in the catchments of the impoundments which are the most affected by eutrophication</p>	<p>Business would recommend that existing water quality monitoring systems be enhanced rather than develop new systems.</p>	
<p><b>Recommendation 5:</b> A National Eutrophication Strategy, developed with input from all stakeholders, is to be established within the NWRS. This strategy is to take due consideration of the impact of land use practices on eutrophication, and each CMA must develop a Eutrophication Strategy for its respective WMA that is aligned to this National Eutrophication</p>	<p><b>Agree</b> – need to involve relevant stakeholders from external institutions as well. The basis of this is to be included in the revised National Water Resource Strategy but a more detailed strategy is required.</p>	<p><b>Agree</b> – the primary causes of eutrophication are surface activities that lead to the discharge of nutrient-rich effluents into rivers, by local government, industry and agriculture. As some of these practices are deeply ingrained into the way in which our society operates, a specific National Eutrophication Strategy, developed with input from all</p>	<p>Business does not support the development of an eutrophication strategy but a water quality improvement strategy which includes improved monitoring and reporting on key water quality risks as part of the review of the National Water Resources Management Strategy.</p>	

RECOMMENDATION:	GOVERNMENT	LABOUR	BUSINESS	ADDITIONAL COMMENTS
Strategy.		stakeholders, is to be established within the review of the NWRS. Monitoring and reporting alone will not alleviate the problem.		
<p><b>Recommendation 6:</b> All formal and informal settlements are to be provided with adequate sanitation facilities that are inspected and maintained regularly.</p>	<p><b>Agree</b> - This is part of National Government's drive to eradicate the backlog according to the MDG goals. This is a capital intensive programme.</p>	<p><b>Agree</b>– Sanitation service delivery cannot be separated from the eutrophication issue. Hence, contribution of current and new sanitation facilities to eutrophication problem need to be determined and results need to inform revision of sanitation backlog strategy, especially since this is a capital intensive programme. Moreover, the coordination of this programme between DWA and Cogta is critical. The prioritisation of the provision of sanitation services should also be</p>	<p>Addressing the delivery and maintenance of sanitation services should be done separately to the eutrophication issue and it is recommended that sanitation be addressed as such. What constitutes an "adequate" sanitation service needs to be defined (based on RDP standard?) as well as the approach to inspection and maintenance.</p> <p>Further, the different roles of DWA and other government departments in delivering sanitation</p>	

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		<p>informed by the prioritisation conducted based on the outcome of the comparison between current mortality rates and diarrhoea cases, water quality data, and performance of local government sanitation systems.</p>	<p>services needs to be clearly spelt out.</p>	
<p><b>Recommendation 7:</b> Investigate and implement opportunities for flow manipulation in rivers affected by eutrophication.</p>	<p><b>Disagree</b> - One of the solutions that can be addressed in the strategy. Unfortunately, most of the eutrophication is in dams.</p>	<p><b>Disagree</b> – Changing the flow of rives will not solve the problem, and the problem is not caused by natural eutrophication (natural eutrophication is a fairly slow and gradual process, occurring over many centuries) The solution does not lie in trying to ‘manipulate’ the environment. It lies in addressing the man-made sources and causes of the problem, i.e. over-fertilisation,</p>	<p>This approach is supported as it can be an effective way to address naturally occurring eutrophication problems as long as any source of pollution that causes eutrophication is also addressed.</p>	

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		nutrient rich effluent from industries and poor or inadequate or incorrect methods of sanitation.		
<p><b>Recommendation 8:</b> Eutrophication concepts to be incorporated within the National Classification System for aquatic ecosystems and resource management objectives that include eutrophication problem criteria to be set.</p>	<p>The Department is busy to implement a diatom index that may be able to give an indication of the trophic status in water resources. Complex data interpretation is however necessary (with modelling) etc. Government's responsibility is to ensure that there is comprehensive protection of water resources through a series of Resource Directed Measures which include the establishment of a National Water Resource Classification System (WRCS), determining the Reserve</p>	<p><b>Agreed</b> – however, it is not deemed necessary to develop complex diatom indexes - the monitoring of total N and P should suffice to serve as indicators of potential eutrophication problems, long before such problems become a reality. Specific RQO's for these components (and not for diatoms – no sewage works or industry discharges diatoms!) can then be set and enforced through wate use license conditions.</p>	<p>Business's understanding is that eutrophication has been incorporated into National Resource Classification System.</p>	

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	<p>and setting Resource Quality Objectives (RQOs). A WRCS was subsequently gazetted in September 2010 that will determine an acceptable class for significant water resources in the country. RQOs are a set of narrative and/or numerical management objectives defined to support the class of a particular resource. These could be objectives related to the management of nutrients to address eutrophication concerns.</p>			
<p><b>Recommendation 9:</b> All Wastewater Treatment Works nationally to be audited to ascertain their permit status, compliance to operational standard practice, performance levels (particularly</p>	<p><b>Noted &amp; Agree</b> – This is being done through both the Green Drop regulation programme and the national Risk Targeted approach.</p> <p>The upgrades, refurbishments and new</p>	<p><b>Strongly agree</b> – however, this should be extended beyond wastewater treatment works, since it is often other areas of the sanitation infrastructure, such as malfunctioning reticulation and</p>	<p>Business suggests that the issue of wastewater treatment works be addressed separately as this is not only a eutrophication issue. This is already done as part of the voluntary green drop reporting</p>	

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<p>sterility and phosphorous level of discharge) and technological capabilities. Upgrade and retrofit projects are to be planned and implemented where required, with progress reported centrally.</p>	<p>plants are necessary. However this need to be planned to ensure appropriate technology is in place and that no additional capacity is invested in before proper assessments are conducted of the current. In addition to this the availability of process control skills and develop skills where so required.</p>	<p>overflowing pump stations that contributes more to the problem than the treatment works itself. while it is being noted that the Green Drop programme is already performing this kind of auditing, it is uncertain whether the green drop system actually measures the overall performance of the entire sanitation network. Moreover, the results of the green drop evaluation for 2010 is yet to be made public, and no action for non-compliance has been taken as far as labour is aware. Lastly, the impacts of treatment technologies used for upgrades and refurbishments need to be assessed in terms of their further contribution to eutrophication</p>	<p>system which business supports so a separate national audit would not be supported.</p> <p>The recommendation on upgrading and retrofitting of the country's wastewater treatment capacity is supported as well as central reporting on progress. However, the recommendation would be to introduce mechanisms for financing such expansions and upgrades.</p>	

RECOMMENDATION:	GOVERNMENT	LABOUR	BUSINESS	ADDITIONAL COMMENTS
<p><b>Recommendation 10:</b> Design and implement a eutrophication capacity building programme to assist and educate all water user groups in affected catchments as to their contribution to eutrophication and the actions they can take to minimise this impact.</p>	<p><b>Agree</b> - however, every limnologist has a different view on facts surrounding eutrophication, thus it may be a challenge to decide on content of education material. If it is kept broad, it should work.</p>	<p>There should rather be an overall awareness strategy that can be understood by all citizens regarding the impacts of sanitation, mining, industry, etc on water quality</p>	<p>Business recommends that capacity building should not necessarily be focused on eutrophication but on water quality management in general.</p>	
<p><b>Recommendation 11:</b> A model to be developed that can be applied nationally (In local catchments) to project expected algal growth patterns based on nutrient status.</p>	<p><b>Agree</b> - One of the RQS employees did a PhD doing exactly this – if we get a bit of money, we may be able to adapt the model further.</p>	<p><b>Disagree</b> – the money would be better spend evaluating sanitation systems that would not lead to eutrophication.</p>	<p>Business believes that if the measures referred to above are implemented modeling will not be required</p>	

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<p><b>Recommendation 12:</b> Best practice guidelines for management and control of AMD, addressing the life cycle of mines, to be developed and disseminated.</p>	<p><b>Agree</b></p>	<p>Agree – the current series of BPG’s only addresses AMD for closure, not for the entire life cycle of the mine, in document G5 (“<i>Water management aspects for closure</i>”). Moreover, the BPG that should effectively deal with prediction and prevention of AMD throughout the life cycle of a mine, namely BPG G4 (“Impact Prediction”) is poorly written, and is not based on the sustainability principles in s2 of NEMA, in that it fails to incorporate the precautionary approach. This BPG should be subject to thorough review against the sustainability principles in s2 of the NEMA.</p>	<p>AMD is recognized as a risk to water resources that has to be avoided and managed for existing operations and legacy sites need to be rehabilitated in the most appropriate way.</p> <p>Such best practice guidelines have been developed?</p> <p>These best practice guidelines could be better disseminated throughout the mining industry and government (regulators).</p> <p>Business proposes that the report of the task team be urgently considered by Cabinet and an action plan developed and implemented</p>	

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<p><b>Recommendation 13:</b> Mining regulations regarding impacts on water quality to be implemented</p>	<p>This should be a co-ordinated effort between DMR, DWA and DEA. Also DEA is taking over authorization of mining licenses within the next year.</p>	<p>The current regulation, GN 704 of 1999, prevention of water pollution by mining and related activities is largely ignored by both the mining industry and by government. This is unrelated to the proposed 'taking over' of the approval of EMPRs by the DEA. It is the direct responsibility of the DWA to ensure that these regulations are complied with, and to ensure that mining rights are not approved in cases where the water resource will be detrimentally affected.</p>	<p>Business supports an efficient and effective regulatory environment which ensures the prevention of mining related water quality impacts and supports the implementation of regulatory instruments that are both efficient and effective.</p>	

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<b>HEAVY METAL CONTAMINATION</b>				
<p><b>Recommendation 14:</b> A National policy regarding the location and management of waste sites in close proximity to water resources to be developed and implemented.</p>	<p>Is the best practice guidelines and minimum requirements not enough?</p>	<p>Such a national policy has already been developed and incorporated in the Minimum Requirements documents. A similar policy is however necessary for the location of certain types of industries and of sludge disposal sites of large waste water treatment works. In addition, although the national policy for waste disposal sites are in place, it has not been implemented and enforced for existing waste disposal sites, especially not for certain municipal waste disposal sites, which are still operational in spite of not being correctly sited. These sites should be closed and</p>	<p>In the first instance business suggests that this recommendation be split to deal with the location of waste sites from the broad category of heavy metal contamination.</p> <p>Business suggests that there are adequate measures to guide the assessment of the siting of waste sites. Heavy metal contamination is but one consideration in this regard.</p>	

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		rehabilitated to ensure that no further contamination occurs.		
<p><b>Recommendation 15:</b> Investigate the reasons for high levels of noncompliance nationally to SANS: 241 drinking water heavy metals specifications.</p>	<p><b>Disagree.</b> – This statement is based upon assumptions that are contrary to the facts displayed in the Blue Drop System. At this point the official figures: 97.4% - micro 99.0% - Chemical 99.1% - physical. The Department is driving an SABS process to amend the current SANS 241 to be more aligned to the revised WHO drinking water guide.</p>	<p><b>Agree</b> –it is uncertain if the chemical analysis for the Blue Drop system was only focussed on macro-chemicals, or whether actual heavy metal sampling and analysis were undertaken.</p>	<p>Business recommends that drinking water quality standard (SANS 241) should be addressed separately. One consideration is the actual extent of non-compliance to drinking water specification for metals and the extent to which these might be due to natural conditions or contamination. Here the blue drop initiative could be the vehicle to achieve this.</p>	
<b>SALINITY</b>				
<p><b>Recommendation 16:</b> Continue with the dilution of the Vaal Barrage water with releases from the Vaal Dam. Implement a waste discharge charge in the Vaal, with revenues to be</p>	<p>A pricing Strategy is being developed.</p>	<p><b>Disagree.</b> Dilution of Vaal barrage water with Vaal dam water implies that users of the very expensive LHWP are paying to address the effects of pollution caused by others. This</p>	<p>Business is of the view that this task team should reflect on recommendations on water quality issues that are applicable nationally. Hence site specific strategies</p>	

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used to compensate downstream users for “dis-benefit”.		<p>contradicts the ‘polluter pays’ principle of sustainability as enshrined in s2 of NEMA, and is a continuation of an old apartheid policy. Instead of this dilution, the AMD on the Witwatersrand should be treated to domestic quality and added to the water supply network. The cost of this treatment should be carried by the responsible mining companies.</p> <p>The implementation of the waste Discharge Charges system is a separate issue. It should also not be used to ‘compensate’ downstream users, as this will be contrary to the same sustainability principle, it should however be implemented sooner rather than later across</p>	should not be reviewed unless they are applicable on a national scale.	

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		<p>the country to fund monitoring and intervention initiatives. An implementation schedule should be provided to facilitate the monitoring of progress in this regard.</p>		
<p><b>Recommendation 17:</b> Implement an upgraded water quality monitoring system in the Vaal River System.</p>	<p><b>Disagree</b> - There is already extensive monitoring on the Vaal River (from RQS and Regional offices) – need to define “upgraded”</p>	<p>Labour supports the implementation of efficient and effective water quality monitoring for all important water systems, as well as an effective method of making such monitoring data available to the broader public.</p>	<p>Business supports the implementation of efficient and effective water quality monitoring for all important water systems.</p>	
<p><b>Recommendation 18:</b> Evaluation of the impact of increased TDS export from the Vet River on Bloemhof Dam and the downstream river system to be carried out.</p>		<p>The national water quality monitoring data should indicate all potential problem areas, including for salination, eutrophication, etc, so that appropriate and timeous intervention measures can be taken.</p>	<p>This is a site specific recommendation that falls outside of the scope of this task team.</p>	

RECOMMENDATION:	GOVERNMENT	LABOUR	BUSINESS	ADDITIONAL COMMENTS
<p><b>Recommendation 19:</b> Identify and implement opportunities to employ desalination of discharges and treated water in all areas impacted by high salinity, in order to reduce the impacts of salinity on users.</p>		<p>Point source discharges but one cause of salination. Improved control over both point and diffuse sources of pollution, including salination, should be a priority. Proper compliance monitoring by the DWA on these potential sources of pollution is currently lacking. In cases where point sources of salination are identified, steps must be taken to ensure the implementation of the BPEO in order to curtail such discharges.</p>	<p>Business recognizes desalination as but one technology that can assist in managing salinity problems. Business would prefer the adoption of an integrated approach to managing salinity risks</p>	
<p><b>Recommendation 20:</b> All dischargers in the Vaal River System to reduce TDS load by 50-60% by 2014.</p>	<p>Do we know the TDS load now? Incorporated into licenses?</p>	<p>A determination of current TDS loads from both point and diffuse sources should be made, and national targets set in the revised NWRS to be achieved at all problem areas.</p>	<p>This is a site specific recommendation that falls outside of the scope of this task team.</p>	

RECOMMENDATION:	GOVERNMENT	LABOUR	BUSINESS	ADDITIONAL COMMENTS
<p><b>Recommendation 21:</b> Quantify the extent of the mine remediation problem, identify the root causes for inadequate remediation of mining operations and implement a project to correct the problem.</p>	<p><i>Loaded statement – I think we all know the root causes, and there is just not enough money to go around to correct past mistakes. Maybe a solution for the future?</i></p>	<p>The claim that there is not enough money to correct past mistakes is ill informed. The money allocated in the 2011 budget for a national Youth Commission was much more than the money provided to address the AMD problem, and yet it is in the interest of the youth to correct the AMD problem now, so that we don't leave it for them to inherit.. Moreover, should the WDCS be properly implemented, the funds generated can be used to augment the money to be paid by current mines, to provide for the contribution of abandoned mines. In addition, one of the root causes is that the DWA allows the DMR to</p>	<p>Business suggests that this recommendation be grouped under AMD as it relates to more than salinity management</p>	

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		<p>transfer liabilities for mines without intervening in cases where it is clear that the seller of the mine is simply trying to get rid of liabilities. Much stronger control is needed to prevent and address this problem.</p>		
<p><b>Recommendation 22:</b> Land use practices that increase the salinity of water resources to be controlled.</p>	<p><b>Disagree</b> - Vague statements like this is very difficult to report on – not to mention enforcement</p>	<p>Land use practices such as current and historic slimes dams, waste rock dumps, and municipal waste disposal sites need to be better controlled as diffuse sources of both heavy metal pollution and increased salination. A register/geo-map of land-based activities that contribute to water resource pollution would be a good start to get an idea of the scale of the problem. Part 8 of the NEM:WA dealing with contaminated land could</p>	<p>Business suggests that this recommendation be handled separately under an umbrella of land use management. In this regard a recommendation should be made to address this issue in the drafting of the Contaminated Land Section (Part 8) of the Waste Management Act currently in progress</p>	

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		<p>be a possible route, however, most of these land-based activities are on mines, and mine residue deposits are currently excluded from the provisions of the NEM:WA. It is postulated that these diffuse sources of pollution is possibly the biggest contributor to high levels of salination of our rivers, The lazzez faire attitude towards difuse pollution sources is a cause for concern.</p>		
<p><b>Recommendation 23:</b> The risks of a sudden salinity increase in the Vaal River due to salt retention in the Vaalharts scheme to be assessed and a detailed response plan to be developed and implemented.</p>		<p>The national water quality monitoring data should indicate all potential problem areas, including for salination, eutrophication, etc, so that appropriate and timeous intervention measures can be taken</p>	<p>This is a site specific recommendation that falls outside of the scope of this task team.</p>	

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<p><b>Recommendation 24:</b> Catchment management Plans for all catchments to be expedited, beginning with priority catchments.</p>		<p><b>Agreed</b></p>	<p>The recommendation is supported in principle; however, business suggests that this recommendation be handled separately under recommendations on catchment management agencies.</p>	
<p><b>Recommendation 25:</b> Warning signs to be placed at all sites nationally where salinity levels pose a risk to human health.</p>	<p><b>Disagree</b> - Generally, salinity needs to be very high before it poses a risk to human health – makes more sense to do this for microbes.</p>	<p><b>Disagree</b> - Generally, salinity needs to be very high before it poses a risk to human health – makes more sense to do this for microbes.</p>	<p>The recommendation is supported in principle; however, business suggests that this recommendation be addressed separately under human health risks as this is not only applicable to salinity.</p>	
<b>ESTROGEN AND ESTROGEN MIMICKING SUBSTANCES</b>				
<p><b>Recommendation 26:</b> National capability to analyse samples for dioxins and aldicarb to be established, and these substances to be included in future studies on estrogen and estrogen-mimicking</p>	<p>This is an issue high on the agenda of research institutions internationally and locally. Concern within RQS – started discussions with DTI and other institutions</p>	<p><b>Partially agree.</b> It is not only dioxins and aldicarb that can act as endocrine disruptors, It is also not just estrogen and estrogen mimickers that are of concern as endocrine disruptors, Agree however that a</p>	<p>The recommendation is supported (introduce national capability to analyse and further studies). However, these initiatives need to be aligned to support existing monitoring and research programmes.</p>	

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substances.		national capacity be developed to enable analysis of effluents from industries and municipal waste water treatment works, as well as of water resources and drinking water sources for endocrine disruptors, and once the extent of the problem has been researched, appropriate control mechanisms can be implemented.		
<p><b>Recommendation 27:</b> National prevalence of estrogen and estrogen-mimicking substances in water resources, including drinking water, to be mapped and monitored on an ongoing basis.</p>	First need to establish competency for routine monitoring- only one/two commercial labs available	See above	<p>This recommendation is supported.</p> <p>Business believes that water quality monitoring in general should be used to improve water resource management.</p>	

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<b>PESTICIDES/ INSECTICIDES</b>				
<p><b>Recommendation 28:</b> Established international health-based standards (e.g. those developed by the WHO and the EPA) to be adopted by DWA in order to afford a level of protection consistent with the provisions of the South African Constitution</p>	<p><b>Noted</b> – The SANS 241 for drinking water is being reviewed and this is an issue currently being debated. However the vast variety of pesticides makes it a challenge to include with a determinand limit. Water quality guidelines to be reviewed as soon as we have money – we want to look at risk-based approach which may differ from WHO and EPA Discussions with Agriculture, DTI and WRC</p>	<p><b>Disagree.</b> Note that the standards developed by the WHO and the EPA are not based on the rights and principles of the South African Constitution and NEMA s2, and that standards developed with South African principles in mind may be stricter than these international ones, although the international standards can be used to inform the South African Standards. Specifically with regard to pesticides, the ‘risk averse and cautious’ principle in s 2 of NEMA requires that no pesticide may be introduced unless the level of harm it potentially poses has been determined and found to be within acceptable levels. A</p>	<p>Business considers this an overarching recommendation which is not specific to the contamination of water with pesticides/ insecticides.</p>	

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		national standard for drinking water is thus not the correct tool to manage this potential problem.		
<p><b>Recommendation 29:</b> A national pesticide monitoring programme to be established to determine, on an ongoing basis, the extent and impacts of pesticide pollution.</p>	<p><b>Agreed</b> - Will be included in our toxicity monitoring programme – need to built capacity for sample analyses and decide on which variables to monitor (there are thousands)</p>	<p><b>Agreed</b></p>	<p>Business considers this an overarching recommendation which is not specific to the contamination of water with pesticides/ insecticides.</p>	
<p><b>Recommendation 30:</b> Holistic policy measures governing the use of pesticides to be developed and implemented in order to minimise the impacts on water resource quality and human health. Input from the agricultural sector, the</p>	<p><b>Agree</b> – But a policy there will be responsibilities that will have an economic impact to be noted of.</p>	<p><b>Agreed</b> – in establishing such a policy, careful consideration of the risk averse and cautious’ principle in s 2 of NEMA should be taken</p>	<p>There are measures in place governing the use of pesticides.  (It’s less about developing policy and more about implementing global good practice to manage the impacts of pesticides/ insecticides).</p>	

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health sector, scientists and specialists to be obtained in devising and planning interventions for affected areas, and in the determination of policy.				
<b>Recommendation 31:</b> A capacity building programme for pesticide monitoring and management targeting all stakeholders to be developed and implemented.	See above	<b>Agreed</b> – such capacity building programme should also involve laboratories to ensure that the capacity to conduct such analysis with accredited methodologies exists	This recommendation is supported.	
<b>SUSPENDED SOLIDS</b>				
<b>Recommendation 32:</b> Each CMA to develop and implement catchment-based land use strategies and policies to control the level of suspended solids in surface water resources.	<b>Disagree</b> - Why? Is the solids the problem or the soil erosion? Then it is a different approach and different responsibility. This also doesn't necessarily represent the prevalence of a detrimental health	<b>Partially agree</b> – although it is the responsibility of CMA's to develop strategies to address pollution, it is rather the function of the NWRS to set a national overarching goal for the reduction of suspended	The responsibility of a CMA to develop and implement catchment-based land use strategies is supported but is seen as an overarching recommendation which addresses more than	

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	indicator.	solids in rivers and for sedimentation of dams. The causes for these problems may differ for each catchment – in some it may be as a result of erosion, it others as a result of runoff from land-based waste disposal.	contamination arising from suspended solids.	
<p><b>Recommendation 33:</b> Illegal small-scale mining to be addressed, since these operations show disregard for environmental standards.</p>	<p><b>Noted</b> - A more holistic approach is to be developed for both small scale and bigger mines.</p>	<p><b>Agreed</b>– capacity should be developed for proper compliance monitoring and enforcement, and strict action should be taken against illegal mines, especially small scale sand mining which contributes dramatically to sedimentation</p>	<p>This recommendation is to be addressed under AMD/ mining (the issue in the first instance is to eradicate illegal mining activities and then ensure compliance to environmental standards).</p>	
<p><b>Recommendation 34:</b> Small scale miners and communities to be trained on environmental management and health and safety, including the impacts of mining</p>	<p>Agree – but after training, enforcement must be done</p>	<p><b>Partially agree</b> – although it is the responsibility of government to raise awareness regarding water pollution issues amongst communities</p>	<p>This is largely a cross cutting issue that is applicable to all water quality considerations and should be addressed separately under the heading</p>	

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activities on water quality.		and the public, it is not the responsibility of government to train mining companies regarding their legal responsibilities.	“awareness raising and communication]”.	
<b>Recommendation 35:</b> Ongoing environmental monitoring of small-scale miners required to ensure that water quality impacts are minimised.	Minerals and Energy responsible – maybe licensing need to be re-looked	<b>Agreed</b> – and note that it is NOT the responsibility of DMR to monitor impacts from mines on water quality, it is the responsibility of the DWA to implement compliance monitoring and enforcement in so far as the water resource is concerned. This abdication of responsibility by the DWA is a cause of concern	This recommendation is to be addressed under AMD/ mining.	

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<p><b>Recommendation 36:</b> Tax relief and incentives must be promoted for environmentally acceptable mining, specifically including water quality impacts.</p>	<p>Incentives should be promoted for “clean” companies across government, not only water</p>	<p><b>Disagree</b> – The incentive for ‘cleaner’ practices is already implicit in the waste discharge charge system: companies who implement better practices will not pay charges under the WDCS. Perhaps a system similar to the ‘green drop’ system can be implemented for mining and industry?</p>	<p>The use of economic instruments (all types) is supported to drive water quality management. This is not necessarily related to suspended solids but is a cross cutting issue that should be addressed separately.</p>	
<p><b>OTHER WATER QUALITY RELATED RECOMMENDATIONS</b></p>				
<p><b>NON- POINT SOURCE MANAGEMENT</b></p>				
<p><b>Recommendation 37:</b> A National Non-point Source Strategy (NNPSS) to be developed as part of the National Water Resource Strategy (NWRS).</p>		<p><b>Disagree.</b> The main water pollution problems are microbiological,, eutrophication, heavy metals, salination and sedimentation. These problems are all caused by both point and diffuse sources, which could originate from, mining, agricultural, industrial or rural and urban municipal activities. To</p>	<p>Business supports a greater focus on non-point (or diffuse) source pollution.</p> <p>While the overarching strategy should be reflected in the updated NWRS the NWRS is not seen as the vehicle to drive non-point source pollution management.</p>	

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		<p>avoid a piecemeal approach, the NWRS should set clear targets to address these problems, and national strategies can then be developed and implemented in the different sectors, and aimed at alleviating the specific priority problems in each catchment.</p>		
<b>WATER QUALITY MANAGEMENT SYSTEM</b>				
<p><b>Recommendation 38:</b> National water quality data, pollution source data and pollution modelling needs to be assessed and a programme implemented to ensure that water quality management in all catchments is adequately supported.</p>	<p>WRIM busy with an initiative to get data/ systems integrated to be able to get answers easily. The WMS has a management functionality , but is not used by catchment managers.</p>	<p>It is unclear what this recommendation is actually recommending: Is it assessment of pollution data and modelling? Assessment of the quality of the data? Or is it the development of a programme to support water quality management in catchments? This may require more than an</p>	<p>This recommendation is supported by business.</p>	

RECOMMENDATION:	GOVERNMENT	LABOUR	BUSINESS	ADDITIONAL COMMENTS
		assessment of current monitoring data.		
<b>DRINKING WATER QUALITY (( Labour proposes that this component should be integrated with BACTERIAL AND VIRAL PATHOGENS above)</b>				
<p><b>Recommendation 39:</b> Compliance to SANS 241 measurement standards to be enforced at all WSA's. Action plans for each WSA to be formulated to address water quality deficiencies, and a monitoring programme to be implemented to assess progress.</p>	<p><b>Noted-</b> Done as part of Blue Drop Certification Programme.</p>	<p><b>Agreed</b> that compliance assessment is done as part of the Blue drop system. Not agreed that effective enforcement is undertaken based on the results of the assesment, as no evidence of actions taken against noncompliant WSA's. Also no evidence of action plans for non-compliant WSA's</p>	Supported	
<p><b>Recommendation 40:</b> A national audit of water purification skills at individual WSA's to be undertaken and a strategy to address skill gaps to be formulated.</p>		<p><b>Agreed.</b> In addition, the draft regulations that had been prepared in 2005 to bring the qualification requirements for WWTW operators in line with SETA</p>	Supported	

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		requirements, needs to be promulgated as a matter of high priority.		
<p><b>Recommendation 41:</b> Preventive maintenance programmes for all purification plants to be developed and implemented.</p>	<p><b>Noted &amp; Agree- DONE AS PART OF THE Blue Drop Certification Programme.</b> The Asset management component addresses this issue which requires preventative maintenance to be a part of it. However a Refurbishment grant is necessary in smaller municipalities where the revenue base is limited.</p>	<p><b>Agree.</b> However, this should also be done for WWTWs, not only for purification works. Refer to comments under <b>BACTERIAL AND VIRAL PATHOGENS</b> above regarding sources of funding and prioritisation of interventions</p>		
<p><b>Recommendation 42:</b> The capacity of individual plants to be reconciled to demand, and investments planned to enable the requisite capacity to be installed.</p>	<p><b>Agree</b></p>	<p><b>Agree.</b> In addition, planned housing developments and expansions of municipal areas should directly inform the expansion needs for both water purification plants and WWTW's, and EIA's and water use authorisation processes should be</p>	<p>The recommendation is supported although this is viewed as one part of managing wastewater treatment works.</p>	

RECOMMENDATION:	GOVERNMENT	LABOUR	BUSINESS	ADDITIONAL COMMENTS
		streamlined for these facilities,		
<b>SOLID LITTER</b>				
<p><b>Recommendation 43:</b> All CMA's to produce an integrated strategy as part of the Catchment management Strategy for the management of solid litter.</p>	CMA's responsibility or local authority ?	Disagree, Firstly, there is no such thing as 'solid litter'. Littering is addressed specifically in the NEM:WA, and it is the responsibility of municipalities, mines and industries ('those in control over areas to which the public has access') to prevent and control littering.	Business considers this an overarching recommendation which is not specific to the contamination of water with solid litter.	
<b>RADIONUCLIDES</b>				
<p><b>Recommendation 44:</b> The extent of radionuclide contamination of South African surface and groundwater resources, both in the form of dissolved metals and immobilised contaminants in sediment to be determined and risks to human and animal health</p>	We have a national Radioactivity monitoring programme, limited to Jukskei and Crocodile- in discussion with WRC to expand and improve – analyses extremely expensive.	<b>Partially agree.</b> Heavy metal monitoring in surface and groundwater resources can give a good indication of possible radionuclide contamination. In areas with high heavy metal contamination, combined with areas where mining took place, additional	Supported	

RECOMMENDATION:	GOVERNMENT	LABOUR	BUSINESS	ADDITIONAL COMMENTS
to be assessed.		<p>monitoring for radionuclides can be implemented. What is however required is studies in areas that ARE contaminated, specifically with regard to adsorption-desorption rates for radionuclides in sediment of contaminated water resources in order to determine clean-up priorities,</p>		

## **General Comment- Labour**

The structure and grouping of the issues in this document is somewhat disjointed, and regrouping can provide improved consideration of intervention actions. The main water pollution problems are microbiological, eutrophication, heavy metals (including radionuclides), salination, and sedimentation. These problems are all caused by both point and diffuse sources, which could originate from, mining, agricultural, industrial or rural and urban municipal activities. It is therefore evident that a matrix management system be developed to ensure that the causes of the problems, as well as the effects thereof, are appropriately addressed in a coordinated institutional management framework through appropriate regulation and intervention. This is an illustration of such a matrix management system for water quality:

