

State of Play Peel - Harvey Eastern Estuary Catchment Environmental Assessment

Report on Phases 2 and 3



Prepared for
Department of Water

30 October 2008

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URS

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1. PHASE 2 – COMMUNITY AND STAKEHOLDER ENGAGEMENT

1.1 INTRODUCTION

This report provides an analysis of feedback, submissions and responses received through Phase 2 of the Peel-Harvey Eastern Estuary Catchment Environmental Assessment (the 'Study').

Phase 1 consisted of the development of *State of Play* – a comprehensive discussion paper providing a technical resource for scientists and policy-makers and points for discussion by the broader community. Phase 2 consisted of a program of community engagement, seeking feedback from key players and the general public about how they wanted the State Government to apply planning and environmental policies for the Peel-Harvey region into the future. Phase 3 finalises *State of Play* and provides strategic measures which should be supported by stakeholders and the community towards achieving agreed environmental priorities.

This report delivers the results of the engagement phase and draws some conclusions about the level of consensus among stakeholders and the community. The information will show there are broad areas of agreement and similar priorities among a big proportion of the people surveyed and consulted for the Study.

Areas of remnant vegetation, wetland habitats for birds, water quality and water supply stand out as extremely high priorities for protection and conservation. Developers and planners recognise a need to balance these priorities with the pressure being applied through population growth and demand for housing.

While it is clear the community will only accept complete preservation of some parts of the study area, there is broad understanding that further development would be acceptable on some areas of land that have been historically degraded through clearing and agriculture. The qualification for this is that all new developments must be conscious of environmental sensitivities and apply the highest standard of environmental practice available.

1.2 METHODS OF ENGAGEMENT

Focus Group – a workshop of interested stakeholders was held at the Peel Waterways Centre on Friday 29 February, 2008. Approximately 25 people took part in the six-hour program which analysed key points from the *State of Play* report and invited people to communicate their priorities and concerns for the study area.

The details of the information discussed are presented in **Appendix A**.

Open Day – members of the general public were invited to an open day on Saturday 1 March, 2008. Senior Department of Water representatives and two of the report authors, Ian LeProvost and Paul McLeod, were available to answer any questions and explain the scope of the study. The open day was held at the Peel Waterways Centre, but few members of the public attended.

Surveys – a series of written surveys was distributed to interested members of the community. These included three "Two-minute surveys" consisting of short yes/no questions with space for extra comments. The surveys were divided into three categories; wetland and waterways, native vegetation, soils and land capability. A public opinion survey posed a series of 18 statements and asked respondents to indicate their degree of agreement /disagreement. A summary survey asked broader questions, based on the discussion in *State of Play*, and provided more room for extra comments.

Details of the survey responses are presented in **Appendix B**.

Submissions – key stakeholders, including conservation groups, peak bodies and individuals were invited to make formal submissions on the content of *State of Play*. A total of nine submissions were received from the following organisations: Urban Development Institute of Australia (UDIA), Peel Harvey Catchment Council (PHCC), Peel Development Commission (PDC), Peel Preservation Group, City of Mandurah, Shire of Murray and Masterplan Town Planning Consultants. Individual submissions were made by the Department of Water's Senior Engineer, Drainage and Waterways, Peter Muirden and Martin Wells of Land Assessment Pty Ltd.

Summaries of the written submissions received, and the responses are presented in **Appendix C**.

1.3 FOCUS GROUP

The Focus Group was structured into a three-part process for deliberative engagement. The stages were inquiry, analysis and decision (actions). A summary of the discussions and responses gathered at the focus group is contained in this report. For a full record, please see **Appendix A**.

During the inquiry stage participants heard summary presentations then took part in a “press gallery” style question and answer session. Some clear expectations were derived from this session, which showed the participants were highly motivated to ensure the protection of environmental assets in the study area.

There was concern about the lack of consistency across jurisdictions and recognition that changes needed to be made to provide greater certainty for landowners and developers. Participants wanted the ‘talk’ on these issues to stop and practical measures to be implemented.

In the analysis stage, participants were asked to engage directly with the key points contained in the *State of Play* report. There was broad and overwhelming consensus supporting the direction of the Study and the main points distilled from it. Recurring themes and high priorities among the group included the need for stronger legislation to protect remnant vegetation, increase buffer zones and quarantine wetlands. Participants wanted to see drainage issues addressed and they wanted a broader strategy for the region as a whole.

A major concern among the group was the lack of enforcement for breaches of legislation already in place to guard against illegal clearing. They were also concerned about illegal riding of motorbikes in protected areas and made a clear call for further legislation to protect flora and fauna from cats and dogs. The issue of mosquitoes, and their impact on human health, was also a point of discussion. Participants were concerned that the construction of artificial lakes would further encourage mosquito populations; others felt the mosquitoes could be controlled through bigger buffer zones with native vegetation.

Participants were also asked to comment on the ‘constraints’ and ‘opportunities’ identified in the study. There was overwhelming support for the preservation and protection of the areas identified as constrained including gazetted nature and conservation reserves, portions of regional open space, all protected wetlands, remnant bushland and floodways. The group agreed with the report's authors that these areas were of high value – both from a conservation and community interest perspective – and should therefore be off limits to any future development. There was also full consensus about the areas identified as opportunities for further development, provided the proposals delivered some environmental offsets such as rehabilitation of degraded areas, enhancement of wetlands or protection of water quality.

During the decision (actions) stage participants were asked to identify appropriate management measures the Government should consider in order to balance the protection of

the environment in the Peel-Harvey region and the pressure of development. The strategies outlined in *State of Play* under the three themes of (i) wetlands and waterways, (ii) native vegetation and (iii) soils and land capability received full support and consensus among the group.

Participants were also concerned about responsibility for monitoring environmental compliance. There was discussion about whether proponents should pay for the monitoring of their own projects. Interagency cooperation and coordination of responsibilities were highlighted as areas of concern. It was also suggested there should be a more targeted education program to promote appreciation of the natural environment.

1.4 SURVEYS

Survey response rates were low with 13 responses received for the public opinion survey. Factors contributing to this include;

- Strong rate of participation among key stakeholders at the focus group held on the 29th February.
- Overwhelming nature of the document which may have inhibited some people from engaging directly with it.
- Social and lifestyle pressures preventing busy people from taking an active interest in environmental and planning issues for their region.
- Feeling of 'consultation fatigue' among stakeholders who have contributed to numerous reviews and studies before.

The results of the surveys received showed clear support for the key findings contained in *State of Play*. These community members are highly motivated to ensure the protection and preservation of remaining wetlands and bushland. They will only support development which is limited to areas already degraded and offset with environmental rehabilitation and enhancement measures.

For full results to individual surveys and recorded comments, please see **Appendix B**.

1.5 SUBMISSIONS

Perhaps unsurprisingly, the formal submissions were the only category of community consultation where marked differences of opinion occurred. Traditional boundaries between conservation/community groups, those with commercial interests and those with regulatory interests saw the submissions raise important points for consideration.

The Peel Harvey Catchment Council and Peel Preservation Group largely supported the findings and recommendations found in *State of Play*, highlighting sections of the report where they thought the recommendations could be strengthened. The Urban Development Institute of Australia (WA division), Peel Development Commission and Masterplan Town Planning Consultants expressed concern about how the document might affect any future development applications for the area. The Shire of Murray's submission was similarly concerned that the possibility of development with net environmental benefits was not explored strongly enough while the City of Mandurah's submission sought better protection of fragile areas.

UDIA was particularly critical that the report did not show a greater recognition of water sensitive urban design (WSUD) practices. The submission also criticised the document for failing to provide any new data on environmental issues for the region. It should be made clear that the authors of *State of Play* had a prescribed task to pool existing material for the Peel-Harvey region without gathering any new data.

A summary of the submissions is attached as **Appendix C**.

1.6 CONCLUSIONS

After an extensive program of community and stakeholder engagement, it is clear the major direction and recommendations presented in *State of Play* will be supported by the community when there is an implementation plan developed for the Peel-Harvey Eastern Estuary Catchment area.

Developers will have some concerns about how to balance the pressure for further development with sensitive environmental issues – but these stakeholders are also keen to implement best environmental practice into their proposals and incorporate design and rehabilitation plans to create a net environmental benefit.

The broader community, including those involved in conservation efforts for the region, are 'on board' with the approach presented in the Study – which proposes areas constrained from further development and areas where some development, with environmental conditions attached, would be accepted.

Wetland habitats, remnant bushland, water quality and water supply stand out as high priorities for protection and conservation. The community will not accept developments which jeopardise or degrade remaining assets further. They are also keen to see improvements in interagency cooperation and a stronger approach to enforcement, so that existing legislation is able to work more effectively.

The Peel-Harvey region and its environmental status is highly valued by the people who live, work and visit the area. The task of Government is to balance the concerns about further environmental degradation with the pressure to supply housing and other infrastructure for a rapidly growing population. The consultation phase of this assessment should provide a clear way forward to addressing the issues and ensuring the plan meets with broad community acceptance.

2. PHASE 3 – NATURAL RESOURCE MANAGEMENT STRATEGIES

2.1 INTRODUCTION

This document forms the final stage (Phase 3) of the Study. The natural resource management (NRM) strategies presented are the practical outcomes of a thorough examination and compilation of environmental data about one of WA's most significant regions.

This document also incorporates the results of a community consultation program where stakeholders were given the opportunity to communicate with the project team about their own thoughts and ideas for preserving remaining environmental assets and managing the pressures of population growth and demand for development. This consultation was upon the content of *Peel Harvey - State of Play*, a discussion paper forming a technical resource for scientists and policy-makers as well as posing some key points for consideration by the broader community.

There were broad areas of consensus among those consulted during the community engagement phase. Areas of remnant vegetation, wetland habitat for birds, water quality and water supply stood out as high priorities for preservation and conservation into the future. The community also felt strongly that much of the policy, legislation and regulations for ensuring the protection of the study area existed but there was a lack of coordination among Government agencies to conduct proper monitoring and enforcement.

2.2 GOVERNANCE

Governance and coordination of Government agencies was identified by the community as an ongoing challenge for NRM in the Peel-Harvey region. The project team wishes to emphasise one recommendation as a key plank for addressing this issue into the future.

A non-statutory governance model has been proposed by Government and community leaders in the Region, called the Peel-Harvey Water Quality Improvement Council ("the Council"). It is strongly suggested that this model, which already has broad support, should be adopted by Government, as it includes broad representation from the community and relevant agencies and organisations. This model would effectively bring together multiple activities under a coordinated approach and ensure each Department is enacting its relevant statutory functions to deliver improved water quality objectives. It is also suggested that the non-statutory aspect of this model should be subject to review after a specified period to consider whether further statutory implementation mechanisms are necessary.

Various Government agencies and community groups have for several decades now been instrumental in the development and implementation of strategies for reducing phosphorous inputs from the catchment in the long term to the Peel Harvey estuary. This work has recently culminated in the release of the Draft Water Quality Improvement Plan for the Rivers and Estuary of the Peel-Harvey System (WQIP) by the EPA for public comment (September 2007). The document is expected to be finalised in the near future, and will include recommendations on a range of practical and readily adoptable management initiatives to achieve reductions in phosphorous discharges from catchment-based activities.

To effectively respond to this strategy, Peel Harvey catchment governance structures have been considered by the State Government agencies and the Peel Harvey Catchment Council, with a proposal to establish the Council to (in the first place) coordinate implementation of the WQIP and other water quality environmental initiatives in the region.

In early 2008, Government and community leaders supported the concept of the Council as an advisory body to State Government, as well as an implementation body to ensure better integration of land use and planning with water quality and catchment objectives. This

position will need to be reviewed following the change of State Government in September 2008, and re-engagement at the political level; however it retains its status and validity at the regional level.

2.3 LIST OF NRM STRATEGIES

The following strategies were developed in response to feedback received during the public consultation phase of the project. The project team presents the strategies below in order of importance. Details about the strategies are presented in Section 2.5.

1. Establish the Peel-Harvey Water Quality Improvement Council.
2. Improve drainage planning and management.
3. Performance evaluation of WSUD.
4. Gazette the proposed Peel Regional Park.
5. Increase engagement with Aboriginal people.
6. Implement the use of slow release fertilisers.
7. Establish an annual Regional Development Leaders Forum ("the Forum").
8. Embed constraints mapping provided in *State of Play* within all relevant local and regional planning instruments.
9. Conduct local investigations of all potential NRM constraints to development.
10. Encourage adoption of Best Management Practices (BMPs) for water and nutrient management by all rural and special rural landholders.
11. Finalise and implement Swan Bioplan.
12. Establish restoration projects for native vegetation, and riparian buffers in all new developments.
13. Connect all remaining residential septic tanks to sewer or alternative treatment unit (ATU).

2.4 GAP ANALYSIS

The matrix below was used by the project team to identify any gaps in the strategies / list of measures. Decisions on how to populate the cells were necessarily subjective but nonetheless informative as it showed where strategies were lacking and further consideration required. In many cases individual measures were classified into more than one cell, providing evidence that the total plan is broad and comprehensive in its scope.

Table 1: Gap analysis for strategic coverage of issues

	Strategies relevant to the issues		
	Wetlands Waterways	and Nutrient and Water Management (soils and land capability)	Native Vegetation
Constraint	1, 4, 8, 11	1, 4, 8	1, 4, 8, 11
Potential constraint	1, 2, 3, 4, 7, 9, 10, 11, 12, 13,	1, 2, 3, 4, 5, 7, 9, 10, 12, 13,	1, 2, 4, 7, 11, 12
Opportunity	1, 2, 4, 3, 7, 5, 12	1, 2, 3, 4, 5, 6, 7, 12	1, 2, 4, 5, 7, 12

2.5 DETAIL OF STRATEGIES

Each strategy is addressed in terms of objective, responsibilities, indicative delivery timeframe and supporting comments.

The lead agency for each strategy is also presented in *italics*.

Strategy 1	Who
Establish the Peel-Harvey Water Quality Improvement Council.	<i>PDC, DPI, DOW, DEC, DAF, EPA, PHCC</i>
Objective	When
To form a high level governance structure – the Council – to facilitate and coordinate ongoing land use planning and environmental management between State and local Government, industry and the community that will be chartered with achieving water quality and catchment management outcomes, with reporting responsibilities on key water quality and catchment management issues.	2009-2010
Comments	
The proposed governance model should be adopted by Government that includes broad representation from the community and relevant agencies and organisations, to bring together multiple activities under a coordinated approach and ensure each Department is enacting their relevant statutory functions to deliver improved water quality objectives. Specifically, the Council should implement, enforce and resource existing regulatory and statutory mechanisms aimed at catchment management and water quality improvement in the first place. This approach would be reviewed after a period and further consideration given to statutory mechanisms as part of a performance review and adaptive management approach.	

Strategy 2	Who
Improve drainage planning and management	<i>DOW, WC, ERA, LG</i>
Objective	When
Implementation of revised objectives for planning and management of new and existing arterial drainage systems that achieve triple-bottom line outcomes.	2015
Comments	
Adherence to the 'three-day' clearance rule for drain design and management is not easily reconciled with the establishment of water quality objectives for water conveyed in drains. There is sufficient doubt about the continued validity of this rule to justify a review on technical grounds. Further, there is evidence that some drains are 'over-engineered' in respect of this standard, although there are few data to demonstrate performance against the rule.	
Future nutrient and water management in the Study area needs to follow closely the principles of total water resource management as set out in instruments such as State Planning Policies, Better Urban Water Management Framework, the Stormwater Management Manual and Draft Floodplain Strategy.	
New objectives for drainage management need to draw upon the Drainage and Water Management Plans being developed in the area, followed by re-negotiation of the management objectives for the existing drainage network. This will need to involve the Economic Regulation Authority (as the licensor), the Water Corporation (as the licensee), the Department of Water and Local Governments. Establishing new objectives for drainage and water management needs to be accompanied by some innovative changes to drainage design, construction and management.	

2. PHASE 3 - NATURAL RESOURCE MANAGEMENT STRATEGIES

Strategy 3 Performance evaluation of WSUD.	Who <i>DOW, UDIA, LG</i>
Objective Determine the contribution that new urban design approaches can make to limiting nutrient contribution to adjacent waterways, and mosquito nuisance.	When 2009
Comments There is an immediate need to invest in monitoring and evaluation of current “best practice” WSUD to validate it’s effectiveness in reducing nutrient export in local conditions. Careful planning and adoption of best practice water and nutrient management practices will be needed to ensure that further urban development in the Study area does not increase the pressures on the already stressed local and regional environment. However, new technologies in Water Sensitive Urban Design for urban development are now available and urban developers are committed to their use. These new approaches to urban development include innovative design to prevent nutrient export into major waterways and minimise potential mosquito nuisance. Implementing best practice urban design to limit nutrient export from future urban developments needs to be accompanied by a comprehensive program of modelling the impacts of these technologies and validation via long term monitoring of nutrient flows to inform new urban developments. This work needs to involve the urban development industry and Local Governments.	

Strategy 4 Gazette Peel Regional Park	Who <i>DEC, DPI</i>
Objective Establishment of the Peel Regional Park will address long standing uncertainty regarding management responsibilities and funding for the Park. It will also formalise protection of Regionally significant flora, fauna and landforms contained within the park against the threats of future development in the region.	When 2009
Comments Establishment of the Park is a statutory requirement of the Peel Region Scheme. It will rationalise fragmented existing management arrangements. A review of the existing boundaries in line with the findings of the Swan Bioplan project would also offer substantial opportunities to protect other areas of vegetation that have been identified as being of Regional significance that at present fall beyond the existing State Conservation Estate, and are therefore subject to threatening processes.	

Strategy 5	Who
Increase engagement with Aboriginal people.	PHCC, DOW, DEC, PHCC, PDC, DPI, DAF, EPA
Objective	When
Increase level of engagement with Aboriginal people through their active participation in the Peel-Harvey Water Quality Improvement Council and the Regional Development Leaders Forum and local Aboriginal people.	2008-09
Comments	
<p>The proposed Council and Forum both provide opportunities to achieve a higher level of engagement with local Aboriginal people on planning and environmental management than has occurred to date. They provide opportunities for a fresh start, taking on board feedback received from Aboriginal people and representative groups from earlier consultation in land use planning, and greater involvement in environmental management. They also provide vehicles for furthering the discussion between Aboriginal people and Government bodies around how Aboriginal heritage values should be conserved, recorded and enhanced in the Peel region.</p> <p>A group known as the Peel Indigenous Reference Group is currently being established. This is a critical step in achieving this particular strategy. The objective of this group will be to improve participation of Indigenous people and communities and to find innovative ways of overcoming regional challenges, such as developing opportunities for Aboriginal people to reconnect with the land through delivery of priority NRM programs. The Peel Regional Indigenous Reference Group has been selected via a transparent process that assesses their current effectiveness in progressing the well-being of their communities, their capacities to benefit from regional support and the potential for innovation and the creation of lasting community solutions.</p>	

Strategy 6	Who
Implement the use of slow release fertilisers	DAF, DEC, RIG
Objective	When
To replace conventional highly soluble fertilisers with slow release fertilisers.	2015
Comments	
<p>Research and investigation have highlighted the critical need for changes in fertiliser and effluent management within extensive (e.g. grazing) and intensive (e.g. horticulture) agricultural land use.</p> <p>An important part of this will be the development of suitable low soluble fertilisers. Currently, there is not a suitable product available for use given the difficulties with the 'coastal super' and community acceptance of super coated with alkaloam. However, fertiliser companies are active in developing substitutes, and the Government is considering a ban on highly soluble fertilisers in coastal areas.</p> <p>The strategy will involve Government (via DAF) working with fertiliser manufacturers in progressing development as quickly as possible. In the event that there are management issues that may act as a barrier to adoption of new fertiliser types, an extension package will need to be developed to encourage uptake.</p>	

2. PHASE 3 - NATURAL RESOURCE MANAGEMENT STRATEGIES

Strategy 7 Establish an annual Regional Development Leaders Forum	Who <i>PDC, DEC, DOW, DAF, PHCC, RIG</i>
Objective To bring together key industry and Government agencies via a facilitated forum to discuss opportunities to better manage the NRM assets of the region, with a specific focus on the waterways of the Peel Region that are of iconic value.	When 2009
Comments In response to the rapid rate and increased diversity of regional development, there is a pressing need to convene an annual forum that brings together leaders across industry, Government and non-Government Organisations (NGOs) to identify strategic opportunities for regional NRM enhancement projects. As part of identifying strategic opportunities, the forum can be used to leverage investment from beneficiaries of the region's natural resources. Several industries are major stakeholders in the Peel Region and derive substantial revenue from natural resources either directly (e.g. mining), or indirectly (e.g. urban land development). As responsible corporate citizens these industries may be willing to contribute to Regional NRM activities and projects. The investors will benefit through the improved lifestyles enjoyed by their employees who live in the area, which will encourage staff retention and local recruitment. This forum aims to establish some consensus about what shape or form this contribution may be able to take.	

Strategy 8 Embed constraints mapping provided in <i>State of Play</i> within all relevant local and regional planning instruments.	Who <i>DPI, LG</i>
Objective To ensure local and regional planning schemes are informed by the constraints identified in <i>State of Play</i> at an early planning stage, or amended to conform with agreed constraints.	When 2009 or as documents undergo review.
Comments During stakeholder engagement it became clear that the constraints and opportunities identified in <i>State of Play</i> were relevant to local and regional planning schemes, but that no formal linkages existed. This strategy would charge the proposed "Council" with engaging other relevant authorities to achieve conformance of schemes with the constraints. Participants felt this was an important step towards ensuring <i>State of Play</i> had real effect on the ground, and was not relegated to being a purely technical reference document.	

Strategy 9	Who
Conduct local investigations of all potential NRM constraints to development.	EPA, DPI, LG, RIG
Objective	When
Conduct appropriate local investigations of all potential environmental constraints in accordance with EPA Guidance No.51 <i>Environmental Guidance for Planning and Development</i> for all new development within the study area.	2009
Comments	
<p>It was widely agreed that avoiding disturbance of environmental assets and water resources was the most effective strategy to prevent deleterious impacts. However as avoidance is not always possible and insufficient information exists to determine the exact level of risk involved, further detailed work is inevitable.</p> <p>This strategy entails a requirement that all new development proposals conduct appropriate investigations relevant to the particular land use planning proposal, to establish the level of risk and to identify whether any mitigation or offsets are required prior to on-site development proceeding. It is not intended to curtail development proposals in the region, rather to ensure appropriate development methods are incorporated to mitigate the risk of environmental and water resource impacts where required.</p> <p>This strategy is intended to ensure that land use planning decisions are based on sound scientific evidence that a particular land holding is capable of development without detriment to the environment or water resources. Implementation of the "risk avoidance" principle should form a key facet of this approach.</p>	

Strategy 10	Who
Encourage adoption of Best Management Practices (BMPs) for water and nutrient management by all rural and special rural landholders.	DAF, LG, PHCC, RIG
Objective	When
Nutrient export from rural land uses is reduced sufficiently to contribute materially to the achievement of the nutrient targets for the Peel-Harvey Estuary set by the EPA in the Draft Water Quality Improvement Plan for the Rivers and Estuary of the Peel-Harvey System.	2010
Comments	
<p>BMPs are available for rural land use. If adopted widely on rural and special rural land, these will reduce the export of nutrients into major waterways. The BMPs have been developed by DAF and through the CCI-WQIP. They include streamlining, effluent management from piggeries and dairies, improved management of existing fertilisers, perennial pastures, irrigation management and riparian management.</p> <p>There has been some adoption of available technologies, but more is needed. Overcoming barriers to adoption of BMPs will require investment with landholders to achieve the best return in terms of ecosystem services. The developing approach to using market mechanisms (i.e. 'auction systems') can ensure environmental benefits are delivered at least cost, and investments targeted to BMPs and sub-catchments where nutrient reductions can be achieved at least cost. DAF in cooperation with the Peel Harvey Catchment Council should seek Government funding to fund an ecosystems services delivery program in the region.</p>	

2. PHASE 3 - NATURAL RESOURCE MANAGEMENT STRATEGIES

Strategy 11 Finalise and implement Swan Bioplan	Who <i>DEC, DPI</i>
Objective To incorporate areas recognised as regionally significant under the Swan Bioplan within the Regional Open Space Reservation of the Peel Region Scheme (PRS).	When 2009
Comments The Swan Bioplan offers the opportunity to achieve a consistent and coordinated approach to managing environmental values across the whole of the Swan Coastal Plain. The State of Play document relies heavily on work done to date on Swan Bioplan. Therefore, Swan Bioplan is influential in the overall approach proposed here and conformance with its objectives for the Peel region should be retained within the scope of the proposed "Council".	

Strategy 12 Establish restoration projects for native vegetation, and riparian buffers in all new developments	Who <i>EPA, DPI, LG, RIG</i>
Objective To create the potential for developments to have a net environmental benefit through offset and enhancement programs linked to project approvals	When 2010
Comments This strategy is intended to counter the conventional perception that development occurs at the expense of environmental values. It involves developers actively seeking opportunities to enhance environmental values within proposed development areas, perhaps complementing similar projects in adjacent developments. These projects could be linked to environment or development approvals as pre-conditions where the relevant authorities identify opportunities, potentially because they were identified in the Swan Bioplan. Examples of projects include the establishment of native vegetation corridors between remnant vegetation or along waterways, and the amelioration of wetlands using natural land contours for drainage management in new developments.	

Strategy 13	Who
Connect all remaining residential septic tanks to sewer or alternative treatment unit (ATU)	WC, DOW, LG
Objective	When
To establish an incentive and/or rebate package to encourage the voluntary connection of remaining residential septic tanks to the sewerage network or ATUs.	2015
Comments	
Contribution from septic tanks continues to be an important source of nutrients. In-fill sewerage needs to be completed as a matter of urgency with arrangements made for universal connection.	
The sewerage network needs to be completed across the region. Further, those properties (residences, industrial sites etc) able to connect to the network need to be encouraged to do so, via financial incentives. Properties that will always be remote from main sewerage lines should be supported to establish ATUs.	
An incentive package needs to be developed through the State Water Strategy (as for water conservation measures) and managed through the Department of Water, Water Corporation or Local Governments.	

2.6 GLOSSARY OF ORGANISATIONS

Department of Agriculture and Food	DAF
Department of Environment and Conservation	DEC
Department of Planning and Infrastructure	DPI
Department of Water	DOW
Environmental Protection Authority	EPA
Economic Regulation Authority	ERA
Local Government	LG
Peel Development Commission	PDC
Peel-Harvey Catchment Council	PHCC
Relevant Industry Groups	RIG
Urban Development Institute of Australia	UDIA
Water Corporation	WC

3. RECOMMENDED IMPLEMENTATION PROCESS

3.1 INTRODUCTION

Several of the Strategies presented in Section 2.3 are already being implemented (e.g. BMPs for rural land use, research into low soluble fertilisers, development of Swan Bioplan). However, the clear message from the people who provided submissions about *State of Play*, and those involved in the focus group is that the pace and scope of action needs to be lifted to a new level. This need for more determined action is behind the listing of new Strategies such as the establishment of a Peel-Harvey Water Quality Improvement Council (the Council), performance testing of Water Sensitive Urban Design (WSUD) and increasing the engagement with Aboriginal people in NRM matters.

3.2 ESTABLISHMENT OF THE COUNCIL

Progressing the implementation of the 13 Strategies needs to commence with establishment of the Peel-Harvey Water Quality Improvement Council as a body with sufficient authority and representation to drive the strategic directions and coordinate Agency, industry and community resources. To enable the Council to have the necessary authority, the following recommendations are made for the establishment and operation of the Council.

- Authorisation at Ministerial level (Ministers for the Environment, Peel Region, Water, Agriculture and Food, Planning and Local Government) for the establishment of the Council.
- It is proposed the Minister for Peel will take the lead in securing cabinet authorisation and funding. The Peel Development Commission will provide executive services for the Council, and support roles provided by Agencies in their respective capacities.
- The Council to be established for a period of five years, at which time, the Ministers will authorise a review of the work of the Council and member agencies in delivering on the strategies.
- Development of Terms of Reference, role and responsibilities, and authority. Selection of an independent Chairperson who has direct links with the relevant Ministers.
- Nomination of members from responsible Agencies are to be at Director-General or Senior Executive Level.
- The Council will be required to report progress annually to Cabinet through the Minister for Peel.

3.3 IMPLEMENTING THE STRATEGIES

Implementing the WQIP and identified Strategies (see Section 2.3) will be the primary task of the Council. As discussed above, some strategies are in progress, although there is concern expressed in the feedback on *State of Play* that the rate and extent of development in the region requires that they be given a higher priority. Others need to be implemented from 'the ground-up' which will have budgetary implications for Agencies that have statutory responsibilities for these areas. Recommended actions follow.

- In the first six months, the Council is to develop a Business Plan for implementation of the Strategies in accordance with the requirements of the Department of Treasury and Finance. The Business Plan needs to include tasks, responsibilities, timelines and resources.
- Given that industry and community will be essential partners in the delivery of many of these strategies, it is critical that in preparing the Business Plan, the roles and responsibilities of organisations such as UDIA, LG, and the PHCC in strategy delivery be specified and signed off under Memoranda of Understanding (MoUs).
- The Business Plan needs to be approved by Council and the Ministers, and submitted into the WA Government's budgetary process to ensure that it is adequately resourced.

- Assuming approval and resourcing of the Business Plan, Agencies with lead responsibilities (and possibly additional resources) for delivering the strategies (see Section 2.5), need to provide regular feedback to the Council with progress in implementation.

3.4 ENGAGEMENT WITH INDUSTRY AND COMMUNITY

Establishment and operation of the Council and lead responsibility for implementing the strategies are clearly the work of Government, operating as shown above in a 'whole-of-Government' mode. However, achievement of several of these strategies will require collaboration between Government, industry and community.

The principal opportunity for 'headline' industry and community collaboration will be through the implementation of the Regional Development Leaders Forum. It will be important that this Forum, to be led by the Peel Development Commission is inclusive, is seen to be of value by the Council (as a means of increasing its 'reach') and the industry and community leaders involved.

4. LIMITATIONS OF REPORT

URS Australia Pty Ltd (URS) has prepared this report in accordance with the usual care and thoroughness of the consulting profession for the use of the Department of Water and only those third parties who have been authorised in writing by URS to rely on the report. It is based on generally accepted practices and standards at the time it was prepared. No other warranty, expressed or implied, is made as to the professional advice included in this report. It is prepared in accordance with the scope of work and for the purpose outlined in URS Proposal No. 3021241.

The methodology adopted and sources of information used by URS are outlined in this report. URS has made no independent verification of this information beyond the agreed scope of works, and URS assumes no responsibility for any inaccuracies or omissions. No indications were found during our investigations that information contained in this report as provided to URS was false.

This report was prepared between June and October 2008, and is based on the conditions encountered and information reviewed at the time of preparation. URS disclaims responsibility for any changes that may have occurred after this time.

This report should be read in full. No responsibility is accepted for use of any part of this report in any other context or for any other purpose or by third parties. This report does not purport to give legal advice. Legal advice can only be given by qualified legal practitioners.

APPENDIX A – FOCUS GROUP RESPONSES

RESPONSES

“State of Play”

**Peel Harvey Eastern Estuary Catchment Environmental Assessment
Focus Group Workshop
Department of Water, Peel Waterways Centre
Held Friday February 29, 2008**

SESSION 1: INQUIRY

A summary presentation was delivered by Adrian Parker from the Department of Water and workshop facilitator Paul McLeod from Golder Associates to ensure all workshop participants had a sound and common understanding of the *State of Play* report's findings and recommendations. Participants then formed small groups to discuss the report in further detail and draft specific questions. To afford all participants equal access to the technical panel, a 'press gallery' was formed where questions representing different interests (environmental, economic, social etc) were asked. An assessment and feedback session followed the press gallery and the following discussion and viewpoints were recorded.

Specific expectations

1. Enough talk, practical outcomes and actions are needed including legislative powers and decision making tools.
2. Sustainable population for region.
3. Inappropriate land uses on SCP (i.e. broadscale mineral sand mining).
4. Development impacts upon water resources.
5. Implications of study on dairy farmers.
6. Provide effective legislative tool to influence planning processes.
7. Strong *agreed* position on managing Peel Harvey estuarine system (influenced by science).
8. Consensus of important issues against triple bottom line (possible through changes to land use planning instruments)
9. Money for waterways management post development
10. Increasing negligence in the face of increasing development/economic development pressure.
11. Effectiveness of current BMPs in improving constrained sites questionable.
12. Environmentally significant sites excised from study area.
 - frustrated by limitations
 - Harvey River, Serpentine River.
13. Creates certainty for landowners and developers, guides decision makers and promotes consistency across jurisdictions.
14. Slow down drainage.

SESSION 2: DELIBERATION

The key points in the table below are what stood out to the *State of Play* authors as being most important. To build consensus and to identify alternative views around these key points, participants were asked to provide written comments to ascertain whether they thought the report's findings were accurate and detailed all the issues.

Feedback received on the day indicated participants overwhelmingly supported the key points, although there was some discussion and debate surrounding whether they were sufficiently detailed and correctly emphasised. Individual and group comments are reproduced in the table below.

Responses to Worksheet 2: Review of Key points.

	Key Point	Comments <ul style="list-style-type: none"> ○ Individual comment ➤ Group comment
1	Locals and tourists love Peel for its clean and healthy environment and want it kept that way forever. This includes fishing, crabbing, swimming, boating and bush walking.	<ul style="list-style-type: none"> ○ People often don't understand the relationship between amenity and environmental factors. ➤ Important to know why people come. Need to maintain values, active and passive recreation areas (sustainable) = enforceable laws. But doesn't mean no change. ➤ Support the intent but it isn't 'clean and healthy.' ➤ What does 'want it kept that way forever' mean? Increase understanding of environmental factors contributing to amenity and recreation.
2	Some wetlands, including the Peel-Yalgorup Ramsar system, are internationally recognised. These and others in the Study area are breeding and feeding grounds for many birds. All remaining wetlands in the Study area are a priority for protection.	<ul style="list-style-type: none"> ○ Need to go further to re-establish wetlands at regional level. ○ Legislation put in place so future planning does not change regulations and allow development that could impact sensitive wetlands. ➤ Should be non-negotiable, should include adjacent lakes, wetlands and waterways. NB: small wetlands are also important linkages. ➤ The definition of wetlands (e.g. constructed wetlands or canals?) must be clear. ➤ Accurate survey needed, get science right.
3	The waterways of the Study area are highly valued by the community for their recreational, biodiversity, landscape and amenity values, but are under intense use pressure. Corrective action is essential to ensure that the Peel Waterways can sustain the increased demands of expected population growth.	<ul style="list-style-type: none"> ○ Increase buffer. ○ Water Corp drainage should be redesigned to slow water volume entering rivers and estuarine system. ○ Not only increased but existing population. ➤ Not adequate as it is, let alone in the future. ➤ Lifestyle aspirations are also important (e.g.: boats). ➤ Need enforceable regulations and large \$ fines for non-compliance. ➤ Water Corp drainage should be redesigned to slow water volume entering waterways.
4	Vegetation around water bodies protects water quality and provides critical linear habitat for fauna. These areas are a priority for protection and rehabilitation	<ul style="list-style-type: none"> ○ Extend and create connectivity on regional level. ○ Needs to have legislation in place to force larger buffers, not just a minimum of 50m. ○ Legislation required at local and state Government level to control cats. ➤ Legislation needs to be strengthened. ➤ NB: Illegal clearing – needs large \$ fines and enforcement. ➤ NB: By default – weeds, stock, fires etc. ➤ Cat and dog legislation required to protect fauna.
5	All native vegetation in good or better condition in the Study area is of very high conservation value. Furthermore, it is important to retain and rehabilitate remnant vegetation in degraded condition especially in areas identified as regionally significant ecological linkages.	<ul style="list-style-type: none"> ○ The community should be assisted and encouraged to take ownership of rehabilitated sites. E.g.: Lake McLarty ➤ Can prioritise remnant vegetation, ways of clearing, e.g. Overgrazing. ➤ Parkland cleared areas are usually older trees / habitat (even dead trees and hollows). ➤ Still being lost at an alarming rate. ➤ The community should be encouraged and supported to take ownership in the rehabilitation of sites (supported by paid teams).
6	Mosquitoes are a significant nuisance in the Peel region, and increasingly a concern for human health as they spread disease. Populations need to be contained and	<ul style="list-style-type: none"> ○ Maybe trade off potential conflicting interests. ○ Without decimation of insect and bird population. ○ What about all the lakes the developers propose to build? ○ How does this conflict with plan to build more wetlands? ➤ Not a major issue. ➤ Concern artificial lakes may be a problem.

	Key Point	Comments <ul style="list-style-type: none"> ○ Individual comment ➤ Group comment
	reduced. Any new development should not create additional mosquito breeding grounds.	<ul style="list-style-type: none"> ➤ Adequate buffer from mosquito areas. ➤ NB: Wetlands with native fish = no mozzies. ➤ No development in mosquito prone areas. ➤ Must be recognised that mosquitoes were here first. ➤ Human health issue must be resourced. ➤ Bioaccumulative effect of larvae and any threats to be investigated. ➤ Need to retain and recreate wet areas for storm water capture.
7	Careful planning and adoption of best practice water and nutrient management will be needed to ensure that further urban development in the Study area does not increase the pressures on the already stressed local and regional environment.	<ul style="list-style-type: none"> ○ Monitoring needs to be given priority, may need to go beyond best practice. ○ Need to reduce nutrients not maintain. ➤ Failing at the moment, need to improve. ➤ Slow release fertilizers should cost less or be subsidised. Don't work on some soils, local endemic species should be used. ➤ Urban fertilizer use needs to be restricted only. ➤ Research must be done on how well BMPs work in different situations, e.g. soil type. ➤ Water Corp to be accountable for water quality from drains in Serpentine/Baldivis area. ➤ Fast track sewerage, especially next to waterways. In the absence of available reticulated sewerage, the installation of alternative treatment units to delete septic tanks needed.
8	Groundwater resources in the area are variable and not enough is known about what kind of development they can withstand, so more investigations are needed.	<ul style="list-style-type: none"> ○ Would give precedence to surface water. ➤ Need to prioritise, not first come first serve, find best outcome for the environment and the community. ➤ Impact of groundwater extraction and dewatering.
9	Development on some areas of acid sulphate soils (ASS) has already led to problems. Future development should be conducted in a way that avoids disturbance of ASS.	<ul style="list-style-type: none"> ○ Magnitude of problems largely unknown. ○ It should not be considered 'good enough' to just fill an area and build on top. ➤ A MUST! ➤ Need to explore different management approaches, e.g. Queensland, Netherlands. ➤ ASS v PASS – ASS must be managed, PASS avoided or development styles.
10	European settlement and development has destroyed many important Indigenous heritage sites. These should be marked and a permanent record made so future generations can find them and learn about them.	<ul style="list-style-type: none"> ➤ Indigenous culture should be celebrated. ➤ Locations should be known and recorded but not necessarily publicly recorded – what do Aboriginals want? ➤ What does 'destroyed' mean – damaged or gone?
11	Aboriginal elders should guide protection and management of remaining Indigenous sites, including appropriate forms of access, recreation and education.	<ul style="list-style-type: none"> ➤ With input from others, e.g. fire management, clearing etc. ➤ Needs to be managed in consultation with land vesting group, e.g. local Government.
12	Aboriginal people should be consulted early in any future planning and development to safeguard indigenous heritage.	<ul style="list-style-type: none"> ○ Nyoongar involvement should be essential element of planning and implementation of NRM. ○ Where relevant. ○ Supported by anthropologists and appropriate studies. ➤ Definition of Aboriginal heritage to improve certainty and support.

Summary of general comments

- Omission – monitoring?
- One size doesn't fit all, e.g. with BMPs.
- Points 2 – 12 are already required to be addressed (and generally are) but appear not always to be applied in the end or followed through when any conditions are not met.
- Process needs a political vision at the regional level.
- Document needs to address; a timeline with milestones, measurable outcomes and adequate monitoring.
- Needs to include cultural heritage.

Additional comments made in main group discussion

- Need to know why people come to the area.
- The mechanisms exist, but don't appear to be well applied. Reporting, enforcement and auditing needs to be enhanced, e.g. clearing.
- Best management practices need to be monitored and evaluated.
- Need for tangible targets and measures, therefore monitoring. E.g. water quality and revegetation.
- Need to strengthen legislation.
- Drainage management – existing drains need to be managed so as to improve ecosystem health, avoid acidification. Drainage management still required given drying climate.

REVIEW OF CONSTRAINTS / OPPORTUNITIES

During this session, focus group participants were also asked to comment on the various constraints and opportunities identified in the *State of Play* report. Feedback suggested participants overwhelmingly agreed with the constraints and opportunities contained in the report and some general comments are provided below.

- Is flooding on palusplain adequately considered?
- Need to broaden beyond existing policy in relation to flooding.
- Clarify that 'opportunities' are suggestions.

SESSION 3: ACTION

Participants were asked, individually and in small groups, to identify appropriate management measures the Government should consider in order to balance the protection of the environment and development. Following the individual and group review, a whole group consensus was obtained before closing the workshop. The following feedback and review was obtained.

Strategies agreed?

1. Wetlands and waterways – Yes
2. Native vegetations – Yes
3. Soils and land capability – Yes

Other ideas / suggestions

1. Adaptive environmental management, monitoring by proponents? Costs met by proponents? Stewardship – discussion about who should pay. Culprit pays or alternative hierarchy? Trust fund?
2. Level playing field, strategic approach for developers – large and small.
3. Native vegetation – link these to legislation and policy. E.g. targets in SPP; enabling legislation.

4. Education on appreciating natural environment.
5. ASS investigations – clarify developers pay. Alternatively, Government investigations ahead of subdivision.
6. Land capability and water availability informing LGA planning decisions.
7. More ambitious than “best practice”, how about “zero discharge”?
8. Interagency integration.

APPENDIX B – TWO-MINUTE SURVEY RESULTS

Table 1: Survey 1 – Wetland and waterway

Two-minute survey results

	Yes	No		Comments + Other strategies
Do you support the study team's finding that restoration of the natural functions of wetlands, rivers and other waterways should be a very high priority for all future development?	9			<ul style="list-style-type: none"> • Drainage in the Peel Region is a major issue and should be addressed accordingly. • Local community ownership to be encouraged. • Enforcement needed for sewerage and drainage breaches. • Possible 'rates' or other financial support for remedial private work. • Allow no development within X of all waterways. • Strict buffer zones set aside for all waterways. • Harsher penalties for those who don't adhere to the guidelines. • How will wetlands on private land be managed in the long term? • Water Corp is a major contributor to over-drainage and destruction of our drains and waterways. Control Water Corp! • Water Corp is a major player in the drainage debate and needs to be accountable for water quality as well as water quantity being drained. • State and local Government need to work together instead of maintaining a silo mentality. • Run-off from drains could be redirected to an artificial wetland to naturally filter water before entering estuary.
Is it acceptable to allow further degradation of wetlands and waterways to accommodate development?		9		
	All	Some	None	
Do you support the strategies to restore wetlands and waterways?	9			

Surveys received – 9

Table 2: Survey 2 – Native vegetation**Two-minute survey results**

	Yes	No		Comments + Other strategies
Do you support the study team's finding that all native vegetation in good condition in the study area is of high conservation value?	11			<ul style="list-style-type: none"> Planners need to be aware that the minimum amount of native vegetation should be allowed to be removed on developments in the Peel region. Revegetation offsets at developer's costs. Over-grazing of bush land achieves a downgrading over time that is then called parkland cleared. Higher value should be placed on parkland cleared areas. These trees are usually older and future habitats. Need more community education on value of natural vegetation, i.e.: swamps need not be beautiful in a garden sense. Should look at revegetation within a development becoming a link to remnant bush areas. Specific species selection for development sites to provide vegetation links. We need to protect our vegetation for future generations to enjoy. Revegetation is needed in some areas. How will remnant vegetation of private land be managed in the long term? Much remnant vegetation in public ownership is not being managed well at present. No more clearing – use up farm land. Set aside floodways and wetlands in any development of farm lands. Local Government has a major role in the control of clearing for urban and industrial development. Currently, within the Shire of Murray, it appears that there is no restraint on clear felling of mature trees and native vegetation. Ensure the planning laws have legislative support and cannot be overturned by developers finding loopholes and overturning planning rules. How will you manage and monitor the effectiveness of your revegetation programs? Have a moratorium on all clearing of native vegetation until water quality improves in the estuary – that would be a win for all sectors.
Do you support the study team's finding that it is important to retain and rehabilitate remnant vegetation in degraded condition especially in areas identified as providing important linkages between natural areas?	11			
Is it acceptable to allow further degradation of native vegetation to accommodate development?		11		
	All	Some	None	
Do you support the strategies to protect and rehabilitate native vegetation listed above?	10	1		

Surveys received – 11

Table 3: Survey 3 – Soils and land capability**Two-minute survey results**

	Yes	No		Comments + Other strategies
Do you support the study team's finding that soil types must be taken into careful consideration when a decision is made on the use of land?	10			<ul style="list-style-type: none"> Some land should never be considered for redevelopment and rezoning banned. PASS is suspected much more widely in palusplain areas and should be required to be tested before any soil disturbance is allowed. Areas of acid sulphate soils should not be developed for buildings. If development is stopped here, it will happen elsewhere perhaps in a more fragile area. Landowners are still using excessive phosphorous fertiliser, not aware that their land's PH levels are not capable of supporting and using the nutrient. Ban fertilisers with excessive phosphate. Soil education for landowners. There is potential here for a negative impact on feed sources for migratory shorebirds in the Peel Inlet. Agree to all unless red mush if used for remediation, not enough long-term info as yet.
Is acidification and subsequent contamination of groundwater and surface water acceptable to accommodate development?	2	9		
	All	Some	None	
Do you support the strategies to manage problems associated with soil types in the study area listed above?	7	2		

Surveys received – 10

Public opinion survey results

To what extent do you agree with the following statements about the Peel-Harvey catchment?

The region's waterways are the main attraction for locals and tourists.

Not sure – 1

Agree – 9

Strongly agree – 3

It is important to ensure future generations can enjoy the same environmentally-based activities (boating, fishing, crabbing, swimming etc) that are possible today.

Not sure – 1

Agree – 5

Strongly agree – 7

The built environment (town-sites, houses, infrastructure etc) is more important to me than the natural environment.

Strongly disagree – 5

Disagree – 6

Agree – 1

In-filling of wetlands is acceptable to make way for residential or commercial development.

Strongly disagree – 10

Disagree – 1

Not sure – 2

Strongly agree – 1

Wetlands have been filled in for development already, and the rest should be protected and rehabilitated.

Agree – 1

Strongly agree – 11

It is important to invest in environmental protection so the environment can withstand additional pressure from anticipated population growth.

Agree – 2

Strongly agree – 11

Development should be allowed to proceed provided it does not negatively impact upon the natural environment.

Disagree – 1

Not sure – 3

Agree – 8

Strongly agree – 1

Future development should be accompanied by investment in local environmental protection and enhancement projects.

Agree – 6

Strongly agree – 7

Land-clearing is acceptable to make way for development.

Strongly disagree – 4

Disagree – 4

Not sure – 3

Agree – 1

Strongly agree – 1

Remnant bushland should be protected for fauna habitat and human enjoyment.

Agree – 1

Strongly agree – 11

Native vegetation should be re-established to provide linkages between remnant natural areas.

Agree – 3

Strongly agree – 10

It does not matter if development activities cause better breeding conditions for mosquitoes, because they can be controlled by chemical and other treatments.

Strongly disagree – 6

Disagree – 4

Not sure – 1

Agree – 1

Mosquito populations are best controlled by avoiding development activities that cause better breeding conditions in the first place.

Not sure – 3

Agree – 4

Strongly agree – 5

Development methods that require excavation or the lowering of the water table should not be allowed in areas of acid sulphate soils.

Not sure – 1

Agree – 2

Strongly agree – 8

Development methods that require lowering of the water table may be acceptable, provided that investigations first confirm that acid sulphate soils will not be exposed to the atmosphere.

Strongly disagree – 2

Disagree – 3

Agree – 7

Development methods that require excavation may be acceptable provided investigations first confirm that acid sulphate soils will not be disturbed.

Strongly disagree – 2

Disagree – 1

Not sure – 1

Agree – 7

Strongly agree – 1

Careful planning and adoption of the best known practices in water and nutrient management will be needed to ensure that further urban development is environmentally acceptable.

Agree – 2

Strongly agree – 10

No further removal of surface water for development or groundwater for irrigation should occur unless local investigations show it is environmentally acceptable.

Agree – 4

Strongly agree – 8

Comments

- What about other resource pressure such as drinking water?
- What impact will climate change have in the future and has this been taken into account when assessing areas for future development?
- How much vegetation can we afford to lose when there is such a small amount left?
- Can the area really sustain this expected population growth?
- Worthy work for the environment and its creatures, however unsustainable population growth at this point in time is nullifying much of the efforts of the “thinking people” who understand how the health of our planet earth is under threat by the thoughtless

behaviour of many people with greedy thoughts. From my experience of Mandurah it all appears too little too late.

Surveys received – 13

Summary Survey comments

- Farming has become unprofitable and should be discouraged; cleared farm land could be used for further development rather than remaining areas of natural vegetation.
- Concern for removal of mature trees from urban and industrial developments.
- Concern that developers may be already 'out of pocket' if they have bought land and are constrained from developing it.
- Boodalan Island (marked on the constraints map?)
- Concern about protection of already approved areas including Frasers Coodanup and Mirvac Bridgewater. Objection to high-rises near waterfronts of rivers and estuaries.
- Reserves, bushland and floodways should be more clearly identified in constraints. Eastern reserves of Peel Harvey estuary identified, Lake McLarty. "Because of the fragility of the area, wildlife and potential acid sulfate soil problems.
- Lake McLarty is important for migratory birds and is one of the most threatened lakes, it reflects groundwater levels.

Surveys received – 10

APPENDIX C – WRITTEN SUBMISSIONS

Submission	Summary of comments	Report authors' Response
Urban Development Institute of Australia Debra Goostrey, Chief Executive Officer	<ul style="list-style-type: none"> Document shows no recognition of water sensitive urban design and should show greater recognition of the benefits it brings to development. Do not accept that urban development contributes as much nutrient input as farms. A condition of subdivision requires residential lots to be connected to reticulated sewer system so there is no possibility of phosphorous input via septic tanks. Rural lots, however, still rely heavily on septic tanks and leach drains. The information contained in the document is a reshuffle of information that has been available for sometime and does not advance the understanding of the region or the potential for urban development. Industry does not have confidence in the recommendations made in the document as it does not provide the data industry required. Industry would be disappointed if the document became a constraint to development in the Peel-Harvey region. Strongly recommend the Department of Water seek funding to carry out extensive data collection so that the document can make clear and justifiable recommendations. "The draft document clearly indicates that not enough is known, that more science is required and that a lot more work needs to be done for the report to add to existing knowledge so that future activity in the region is informed by real information." 	<p><i>UDIA and its members are making valuable contribution in area of WSUD, particularly in relation to new developments.</i></p> <p><i>Statement about urban vs rural nutrient input was in the context of traditional urban design (not new WSUD approaches).</i></p> <p><i>More research and development is required to be confident about the benefits of WSUD. Data collection is happening, though results are not clear.</i></p>
Peel Harvey Catchment Council Jan Star, Chairman	<ul style="list-style-type: none"> Framework for Environmental Management should be given further context and based around five principles of the <i>Environmental Protection Act 1986</i>. Framework should clearly identify that sustainable developments must be ecologically sustainable. Ramsar status of the wetlands should be supported by strategies laid out in <i>State of Play</i>. Statements in Executive Summary and Framework for Environmental Management are weaker than those contained in the Discussion Paper itself. <ul style="list-style-type: none"> i) Discussion Paper states the need for soil type to be given greater consideration in land use planning but is not listed among vulnerable issues relating to soil. 	<p><i>State of Play is a strategic environmental assessment; not a Bulletin (in the context of the EPA) or a guidance statement.</i></p> <p><i>In the interests of brevity, the executive summary can not contain the detail provided in the full report.</i></p> <p><i>Agree – re need for further mapping of ASS.</i></p>

Submission	Summary of comments	Report authors' Response
	<p>ii) Highly variable nature of the soils of the eastern estuary should be emphasised.</p> <p>iii) Only broad-scale mapping of potential acid sulphate soils and actual acid sulphate soils has occurred, so extent and risk of these issues is undefined.</p> <p>iv) Chapter 5, "Remnant Vegetation, Natural Areas and Flora," contains two paragraphs which should be captured in full in the Executive Summary and reflected within the Framework: Page 121, paragraph 3 and page 122, paragraph 1.</p> <p>v) Section 13.3 could be interpreted that development is a 'given' provided there is a net benefit to offset additional pressures. This should not be the case and the 'cost' of increased human pressure might not be justifiable.</p> <p>vi) Any human activity, through development or recreational use, must be identified as a threat.</p> <p>vii) The Framework for Environmental Management should be redefined and the three areas identified as: 1. Areas too constrained to develop; 2. Areas highly vulnerable to the environmental pressures caused by development; 3. Opportunities for rehabilitation.</p> <p>viii) Some elements currently listed as vulnerable should be redefined as constrained.</p> <p>ix) The characteristics of the palusplain must be clearly recognised as constrained; many of the issues associated with the palusplain are presented as vulnerable when these issues should not be separated.</p> <p>x) "Complex drainage and fill requirements" should be separated as two issues as these are not always interdependent.</p> <p>xi) "Protection of declared rare flora and fauna and their habitats" should be listed as a constraint.</p> <p>xii) Developers should be required to commit to long-term responsibilities similar to that required of the mining industry.</p> <p>xiii) Scale of examples listed under Opportunities needs to be larger. Especially large scale rehabilitation of land, considered regionally, and independent of specific land development proposals.</p>	<p><i>Agree re impact of human activity on the environment.</i></p> <p><i>Agree there should be greater responsibilities required of developers. See Strategy 3.</i></p> <p><i>Greater examples / opportunities will form part of Phase 3 – the strategy document.</i></p> <p><i>Accepted</i></p>

Submission	Summary of comments	Report authors' Response
	<p>xiv) Managing recreational access needs to address illegal riding of motorbikes within natural areas.</p> <p>xv) Constraints need to be incorporated into local planning strategies.</p> <p>xvi) Climate change risk assessments should be undertaken.</p> <p>xvii) Constraints and opportunities presented by the 97 recommendations of the "Economic Development and Recreation Management Plan for the Peel Waterways (WRC, 2002) must be recognised within the Framework.</p> <ul style="list-style-type: none"> • Key Points should identify the need for all development proposals to address the SPP No.2, the Peel-Harvey EPP and the WQIP. • Key Point 1 statement that "Locals and tourists love Peel for its clean and healthy environment and want to keep it that way forever" is erroneous and implies the system is in better health than it is. • Document should recognise mosquitoes are a natural part of wetland environment, people choosing to live close to the waterbodies should be informed of the risks. • Best practice measures are supported but should be monitored to ensure they are achieving intended outcomes. 	<p><i>Insert "perceived" before "clean and healthy environment".</i></p> <p><i>Query: whether mosquito memorial on land titles is effective disclosure for new residents? More might be considered as part of WSUD / new developments.</i></p> <p><i>Final point – accepted.</i></p>
<p>Peel Development Commission Maree De Lacey, Chief Executive Officer</p>	<ul style="list-style-type: none"> • Welcomes inclusion of work carried out under WQIP. • Discusses need for industrial land (light and general). Recommends the report is not used as an impediment to development, but a tool to encourage innovative strategies and policies enabling the development of enough industrial land into the future. • When the final draft is completed and signed off by the Department of Water, the PDC would like a copy for its records. • Wants to be informed of any outcomes from summary surveys gathered during the community consultation process. 	<p><i>Noted.</i></p>
<p>Peel Preservation Group Shirley Joiner, Secretary</p>	<ul style="list-style-type: none"> • Agrees with most of the findings in the report, especially the key points. • In many cases what needs to be done is clearly outlined, but what is not clear is how it will be achieved. • Mosquitoes would be less problematic if subdivisions were sited further away from wetlands with adequate buffers were established. • Lack of enforcement to protect Ramsar Wetlands from developments which pose a risk. Where the Act applies, it should be 	<p><i>This will be part of Phase 3 of the Study. Noted, see response for PHCC and Strategies 3 and 8.</i></p> <p><i>Progress is slow. Some mechanisms are in place, including plans for Peel Regional Park</i></p>

Submission	Summary of comments	Report authors' Response
	<p>enforced.</p> <ul style="list-style-type: none"> Stakeholder consultation is high but progress is slow – regaining control of river banks and their buffers is vital to the health of waterways. Lake Clifton should be protected from further development, including the proposed quarry. Question whether water sensitive design is being used. Does it consider increased volume of surface water entering wetlands following urbanisation? Encourage discovery of practical ways to manage wetlands. Suggest a wetlands research base at Keralup/Amarillo. Recommend all schemes and proposals near wetlands be referred to the EPA, not just Conservation Category Wetlands. Ground water extraction should be minimised, especially at Lake Clifton where there is no scheme water available. Recommend continued education on adoption of slow release fertilisers and BMPs in farming sector. Also consider financial incentives. Melaleuca shrub land at Point Grey needs to be protected along with remaining vestiges of vegetation in Pinjarra Plain. Agrees with the need to preserve at least 30 per cent of pre-clearing amounts of each floral type where more than 30 per cent currently remains. In many areas this will mean no further clearing of native vegetation. 	<p>(see Strategy 4)</p> <p><i>Lake Clifton not part of the Study area.</i></p> <p><i>WSUD monitoring program required and contained in Strategy 3.</i></p> <p><i>R&D can implemented through the Council (Strategy 1) and as discussed in Strategies 6 and 9.</i></p> <p><i>EPA referral not part of scope of this report.</i></p> <p><i>Lake Clifton outside the Study area.</i></p> <p><i>Range of education programs on use of slow release fertilisers already exist. Agree there could be further financial incentives to encourage this, see Strategies 6 and 10.</i></p>
<p>City of Mandurah Jane O'Malley, Coordinator EcoServices</p>	<ul style="list-style-type: none"> Stronger recommendations needed to ensure economic, social and environmental values are protected. Absolute certainty for landowners (both current and prospective) required. No planning for land use change until further, more detailed, studies performed. Suggests <i>State of Play</i> recommend a review of the boundaries of the proposed Peel Regional Park. Recommendations of Water Quality Improvement Plan be incorporated into policy and no land use changes made until there is one agency charged with governance of waterways. Disagree with statement in executive summary that substantial investment has been provided, with exception of Dawesville Channel. Any changes that increase human settlement will impact on the environment. Legislative protection, at highest level, 	<p><i>View noted, this will be addressed as part of Phase 3 (see Strategies)</i></p> <p><i>Certainty for landowners addressed as part of planning process. Constraints mapping provides certainty with respect to areas that cannot be developed further (see Strategy 8)</i></p> <p><i>Increased monitoring will provide further information. Largely addressed through DPI South Metro Peel Urban Growth Framework and DOW</i></p>

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	<p>required as current local, State and Commonwealth policies and legislation are not providing level of protection required.</p> <ul style="list-style-type: none"> • 'Urban deferred' zoning has been easily overturned to 'urban' on a case by case basis. Call for more strategic zoning. • Wetlands should be protected and reclassified, with appropriate buffers. • Concern over the use of offsets as part of Environmental Protection Biodiversity Conservation Act. Assessment under the Act can allow offsets which don't protect local and regional values. • Clear recommendation needed which does not allow any further clearing of native vegetation and reinstates natural vegetation to increase percentage across study area. • Clear recommendations needed to specify appropriate buffers and management strategies for the protection of humans from vector borne diseases (mosquito management). 	<p><i>Recommend Peel Regional Park be implemented (see Strategy 4) before any review of boundaries is considered.</i></p> <p><i>WQIP point agreed.</i></p> <p><i>Legislative protection is provided. Gap is in enforcement, see Strategy 8.</i></p> <p><i>Issue on 'urban deferred zoning' noted. Should be brought to the attention of DPI.</i></p> <p><i>Agree with need for wetland protection. Understand DEC have plans to address this.</i></p> <p><i>Issue with EPBC noted but outside scope of study.</i></p>
<p>Shire of Murray Brett Flugge, Executive Manager Strategic Development</p>	<ul style="list-style-type: none"> • Water Corporation drainage channels should be better monitored. • Remnant vegetation mapping needs more detailed surveying. • Wetland mapping needs reassessment. • ASS classifications need more analysis. • Peel Regional Park Management Report should be completed and considered for this Study. • Murray River Flood Study Review should be completed and considered for this Study. • Completion of flood study report for Nambeelup also important for this Study. • Sharing of groundwater monitoring data between Government agencies and private industry to be encouraged. • Completion of district drainage management guidelines by DoW important to ensure no further degradation on waterways. • Constraints to development in <i>State of Play</i> appear excessively biased toward limiting further development when some development, with net environmental benefit, could occur. • "Opportunities" could be expanded to include financial contributions and partnerships that 	<p><i>Agree re Water Corporation drainage channels.</i></p> <p><i>Remnant vegetation mapping was current at the time study was produced. Further information should be available later this year e.g.: National Land and Water Resources aerial photographs.</i></p> <p><i>Agree ASS classifications need more analysis.</i></p> <p><i>Agree re Peel Regional Park.</i></p> <p><i>Agree re Murray River Flood Study Review.</i></p> <p><i>Agree re Nambeelup flood study report.</i></p>

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	<p>can improve degraded areas.</p> <ul style="list-style-type: none"> More information should be provided on governance models. E.g. the role of the Peel-Harvey Catchment Council. 	<p><i>Agree re groundwater monitoring.</i></p> <p><i>Agree re district drainage management guidelines.</i></p> <p><i>Disagree constraints mapping is biased but strongly agree further development can occur in vulnerable areas with net environmental benefit.</i></p> <p><i>Agree with all remaining points.</i></p>
<p>Masterplan Town Planning Consultants WA Pty Ltd Scott Kerr, Director</p>	<ul style="list-style-type: none"> Document should recognise population pressure within the whole Peel region, not just the study area. Population will increase and this can not be avoided. <i>State of Play</i> should make reference to other strategic studies including the Western Australian Planning Commission's <i>Urban Growth Strategy</i> and the Department of Water's <i>District Drainage and Water Management Planning</i>. Identification of 'potentially constrained' areas is considered misleading. The constraints map and information brochure imply the whole study area is constrained when the full report acknowledges some development could occur in these areas. <i>State of Play</i> is a useful document which brings together a lot of technical data and provides a valuable resource, as long as it is considered alongside other current work affecting the study area. 	<p><i>Agree with population pressure statement.</i></p> <p><i>These studies have been referred to and considered.</i></p> <p><i>Potentially constrained areas are 'vulnerable'. Strategic development, with net environmental benefit can happen in these areas.</i></p>
<p>Land Assessment Pty Ltd Martin Wells</p>	<ul style="list-style-type: none"> Points out technical 'errors' in the presentation of land capability data – based on his original work. 	<p><i>Errors corrected.</i></p>
<p>Department of Water Peter Muirden, Senior Engineer Drainage and Waterways</p>	<ul style="list-style-type: none"> Suggestions for the improvement in the description of the hydrology in the area. 	<p><i>Suggestions incorporated.</i></p>