

RECOMMENDATIONS

5.1 INTRODUCTION

It is acknowledged that in order to accommodate the needs of all river users, it has been necessary to adopt segregation either by location or timing and that present allocations may need to be adjusted from time to time in accordance with popularity and demand. Speed limits and designated speed limit zones are therefore a prerequisite for responsible and sustainable river management.

It was revealed during consultation that there is a feeling amongst stakeholders that the existing river speed management system is appropriate and adequate, and that the managing authorities are undertaking their tasks in an efficient and timely manner, however education and enforcement should be strengthened and some “fine tuning” of management strategies should occur.

After conducting a detailed analysis of all management options, it is concluded that the existing speed management system could benefit from minor adjustments to the current speed restricted areas and use zones. The recommendations presented in this report are based on the requirement to manage varied and competing river use objectives, and cover the following areas:

- o measures to reduce the effect of vessel speed on moored and penned vessels;
- o measures to reduce the effect of vessels on the river system;
- o measures to minimise the impact of vessel generated waves in certain areas; and
- o measures to minimise the impact of vessel speed on passive users.

Several of the recommendations offered in this chapter, particularly those relating to specific areas of the rivers, refer to a series of figures ([Figure 5.1](#), [Figure 5.2](#) and [Figure 5.3](#)) which illustrate proposed options.

5.2 VESSEL WASH

5.2.1 *No-Wash Zones and Separation Distances*

The issues of vessel wash and the control of wash impacts are a highly technical issue that is not likely to be resolved without detailed technical investigations. It is possible to regulate against wash and its potential effects via the implementation of no-wash zones at various strategic and sensitive locations within the river system.

The installation of a no-wash zone is sometimes preferable to the gazettal of a maximum speed limit, where control of wash is the primary objective of the action. Where limitation of speed or wash is an objective for safety reasons, for example in a narrow stretch of river or around bridges, the gazettal of a speed limit or a combination of speed limit and no-wash zone may be more appropriate.

No-wash zones allow most planing boats to proceed at a comfortable pace, whilst displacement hull boats must slow to a speed commensurate with the restriction of wash. As detailed in Section 4.2, this means that boat operators must be aware of their own wash and control it according to the area in which they are traveling. All vessels traveling in no-wash zones should be doing so at a speed that does not create a wake that causes adverse impacts.

Legislation in NSW provides a good example of how no-wash zones have been successfully implemented in that state ([Appendix B](#)). Rather than attempt to measure the size of the wash created, the legislation simply states that persons using a water vessel for any purpose must do so in a manner, which does not cause nuisance, annoyance or danger to any person or damage to any property. The authority has a public reporting mechanism for incidents, which works in conjunction with a targeted enforcement program. Such zones are likely to be unworkable without enforcement.

An overall increase in the separation distance to moorings and marinas is required to complement no-wash zones. From a vessel driver's point of view, the following action should be taken to ensure compliance with a no-wash zone:

- upon approaching zone, reduce speed;

- at the start of the zone, take vessel engines out of gear;
- put engines back in gear and proceed with engines giving just enough speed to provide steering control; and
- look behind to determine if vessel is creating wash, and if so, reduce it.

It is important to note that vessels are by no means the only source of wash. Storm events and other natural processes such as wind-generated waves also contribute to it. An increase in separation distances and the establishment of no-wash zones are seen as the most viable solution to the problems associated with vessel-generated wash. Other solutions that may be possible include the construction of energy barriers designed to dissipate wash around certain areas (e.g. marinas).

It is envisaged that if changes to current marine regulations allowed for no-wash zones and greater separation distances, boating clubs would subsequently be empowered to educate and control their own members in this regard. This would make extra resourcing for enforcement by Transport minimal.

Recommendation 1.

That the separation distance in the present eight knot speed limit zone within 45 metres of a mooring area or marina be increased to 100 metres where practicable and declared wash-free. If a vessel is incapable of wash free operation at eight knots, then it should be required to traverse the zone at a slow speed as is necessary to achieve wash free transit, or avoid the zone altogether. The no-wash/speed limit restriction should apply in the vicinity of all sensitive areas including:

Marine parks; and

Yacht clubs, marinas and boatyards.

These areas should be well sign posted and the requirement implemented using extensive advertising and public relations campaigns to inform and educate users. A brief amnesty on prosecutions for non-conformance to the altered regulations should be considered.

5.2.2 Narrow Areas of the Rivers

Despite significant anecdotal information indicating that vessel-generated wash is a major contributing factor in shore and bank erosion in the upper reaches of the Swan and Canning Rivers, scientific or objective information on the matter is lacking.

Long term studies which take into account complex relationships between natural river dynamics (wind and wave action, tidal influence, winter and summer flow regimes, weathering) and vessel activity are therefore required in this area. Refer to Section 5.4.5.

Recommendation 2.

That a study be undertaken of the extent and cause of shore erosion and damage, particularly in the narrow reaches of the Swan and Canning Rivers. Should vessel generated wash be found to be a significant contributor to bank erosion, it is recommended that the existing maximum speed limit be maintained in the upper reaches of both rivers and be demarcated as a no-wash zone (upstream of the Redcliffe and Shelley Bridges).

5.3 PWC AND WATERSKIING AREAS

In relation PWC freestyling areas, particularly the Trinity PWC area, it is envisaged that two solutions to use conflict problems should be investigated. These are either to close the area altogether, or to closely regulate the area in terms of usage times and user behaviour. This is an operational management issue, which requires evaluation to determine the extent and severity of the problem.

If closure was considered to be the most suitable management option for the area, it may subsequently be necessary to investigate the possibility of establishing a new equivalent PWC area. This could be located elsewhere on the river, or at a coastal location, which allows a larger sized area than that already present on the rivers.

Recommendation 3.

That use conflicts relating to PWC freestyling be more closely investigated and management strategies with a view to achieving better water use compatibility be implemented in these areas if necessary. If approved for PWC use, freestyling areas require clear demarcation and sufficient space to freestyle or water-ski without conflicting with other river users and with appropriate shore-based launching and parking facilities.

5.4 SPEED LIMITS AND ZONES

5.4.1 Mosman Bay/Freshwater Bay

Safety incidents relating to wash have been cited for the area of the river around Mosman and Freshwater Bays. The speed of vessels, separation distances from moorings and marinas, and vessels taking a variety of directions across this tract of water are all believed to be contributing factors to this problem. Currently, the zone has an open speed limit. An increase in the size of the eight-knot speed limit zone in the area may reduce the dangers associated with its high use load.

Recommendation 4.

That an eight-knot speed limit be extended from Blackwall Reach to include the area of water, either:

- o south of a line drawn between Keane's Point and the western end of the North Point Walter Spit; or*
- o west of a line drawn between Point Resolution and the North Point Walter Spit.*

Two options are presented for the Mosman Bay/Freshwater Bay area in [Figure 5.2](#).

5.4.2 Point Roe to Chidley Point (Blackwall Reach)

The stretch of water between Point Roe and Chidley Point is another area where river use load is high, particularly on weekends. While racing associated with local yacht clubs is occurring, vessels traveling up and down river are also trying to pass through the area. Furthermore, wash from passing vessels is becoming increasingly disruptive to other activities nearby, and may also contribute to foreshore erosion (mainly apparent around the Chidley Point and Bicton Baths areas) damage. Overall, better segregation of vessels are required in this area, which may be likened to a "highway" in terms of river traffic levels.

Recommendation 5.

That no-wash zones be implemented through Blackwall Reach between Point Roe and Chidley Point and that better segregation of transiting traffic from general recreational activities be enforced. Traffic should keep to the north and west of the river by rounding the Chidley Point and Point Roe navigation piles as closely as is practicable.

Refer to [Figure 5.3](#) for details of this recommendation.

5.4.3 Swan Estuary Marine Park (Milyu, Pelican point, Alfred Cove)

The Swan Estuary Marine Park, comprising three separate areas of the Swan River surrounding Melville Water, represents a protected habitat for a variety of flora and fauna. It could be asserted that the majority of river users never traverse these areas, either in vessels or otherwise. Occasional incidents of reckless intrusion by powerboats and PWC have, however, come to the attention of CALM and other regulators. For the sake of environmental preservation, it is recommended that community awareness of the natural attributes and benefits of these areas be raised. River users should therefore be encouraged to respect such values, and slow their vessels down when in the vicinity.

Recommendation 6.

The Swan Estuary Marine Park, comprising the Milyu Reserve, Alfred Cove and Pelican Point should be gazetted as a maximum eight knot, no-wash zone, in accordance with the intentions of the Swan Estuary Marine Park and Adjacent Nature Reserves Management Plan. The speed and wash

restrictions aim to protect the environmental and conservation values of the park and ensure continued safe and enjoyable recreational opportunities for users.

Refer to [Figure 5.1](#) for details of this recommendation.

5.4.4 Chinaman's Bay (Maylands)

Chinaman's Bay contains a wetland of high conservation value. In order to protect the sensitive flora and fauna within this area, river users should grant it the same level of respect as areas comprising the Swan Estuary Marine Park. All should be encouraged (and indeed forced) to slow their vessels to speeds, which create no wash and minimal other disturbance here.

Recommendation 7.

It is recommended that the area between the Goongoongup Bridge and the Maylands Water-ski Area be gazetted as an eight-knot speed limited area in order to protect the integrity of the Chinaman's Bay reserve.

Refer to [Figure 5.1](#) for details of this recommendation.

5.4.5 Upper Reaches Of Swan River

Many stakeholders felt that the river upstream of Burswood in particular was too narrow to accommodate high-speed activities in areas through which others must transit.

In terms of riverbank erosion, long-term studies are required which take into account complex relationships between natural river dynamics (wind and wave action, tidal influence, winter and summer flow regimes, weathering) and vessel activity. It is likely that similar studies are already being undertaken overseas, and these should be investigated closely in conjunction with research and the acquisition and analysis of local data sets. The continued establishment of new riparian vegetation along riverbanks is seen as a vital step towards restoring the natural beauty of the rivers, and also reducing erosion.

Recommendation 8.

That a survey be undertaken to quantify the frequency and severity of high speed vessel conflict and the effect of vessels on erosion of the riverbanks in the upper reaches of the Swan River.

5.5 SPEED LIMIT EXEMPTIONS

5.5.1 Ferries

There is a need for flexibility in river management to accommodate future events which may be outside the scope of the current management system but which could require specific temporary exemptions. Although this currently exists for special events, for long-term strategies (high speed ferries, for instance) such flexibility is absent.

The *Additional Ferry Services on the Swan and Canning Rivers* study was finalised in January 2000. The study investigated the feasibility of extending commuter ferry services on the Swan and Canning Rivers. The study concluded that extended ferry services could be promoted, as they offer the potential to improve mobility, alleviate road and bridge congestion, provide a cost effective, flexible, dependable, comfortable, attractive and safe mode of transportation that helps the city meet air quality, energy consumption and accessibility goals and enhance tourism, recreation and regional development. The study made various recommendations to relax speed restrictions for commuter ferries, based on a preferred vessel design and a survey of speed limits for similar vessels and waterways in other areas within Australia, specifically Brisbane and Sydney. These included that the operational speeds of the preferred vessel exceed the maximum permissible speed in a number of existing speed management zones.

Recommendation 9.

That relevant State Legislation be amended to enable Transport to approve non-conforming speed limits within speed control areas for certain types of commercial transport, where it can be demonstrated that such transport can be operated safely in a sustained minimal wash environment.

A significant awareness campaign would need to be implemented to advise the community that certain vessels have the above exemption, and that it does not apply to all vessels.

Current ferry routes on the rivers are illustrated in [Figure 1.3](#).

5.6 VESSEL CHARACTERISTICS

5.6.1 Noise

Whilst the control of noise is considered to be beyond the scope of this study, it is an issue that was raised frequently during the consultative process particularly in regard to the use of ski boats, PWC and floating parties on charter boats. Consensus was that the regulating authorities should consider the issue and implement measures as appropriate.

The Environment Protection Agency in Queensland has recently implemented noise nuisance legislation that specifically covers the use of powerboat engines both on land and in the water. Guidance could be taken from the Queensland experience and adapted if appropriate to the Western Australian situation.

Recommendation 10.

That studies into noise performance criteria in marine situations be undertaken by Transport. If appropriate, the Environmental Protection (Noise) Regulations, 1997 should be amended by the DEP to specify acceptable vessel-generated noise levels. Noise emissions from individual vessels should thereafter be enforced by Transport prior to vessel registration.

5.6.2 Vessel Visibility

Visibility of vessels varies significantly with their size, and with the time of day. Vessels equipped with insufficient navigation lighting represent a hazard to themselves and others. As well as this, poor visibility of registration numbers on vessels makes reporting of illegal activities difficult.

Recommendation 11.

That the regulations pertaining to vessels using the rivers at night be enforced, to ensure that all are equipped with adequate navigational lighting.

This recommendation will necessitate rowers in sculls and shells to display lights. They may be portable, non-permanent lighting systems readily available from most chandleries.

5.7 EDUCATIONS AND ENFORCEMENT

5.7.1 Education

Education, certification and enforcement were seen by stakeholders as predominant issues that required attention. Many stakeholders felt that apart from some minor “fine tuning”, the existing management system and speed limits were adequate.

The current problems cited were:

- o a lack of detailed knowledge by boat owners as to their obligations;
- o a lack of understanding by boat owners as to the consequences (safety and ecological) of their actions;
- o a lack of enforcement by regulatory authorities; and
- o a lack of fundamental skill amongst boat users.

Should appropriate education, information and awareness campaigns be implemented, these are likely to give all authorities the opportunity to ensure all current river users have a sufficient level of knowledge to be in control of their craft. Antisocial behaviour will be discouraged through both regulatory and “peer-pressure” /social obligation mechanisms.

The onus is also on clubs themselves to make sure that boat pens in marinas are designed and spaced appropriately, and that energy absorption of jetties is adequate to minimise damage from wave action and wash. It must be realised that such damage may occur naturally due to environmental mechanisms (e.g. storm activity) as well as from other vessels passing.

Recommendation 12.

Ongoing coordinated information dissemination, education and publicity campaigns supported by targeted enforcement action is required to initiate behaviour change on the river. Such an approach should involve regulatory authorities, boating associations, yacht clubs and marina operators, local government and the media.

Recommended strategies include:

simplified area-specific information with respect to speed limits. E.g. a laminated card distributed annually with boat registration;
a media campaign enlightening members of the public to issues of safety and wash;
improved signage at boat ramps and on the water;
the authorisation of wardens within clubs/associations to patrol, advise and report infringements; and
enforcement measures geared to education and skills training.

5.7.2 Enforcement

It has been asserted that enforcement of the speed regulations for the upper reaches of the Swan River continue to be delegated to, or shared with, the local government authorities bordering the river. Such a strategy would significantly increase the enforcement resources.

One submission outlined that this could be implemented on a revenue sharing basis with Transport. The Councils would benefit from the revenue that could in turn be applied to their riverside park areas. Transport would also benefit from revenue in further implementing education strategies.

Adequate levels of enforcement river wide are paramount to ensuring that the legislation already in place, as well as new regulations, are adhered to by all river users. Clubs and associations whose members use the river must share the responsibility of ensuring that ongoing education and information dissemination occurs within these organisations to raise overall levels of awareness.

In terms of regulatory enforcement by government authorities, the duty is shared currently by the following organisations:

Transport;

- o Water Police;
- o DEP;
- o CALM; and
- o SRT.

The combined employment of these organisations is seen as the best method of overall river management, and one which should remain in place into the future. Unfortunately, from a community perspective, such a large number of different contacts makes the ongoing process of public comment and inquiry difficult. It is therefore recommended that a centralised line of communication be established between the community and those who manage the rivers.

Recommendation 13.

Necessary enforcement measures should be implemented in order to achieve increased compliance to new and existing river regulations, leading to increased safety, a reduction of nuisance and potentially a reduction in the rate of riverbank erosion.

A single point of contact (involving a phone number and centralised mailing system) should be considered to give members of the community a “one stop shop” means of reporting incidents, expressing concerns and asking questions of the appropriate authorities.

5.7.3 Surveillance

It is considered that the installation of permanent cameras at strategic locations could have a number of benefits, including:

- o the ability to monitor river usage levels remotely on a year-round basis;
 - o the camera being used as a sampling tool in a medium term study of shore erosion. The information obtained could be shared with other agencies interested in undertaking such work;
 - o identification of the types of vessels creating excessive wash, thereby aiding the formulation of strategies for enforcement; and
 - o a reduction in non-conforming behaviour amongst certain river users who would be deterred by the knowledge that the cameras are in place.
- 0 Suggested options for the use of cameras for research purposes include the sharing of webcam and time lapse devices between yacht clubs and boatyards, as well as their mounting on bridges.

Recommendation 14.

That a trial of both temporary and permanent cameras is adopted, in association with a community information campaign aimed at reducing the effects of speed and vessel generated wash.

Chapter 6

EVALUATION OF RECOMMENDATIONS

6.1 INTRODUCTION

Analysis of suggested management options has revealed a feeling amongst stakeholders that in general the existing river speed management system is appropriate and adequate, and that the managing authorities are undertaking their tasks in an efficient and timely manner. It has been identified that the existing speed management system could benefit from minor adjustments to speed restricted areas and use zones and increased education and enforcement.

A number of opportunities for improvement to current management have been suggested in the Recommendations chapter of this report. An evaluation matrix was devised to group recommendations into categories based on requirements for their implementation. The evaluation matrix scaled the following criteria between HIGH (5) and LOW (1) values:

- o Difficulty of implementation
 - o Logistical difficulty associated with installation of recommendation. May involve, for example, redrafting of speed limit boundaries, or installation of signage.
- o Difficulty of enforcement
 - o The logistical difficulty involved in enforcing regulations. Action may be considered more difficult, for example, if water police, marine officers or transport personnel are required to patrol larger areas more frequently.
- o Level of funding
 - o Costs of recommendation incurred by all regulatory bodies including authorities and clubs and river users themselves.
- o Level of management
 - o Administrative requirements associated with the implementation and ongoing management of recommendations.
- o Stakeholder opposition
 - o A gauge of the proposed level of acceptance by all stakeholders (river users) who are directly and indirectly affected by the recommendation.

The matrix reflects ERM's best attempt to analyse the input received. It must be recognised, however, that individuals and groups will have opposing views to some of those expressed, due to the contentious nature and varying value sets and priorities held by them. The evaluation matrix is presented in [Table 6.1](#).

6.2 CONTEXT

The evaluation matrix does not serve to place any recommendations in priority order for sequential implementation. All recommendations have individual merits which form part of the wider management strategy, and are therefore inextricably linked. As well as their own value, many of the recommendations outlined represent precursors to others, meaning that two or more recommendations may need to be implemented in order to achieve the desired alterations to current river management. For example, in some cases it may be necessary to undertake changes to regulations before community education and subsequent enforcement takes place. Conversely, it may be necessary in some instances to apply education and awareness strategies to improve or resolve issues before moving to change legislation if it fails.

In several cases, such as those recommendations relating to further issues research, the evaluation mechanisms are not sufficient to demonstrate the link between recommendations. For example, the use of surveillance cameras, to undertake long time series data acquisition for use in the study of shoreline erosion and damage, as well as to act as a deterrent as part of the enforcement of river regulations does not present an obvious link. Thus this recommendation provides valuable support to others.

All recommendations require resourcing and commitment beyond any single government agency, community group or boating club. In order to achieve a workable river-wide management strategy for the future, all river users both individual and affiliated are required to contribute to the implementation effort.

In the case of new separation distances and speed zones, for instance, enforcement becomes the province of:

- o Transport .to oversee the operation of all general river traffic;
- o Various boating and professional associations .to oversee the operations of specific classes of vessel;
- o Boating/Yacht clubs .to oversee the operations and behaviour of members in their leases; and
- o All river users .to take responsibility for their own actions.

6.3 DISCUSSION

Following evaluation of Recommendations in [Table 6.1](#), all were divided into four categories based on their implementation requirements. The following groupings of recommendations are useful in understanding the logical progression that is required undertake successful implementation:

- o Required legislation/regulation changes;
- o Community education and awareness;
- o Enforcement of regulations; and
- o Management requirements : resource allocation and further review.

6.3.1 Required Legislation/Regulation Changes

Recommendations falling into this category are those which were seen as the first step towards implementation .those involving adjustments to current marine regulations relating to speed zones on the rivers.

Recommendation 6. Swan Estuary Marine Park Speed And Wash Limits.

As the boundaries of the Swan Estuary Marine Park are already established, and given that the majority of river users rarely come into close proximity of these areas, this recommendation is seen as relatively easy to implement and enforce. Furthermore, stakeholder opposition to the limits in the Park is likely to be low from most river users.

The level of funding for this recommendation should be moderate, as it may involve an awareness campaign reminding river users of the existence and significance of the Park. Although management of the parks themselves is extensive, management of the speed zones within these areas is likely to be low level.

Recommendation 7. Speed Limits Near Chinaman's Bay.

Due to the high use load experienced by the stretches of waterway around the Maylands area, the level of management and enforcement of speed limits in and around Chinaman's Bay are likely to be higher than for the Swan Estuary Marine Park.

The level of funding required for the area will be consistent with that involving signage and initial enforcement. Stakeholder opposition should be relatively low, as river users are expected to respect the conservation values of the reserve once properly established.

Recommendation 9. Approval of Non-Conforming Limits.

Due to legislation already in place, this recommendation should not be difficult to implement for special events. However, amendments will be necessary to approve commercial vessels for long term operation. Although it may be met with some opposition, most river users are aware of the extent to which commercial ferry operators respect the rights of other river users. While the level of management for this recommendation is likely to be low, the level of funding may be moderate if advertising campaigns are used to inform the community of speed limits used by commercial vessels.

Recommendation 4. Extension of 8 Knot Limit Zones in the Mosman Bay Area.

The difficulty of implementation, and level of funding and management criteria are considered low for this recommendation. This can mainly be attributed to the fact that signage is the only infrastructure required, and also that an eight knot limit currently exists in close proximity to the area. Enforcement and stakeholder opposition to the altered zoning will exist, especially from commercial ferry operators, upon implementation.

Recommendation 5. No-Wash Zone Point Roe to Chidley Point (Blackwall Reach).

It is possible to regulate against vessel wash and its potential effects via the implementation of no-wash zones at various strategic and sensitive locations within the river system. Both vessel speed and distance to other vessels or the shoreline need to be considered. The closer the distance, the greater the safety issues involved. There is a clear need, therefore, to continue to regulate towards the continued safety of vessel operations on the Swan and Canning Rivers. While enforcement and funding for the implementation of a no-wash zone through Blackwall Reach may be significant, it should be less necessary after an establishment of the regulations has occurred. This may take some time, and river users should be granted an amnesty for a brief period until all are aware of the regulations. Stakeholder opposition may be high from powerboat users, but the zone would be welcomed by residents, passive and active users and those with boats moored in this stretch of water.

Recommendation 1. No-Wash Zones and Separation Distances.

This recommendation is seen as difficult to enforce initially, until river users become acquainted with new legislation which extends wash free zones from 45 to 100 metres in the vicinity of boatyards, marinas, clubs and marine parks. Regulations introduced by Transport should empower yacht clubs to self regulate their members and the community at large to have clear access to a complaints management system.

The recommendation is likely to be opposed by power yacht owners but should not be difficult to manage once in place, and should contribute to an overall increase in safety and river amenity.

6.3.2 Community Education and Awareness

The following recommendation is critical to ensuring the success of any changes to legislation and regulations, as well as improving public knowledge of those regulations already in place.

Recommendation 12. Education and Awareness Campaign / Signage.

The education and awareness campaign required for the Swan and Canning Rivers is perceived by many stakeholders to be long overdue. If such a campaign were to involve media advertising, the funding required would increase significantly. Many of these costs could, however, be offset by directing education towards boating clubs who could in turn educate their own members. Signage on the rivers should be upgraded to cater for an increased use load, but should remain passive where possible. While level of implementation and management for education and awareness may be high, this recommendation is unlikely to be opposed by stakeholders.

6.3.3 Enforcement of Regulations

The following recommendations are also critical to ensuring the success of any changes to legislation and regulations. Enforcement measures relating to any new regulations should be implemented slowly to allow the community time to become aware of regulation changes and change behaviour accordingly. No such amnesty should be granted to river users regarding current regulations.

Recommendation 11. Better Enforcement of Marine Regulations at Night.

This recommendation may be difficult to thoroughly enforce due to the size of the rivers, the need to have regulators present after hours and the logistical difficulties involved in locating unlit vessels. The management of the recommendation is seen as uncomplicated as the legislation governing navigational lighting already exists. Monitoring by the community in general, including yacht clubs, could see the enforcement and implementation of this recommendation occur more effectively.

Recommendation 13. More Targeted Enforcement of all Regulations.

Targeted and more thorough enforcement of regulations is likely to be expensive, due to the need for additional resources, but the cost could be shared among several different bodies.

6.3.4 Management Requirements: Resource Allocation and Further Review

The following recommendations are those which are considered to be necessary for ensuring the long term maintenance of the conservation values of the rivers, as well as the ongoing minimization of use conflicts on all areas of water.

Recommendation 8. Survey of Vessel Interaction .Swan Upper Reaches.

Funding and management for a survey of this scale are likely to be high because the research would need to be comprehensive to conclusively verify or dismiss anecdotal evidence currently available. Stakeholder opposition to the survey is assumed to be non-existent, and enforcing this recommendation is unnecessary.

Recommendation 2. Study of Shore Erosion and Damage.

This recommendation is designed to assess the impact of vessels on the river system as a whole. It would need to be extensive in terms of both spatial and temporal cause and effect examination, even more so than Recommendation 8.

It is likely to receive little or no opposition from stakeholders. Implementation difficulties are seen as moderate, and would possibly involve a range of input from various study teams using different surveying techniques.

Recommendation 3. Investigation/Management of PWC Area Conflicts.

This recommendation is seen as moderate in terms of management, enforcement and implementation difficulties. The PWC freestyle areas issue is, however, one that needs to be addressed in accordance with the increase in popularity of that sport. Stakeholder opposition to the inclusion of more freestyle areas on the river is likely to be high. PWC areas should be thoroughly investigated in relation to use conflicts, taking into account surrounding land and waterway usage and availability of adequate shore-based facilities.

Recommendation 14. Trial of Surveillance Monitoring Cameras.

The trial of surveillance monitoring cameras for research rather than enforcement purposes is seen as important first step towards understanding long term river usage and river dynamics. The trial is likely to be expensive and initially require high levels of management. Once in place, however, such a project could be allowed to continue unmanned whilst data is collected.

Recommendation 10. Investigate/Implement/Enforce Noise Limits.

Noise issues are considered to be significant by a large proportion of those involved in the review. However, being a complex issue, largely beyond the scope of this review, it warrants a low priority in this context. Any implementation will be moderately difficult, as will enforcement, as it will require a multi-agency approach. Regulations will need to be drafted and co-ordination (delegation) of enforcement agencies established.

The Swan and Canning Rivers and their environs are recognised as assets of high environmental, social, cultural and economic value to the region. These assets should continue to be managed in accordance with the principles of ecological, social and economic sustainability for a range of beneficial uses by this and future generations.