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SWAN RIVER TRUST

Inquiry into the effects of vessels on the Swan and Canning Rivers

Draft report to the Community

Swan River Trust
Report No 26
1995



SWAN RIVER TRUST

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INQUIRY INTO THE EFFECTS OF VESSELS ON THE SWAN AND CANNING RIVERS

Draft Report to the Community

**Swan River Trust
216 St Georges Terrace
Perth WA 6000**

Report No 26, 1995

TERMS OF REFERENCE

The Minister for the Environment established a committee to investigate the effects of vessels on the Swan and Canning Rivers. The inquiry had the following terms of reference;

To investigate:

1. The level of use of the river by vessels and the level of compatibility between users.
2. The possible need to provide opportunities for new recreational activities on the river in the future.
3. The relationship between vessel users and neighbouring residents and local government.
4. The possible need to exclude vessels from some areas of conservation value.
5. Discharges from vessels.

ACKNOWLEDGMENTS

Committee Members

Mr Geoffrey Totterdell	Swan River Trust (Chairman)
Captain John Brooker	Department of Transport
Mr Dick Langford	Department of Environmental Protection
Ms Mary Fraser	Ministry of Sport and Recreation
Mr Ashley Wilson	Ministry of Sport and Recreation (Deputy)
Ms Cheryl Irvin	WA Municipal Association
Mr Dennis Gillam	WA Municipal Association
Mr John Wilson	Aquatic Council
Mr Kim Chadborne	Water Police

The Committee would like to acknowledge Greg Davis and Colin Chalmers for their administrative assistance and for compiling the report.

CHAIRMAN'S FOREWORD

In November 1994 Mr Kevin Minson, then the Minister for the Environment, directed the Trust to conduct an inquiry into the effects of vessels on the Swan and Canning Rivers. This inquiry has now been completed and I am pleased to release the Committee's draft report for public comment.

The inquiry was launched in response to a number of concerns regarding the use of Perth's waterways.

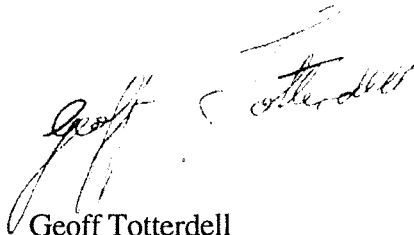
The Committee consisted of representatives with wide ranging and relevant expertise from the Department of Transport, Water Police, Aquatic Council, Ministry of Sport and Recreation, Western Australian Municipal Association, Department of Environmental Protection and the Trust.

To facilitate the identification of issues the Committee called for public submissions. One hundred and eighteen were received and have been considered in the report. The Committee also sought expert opinion where it was available and reviewed both interstate and overseas literature on the subject.

The Committee considered that sections of Perth's waterways are becoming overcrowded, particularly on weekends, and that measures need to be taken to ensure competing demands are met. Another of the main issues, and the one most commonly raised in the public submissions, was the noise generated by vessels.

The Committee has made a number of recommendations addressing the terms of reference. Because of the complex nature of the issues and the wide range of interest groups involved, the Minister for the Environment has requested the Trust to release the report in draft form for public comment.

I urge all people with an interest in Perth's waterways to review the document and to address any comments by making a formal submission to the Trust. Tear out forms are attached for this purpose.



Geoff Totterdell

Chairman

HOW CAN I MAKE A SUBMISSION?

Public submissions on the Inquiry into the effects of vessels on the Swan and Canning Rivers are now invited. All public submissions received will be considered before preparation of the final report.

If you would like to make a submission please comment on any part of the document you agree or disagree with. A tear out form is provided on the following page for this purpose. Send this to the Swan River Trust by **January 31, 1996** at the address provided on the top of the form. Please note that submissions do not have to be confined to the length or layout of the form provided.

If more information is required prior to making your submission, officers of the Swan River Trust will be available to discuss any aspect of the draft report.

Where can I get other copies of this document?

Further copies of the report are available at:

- Local government authorities bordering the Swan and Canning Rivers
- The Department of Transport (Maritime Division), Fremantle.

INQUIRY INTO THE EFFECTS OF VESSELS ON THE SWAN AND CANNING RIVERS

Public submission form

Project Officer
Swan River Trust
PO Box 7248
Cloisters Square, WA 6850

Name:.....

Title:.....

Organisation:.....

Address:.....

.....

.....

I would like to make the following comments on the INQUIRY INTO THE EFFECTS OF VESSELS ON THE SWAN AND CANNING RIVERS and would like them considered in the preparation of the final report.

Comments:

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1. INTRODUCTION

The Swan and Canning River system is a major recreational resource for both residents and tourists. However as the population grows there is an inevitable increase in competing demands for space on a finite water area.

The Government of Western Australia appreciates the value of this waterway but acknowledges the need for management to ensure its continued enjoyment by future generations. In response to a high level of concern raised by the public regarding the effect of vessels on Perth's waterways, the then Minister for the Environment, Hon. Kevin Minson MLA, established a committee to inquire into the effects of vessels on the Swan and Canning Rivers.

A committee was formed with members from:

- Swan River Trust (1)
- Department of Transport (1)
- WA Municipal Association (2)
- Aquatic Council (1)
- Ministry of Sport and Recreation (1)
- Department of Environmental Protection (1)
- Water Police (1)

Concerns raised included:

- Inappropriate use of personal powered water craft
- Noise associated with vessels
- Overcrowding of waterways, particularly on weekends
- Disturbance to wildlife
- Bank erosion caused by boats
- Wave action caused by ferries

The Minister considered it appropriate to include the issue of discharges from vessels as there had been some recent instances of this occurring.

The inquiry had the following terms of reference:

To investigate:

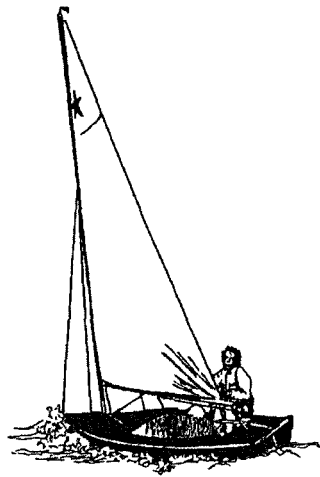
1. The level of use of the river by vessels and the level of compatibility between users.
2. The possible need to provide opportunities for new recreational activities on the river in the future.
3. The relationship between vessel users and neighbouring residents and local government.
4. The possible need to exclude vessels from some areas of conservation value.
5. Discharges from vessels.

The Committee considered three main sources of information in its deliberations:

1. Submissions
2. Relevant literature
3. Related file information from agencies

The Minister required that all interested parties be consulted. Public comment on issues related to the terms of reference was invited by advertising in State and local papers. One hundred and eighteen submissions were received. A summary of these is included as Appendix 1.

This report has been prepared in accordance with the Minister's Terms of Reference. As the terms of reference included site specific issues and issues applicable to the entire waterway the report has been structured so that general recommendations and site specific recommendations are included with consideration of each of the terms of reference.



2. ISSUES

In this section the terms of reference are considered individually with a brief account of the Committee's deliberations, and the resultant recommendations.

2.1 Level of use of the river by vessels and compatibility between users

The Committee considered that the level of congestion is of concern particularly on weekends. This results in safety and general problems. The most heavily used areas are:

- the area around the Fremantle traffic bridges
- Deep Water Point
- Point Walter to the Causeway
- Aquinas Bay

A number of mechanisms for dealing with congestion and incompatibility of uses were discussed. The Committee expected that congestion would only increase and that educative and regulative measures were needed to ensure that everybody involved in an appropriate use of the waterways was catered for and that any activity is conducted in a safe manner.

The number of moorings, navigational markers, buoys etc. added to the problem of overcrowding at times. It was considered that moorings needed tighter controls. As the Department of Transport is preparing a Cabinet submission on this issue the Committee did not consider moorings in general but it was agreed that all moorings should be maintained to an acceptable standard. Site specific recommendations on moorings have been made where necessary.

There appear to be a lot of unnecessary or poorly marked navigation markers and buoys.

Dredging was discussed in terms of the need to maintain navigation channels and provide recreational opportunities. The Committee endorsed the Swan River Trust's Dredging Policy (see Appendix 3).

Recommendation 1

Undertake investigations to rationalise the use of and redesign foreshore facilities and layout at Deep Water Point. Investigations to address:

- exclusion of personal powered water craft from the gazetted ski area,
- arrangement of foreshore facilities.

Recommendation 2

Investigate the need to increase the number of launching/water ski take off areas. (The Committee was aware that the City of Melville may not support this recommendation but considered the possibility should be explored.)

Recommendation 3

Reduce the speed limit to 5 knots and prohibit overtaking from the Fremantle Traffic Bridge to two hundred metres upstream of the Stirling Traffic Bridge. (There was lengthy discussion on whether under certain wind and tide conditions some vessels could safely navigate at 5 knots in this area. The Committee stood with the recommendation but the concern was minuted.)

Recommendation 4

Locate a public launching facility at Rous Head to help relieve congestion.

Recommendation 5

Conduct an extensive education program aimed at users of the Swan/Canning River system highlighting the need to share the resource and observe the rules. The program should include the production of a pamphlet on boating in the waterways which could be distributed when boat registrations are renewed or new ones issued. The pamphlet to include advice on :

- safety and navigation
- rules, and
- courtesy etc.

Recommendation 6

Support the continued use of Barrack Square as a ferry terminal.

Recommendation 7

Impose a maximum 20 knot speed limit during daylight hours on weekends for all areas of the Swan and Canning River system where no maximum limit currently exists. Review the need to impose the limit at other times if congestion increases.

Recommendation 8

Investigate current time sharing arrangements in existing gazetted areas and examine the potential for further time sharing.

Recommendation 9

Request the Yachting Association of WA to review their weekend yachting events to ensure congestion is minimised.

Recommendation 10

Exclude moorings from the Deep Water Point ski area.

Recommendation 11

Develop prescribed standards for all moorings on the Swan and Canning Rivers.

Recommendation 12

Review the purpose of all markers in the waterways. Remove unnecessary ones and ensure others are correctly marked.

Incompatibility between users was also considered to be a major problem and was raised in many submissions. Incompatibility appeared to occur between all types of users although it was most common between motorised craft and all other types of uses. The Committee considered that the general level of competency had to be raised for all vessel operators. The Committee also acknowledged the lack of resources to adequately police existing regulations.

Recommendation 13

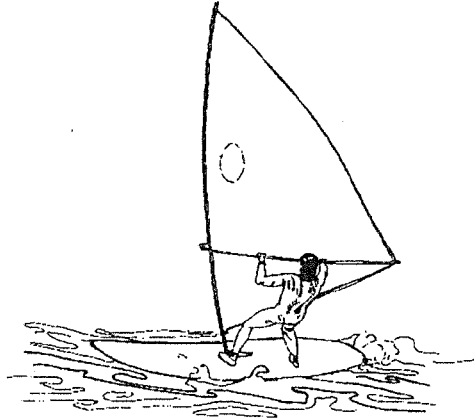
Investigate methods of increasing the proficiency of small boat handlers. Some areas that could be examined include:

- **Requiring boat operators to obtain a small craft safety operators certificate.**
- **The introduction of a form of licensing that automatically licenses an operator. However when an infringement occurs the offender would be fined and required to attend an assessable small craft safety course. The offender's licence would be suspended until the safety course was completed satisfactorily.**

Recommendation 14

Consider delegating Department of Transport inspectorial powers to suitable officers such as local government rangers and Swan River Trust inspectors.

Recommendations in Section 2.4 address the problem of incompatibility between users in the upper reaches of the Swan and Canning River system. Recommendations in Section 2.3 address the problem of incompatibility between users of personal powered water craft (PPWC) and all other river users.



2.2 Need to provide opportunities for new recreational activities in the future

The general thrust of the submissions was that the existing uses needed better management.

The Committee was aware that rowers were seeking a suitable international standard course. The requirements for such a course include:

- still water - no tidal influence
- a straight 2100 metres long and 300 metres wide.

It was noted that there are no such areas on the Swan and Canning River system.

Recommendation 15

Support the WA Amateur Rowing Association's efforts to identify a suitable site outside the Swan and Canning River system.

The availability of boat lifting facilities was discussed. The area at North Fremantle traditionally used for marine industries is currently being redeveloped for residential purposes. The Committee supported the provision of designated areas for leisure craft 'marine service industry' adjacent to the waterway and was concerned with the current situation.

Recommendation 16

Encourage the retention or redevelopment of areas for the purpose of marine service industry.



2.3 Relationship between vessel users and neighbouring residents and local government

By far the largest area of concern identified in the public submissions was noise. Two main sources were identified:

- power boats - either racing or skiing
- personal powered water craft (PPWC)

Because of the associated noise the use of personal powered water craft attracted the most public comment. Most of the public comments sought a total ban on their use in the Swan and Canning River system. Others considered that special areas should be set aside for their use, away from environmentally sensitive areas and as far from residential areas as possible. The Trust in consultation with the Department of Transport and local government authorities had previously set aside two trial areas for use by PPWC. The Committee considered that the trial had not been a success as there were no limits on their use in other areas. Maximum noise outputs could also be considered.

The Committee considered that a total ban would be inequitable and unreasonable and that the provision of areas for use by PPWC only would be the better option. PPWC would not be allowed outside these areas.

The Committee considered a report titled "Guidelines for the Use of Certain Powered Craft, such as Waterscooter, Personal Watercraft, Waterbike, Jetski, Waverunner, Seadoo, on Controlled Waters" in their deliberations. This report was prepared for the Permanent International Association of Navigation Congress (1995) by a working group of members from The Netherlands, USA, UK, Belgium, Sweden and Germany. The Committee considered their findings and recommendations relevant to this inquiry.

On the issue of noise it was considered that there are adequate provisions in existing legislation (Environmental Protection Act) to control excessive noise. To make use of the provisions regulation(s) need to be drafted and the power to enforce them delegated to appropriate agencies.

Acceptable noise levels would be determined by a series of trials under varying conditions and using standards developed elsewhere.

Recommendation 17

Designate areas for the exclusive use of PPWC.

Recommendation 18

Investigate opportunities to provide features at designated PPWC areas that would encourage users to such areas.

Recommendation 19

Ban the use of PPWC from all other areas other than for conventional vessel passage.

Recommendation 20

Restrict the operation of PPWC to the period between sunrise to sunset.

Recommendation 21

Encourage manufacturers of PPWC to develop and produce quieter models.

Recommendation 22

Encourage the identification of suitable areas for the use of PPWC outside the metropolitan area.

Recommendation 23

Require registration identification on both sides of PPWC, in a highly visible and consistent manner.

Recommendation 24

Draft regulation(s) pursuant to the Environmental Protection Act to set maximum noise levels for any activity on the river. (The Committee considered that for recreational craft 85 dB(A) at 30 metres should be the maximum. For racing vessels [vessels competing in a recognised sporting event] the upper limit should be 105 dB(A) at 30 metres although this may be reduced to 95 dB(A) near residential areas.)

Recommendation 25

Delegate the power to enforce regulations setting maximum noise levels to DOT, Water Police, SRT and LGA officers.

2.3.1 Specific locations

Other specific locations identified in submissions or from complaints received by local and State agencies are discussed below.

GAZETTED POWER BOAT AREA NEAR BURSWOOD

The Committee appreciated that the noise from this area during certain events was cause for concern. However this was the last area set aside for this use and it existed before the adjacent area was developed. High noise events were associated with monthly competitive events.

Recommendation 26

Support the continued use of the gazetted power boat area adjacent to Burswood.

BELMONT WATER SKI AREA

Complaints were received about noise from this area. In 1991 there was an application to extend the area available to skiers. This application was rejected by the Minister for the Environment due to overwhelming public opposition.

Recommendation 27

Do not support any future proposal to extend the Belmont water ski area.

DEEP WATER POINT WATER SKI AREA

A number of submissions contained comments regarding the noise from vessels using this area.

The City of Melville recently completed a report titled "Noise Survey of Deep Water Point Water Ski Area" which confirmed that motorised vessels using the area produced annoying levels of noise and that the level of noise was increasing. Recommendations 24 and 25 should address the problem in this area.

LILAC HILL BAREFOOT WATER SKI AREA

Submissions raised concerns about the level of noise from this area. The Committee considered that most of the noise was from illegal boating activities. Only twelve approved events occurred every year and although noise was generated the Committee did not consider it to be the prime problem, however greater control to prevent illegal use was required.

Recommendation 28

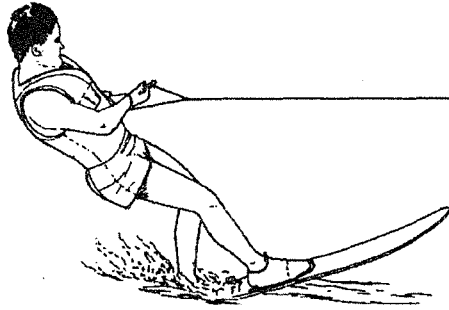
Support the continued use of Lilac Hill for limited barefoot skiing events.

Recommendation 29

Increase the level of policing in this area to ensure illegal users are prosecuted.

CHIDLEY POINT WATER SKI AREA.

The riverine landscape adjacent this water ski area consists of sections of steep limestone cliffs. Noise from the ski area is reflected around the cliffs resulting in a prolonged effect. Implementation of the recommendation(s) regarding noise levels should reduce this problem.



2.4 Need to exclude vessels from some areas of conservation value

The Committee considered that the upper reaches of both the Swan and Canning Rivers had become degraded due to a combination of factors which could be exacerbated by power boating. Members agreed that the preferred uses in these areas should be low impact and consistent with the nature of the waterways and adjacent land use.

Power boating was identified in a large number of submissions as a major cause of erosion in the upper reaches. Although this may be in part true, a study into the causes of erosion on the Swan River identified stream flow as the major cause of erosion (Foreshore Erosion Study, 1990). The report did acknowledge that boat wash added to erosion but to what extent was difficult to quantify.

In some other States "no wash zones" had been created in environmentally sensitive areas. No wash zones are areas which craft may access provided they do not create wash. The Committee considered similar zones may be effective on the Swan River.

Existing uses were recognised. Commercial ferry operators should be allowed to continue to access the upper reaches unless the numbers of trips increases significantly. There is a barefoot water ski area near Lilac Hill, for organised special events, which must be gazetted through the Government Gazette. Although there was some support for degazetting this area, the Committee considered that at its current level of use it was not causing a problem. If usage of the area increased significantly its gazettal for barefoot skiing would have to be reviewed.

The area at the bottom of Bull Creek, below the end of the mooring area, was considered to have high conservation value. A recently completed draft management plan (Draft Lower Canning River Management Plan 1994), recognised that the area is shallow and unsuitable for power boating.

The City of Perth has identified Heirisson Island as an area in which native vegetation should be reinforced with the view of encouraging more native fauna. Activities that may compromise this aim should be discouraged.

The Department of Conservation and Land Management is coordinating the preparation of a management plan for the Swan Estuary Marine Park. This area consists of Milyu in South Perth, Pelican Point in Subiaco/Nedlands and Alfred Cove in Melville. The draft plan proposes to divide the park into zones where certain activities may or may not be allowed. For example, no motorised craft are allowed in the wildlife protection zone but unmotorised craft are permitted.

Recommendation 30

Exclude motorised vessels, other than for management purposes, from the Canning River upstream of the Kent Street Weir.

Recommendation 31

Designate the area upstream of Barkers Bridge a "no wash zone".

Recommendation 32

Exclude motorised vessels from Bull Creek below a line eastwards of the extension of Brentwood Avenue.

Recommendation 33

Support the relevant recommendations in the draft Swan Estuary Marine Park Management Plan.

Recommendation 34

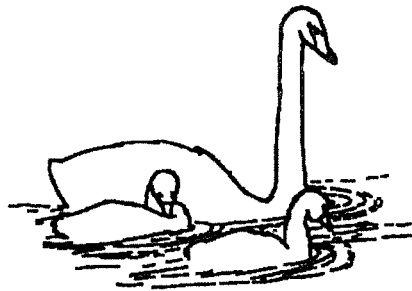
Prohibit any water based activity near the western end of Heirisson Island, excluding the water ski area, which may impact on the island's potential as an area where habitat for native flora and fauna may be enhanced.

Recommendation 35

Promote low impact activities compatible with waterways conservation in the upper reaches of the Swan and Canning Rivers.

Recommendation 36

Reduce the speed limit to 4 knots above Garratt Road Bridge except for approved commercial operations and proposals approved by the Minister for the Environment under Part 5 of the Swan River Trust Act.



2.5 Discharges from vessels

Discharge of bilge/waste waters from vessels is illegal in the waterways subject to this inquiry. Existing legislation provides for suitable penalties for persons in breach of current regulations, but illegal discharges still occur. The Committee considered that these events occurred for a number of reasons including:

- faulty equipment,
- lack of pump out facilities, and
- the inherent attitude that waterways are a waste disposal site. This attitude is exacerbated by the mentality that 'you cannot see what sinks or is dumped at night'.

The Swan River Trust prepared a report to the Minister for the Environment in December 1994 titled "Discharge of Bilgewater and Sewage from Commercial Ferries Using the Swan River". The Department of Transport supported the recommendations and the Minister subsequently urged the Trust to take a lead role in implementation.

Recommendation 37

Provide public pump out facilities.

Recommendation 38

Impress the importance of healthy waterways to all users.

Recommendation 39

Consider raising the current level of penalties for abusing waterways in view of public sentiment.

Recommendation 40

Support the recommendations in the report to the Minister for the Environment titled "Discharge of Bilgewater and Sewage from Commercial Ferries Using the Swan River" (See Appendix 2).

Recommendation 41

Require the Swan River Trust and the Department of Transport to progress the implementation of the recommendations in the report "Discharge of Bilgewater and Sewage from Commercial Ferries Using the Swan River".

3. REFERENCES

City of Melville 1994, *Noise Survey of Deep Water Point Water Ski Area*. A report to Council (unpublished).

City of South Perth 1993, *Mt Henry Peninsula Management Plan*.

Department of Conservation and Land Management, *Swan Estuary Marine Park - Draft Management Plan*. (in press).

Permanent International Association of Navigational Congresses 1995, *Guidelines for the Use of Certain Powered Craft such as Waterscooter, Personal Watercraft, Waterbike, Jetski, Waverunner, Seadoo, on Controlled Waters*. Report of Working Group No. 6 of the Special Commission for Sport and Pleasure Navigation.

Swan River Trust 1994, *Discharge of Bilgewater and Sewage from Commercial Ferries Using the Swan River*. A report to the Minister for the Environment (unpublished).

Swan River Trust 1994, *Draft Lower Canning River Management Plan*. Swan River Trust Report Number 15.

Swan River Trust 1990, *Foreshore Erosion Study*. Report to the Swan River Trust prepared by the Department of Marine and Harbours.

WG Martinick and Associates 1991, *A Review of Water Based Recreation in Western Australia - Summary Report for the Western Australian Water Resources Council and the Ministry of Sport and Recreation*.



APPENDIX 1

INQUIRY INTO THE EFFECTS OF VESSELS ON THE SWAN AND CANNING RIVERS

SUMMARY OF PUBLIC SUBMISSIONS

1. INTRODUCTION

The Minister for the Environment, Mr Kevin Minson, established a committee to undertake the inquiry into the 'Effects of Vessels on the Swan and Canning Rivers'. The major issues included:

- a) the level of use of the river by vessels and the level of compatibility between users;
- b) the possible need to provide opportunities for new recreational activities on the river;
- c) the relationship between vessel users and neighbouring residents and local government;
- d) the possible need to exclude some vessels from conservation areas;
- e) effluent discharges from vessels.

This Committee is chaired by the Chairman of the Swan River Trust, Mr Geoff Totterdell, and includes representatives from the Department of Transport, Department of Environmental Protection, Ministry of Sport and Recreation, Water Police, Western Australia Municipal Association and the Aquatic Council. It was agreed that the inquiry should consider the effects of all craft including commercial ferries, hire and drive craft, and all pleasure craft.

This report is a summary of submissions by the public received up to 31 January 1995.

2. NUMBER AND THEME OF SUBMISSIONS

Most of the submissions disapproved of the use of jet skis on the river. (The term jet skis is used in this document as this was the term used in most submissions. However in the report they are correctly termed personal powered water craft (PPWC)). Generally this appeared to be due to noise, but speed, safety, erosion and other environmental concerns were also mentioned. There was little complaint about other users such as canoers, swimmers, sailers, and rowers.

Many people believed that there should be increased policing of speed limits and tighter controls on the location of usage. The restriction of motor craft above Middle Swan Bridge and Kent Street Weir, and in other areas of high conservation (due to disturbance of wildlife, but in particular the erosion of banks), was also a high priority. There was general agreement that all motor vessels should be registered and the owners licensed. It was thought that this, along with increased policing, would be one of the most effective means of educating those in control of vessels.

Overcrowding currently only appears to be a problem on weekends during summer, particularly in ski areas.

In reference to pollution, waste disposal from craft should be more severely penalised but there should also be more pump out facilities, to assist compliance with current regulations.

In summary, it can be said that as the population increases the pressures on the river will need an increased level of management, planning and public participation if the quality of the waterway is to be maintained.

A total of 118 submissions were received from a wide range of sources.

The submissions received fall into the following categories:

Private individuals	75
Local governments	8
Government agencies	5
Community groups	30 (12 sporting assoc., 11 env. groups, 7 other)
Total	118

3. COMMON CONCERNS

Rowers

The river between Midland and Maylands provides very good rowing conditions and there appears to be scope for another club above Guildford Bridge to service the eastern suburbs.

Jet skis

In 1992 jet ski use was limited to two areas of the river to reduce conflict and attract operators away from populated areas. However this has not reduced the level of concern and the number of complaints has not diminished. Jet ski use is still considered incompatible with the current recreational use of Perth Water.

Most people believed that jet skis should be banned from use on the river or at the very least moved to deeper waters, away from residential and shallow areas. Most were concerned at the high frequency and the pitch of the jet ski's noise emissions, which is often sufficient to intrude into homes.

Other concerns included:

Safety - Often jet skis are operated by children at high speeds without supervision, which creates a dangerous situation. Jet ski's also cause marine safety problems because people use them near swimmers and other craft.

Speed - Many jet ski users do not comply with boating regulations that limit craft to less than 8 knots in under 3 metres of water. In fact, many jet ski's need to exceed speed limits to stay afloat.

Erosion of banks - It was claimed that disturbance to sediments could result in the release of nutrients. This could promote algal blooms in the area.

Effect on flora and fauna - Jet ski drivers often disturb wildlife and fish nurseries which exist in shallow water.

In support of jet skis it has been stated that most complaints are directed to inexperienced riders who contravene regulations, and more effective enforcement would perhaps address this matter. Noise problems are being solved, with new, quieter jet skis on the market.

It was claimed that the two areas set aside for jet ski use are unsuitable. The area opposite Deep Water Point has no access other than from Deep Water Point and is full of weed. The foreshore around the present site at Coode Street is showing bad signs of wear, and the residents have been complaining about the noise for years. The area east of Point Walter Boat Ramp is shallow in many parts, making risk of damage to jet skis and personal injury high for inexperienced riders.

A jet ski hirer suggested the placement of three wave runners, a watercraft similar to a jet ski, but virtually noiseless in the water, just to the right of the parasailing site, for a trial period of 12 months. It has the advantage that it is a controlled environment, people have safety equipment and are insured, there is a big expanse of water away from the foreshore and from the ski area to use, there will be no residents complaining of the noise, there is no need for infrastructure as

it is already there, and it will allow South Perth foreshore to rejuvenate. Another area could be Melville Waters in South Perth.

Ski boats

Water ski clubs tend to be well catered for and they seem to operate to well-defined rules. The exception arises with the social skiers, congregating in some of the more popular spots, i.e. Maylands, Deep Water Point, and Chidley, where over crowding is rife at peak times and there is danger of a serious accident, particularly to a novice.

Solutions to this problem include:

- a) Restricting the use of skiers in these areas to safe numbers.
- b) Increasing the number of take off points, since over crowding was of greatest concern at take off points.
- c) Setting aside more ski areas.
- d) Banning skiing from the river altogether since it is incompatible with most other river users, due to the excess speeds at which they travel and the nature of the sport.

The Maylands foreshore, especially Chinaman's Point, is an important bird refuge and feeding area and the proposed extension of the ski area into this region may lead to disturbance. There is also concern that the national rowing course above the Canning Bridge is being destroyed by the parallel wash that skiing boats produce, and the area of Lilac Hill is too fragile, therefore ski boats should be banned from these areas.

In many ski areas, skiing is still taking place up to dark. This is extremely dangerous and there should be greater enforcement of the 'after dark rule'. There have also been complaints that better marking is needed to indicate skiing limits as the present one marker buoy is insufficient.

Sail boarders

These appear to be well catered for in that they operate from areas where the prevailing winds are favourable. Although they appear to be crowded users manage to operate in harmony. There is however some concern that they may be trampling on seagrasses.

Boat ramps

The provision of a paid public launching facility and car park at Rous Head would reduce the number of craft using the river as a thoroughfare to the open ocean. Benefits will include reduction in congestion, pollution and other environmental concerns.

It is thought that an improved boat launching facility could be built on the eastern shore at the river end of Cloister Avenue Bridge over the Kwinana Freeway. The entire park area between Cloister Avenue and Canning Bridge could then be designated a power boat launching/beaching area. It has also been proposed that the launching and beaching of power assisted craft be banned entirely from the western side of the river between Canning Bridge and the 1st Deep Water Point Scout Hall. This area could then be designated for non-power boats and swimming. It was considered that the boat ramp at Fifth Avenue/Riverton Drive is not a suitable location for a boat launching facility, boat ramps at Fishmarket Reserve should be removed and the boat ramp at Redcliffe should be moved further downstream.

River bed dredging

Regular dredging and continual de-snagging would be necessary to maintain a navigable channel, but this would spoil and/or remove an important habitat for underwater wildlife. It was believed that dredging is accelerating the decline of the river and should not be considered, at least until more scientific studies have been conducted.

Alternatively it was thought by a few people that parts of the river, particularly the smaller rivers and streams and areas of the lower reaches of the river, should be cleaned of silt to allow better flow and remove the nutrients often contained in the beds.

Safety

The safety of rowers would be in question if areas were opened up to skiers and jet skis. The rowing shells are particularly vulnerable to being upset by irregular or sudden wave patterns of the kind generated by jet skis.

There is concern for the safety of swimmers (e.g. at Sandy Beach and Point Reserve), due to speeding pleasure craft. This will require greater controls on speed limits and the boundaries in which such craft are permitted. One suggestion was that power craft should be banned on some weekends in summer to accommodate passive recreational users.

Speed

It was widely believed that there was a need for increased policing of speed limits and tighter controls on the location of usage, particularly at peak times. Currently there are only two boats to patrol the Swan and Canning Rivers which allows little control.

If users are detected not observing rules and regulations, spot checks or tests could be instituted with compulsory attendance at specific courses required if knowledge appears to be inadequate.

Most instances of speeding generally occur around 6 pm when craft are racing to get to the ramps and onto trailers before it gets dark. There are no patrol boats on the river at this time of day. It was recommended that the only effective way to control boat speed at this time is probably by using radar/photo equipment similar to that used by the police for speeding road vehicles. These could be placed on the banks of the river with the registered owner liable, in the event of penalty, unless they nominate a driver who is prepared to accept responsibility.

Yachts lowering masts at Fremantle Traffic Bridge are vulnerable to severe damage if power boats create excess wash. Speed limits lower than the current 8 knots should be considered in particular areas. A 'no wash area' needs to be established similar to that which applies in numerous waterways governed by the Maritime Services Board in New South Wales.

Speed limits currently imposed downstream of Chidley Point should be extended to Point Resolution or preferably the Narrows Bridge to prevent boat wash at the Royal Freshwater Yacht Club and on yachts racing between October and April. Speed restrictions should only apply to motor craft. The large ferries should also have their speeds lowered.

Boat noise

Boat noise is a major issue particularly in the middle reaches because, unlike the lower reaches, houses line the banks in the suburbs of Bayswater, Bassendean and Guildford. These houses are generally within 50 metres of the channel.

Inboard motors generally produce acceptable noise levels, but outboard motors have little or no noise deadening. Of particular concern are water scooters which have a very loud, high pitched noise and are invariably driven at top speed (15-20 knots). Rigid restriction to the speed limit would remove most of the fun, and probably the scooters themselves, to some uncontrolled waterway.

Monitoring outboard noise *in situ* is difficult and each engine make and size should possibly undergo noise testing by independent testers in identical situations and the noise level recorded on the engine casing. In this way discriminating buyers would at least be able to select a quieter engine at purchase. Increased pressure should be applied on manufacturers to reduce noise levels.

Noise regulations should be changed since the wording is inadequate to enforce effective noise level control. A noise level of 85 dB(A) measured at 30 m with the vessel under way would be a reasonable preliminary standard. Any modern boat with under water level exhaust would have no difficulty in achieving this standard.

Education

Safety can only be ensured if the public are well educated as to the rules and regulations for river use. It is evident that the majority of users are unaware of them.

Consideration should be given to:

- a) The production of information pamphlets for distribution to all river users.
- b) Establishment of a 'River Watch Scheme' which includes groups of 4-5 people responsible for patrolling sections of the river. This role would be one of monitoring, reporting and educating, similar to the scheme operated by the Department of Fisheries to educate fishermen.
- c) More signs, such as at boat ramps, warning boat users to control speed limits, control wash, and stay within boundaries.
- d) The appointment of an education officer to talk to yacht clubs, water sport groups and fishing clubs, as well as to the electronic and printed media.

Licensing

There was consensus in a number of submissions that all boats should be licensed annually, as with motor vehicles. The controls applied to motor vehicles should be extended to motor vessels, in relation to the state of repair e.g. 'over the pits' for boats. Only boats which conform to noise and other standards should be licensed.

All persons in control of a vessel, whether it be a boat, skier or jet skier, should also be licensed so that they are able to show some basic nautical and safety skills, and knowledge of the impact on the environment. Only by licensing boat drivers can initial information and education reach those in control of vessels.

Registration and licensing of boats and drivers enables easier identification of persons abusing rules. The driver licence system, adopted in some States, provides through a 'point system' some deterrent for those to whom a small fine is insignificant e.g. their licences can be confiscated or points deducted on violation of rules.

Pollution

A common point of agreement was that the current penalties for dumping of sewage and other wastes should be substantially increased to provide a meaningful deterrent. The illegal dumping of wastes from boats can create public and environmental health risks and should be prevented as much as possible.

Holding tanks should be made mandatory on all craft employing the antiquated straight through system. There could be incentives for owners to convert to storage tanks with reasonable lead times for imposition of new regulations and financial support for construction of club pump out facilities.

With the recent banning of effluent discharge from vessels in the Swan River and offshore to beyond Rottnest Island there is a need for discharge stations along the river and at Rottnest Island. If pump out facilities are not readily accessible and conveniently located, then the illegal dumping of toilet and sullage wastes is sure to occur. Provision of pump out facilities will assist compliance.

Pump out/ emptying points could be provided:

- at sailing clubs
- by councils - at public launching areas or
- on barges - which could collect sewage and bilge water at points up and down the river. Once full, they return to the yard in North Fremantle and empty the sewage into a vacuum sillage line which would be connected to the main sewerage system.

Bilge water is often heavily polluted with engine oils and petrochemical degreasers that outflow through manual or electrically operated bilge pumps into the river system. Degreasers and absorbent bilge pads that fully absorb oils and can be discharged properly at the club or marina might be effective. Water pumped from bilges with these pads *in situ*, is pure.

Other suggestions to reduce pollution of the river included: the use of only environmentally friendly boat washes and degreasers to clean up moored craft, and more effective interception of runoff from paint scrapings and other maintenance work at shipwrights.

Overcrowding

Control and regulation of craft movement on the waters appear to be less than satisfactory. While yacht clubs have self-regulatory procedures, the interaction of water skiing, jet skis, swimmers, snorkelling, divers, ferries, large launches and fishing boats is a recipe for disaster, particularly at certain times.

Overcrowding is mainly a concern at peak times, particularly Saturday and Sunday afternoons when sailing is in full progress. A peak period and moderate water use survey should be conducted to ascertain the true level of incompatibility and usage. These surveys should be carried out in both winter and summer to determine the true level of usage.

Erosion

The main cause of bank erosion is perceived to be from boat wash, although severe flooding also contributes, but this is largely confined to the outside of sharp bends in the river.

Ski boat users argue that there is little evidence that water ski boats generate a wave of sufficient energy to create any erosion and that the relative contribution of water skiing is small in comparison with other forces of erosion such as permanent pondage, peak flows, grazing and poor irrigation practices.

Impact of boat induced waves is influenced by the shoreline characteristics, boat speed, the length of the boat, the distance between the boats, the wave gauge, the design of the boat hull, the depth of the water, and the distance the boat travels from the shore. A key determinate of boat wake energy is the distance from the shore. It has been recommended that a 30 m strip close to the shore should be 'off limits' to high speed craft (Bhowmik, 1975) and 150 m from an erosion susceptible shoreline (Klein, 1991). Limits applied to boats should be applied on a site specific basis.

Bank erosion appears to be a problem in the upper reaches, above the Middle Swan Bridge. The estuary here behaves more like a river, and the steep banks are very susceptible to flooding and erosion due to upland flow. Bank erosion also appears to be a particular problem in the middle reaches (Perth Water to the Middle Swan Bridge), with the thin line of trees along the river banks being depleted as the banks are eroded due primarily to boat wash. There has been a lot of concern for the Ashfield-Viveash area, Success Hill, Market Reserve, Maylands Peninsula, Clarkson Reserve and generally above the Bassendean River junction. There is also concern that the wetland behind eroding banks in the Ashfield Flats area near Ashfield Parade, could be drained if the banks are not revegetated and boats removed from this area.

Only boats with a motor size of 10 hp should be allowed upstream, and only larger boats if they are of displacement hull type and able to maintain a maximum speed of 8 knots. Boat hirers should set up fleets with small diesel or electric powered craft.

Conservation areas

There was general agreement on the need to restrict boat access to certain areas of high conservation value, such as near reed beds with nesting birds and shallow areas such as in Perth Water which are fish spawning areas. An independent study should be made of areas where birds nest.

There have been a lot of suggestions to close the river to motor craft at Kent Street Weir on the Canning and at the Middle Swan Bridge on the Swan, except for the period just prior to the Avon Descent, particularly on the grounds of bank erosion. Some people believe that motor boats should be restricted completely and not allowed to compete in the Avon Descent. A special boat licensing system for narrower waterways would accomplish this.

A few environmental groups complained that projects to plant trees/reeds were constantly disturbed by boat wash, which disturbs sediment and disrupts water birds, and suggested that boats should be restricted during this time. Concern was also shown toward the practice of de-snagging rivers, which was thought to be spoiling important wildlife habitats and breeding grounds.

Protection must be given to the remaining mud flats to preserve the ecology of seagrass and mud feeding sites of numerous interdependent species. Not only are these essential elements of a healthy river but the community is now valuing the natural appearance of foreshores and is more ready for protective controls.

The Swan Guildford Historical Society suggested that Bennett Brook Recreation Reserve should be a flora and fauna reserve and access restricted to pedestrians. Cycleways along the banks are inappropriate particularly those proposed for the valley. Cycleways on floodplains are likely to be wet and muddy in winter, resulting in costly maintenance. The cycleways could also result in increased disturbance to flora and fauna, fire risks and litter. A pilot walkway between Marshall Park and Reg Bond Reserve could be built and, if successful after a suitable trial period, further tracks could be constructed.

Committee members

The Committee should be expanded to include a member with expertise in conservation and ecological issues. Government Agencies are over represented.

Other suggestions

River users tend to be fairly compatible in the middle reaches except for water skiers and jet skis. The canoeists, the rowers, the fishermen, even most of the motor boat users, get on without conflict. Because of this it was thought that the development of passive recreation, such as canoeing should be encouraged, both in the middle and upper reaches.

There should be an inquiry into the appropriate vessels to use up river, particularly since the narrow banks are not usually big enough to absorb wash. This could include type of hull design which is least disruptive and size of motor which is most appropriate. For example, when driven below planing speed, planing hulls are inefficient compared with displacement hulls. They create a huge bow wave, particularly when heavily laden, and require undue amounts of engine power. This is fundamental to the bank erosion problem of the middle reaches and because the power required to drive them is so high at sub-planing speeds, the temptation to exceed the speed limit to get up on the plane is overwhelming. The fact is these boats are not well suited to the middle reaches and should be restricted.

Above Garratt Road Bridge the river is too narrow for any vessels or clubs to be given exclusive use, water skiing in particular. Boat ramps encourage greater use of the river upstream and should be banned.

Studies should be conducted into the effect of power boats on narrow river systems and the impact of vessels on foreshore erosion, noting the frequency of use, performance at different speeds, height and energy of waves generated.

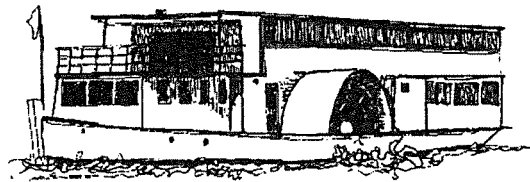
Motor boats should be specially licensed for use above the Causeway and the Mt Henry Bridge. This would eliminate the boats whose power, hull design and size cause so much bank damage

at the moment. Moreover such a system could eliminate the vessels which regularly flout the speed limits. Boats producing very large wash would not be licensed. Anyone driving a boat with more than 10 hp engine should pass a test to gain a licence.

Permits should be issued for specific events such as the Avon Descent to restrict activities where relatively few people disturb the peace of many.

Rottneest ferries do not need to operate from the Perth area since there is a fast train service to Fremantle.

The ferry from Mends Street should be linked to the Zoo train. The Coode Street Jetty should also be built and have a regular ferry service in conjunction with that from Mends Street.



APPENDIX 2

"DISCHARGE OF BILGEWATER AND SEWAGE FROM COMMERCIAL FERRIES USING THE SWAN RIVER"

CONCLUSION AND RECOMMENDATIONS

CONCLUSION

It appears, from previous surveys and the limited survey for this report, that the majority of commercial ferries operating in the Swan River contain sewage holding tanks and discharge to approved sewage disposal systems at the Barrack St jetty complex. Discharge of sewage waste from commercial ferries into the Swan River is only likely in the event of an emergency or through accidental discharge of contaminated bilgewater.

All water craft discharge their bilges to the surrounding waterbody. It is not practical for marine safety reasons to prevent the discharge of bilge. A thin film of oily waste is sufficient to cause the bilgewater to go anaerobic producing unpleasant odours. Dispersant and detergents can also contribute to odour and colour of water in bilges. Discharge of the bilgewater under these conditions may result in unpleasant odours and an unsightly discharge. If the bilge of a vessel is not regularly cleaned or the vessel has been idle for a period of time, the pumping of the bilge may also result in a discharge of water that is malodorous and brown in colour.

Annual inspections of the sewage disposal system and the bilge area may assist in identifying potential failures in the systems. Inspection of these areas annually would enable the condition of the systems to be monitored and any malfunctions corrected early. It is not clear whether the current legislation used by the Department of Transport would enable the inclusion of these surveys as part of the annual survey process but they should be carried out as part of standard practice.

Systems exist that can separate fuel oils from water and consideration should be given to the installation of one of these systems for use by the commercial ferry operators when the bilges are contaminated with excess fuel oil.

The operators are considered to be responsible and aware of the need not to discharge sewage to the rivers and generally take care to ensure bilgewater is clean when discharged.

The previous investigation into sewage disposal "Draft Review of Sewage Dumping from Vessels in WA Waters" (1990) contains many recommendations and strategies that are still relevant to the disposal of sewage from vessels. The review was intended to be released for public comment but this did not occur.

RECOMMENDATIONS

It is recommended that:

1. Inspection of sewage and bilge systems be included as part of the annual survey for vessels which operate in inland waters. If there are currently no legislative powers in this area they should be included in the review of the marine legislation.(DOT)
2. The commercial operators prepare and adopt a "Code of Practice" for practices and procedures commonly used, to reduce any potential pollution or waste discharge from their industry.
3. Require the mandatory reporting of potential pollution events such as broken pipes and accidental spillages.(SRT, DOT, DEP)
4. An education leaflet be prepared for all boat owners identifying the ways they can protect waterways. (SRT, DOT, WWC)
5. Funding be provided to the Department of Transport for the assessment and provision of oil separation or digestion systems for ferries and commercial vessels operating from the Barrack St complex.
6. That investigations be undertaken to establish if a back-up holding tank or direct connection to the gravity sewage main can be fitted at Barrack St for use by vessels with the capacity to pump their own sewage or "grey" water tanks. (DOT)
7. Investigations be resumed by the Department of Transport into establishing further facilities throughout popular waterways at selected accessible public jetties or marinas, either for pump out of holding tanks or deposit of contents of carry-on chemical toilets on small craft. It is specifically recommended that pump out facilities extend to Rottnest Island and Hillarys Boat Harbour.
8. A working group be established to revise and update the report "Draft Review of Sewage Dumping from Vessels in WA Waters" (1990) including a review of adequate sewage and bilge disposal facilities for all boat owners and release a document for public comment. (DOT)

APPENDIX 3

SWAN RIVER TRUST DREDGING POLICY

DE 1 Dredging

Preamble

Guidelines for dredging in the Swan River Trust Management Area and for disposal of dredge material were prepared for the Trust and DEP by a consultative committee.

No attempt has been made to designate areas of the river system where dredging might not be permitted. The guidelines make it clear that all applications for dredging and disposal of dredge material, whether from government agencies or developers, will be assessed solely on their merits and in accordance with the guidelines.

The Trust considers that in certain circumstances there may be opportunities to dispose of dredge spoil in a manner beneficial to the river system. For example, spoil may be used for beach renourishment or habitat creation.

All dredging is defined as development under the Swan River Trust Act, requiring the approval of the Minister for the Environment.

This policy is a summary of the Trust and DEP guidelines. While it provides an indication of their intent and requirements, proponents should read the full guidelines before lodging an application which entails dredging and disposal of dredge materials.

Proponents are also referred to the Trust's policy on conservation, environmental and landscape protection, contained in this document.

Policy

DE 1.1 Dredging proposals must be designed to minimise impacts on environmentally sensitive areas. The form of the river channel and the extent of fringing and aquatic vegetation are among physical parameters to consider.

DE 1.2 The Trust identifies two types of dredging:

- maintenance dredging to maintain existing navigation channels and boat harbours or resurrect former water conditions;
- developmental dredging for construction of new facilities or extension of existing areas.

DE 1.3 The Trust will consider all applications for maintenance dredging on their merits, taking particular account of the environmental impact of the proposal and the frequency with which dredging is required.

DE 1.4 The Trust may attach conditions to any recommendation for approval, covering:

- disposal of dredge material in a manner acceptable to the Trust,
- the time of year when dredging can take place,
- completion of the operation within a specified time,
- control of smell, dust, insects.

- DE 1.5 Developmental dredging and any dredging which involves the disposal of dredge material within the river system shall be subject to environmental assessment, at a level determined by the DEP and SRT and covering:
- river hydrology,
 - the short and long term impacts of the proposal on plant and animal life of the river system,
 - the extent to which ongoing dredging will be necessary,
 - the need for the proposal in the context of other competing uses.
- DE 1.6 The cost of disposing of dredge material must be included in the proposal and is to be borne by the proponent.
- DE 1.7 All contaminated dredge material is to be removed from the river system unless exceptional circumstances apply.
- DE 1.8 The Trust is unlikely to recommend approval for disposal of dredge material:
- into deep holes in the river
 - on wetlands
 - on flood prone land.

