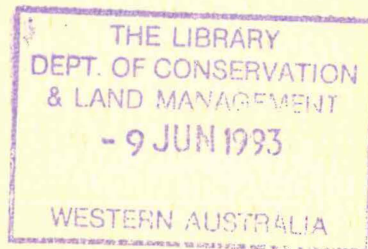



JERVOISE BAY RATIONALISATION
by the
METROPOLITAN REGION PLANNING AUTHORITY

REPORT AND RECOMMENDATIONS
by the
ENVIRONMENTAL PROTECTION AUTHORITY



JUNE 1979

 **DEPARTMENT OF
CONSERVATION & ENVIRONMENT** 
WESTERN AUSTRALIA

BULLETIN No. 64



**ENVIRONMENTAL PROTECTION
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HON. MINISTER FOR URBAN
DEVELOPMENT AND TOWN PLANNING

Your Ref.

Our Ref.

The Environmental Review and Management Programme prepared by the Metropolitan Region Planning Authority in respect of the Jervoise Bay Rationalisation Plan has been considered by the Environmental Protection Authority following submissions by the public and Government Departments.

Please find attached the Authority's report and recommendations as requested in your letter of 8 February, 1979.

COLIN PORTER
CHAIRMAN

P. R. ADAMS, Q.C.

PROFESSOR A. R. MAIN.

25 JUNE, 1979.

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1. INTRODUCTION

The proposed development is to be located in Jervoise Bay at the northern end of Cockburn Sound 10 km south of Fremantle.

The Jervoise Bay Rationalisation Plan as its basis, has a proposal to create expanded shipbuilding facilities together with provision for an area suitable for the construction of oil production equipment. As a result of that requirement others follow, including a harbour, an industrial back-up estate, the relocation of existing recreational activities, the relocation of Cockburn Road and the bringing forward of previous proposals for a recreational complex at Woodman Point.

A planning study and an ERMP on the proposal were prepared in parallel and accordingly, it was possible to assess the various aspects of the plan in environmental terms as it was being developed, and modifications to it could then be made to reduce as much as possible any adverse impacts.

The need for the proposal relates to :

- . the projected demand to construct and maintain increasing numbers of fishing vessels as a result of the proposed 320 km Australian Fishing Zone;
- . the development of the North-West shelf gas resources and further off-shore oil exploration provides an opportunity for local manufacturers to participate in the construction of requisite equipment and an appropriate land base is required;
- . back-up industries for the above facilities;
- . additional demand for recreation opportunities which will occur as the urban population in the south east and south west sections of the Metropolitan Region increases.

The ERMP prepared on this proposal was released for public comment for a period of approximately two months during which time sixteen submissions were received. Seven of these were made by State Government Departments. In addition, 51 submissions made on the town planning proposals were judged of environmental significance and were forwarded by the MRPA for the consideration of the Authority.

The Environmental Protection Authority has assessed the ERMP and our findings and recommendations are contained in this Report.

2. SUMMARY

The referral of the Jervoise Bay Rationalisation plan to the Environmental Protection Authority has been made at a time when many important decisions are about to be made in Cockburn Sound and Owen Anchorage. The Cockburn Sound Study itself is nearing completion and may well result in recommendations which would effect a major improvement relevant to these proposals. At the same time consideration is being given to up-grading and substantially increasing the capacity of the Woodman Point Sewage Treatment Plant, while the effluent disposal situation in Owen Anchorage is also being subjected to close scrutiny.

The Authority has only been able to make an assessment of the water quality implications of the Jervoise Bay proposals in advance of these other studies on the basis of the ERMP's assessment that the environmental disadvantages are minimal. In general the Authority agrees with this assessment and concludes that the proposal may proceed subject to a set of recommendations, which are designed to minimise any adverse environmental impacts that may result.

Notwithstanding this decision, the Authority's evaluation has highlighted broader but important aspects relating to the environs of Cockburn Sound which warrant discussion. Notably, the proposal to site further marine industry at Jervoise Bay seems largely to be the result of inadequately documented information with respect to alternative locations, and this reinforces the Authority's view that ad hoc decisions are affecting the rational utilisation of the resources of Cockburn Sound and its foreshores. Most previous decisions on developments in or on the shores of the Sound have been taken in isolation in response to the various requirements of the time, and although the procedure of preparing Environmental Review and Management Programmes for each proposal is now well established the information needed for a total overview is still not to hand.

We believe that the stage has been reached whereby this piecemeal approach of assessing proposals is no longer desirable. The remaining resources of Cockburn Sound are now so valuable, that their ultimate uses must be planned for in a comprehensive manner. Neither the effluent absorbing capabilities nor the recreation potential of the Sound are limitless, and this fact is becoming more evident year by year. The findings of the Cockburn Sound Study will play an important role in the future management of the Sound. It will identify areas of environmental concern and also indicate major sources of pollution. With this information, the Authority will be able to make specific recommendations on options for future management and commitment of its resources in a manner which recognises its multi-use potential.

The Authority is in the process of establishing water quality criteria (as explained in detail in Section 4.4) which, it is hoped, will apply to all Western Australian waters and will be of major value in respect of Cockburn Sound.

If these standards are adopted, there will be, for the first time a basis against which to assess all proposals in the Sound; each new proposal will be required to take into account existing developments. These standards, however, will not obviate the necessity for a comprehensive plan for the Sound.

The Jervoise Bay Rationalisation Plan is comprised of several major but distinct elements, namely :

- . shipbuilding and offshore production equipment area, together with the breakwaters and harbour facilities for both private and commercial vessels;
- . an industrial estate to service the marine oriented industries;
- . the relocation of Cockburn Road;
- . the development of a recreation complex at Woodman Point including increased public use of the beach facing Owen Anchorage.

The principle areas of concern relative to the proposal as a whole relate to water quality in Jervoise Bay, the loss of portion of the foreshore to industry and the relocation of recreational activities.

Assessment of these three basic areas showed that the major concern was water quality, and accordingly the Authority has emphasised this aspect in its recommendations. The Authority sees the prevention of pollutants entering the partially enclosed water body of Jervoise Bay, as being the most appropriate means of maintaining an acceptable level of water quality. The alternative suggested in the ERMP is a detailed water circulation study which would be time consuming and might not add greatly to our existing knowledge.

The Authority, in its recommendations has also stressed the need for the management programmes to be implemented early as deterioration in environmental values will result without continuing management.

The need for water quality monitoring suggested in the ERMP is endorsed by the Authority. Some expansion, however, to the programme is recommended which will provide an up to date status on environmental parameters, thus enabling the management programmes to be modified in the light of further knowledge. In addition new data that become available from other studies can be incorporated in the management plans.

The proposed increased usage of Owen Anchorage for swimming and other recreational activities has highlighted the need to upgrade its water quality. The industrial waste discharges from the noxious trade area around Robbs Jetty and to the south, are known as the source of pollutants in the Anchorage and the EPA is currently investigating methods of overcoming this problem. The rationalisation plan, however, has brought forward the need to improve water quality and the Authority has recommended that this should occur before a substantial increase in recreational use of these beaches occurs.

Apart from these major aspects, several recommendations are made by the Authority concerning such matters as sand blasting, noise emissions, reservation of land for Parks and Recreation and a minor realignment of the proposed relocation of Cockburn Road.

3. THE PROPOSAL

3.1 Background

The ERMP evaluates the latest of several proposals put forward for the construction of additional shipbuilding facilities in Cockburn Sound. The site suggested is Jervoise Bay which is in the north-eastern sector of Cockburn Sound and approximately 10 km south of Fremantle. The proposal follows several reports by the Public Works Department, the Department of Industrial Development and the Metropolitan Region Planning Authority on this matter.

The environmental review was prepared in conjunction with a Planning Study by T. S. Martin and Associates. The proposal includes expanded shipbuilding facilities, a construction area for oil production equipment, a fishing boat wharf and handling facilities, a back-up industrial area and new recreation developments at Woodman Point.

3.2 Shipbuilding

The plan proposes to retain the existing shipbuilding facilities and to enlarge and improve them. There is a need to provide sheltered water and a breakwater system is necessary. The improved facility is designed to handle ships up to 3,000 tonnes, but the majority would be fishing vessels up to 500 tonnes.

The proposal would permit work to be carried out on ships without having to slip them, thus reducing considerably the cost of repairs and manufacture.

3.3 Offshore Oil Production Equipment Construction

Due to recent developments in the offshore oil and gas industry a need was seen to make provision for the possibility of local manufacture of components. Facilities have been planned for this eventuality and due to space and load bearing requirements, these are proposed near the existing groyne south of Russell Road. Provision has also been made for the construction of production platforms immediately south of the groyne, but if this does not eventuate then the groyne will be the southernmost limit of the development.

3.4 Industrial Estate

To provide the necessary infra-structure for the proposed shipbuilding and offshore production equipment area, approximately 200 hectares of land directly to the east is proposed as an industrial estate. Direct access between the back-up industries and the foreshore facilities is planned, to assist in the transfer of heavy fabrications.

The proposal includes the preservation of the limestone ridge which traverses this area, in order to improve the aesthetics of the estate and to retain the coastal floral heath formation.

3.5 Relocation of Cockburn Road

As the existing Cockburn Road would separate the ship-building and oil production construction site from the industrial area, there is a need to relocate the road in the long term. The re-alignment is located to the east and would direct traffic around the industrial area and link in with Rockingham Road south of Mount Brown.

3.6 Fishing Wharfs

Due to the limited depth and capacity of the Fremantle fishing boat harbour, together with the anticipated declaration of a 320 km fishing limit it is anticipated that additional facilities will be required; provision has been made for these in the proposal. It is suggested that two jetties will be required together with unloading, cold storage and transport facilities. Fish processing is not proposed for this site.

3.7 Breakwaters and Harbour Facilities

In order to provide the calm waters necessary for the proposed activities, a system of breakwaters is necessary and they will be staged to match the construction of the various slipways and jetties.

The breakwaters have been designed so as to provide the least possible alteration to water circulation and are comprised of a concrete curtain from the water surface to a depth of 5 metres (half the water depth.)

It is proposed to take maximum advantage of quiet water enclosed within the breakwaters by developing a boat launching ramp, a yacht club and a marina.

3.8 Jervoise Bay Recreation Facilities and Usage

The demand for yachting facilities in the Metropolitan Region has been considerable in recent years and is expected to continue. Accordingly, it is proposed to cater for a yacht club including provision for further boat moorings in due course.

The construction of a launching ramp near the naval jetty with associated car parking and amenity areas is planned and the re-location of the Cockburn Power Boat Club provided for.

Land adjacent to these facilities will be landscaped, and barbeques will be constructed. Provision will also be made for retention of a swimming beach in this area.

3.9 Woodman Point Recreation Area

The beach north of Woodman Point is protected from the south-westerly sea breeze and is proposed for family bathing and recreation. This beach will be made available to the public, with access from the proposed recreational complex to be established on land currently being used as the explosive magazine. Car parking areas will be constructed behind the foredunes with defined access paths to the beach. Provision has been made for other facilities including a catamaran sailing club, commercial sail hire and a launching ramp for small boats.

The conservation value of the vegetation at Woodman Point is recognised and sensitive management will be undertaken in order that degradation of the environment is kept to a minimum. Passive recreation will predominate in these locations.

3.10 Motor Sports Area

It is proposed to re-locate the present go-kart and motor cycle tracks to an area near Mount Brown. The suggested site is in a natural amphitheatre where it is proposed to provide an area for both activities whilst minimising noise emission to surrounding areas. The facility is to be designed to ensure that noise disturbance to the Wattleup residential area to the east is minimised.

3.11 Open Space

Provision has been made for the location of open space between the fishing berths and the shipbuilding area, and in addition the limestone ridge in the industrial estate will be preserved.

The area east and to the south of the industrial estate will also not be developed, and the wetlands east of the re-location of Cockburn Road have been identified for conservation and recreation purposes.

4. ENVIRONMENTAL ASSESSMENT

A total of seven State Government Departmental submissions and nine public submissions, together with discussions between appropriate scientific officers from various agencies have been taken into account in the assessment of this ERMP. Additionally the comments of the Cockburn Sound Study Group on the ERMP were made available to the Authority.

4.1 Industrialisation of Cockburn Sound

The EPA is concerned with the long term future of Cockburn Sound and the maintenance of an acceptable environmental quality. Accordingly, the Authority considered this proposal and its effects on the Sound against the background of existing uses and its possible impact.

The pollutants expected from the proposed uses can be controlled so that they would have negligible effect (both from their nature and quantities) on Jervoise Bay. The management programme suggested is sound, and with some minor alterations is considered to be suitable to ensure amelioration of any deleterious effects of the proposal.

The Authority recognises, however, that access to a section of the foreshore presently available to the public will be lost as a result of the proposed activities, but it is small and relatively degraded. This loss will be more than compensated for by the new recreation facilities proposed, the development of which has been brought forward as a result of this overall proposal.

This situation is currently reflected in several other areas of proposed development, namely a proposal that meets one need at the expense of others being considered in isolation rather than as a rational balance of all land use factors prior to a final decision on location being made. It is unfortunate, therefore, that the selection of Jervoise Bay rather than the other sites considered has not been made available in a form where the community could assess the rationale behind it, and balance what is gained against what is lost. The Authority has already recommended that such a document be prepared and made public.

The Authority discussed the need to retain the multi-use role of the Sound and that overall management and commitment of its use is essential in order to preserve that role. As the population of Perth increases, pressures on the resources of the Sound will be such that use conflicts of considerable proportions could arise unless adequate management is commenced soon. The various studies currently being undertaken in respect of the Sound will, in the near future, provide sufficient data to enable the required management plan and co-ordination of uses, to be formulated. The Authority considers this matter to be a necessity in order to maintain the Sound and its shores at an acceptable environmental standard.

4.2 Shipbuilding and Offshore Oil Production Equipment Construction.

The major impact that these activities will have relates to the need for breakwaters and the consequent reduction of water circulation within the Bay, this aspect is covered in 4.3.

It is anticipated that pollutants such as oil, paint, grit and general rubbish will emanate from these activities and the ERMP discussed methods of combating this problem. The Management Programme however, did not adequately cover methods and responsibility for control of contamination. The Authority discussed the need for continuing management of the enclosed water body and considered that the Fremantle Port Authority acting on the advice of the EPA, should continue to be responsible for the ongoing management of the waters of Jervoise Bay, and that suitable contingency and management plans be prepared to combat pollutants within the Bay.

The question of stormwater disposal from this aspect of the proposal was not considered in the ERMP to the degree necessary and requires inclusion in the Management Programme. The Authority considers that provision should be made for a comprehensive stormwater disposal system over the shipbuilding, the rig construction area and the industrial estate, to prevent any direct discharge of runoff into the water body enclosed by the breakwaters. The design of this system should include an interceptor drain along the length of the foreshore where breakwaters further restrict the very limited water movement.

The necessity for the provision of deep sewerage (as recommended in the ERMP) was considered by the Authority to be absolute. Accordingly, it is emphasised that the design for the industrial estate and marine oriented facilities should include the provision of deep sewerage connected to the Woodman Point Waste Water Treatment Plant, and that slop tanks should be provided for both commercial ships and private boats.

4.3 Water Circulation and Breakwaters

The ERMP highlights the projected low circulation within the Bay and accordingly the breakwaters have been designed to have the minimum possible effect on the water movements. The Authority endorses the need to minimise the reduction in water circulation.

The Authority agrees that although there is little data on water circulation, what information is available indicates that velocities are very low. On this basis, the Authority considers that further studies into water circulation within Jervoise Bay are not justified since they are likely to do no more than confirm low mixing and dispersion. The preferable alternative to further studies is a clear commitment to preventing water pollution within Jervoise Bay and a longer term programme to improve water quality which may emerge in due course as a result of the Cockburn Sound Study.

It is noted that further studies into wave data collection are recommended in the ERMP, however, this information relates to engineering design criteria and the Authority considers that such studies are not necessary as part of the environmental assessment.

4.4 Water Quality - Jervoise Bay and Owen Anchorage.

Water quality has been identified as being a cause for concern in Jervoise Bay and particularly in Owen Anchorage. The shift of recreational use to the north side of Woodman Point will create a more urgent need to control sources of pollution affecting these waters.

Present indications are that the very low flushing velocities in Jervoise Bay cannot be improved by the breakwater proposals, however, the minor alteration of water circulation in Jervoise Bay is not expected to result in a significant reduction of water quality by itself, and the controls suggested to limit pollutants entering the Bay should maintain its present suitability for swimming purposes.

It is clear that the time has arrived for marine water quality criteria to be developed in Western Australia as they have been in other parts of the world. These criteria should not be developed in isolation but follow logically from the beneficial uses of the waters concerned.

Such uses of the Sound would include shipping, swimming, boating, fishing (both amateur and commercial) and industrial uses. Each of these uses will have associated with it appropriate water quality criteria, including such indicators as dissolved oxygen, bacteria, temperature, toxic substances, oils and nutrients.

The multi-purpose role of the Sound must be maintained and the establishment of water quality criteria will be one of the most important ways of achieving this objective.

The Environmental Protection Authority has established an expert committee to recommend water quality criteria appropriate to the beneficial uses to be protected. In so doing it recognises that some beneficial uses of marine waters are mutually incompatible.

This proposal will have particular significance in the light of the proposal to up-grade and make available recreation areas to the north of Woodman Point. Water quality in Owen Anchorage is generally less satisfactory than that in Cockburn Sound due to the presence of a number of industries associated with meat and fish processing which discharge effluents into the Anchorage.

Solutions to water quality problems in Owen Anchorage have been examined by Scott and Furphy, Consulting Engineers in 1970-71 and more recently by Dwyer Consoer Townsend Harris in 1978, the latter reviewing a specific proposal to run an industrial sewer southwards along the Anchorage to collect these effluents and discharge them for treatment at Woodman Point.

There are significant environmental advantages in such a proposal. A major problem in designing satisfactory individual effluent treatment plants for the industries bordering the Anchorage is the wide variation in flows which are inevitable in food processing industries. Maintenance and "good housekeeping" are also common problems. If these effluents could be mixed with the raw sewage reaching the Woodman Point plant, variations in flow would become immaterial to the treatment process because of the very large volume of sewage. Moreover the Metropolitan Water Supply, Sewerage and Drainage Board can be expected to exercise a degree of professional concern and expertise not available to a multiplicity of small industries.

There are however, serious cost implications involved in such a step and the Authority is not in a position to make such a recommendation at the present time. It is however, important to note that any major diversion of primary contact recreation from Cockburn Sound to Owen Anchorage would probably require a significant improvement in water quality and this will focus attention on the industries concerned.

The whole question of water quality in Cockburn Sound, at Woodman Point and in Owen Anchorage is the subject of on-going studies and will be reported on in greater depth at a later stage. It is however, important to highlight the increasing recreational role of Owen Anchorage which will arise from the rationalisation proposal, and the implications for the industries concerned.

In assessing the proposed increased recreational use of Owen Anchorage, the Authority was aware that the sand washing operations carried out by Cockburn Cement Ltd. could result in shell fragments and grey sand being deposited on adjacent beaches and an increase in water turbidity. The need to investigate the impact of the sand washing plant on adjacent areas is supported, and action should be taken to reduce possible conflicts with recreation to a minimum.

4.5 Relocation of Cockburn Road

The relocation of Cockburn Road is acknowledged as a requirement for direct access between the industrial estate and the activities on the foreshore. The location of the new road is acceptable in general terms and with a minor modification to its alignment, will not impinge on any area of substantial environmental value. The implications of this relocation are greater than just of local significance and would assist in the rationalisation of the road system of the whole south west corridor.

The existing alignment of Cockburn Road will be retained to provide access to both the proposed industrial estate and the coastline to the south; accordingly the proposed road should be viewed as a route for fast, through traffic and not as an entire replacement for Cockburn Road.

The Authority suggests therefore, that in order to provide an acceptable separation between the proposed road and the wetlands (Brownman Swamps), that consideration should be given to moving the road approximately 70 metres to the west.

4.6 Botanical Reserve

The proposal for the creation of a botanical reserve at Woodman Point together with the Management Programme outlined are supported. There are also other areas in this locality containing flora which warrant careful consideration during the preparation of detailed development plans for this area.

The Authority notes that the Management Programme does not discuss responsibility for either the Botanical reserve, or the balance of Woodman Point, and accordingly suggests that the Metropolitan Region Planning Authority in conjunction with the Town of Cockburn are the appropriate bodies to manage and fund the development of the Woodman Point Recreational Area.

The possible impacts on the flora of the Woodman Point Area are such that it is considered that when detailed development plans are prepared for this area, the Metropolitan Region Planning Authority should liaise with the Department of Conservation and Environment and other appropriate agencies regarding, amongst other things, the protection and management of areas containing environmentally valuable vegetation communities.

4.7 Air Pollution

The ERMP does not adequately cover the implications of air pollution from either the foreshore industries or the motor sports area. The effect of sand blasting activities in particular has not been quantified, nor was the possible modifying effect the open space buffer would have between the shipbuilding area and the fish handling facility.

The Authority is aware that sand blasting operations can have an effect over a considerable area if adequate screening of enclosures are not provided, and it considers therefore, that further studies be carried out to assess the potential problems of sand blasting and spray painting, together with dust emissions from the motor sports area. An indication of the effect of the open space buffer in reducing grit and paint spray from reaching the fish handling area is also required. If shown to be necessary, suitable modification of the management programme should be made to ameliorate the situation. A decision to proceed with the whole proposal need not await this study but it should be instituted without delay.

4.8 Open Space

The Environmental Review and Management Programme and several other studies identified the recreation and conservation value of land to the east and south of the proposed industrial estate. In particular the wetlands and tuart forest together with associated communities are of major value and should be preserved and managed in a manner commensurate with their importance. Accordingly, the Authority considers that the proposed reservation for Public Purposes (Special Uses) should be replaced with a firm commitment to protect this area for conservation and recreation purposes.

It is considered therefore, that the Metropolitan Region Scheme amendment be modified by changing the "reserve for Public Purposes" over the land to the east and south of the industrial estate, to Parks and Recreation. In addition, the wetland immediately north of this land and south of Russell Road, should be incorporated into the reserve and a concept plan be prepared by the Metropolitan Region Planning Authority for its overall management.

4.9 Historic Wrecks

The Western Australian Museum has recently carried out a survey of historic wrecks in Jervoise Bay and concluded that three of the seven wrecks located are significant and should be preserved. The four remaining wrecks contain some material of interest and this should be removed if development will affect them.

The Authority is of the opinion, therefore, that the wrecks of the Abemama, Apex and "Wreck of Stones" should be left undisturbed. If development work is proposed which would affect these wrecks then the Museum should be given adequate notification and funding to enable salvage operations to be undertaken.

4.10 Alternative Sites

The EPA noted with concern that the ERMP did not discuss alternative sites for shipbuilding facilities although this was included in the study guidelines.

The Authority therefore, requested the proponent to supply information on those other sites considered and the reasons for their rejection. This information should be available to the proponent from earlier studies. This point has already been made in Section 4.1. The Environmental evaluation of a single site chosen on economic or other non-environmental grounds may not lead to the overall best solution. As a general principle, the environmental impact of various alternatives should be considered before a final decision on siting is made.

4.11 Motor Sports Area

The proposal to re-locate a forty hectare motor sports area near Mount Brown will result in an increase in noise to the Wattleup residential area. There has been no detailed evaluation of the impact of this facility in respect of noise or dust emissions on the adjacent wetlands or residential development. The ERMP suggests, however, that a review of its acoustic impact should be made.

The Authority considers it necessary for a detailed investigation of the impact of the proposed motor sports area on the surrounding areas, to be undertaken with specific emphasis on noise and dust emissions.

The Authority is aware that studies have already commenced by the MRPA in the assessment of possible alternative sites for the motor sports area in an attempt to reduce the noise levels emanating from this activity to an absolute minimum; the Authority endorses this action.

4.12 Woodman Point and Jervoise Bay Recreation Facilities

The general concept of the developments proposed is supported, however, the ERMP has highlighted possible areas of conflict and the management programme has included recommendations to reduce these to a minimum.

The fragile nature of this area in terms of its susceptibility to degradation from public use and abuse cannot be over emphasised. Accordingly, it is advisable to commence appropriate management over this area prior to development proceeding.

Although the Management Programme covered the major aspects for the management of Woodman Point, it is considered that the preparation of more detailed management plans for this area are necessary including a timing schedule for construction and implementation of management.

The Authority notes the need to re-site several existing recreational and sporting facilities and it considers that those to be displaced by the proposed shipbuilding and oil platform construction area should be relocated prior to them being restricted by any construction works.



4.13 Management Programmes - Responsibility and Funding

The EPA notes and supports the comments made in the ERMP that it is imperative that the management programme suggested, together with additional studies are carried out and enforced. The Authority has in its recommendations identified responsibility, however, these agencies may require additional funds to implement the programmes. This requires a further undertaking by the State as part of its overall commitment to the proposal.

The Authority emphasises that the State recognise the necessity for proper management associated with the rationalisation plan in order to ameliorate the adverse impacts which would otherwise result from the development. In due course a more detailed management programme should be formulated incorporating the concepts suggested in the ERMP.

RECOMMENDATIONS

The Environmental Protection Authority recommends that :

1. providing the management programme and further work suggested in the ERMP, together with the recommendations contained in this report are accepted and implemented, no environmental objection can be seen to the proposal proceeding. The ERMP as presented should be endorsed except for those sections which should be modified as indicated.
2. information on the evaluation of alternative sites should be made public in order that the community can assess the rationale behind the selection and balance what is gained against what is lost. NEMA
3. provision should be made for a comprehensive stormwater disposal system over the shipbuilding, the oil production construction area and the industrial estate, in order to prevent any discharge of run-off into the water area enclosed by the breakwaters. The design of the disposal system should include an intercept drain in front of the foreshore construction facilities.
4. the industrial estate and marine oriented facilities should be served by deep sewerage connected to the Woodman Point Waste Water Treatment Plant and slop tanks should be provided to service all commercial and private boats.
5. the Fremantle Port Authority acting on the advice of the EPA continues to be responsible for the ongoing management of the waters of Jervoise Bay and suitable contingency and management plans should be prepared to combat pollutants within the Bay. CPI
6. water quality monitoring be undertaken and carried out under the general guidance of the Department of Conservation and Environment. In addition the monitoring of heavy metals in mussels together with investigating levels of salmonella in both the water and mussels should be included in the monitoring programme.
7. if the results of the monitoring studies indicate levels of pollutants which are unacceptable to the EPA, then action must be taken swiftly to modify the management programmes in order to improve water quality to a desired level.
8. further studies should be undertaken into the preparation of acceptable chemical, bacteriological and amenity (such as grease, turbidity, odour, and floatables, etc.) standards for water quality associated with recreation activities.
-  9. positive action to improve water quality within Owen Anchorage should be taken by the control of industrial waste discharges into it.
-  10. the action to improve water quality within Owen Anchorage should be carried out prior to the beach north of Woodman Point being made available for increased public usage.

11. the recreational facilities to be displaced by the proposed shipbuilding and oil platform construction area should be relocated prior to them being restricted by any construction works.
12. the Metropolitan Region Planning Authority in conjunction with the Town of Cockburn are considered to be the appropriate bodies to manage and fund the development of the Woodman Point Recreation Area.
13. the Metropolitan Region Scheme amendment be modified by changing the "reserve for Public Purposes" over the land to the east and south of the industrial estate to Parks and Recreation. In addition the wetland immediately north of this land and south of Russell Road should be included in the reserve and a plan prepared by the Metropolitan Region Planning Authority for its management.
14. further study should be carried out to assess the potential problem of sand blasting and spray painting from the marine industries. If shown to be necessary suitable modification of the Management Programme should be made to ameliorate the situation. A decision to proceed with the proposal need not await this study, but it should be instituted without delay.
15. detailed investigation of the impact of the proposed motor sports area on the surrounding areas should be undertaken, with specific emphasis on noise and dust emissions. If necessary the site should be relocated to minimise noise impact on the residential area of Wattleup.
16. in order to provide an acceptable separation between the proposed relocation of Cockburn Road and the wetlands, consideration should be given to moving the road approximately 70 metres to the west.
17. the wrecks of the Abemama, Apex and the "Wreck of Stones" should be left undisturbed. If development work is proposed which would affect these wrecks then the Museum should be given adequate notification and funding to enable salvage operations to be undertaken.

APCC
19/10/01

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APPENDIX 1

A REVIEW OF PUBLIC SUBMISSIONS

RECEIVED ON THE JERVOISE BAY E.R.M.P.

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1. INTRODUCTION

The Department of Conservation and Environment received nine public submissions on the ERMP. Seven objections were made to the proposal as a whole, one to particular, minor aspects and one was in full support. It is of interest to note that only three private citizens made submissions, the others being from private organisations.

Moreover, the EPA was aware that the Metropolitan Region Planning Authority received approximately 140 submissions on an Amendment to the Metropolitan Region Scheme relating to the Jervoise Bay Proposal, and that the MRPA had sought advice from the Department of Conservation and Environment on 51 of those submissions.

The EPA is represented on the MRPA, and accordingly it was acquainted with the content of submissions to that authority, the majority of which reflected a genuine concern for the future of Cockburn Sound (including Jervoise Bay) and its use and availability for recreational purposes.

The Jervoise Bay proposal was viewed by many objectors against a history of industrial developments on the shores of the Sound, the impact that these developments have had on water and air quality, the reduction in recreational opportunities, and most particularly on the lack of a genuine Government commitment to manage the Sound for multi-purpose use by the community. The objectors' concern appeared to be based not so much on the proposal itself, but rather on what is seen as a reckless attitude that the Sound can look after itself, despite what happens about its shores and what is discharged into it, and that this same situation will inevitably get worse if the Jervoise Bay proposal is implemented.

The need for a clear undertaking by the Government to carry out and enforce the monitoring and management suggested in the ERMP was strongly urged in many submissions.

The small number of objections made to the EPA compared to the MRPA on environmental issues appears to reflect a recognition by the public that the statutory Metropolitan Region Scheme amendment procedure, with its right to a public hearing offers a better avenue for public expression of concern, than the written submissions sought by the EPA.

Despite the small number of submissions to the EPA, several were of high standard and presented logical and well developed arguments.

2. PUBLIC REVIEW OF THE ENVIRONMENTAL CONTENT OF THE JERVOISE BAY E.R.M.P.

A review of the submissions has revealed ten major areas of concern, many of which were reiterated by several objectors. A detailed breakdown of issues raised is shown in Table 1 on page 25.

2.1 Increased Industrialisation of Cockburn Sound and a Reduction in Recreation Area.

This aspect appears to be the basis for much of the opposition to this proposal. The public perceive the need to preserve recreation areas as the major limiting factor to industrial expansion in this area. Examples of the impact of heavy industry are constantly raised.

The availability of safe, sheltered waters and associated coastline, in Western Australia is extremely limited, especially in proximity to the metropolitan populations. The need to preserve this scarce resource thus takes on an importance over and above the impact of the proposal on its immediate environs.

2. (Cont'd)

2.2 Re-location of Cockburn Road

Opposition to this aspect of the proposal was not universal, and related to :

- . The loss of a coastal scenic drive and its replacement by an inland route.
- . The absolute need to re-locate the road in terms other than industrial convenience.
- . The impact of the new road on native vegetation and the Wattleup swamps.

2.3 Water Circulation

Several submissions considered that due to the lack of information on the circulation pattern and current velocities within Jervoise Bay, a decision on the proposal should be deferred until the requisite studies had been undertaken.

The effect of the breakwaters on the circulation and degree of exchange should be known. It was suggested that pollution would not be flushed from the Bay, resulting in a deterioration of water quality.

2.4 Air Pollution

Concern was held that air pollution from the ship-building facility would adversely affect the fish handling area as the open space buffer would be ineffective.

Air pollution would also affect the Woodman Point Recreation Area and the hinterland east of the industrial estate. In addition no data were produced to prove the spatial arrangements of the proposals were satisfactory in relation to air pollution, especially in terms of grit from sand-blasting and from the motor sports area.

2.5 Reservation of land for Public Purposes

The reservation of land identified in the ERMP as having value for conservation and recreation uses should be reserved for Parks and Recreation and not Public Purposes.

Under the Metropolitan Region Scheme, the Public Purposes reserve does not have defined uses and could in fact be used for almost any purpose.

In addition, the limestone ridge identified within the industrial estate as in need of preservation should also be reserved as Parks and Recreation to ensure its integrity and long term retention.

2. (Cont'd)

2.6 Historic Wrecks

Jervoise Bay was used as a ships' graveyard, several historically important wrecks lie in an area where they will be affected by the proposal. These wrecks, or those of them considered by the W.A. Museum to be of value should receive a high priority in the management programme.

One submission also pointed out the possible conflict between the sand cleaning operations of Cockburn Cement and the wreck of the "James Mathews" north of the Woodman Point.

2.7 Water Quality in Jervoise Bay

Several submissions drew attention to this matter, both directly and as it relates to water circulation. Concern was expressed that deterioration of water quality would result from the proposal and that the use of Jervoise Bay for recreation would be severely affected.

Statements were also made regarding the existing water quality and the change that was noticeable in recent years in terms of reduced marine life, and the disappearance of sea grass beds.

2.8 Botanical Reserves

The protection of flora by way of the creation of new reserves was a common requirement of several of the submissions. The value of vegetation at Woodman Point, and Wattleup swamps together with the heath and tuart areas was highlighted. The need for careful management in order that these areas are not degraded was expressed.

Some disagreement existed with the botanical evaluation in the E.R.M.P. and recommendations were made to overcome the deficiencies seen.

2.9 A Class Reserve 24309

The loss of some of this reserve for industry was criticised and various suggestions made to overcome this aspect of the proposal.

The amount of foreshore land already utilised by industry in Cockburn Sound and the need to preserve the remainder was highlighted in several objections.

2. (Cont'd)

2.10 Two submissions commented on the need for responsibility to be stated for the management programmes, that additional funds would need to be found for them and that there must be an undertaking that they will be adhered to. Should any major modifications be made to the programmes, the public should be advised as to the reasons why.

2.11 Public Enquiry

One submission suggested the need for a public enquiry to be held into the development of Cockburn Sound as a whole and that more public involvement in the decision-making process was necessary.

3. TECHNICAL INADEQUACIES OF THE ERMP

Several submissions criticised the ERMP claiming technical inadequacies including such aspects as :

- . No assessment of alternative sites for the proposal.
- . The short period of time within which the document was prepared.
- . Poor quality and lack of data concerning certain aspects.
- . No evaluation of the proposal in terms of a cost/benefit analysis.

TABLE 1

PUBLIC SUBMISSIONS - JERVOISE BAY RATIONALISATION -
DETAILED BREAKDOWN

Submission No.	1	2	3	4	5	6	7	8	9	TOTAL
Industrialisation of Cockburn Sound	X	X	X			X				4
Preserve Recreation Areas	X	X	X						X	4
Monitoring								X		1
Water Quality		X				X		X	X	4
Water Circulation				X				X		2
Air Pollution				X		X			X	3
Relocation of Cockburn Road				X	X					2
Reserve land for Parks and Recreation				X						1
A Class Reserve 24309				X						1
Alternative Sites				X		X				2
Cost/Benefit Analysis				X		X		X		3
Motor Sports Area					X					1
Flora					X			X		2
Management						X		X		2
Relationship with Cockburn Sound						X		X		2
Public Participation						X		X		2
Historic Wrecks						X		X		2
Availability of ERMP								X		1
Lack of Data				X		X		X		3
Public Enquiry								X		1

APPENDIX II

SUMMARIES OF THE STATE GOVERNMENT
DEPARTMENTAL SUBMISSIONS

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1. DEPARTMENT OF AGRICULTURE

(a) W.A. MEAT COMMISSION

Piping of Owen Anchorage effluents to Woodman Point Treatment Plant

The Department has indicated problems with this option in terms of overall and contributory costs and in regard to the water becoming septic due to the distance involved.

(b) WESTERN AUSTRALIAN HERBARIUM

1. Management

The management proposals for the proposed botanical reserve at Woodman Point are too superficial and general.

2. Botanical Reserve at Woodman Point

The value of the vegetation in the proposed reserve is overstated in the report and does not warrant the restrictions on public usage suggested. Accordingly the whole of Woodman Point area should be used for recreation but special care and restricted access should be applicable to two areas of the best stands of Callitris preissii.

3. Coastal Heath and Wetlands

A botanical reserve incorporating portion of Reserve 24309, the coastal limestone ridge and the Wattleup wetlands should be created and the industrial estate located elsewhere.

4. Management of Coastal Heath and Wetlands

A management plan for this area be prepared together with a sequence of implementation. The plan should include restriction of pedestrian and vehicular access, fire control and management, sign posting, paths, buildings and other structures.

(c) SOIL CONSERVATION SERVICE

1. Areas of Erosion

Some areas with erosion problems were omitted from the ERMP.

2. Stabilization

There is little reference to methods and techniques which should be utilized now and alternatives discussed for specific problem areas.

3. Management

Following stabilization, there is a need for continuing management, the report accepts this but does not address such questions as funding, responsibility and overall direction. Options for management are not investigated nor identified.

2. DEPARTMENT OF INDUSTRIAL DEVELOPMENT

2.1 Piping of Owen Anchorage effluents to Woodman Point Treatment Plant

This proposal is only one of several options available for improving the quality of Owen Anchorage effluents presently discharging into the sea. The Environmental Review and Management Programme has not discussed other options for collection and treatment of industrial waste from this area.

2.2 Water quality at Coogee Beach

Whilst there is evidence of bacterial contamination of the water at Coogee there has been no demonstrated health risk and thus the need to 'clean up Owen Anchorage effluent' is unsubstantiated.

3. SYSTEM 6 STUDY

3.1 Woodman Point Botanical Reserve

The proposed botanical reserve located on Woodman Point does not include all areas of significant botanical value and should be modified accordingly. Management of this area especially in terms of fire control is most important.

3.2 Areas outside botanical reserve

Other areas of botanical value within the recreation complex but outside the proposed reserve should be protected, and the detailed development plans that will eventuate based on the concept below, should reflect this.

3.3 Record of vegetation

Because of the value of existing vegetation and the inevitable pressure that it will be subject to in the future, a comprehensive photographic record and detailed botanical descriptions should be carried out covering two seasons prior to any development work being undertaken.

4. DEPARTMENT OF MINES

4.1 Groundwater Resources

No mention is made in the ERMP of the groundwater resources of the area, their current usage or the likely impact of development on them.

5. WESTERN AUSTRALIAN MUSEUM

5.1 Historic wrecks

Of the 7 wrecks in Jervoise Bay, three should be left undisturbed (Abemama, Apex and "Wreck of Stones"). Of the four remaining sites, the Museum, should be notified of any development work which may effect them to enable removal of artifacts.

If development work is proposed which would affect the three wrecks to be preserved then liaison with the Museum must be established and adequate time and funding allowed for, to enable salvage operations to be undertaken.

6. MAIN ROADS DEPARTMENT

6.1 Need to relocate Cockburn Road

The Department considers that upgrading of the existing Cockburn Road would be a better economic and environmental proposal than the realignment. If however, it is shown for industrial requirements that the realignment is necessary then the proponent will need to accept the responsibility for the provision of land for the road.

6.2 Location of new road

If the re-location is necessary, the suggested route could be modified to deviate westwards slightly, to provide greater clearance from the adjacent wetlands.

7. METROPOLITAN WATER SUPPLY, SEWERAGE AND DRAINAGE BOARD

7.1 The Board is opposed to the location of a restaurant on Woodman Point as that land is required as a launching area for ocean outfalls.