

MANAGEMENT OF THE BOTANY BAY ENVIRONMENT.

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INTRODUCTION.

This paper discusses the environmental management process for Botany Bay, in particular:

- keys to effective environmental management;
- the effectiveness of the 1982 Water Resource Management Plan
- future management of the Bay
- current EPA action

KEYS TO EFFECTIVE ENVIRONMENTAL MANAGEMENT.

Effective environmental management does not just happen, but requires a systematic approach that will include:

- integrated planning
- clear accountabilities
- coordinated action
- performance review

These "keys" are used in this paper to evaluate the management process.

THE 1982 PLAN.

The 1982 Water Resource Management Plan was one step in a longer process.

Environmental Control Study

This study of the Bay and its tributaries was commenced in 1975 by the State Pollution Control Commission (SPCC). During the period 1978-83 24 technical reports were completed, covering a wide range of aspects of the bay environment, from water quality and biology to recreation and landscape aspects.

In 1980 a summary report was prepared for public discussion, culminating in the preparation of the actual management plan in 1982.

Water Resource Management Plan.

The Plan included a summary of findings for Botany Bay, Georges River and Cooks River and 43 recommendations: 24 for Botany Bay, 15 for Georges River and 4 for Cooks River.

Using the categories in the original plan, the recommendations related to the following areas:

Prevention & control of oil spills	2
Foreshore management:	
- recreation & conservation	27
- erosion & stability control	4
Conservation of biological resources	6
Fisheries Management	2
Relocation of sewer discharges	2

Thus not all of the recommendations related to environmental protection, but many dealt with recreational, heritage or landscape design issues.

There was, however, no coordinated mechanism for achievement of the recommendations. It was envisaged that the plan would be implemented by "the Government's influence in planning the use and development of land areas, and by the continuing administration of its powers under the State's Pollution Control Acts. Equally important will be the influence of local government bodies and their acceptance of the spirit and recommendations of the Plan".

Progress Reports.

Progress reports were prepared in 1985 & 1988, when 31 of the recommendations were reported as having been completed.

During a further (unpublished) review in 1992/3, progress on the remaining 12 recommendations was small:

- 1 more recommendation complete,
- 7 partially complete or in progress,
- 4 remained uncompleted.

In addition 9 significant new issues were identified.

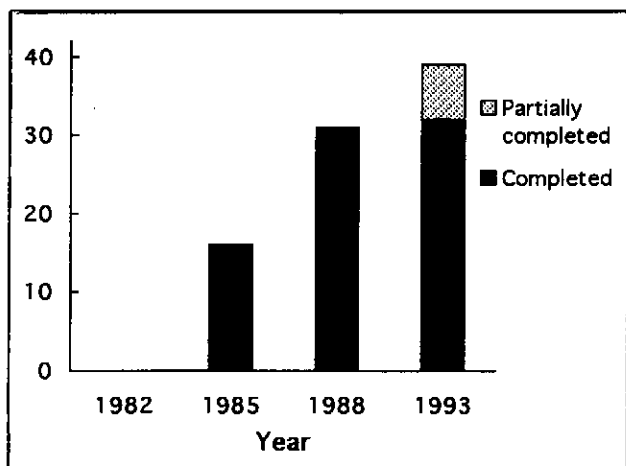


Figure 1: Achievement of recommendations

DISCUSSION.

Assessment of achievements.

Overall progress on recommendations is shown at Fig 1. However the apparent success of the Plan should be moderated by the following considerations:

- Some recommendations recorded as complete may still require further work. For example, a number of the recommendations refer to the preparation of plans which will lead to environmental improvement, but it is not certain that all of these plans were, or continue to be, implemented effectively.
- Physical processes are dynamic, and development (e.g. the third runway) disturbs the dynamic equilibrium, perhaps necessitating reconsideration of some issues. This has occurred in the FAC Management Plan, but that process has some drawbacks (see section 5).
- Ideas on environmental issues have changed in 13 years, and the priority and actions for some issues would perhaps be assessed differently today.
- New issues have arisen (see Section 6) and new management processes may be needed.

Assessment of process.

The following discussion is based on the 4 keys to effective environmental management mentioned above.

Planning.

The Management Plan appears to have been well based, with 24 detailed studies being available. However it may be that better integration of the information could lead to more integrated solutions.

Accountabilities.

Responsibility for actions to complete the recommendations was clearly defined, but commitment of these organisations was not necessarily obtained.

Coordination.

Because of the lack of any coordinating agency with powers and resources, progress depended on the commitment and resources of each responsible agency, often a local council. It is to the credit of these agencies that so much was achieved, but nevertheless it is not surprising that some items remained outstanding.

Review.

As discussed in the previous Section, while most of the recommendations are reported to have been completed, more work is still required. More regular review of progress and environmental outcomes, say annually, would improve the process.

FAC MANAGEMENT PLAN.

The FAC developed a Botany Bay Environmental Management Plan via a Management Committee in 1992 (Stage 1) and 1994 (Stage 2), principally to deal with the possible impacts of construction of the third runway. While the EPA has been involved in its development, it did not have jurisdiction over the project.

This plan does not consider all Botany Bay issues, and the EPA (along with other agencies) is not strongly involved in its implementation.

Thus, while the FAC Plan has made an extremely useful contribution to the environmental management of Botany Bay, it cannot, nor should it, be viewed as an effective sequel to the 1982 plan.

FUTURE MANAGEMENT.

Issues recognised, or having increased importance, since the 1982 Plan include:

- the impacts of shipping, e.g. contaminated ballast water, antifouling paints, marinas and disposal of wastes from recreational vessels;
- the impacts of industry, mostly the legacy of bad practices in the past but still having an impact via contamination of land or sediments (e.g. Penrhyn Estuary, Alexandra Canal);
- continuing poor water quality due to:
 - sewer overflows (especially in the lower Cooks River) leading to unhealthy swimming conditions,
 - development in the upper Georges River and consequent erosion of sediment and other materials into the waterway, and
 - litter and other results of human activity across the catchments;
- preservation of ecosystems e.g. Rockdale and Botany wetlands, bird and fish habitats;
- protection of the Botany Aquifer;
- continued erosion of Lady Robinsons Beach.

Preparation of a new, integrated plan appears necessary; this time it should include the means for obtaining commitment and coordinated action by all parties within a given timeframe.

It is therefore considered that it is timely to reconsider the application of TCM principles to the Botany Bay environment, to provide a greater level of coordination. Options include:

- a Catchment Management Trust for the whole Bay catchment;

- a Catchment Management Committee for the Bay and foreshores;
- a Botany Bay coordination group.

CURRENT EPA ACTION.

The EPA does not directly manage the Bay's environment, but has an interest and role in a number of areas:

Regulation of industry.

The number of premises licensed to discharge to waters in the Botany Bay catchment has reduced significantly since the Clean Waters Act was enacted in 1972, as is shown in Fig 2. The amounts of pollutants have been reduced by even greater amounts; information on two of these is presented in Fig 3.

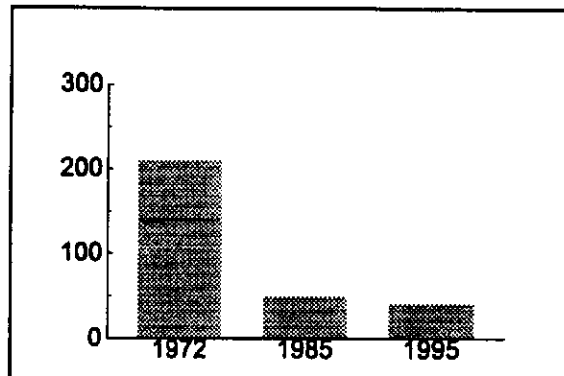


Figure 2: Number of licensed discharges in Botany Bay catchment

Some particular emphases in recent EPA work have been:

- regulation of existing industry around Botany and planning for new industrial and port developments,
- Caltex refinery audit & evaluation leading to a \$25M Pollution Reduction Program and a groundwater monitoring program.

Catchment Management.

The EPA recognises that regulation of industry, while necessary in itself, is addressing a smaller and smaller percentage of environmental problems as industry performance continues to improve. Other means of environmental protection must be

used, and catchment management is an important one of these.

EPA involvement has included:

- active involvement in the Georges River and Cooks River Catchment Management Committees,
- assistance to the former Botany Wetlands Ministerial Task Force,

- a lead role in the Centennial Park Stormwater Task Force,
- commencement of a project to develop a management plan for the Botany Aquifer.

All of these activities aimed to provide better environmental management for sections of the Botany Bay catchment.

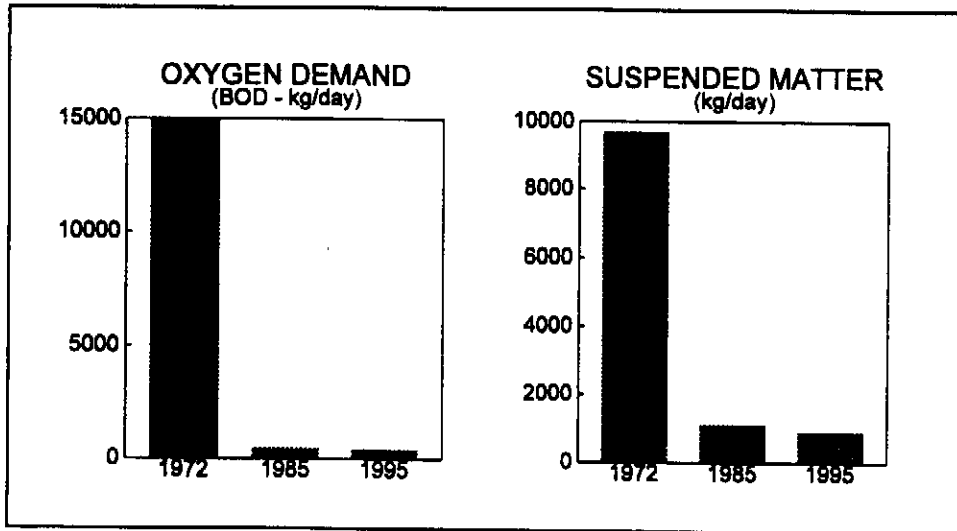


Figure 3: Amounts of materials licensed to be discharged into Botany Bay catchment.