

INTRODUCTION TO THE BOTANY BAY SYMPOSIUM

P. Adam

School of Biological Science, University of NSW
Sydney NSW, 2052.

Botany Bay has an important place in the cultural history of both Europe and Australia. In the history of science, discoveries at Botany Bay played a major part in the development of understanding of what we would now call biodiversity.

The naming of the Bay by Captain Cook reflected the floristic diversity of the heaths and sclerophyll woodlands of the Kurnell Peninsula, but this was the second choice of name after the original thought of Stingray Bay which acknowledged the abundance of large stingrays present in the Bay in 1770.

The richness of the collections with which Sir Joseph Banks returned to England excited great interest, and perhaps led to unrealistic expectations of the agricultural potential of the prospective colony. The collections, although not the first Australia specimens to reach Europe, formed a basis for taxonomic work so that Botany Bay is the type locality for many species. As most of these can still be found in the area today, the Bay is an important reference point for taxonomic studies.

Captain Phillip, when he arrived with the First Fleet, was less than impressed with Botany Bay and rapidly relocated to Sydney Cove.

With the growth of Sydney, Botany Bay became the backyard of the colony, the site for a range of industrial activities (Mahony 1979).

The Botany Bay region continues to be a major industrial centre, a residential area, and a major amenity and recreational resource. The pressure from development is widely seen as a threat to the maintenance of its natural values.

Such concerns are not new, and fears for the survival of the Bay's environment date back to the last century. By the 1970s public concern was widespread and prompted the State Pollution Control

Commission (SPCC - the forerunner of the Environment Protection Authority) to prepare an extensive series of reports on various aspects of the Bay's environment. This Environmental Control Study resulted in a series of recommendations for the ongoing management and environmental improvement of the Bay (SPCC 1980, 1982).

Since 1980, further development has occurred in the Bay and its catchment, most notably the construction of the third runway at Kingsford Smith airport, while further expansion of Port Botany is anticipated.

Each major new development is claimed by some to be the final nail in the coffin of the Bay's environment. It is argued by some that the loss of the Bay's environmental values is the inevitable price of progress, and by others that considerable environmental value can be maintained provided the necessary management is instituted. Which, if either, view is correct?

It might be expected that with more than 200 years of scientific study, the close proximity of major teaching and research institutions, the SPCC's Environmental Control Study, and the Third Runway EIS and subsequent studies, assessing the impacts of Europeans on Botany Bay and determining the present state of the environment would be a relatively easy task. Nothing could be further from the truth.

As McGuinness (1988) has demonstrated, many of the scientific studies carried out in Botany Bay have suffered serious flaws in design, execution, analysis and interpretation. In consequence, there is uncertainty as to the nature of changes which may have occurred and considerable difficulty in identifying the cause of change. Some changes are easily recognised; substantial areas have been filled in (a more honest expression than 'reclaimed') for port and airport development, the shape of the shoreline has been altered and fringing

natural communities replaced by industrial and residential areas. However, it is less easy to determine whether species have become extinct (locally or otherwise), whether fish communities have changed, or whether the benthos is different from that in 1770. Even if a change could be demonstrated, it is difficult to determine whether it is due to human agency, and if so what particular one; many statements about human impacts being based on assertion and gut feelings rather than data.

The Coast and Wetlands Society Inc has had a long involvement with Botany Bay, having originated as the NSW chapter of the Australian Littoral Society, which carried out a major study of Towra Point (ALS 1977). The Society has maintained a keen interest in Towra Point, but has also been active in commenting upon other issues related to Botany Bay.

The development of the third runway aroused considerably controversy, and served to focus public attention on the state of the environment of Botany Bay. At the same time there has been widely expressed dissatisfaction with the mechanisms for the management of the coastal zone in general. Numerous inquiries have suggested that the major impediment to coastal management is the lack of coordination between competing agencies. Botany Bay is an area where many different agencies, at all levels of government, have management responsibility.

It seemed an appropriate time therefore to organise a symposium on Botany Bay which could explore whether the management regimes currently in place would lead to effective protection of the Bay's environmental values.

Botany Bay provides the venue for economic activity vital to the State and the nation. It supports important commercial and recreational fisheries, is an important centre for recreation, and is a vital amenity to the many thousands who live in its vicinity. Botany Bay is a most significant place in our cultural heritage - both for Aborigines and newer settlers.

Towra Point, on the southern shore of Botany Bay, is recognised as a wetland of international significance under the Ramsar

Convention. The Towra Point Nature Reserve and contiguous Aquatic Reserve, and the Botany Bay National Park (covering the northern and southern heads of the Bay) protect areas recognised as being of high conservation value. As a coastal landscape feature, Botany Bay is unusual in New South Wales, being one of very few sheltered embayments.

The juxtaposition of intensive industrial use, dense residential areas and environmental features of high conservation value is not unique, many of the world's major cities are situated on the coast and conflicts between the protection of the environment and the promotion of commercial activity are numerous. With the current, and historically unprecedented, urbanisation of the world's population, more conflicts can be expected in the future. The management problems we face in Botany Bay are being tackled in many other localities - we have the opportunity both to learn from others and to contribute experience and expertise to global environmental management.

Experience elsewhere gives the lie to those Jeremiahs who proclaim the death of Botany Bay. Estuarine habitats much more degraded than those of Botany Bay have shown recovery when sufficient resources have been devoted to rehabilitation and management. A classic example is provided by the return of a diversity of fish to the River Thames (Wheeler 1979) in the 1970s following a major reduction in pollution. Nevertheless, the fact that estuarine ecosystems have displayed remarkable resilience is no excuse for not taking action to reduce degradation.

The Symposium did not provide a review of knowledge of all aspects of the environment of Botany Bay. This would be a major, but very worthwhile undertaking. McGuinness (1988) provides an overview of research which had been carried out in Botany Bay, more studies could now be cited. Nor are all relevant management issues discussed, but an indication of some of the mechanisms by which management is implemented is provided.

REFERENCES

- Australian Littoral Society. (1977) *An investigation of management options for Towra Point, Botany Bay*. Report to the Australian National Parks and Wildlife Service.
- McGuinness, K.A. (1988). *The ecology of Botany Bay and the effects of man's activities: a critical synthesis*. Institute of Marine Ecology, University of Sydney.
- Mahoney, D. (1979). *Botany Bay. Environment under stress*. Charden Publications, Sydney
- S.P.C.C. (1980). *Environmental Control Study of Botany Bay. Summary Report*. S.P.C.C., Sydney.
- S.P.C.C. (1982). *Environmental Control Study of Botany Bay. Water-Resource Management Plan for Botany Bay and its Tributaries*. S.P.C.C., Sydney.
- Wheeler, A. (1979). *The tidal Thames. The history of a river and its fishes*. Routledge & Kegan Paul, London.