

PLANNING FOR THE CATCHMENT OF BOTANY BAY

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ABSTRACT

The deterioration of estuarine and freshwater ecosystems in developed areas such as Sydney is acknowledged at each level of government and by water managers and academia in Australia and is recognised as a major problem by the broader community. The key factors in the deterioration include development, a lack of strategic planning, loss of habitat, fisheries activities, shipping, sewage waste and urban runoff.

The Bay is subject to many legislative and planning requirements from State Government agencies and local councils with responsibility for the waters and land within the catchment of Botany Bay. This maze of requirements, conditions and guidelines for encouraging better water resource and land use management practices is complex and often leads to a poor response to the challenge confronting under-resourced local coastal managers such as local government. Local government is however slowly taking up the challenge and members of the Sydney Coastal Councils Group in the catchments draining to Botany Bay are involved in numerous measures to protect and enhance it.

The marine environment within Botany Bay continues to be under threat from both catchment and marine activities. The key stakeholders are not in control of the numerous sources of that threat. There are many issues and problems competing for scarce resources that must be divided amongst the numerous managers of the Bay. An effective regional strategic planning approach applied to the existing planning system in NSW is an option worth considering. Short, medium and long term actions need to be developed to deliver sustainable management practices that will protect and enhance Botany Bay.

INTRODUCTION

The paper will identify the existing public planning and environmental management framework that directly effects the catchment of Botany Bay and determines the responsibilities of local government. The paper will provide a brief description of the Sydney Coastal Councils Group, present key issues and problems for Botany Bay, consider relevant planning guidelines, instruments and studies, provide examples of management activities undertaken by local councils and outlines an option for improved coastal management at the regional level in New South Wales.

What is the Sydney Coastal Councils Group?

The Sydney Coastal Councils (SCCs) Group was formed in 1989 and consists of 15 councils with harbour and sea foreshores in Sydney. They are Botany, Leichhardt, Manly, Mosman, North Sydney, Pittwater, Randwick, Rockdale, South Sydney, Sutherland, Sydney, Warringah, Waverley, Willoughby and Woollahra (Figure 1). The Group has adopted a four year *Forward Plan 1994-1998* (SCCs Group 1994). Through it the Group is promoting cooperation between, and coordination of actions by member councils concerning the sustainable management of the urban coastal environment. The member councils adjacent to Botany Bay are Botany, Randwick, Rockdale, South Sydney and Sutherland (Figure 2).

The Group has been active in developing a consistent approach to the management of stormwater on a catchment basis. Several documents concerning stormwater management have been prepared to guide member councils. The Group has begun an important phase in stormwater pollution

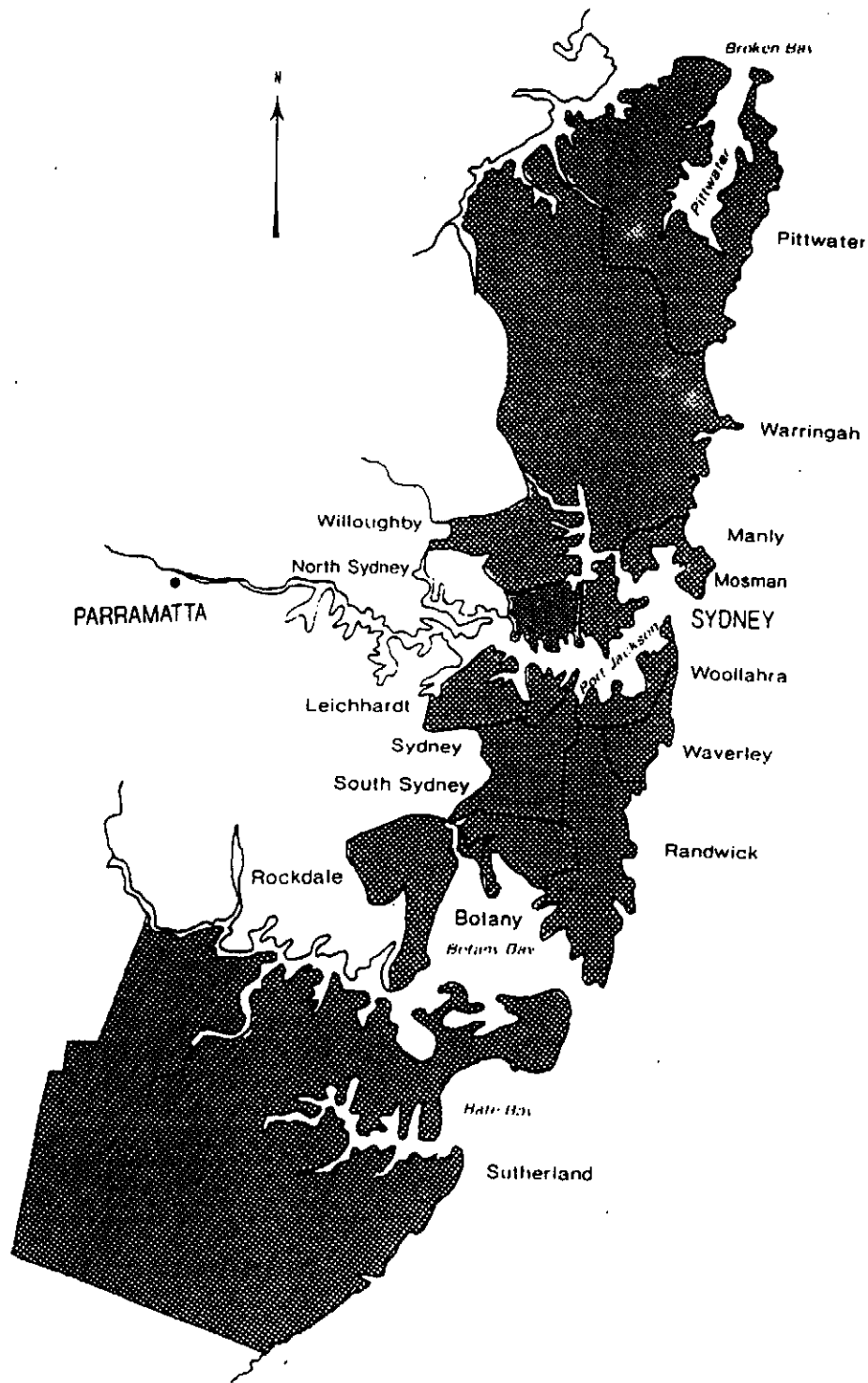


Figure 1: Location of member councils of the Sydney Coastal Councils Group

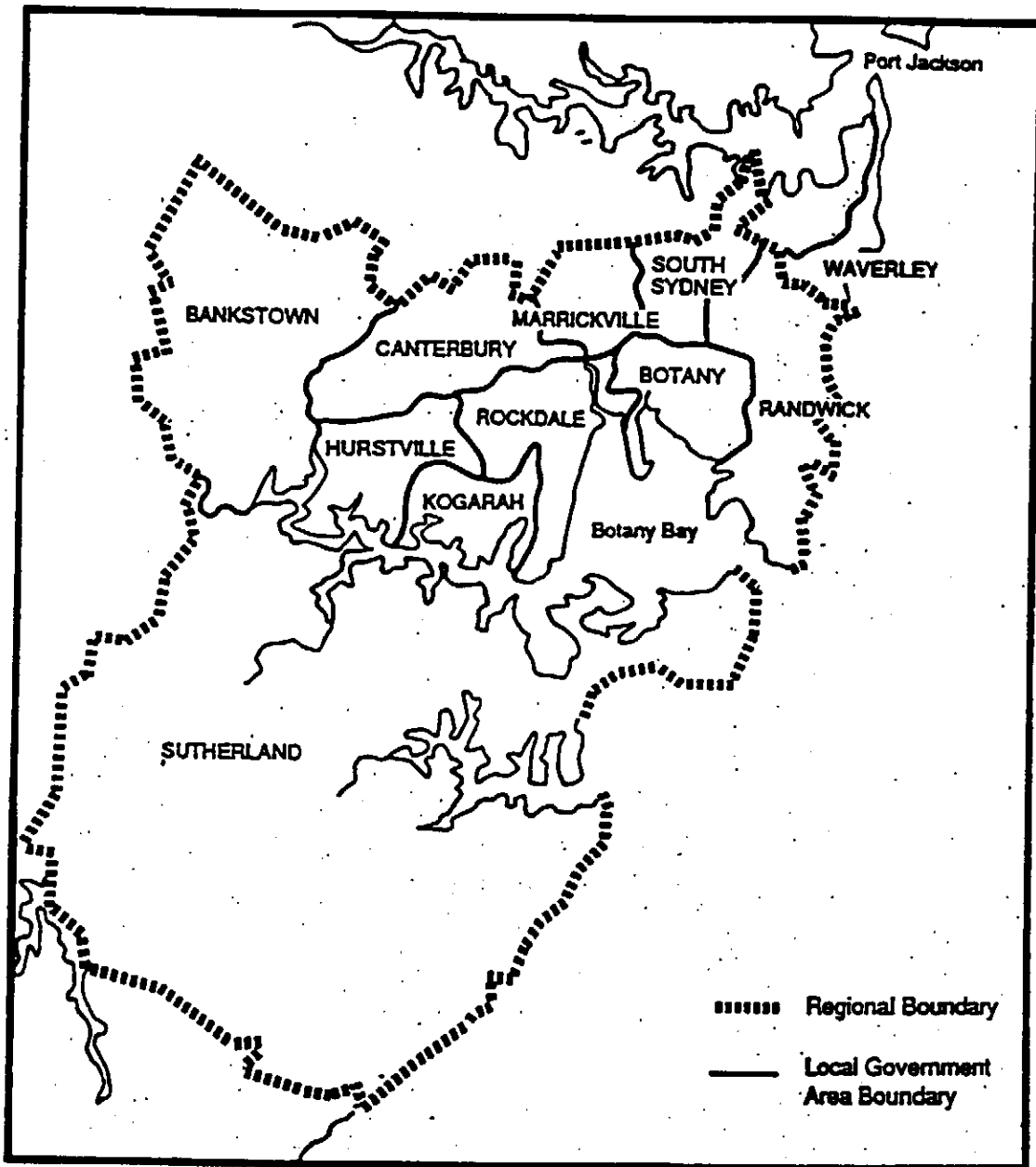


Figure 2: The Botany Bay Region (from Department of Planning 1992)

control by focusing on the implement of these guidelines. Other issues being addressed include strategic coastal planning; sewage treatment, disposal and reuse; protection of intertidal areas; water pollution issues and regional cooperation.

Key issues and problems for Botany Bay

The coastal environment of NSW is a dynamic and important system where approximately 80% of the State's population live and work (Standing Committee on State Development 1992; Coastal Committee of

NSW 1994). It should be protected and rehabilitated, and sustainable management practices implemented to eliminate and minimise the adverse impacts of human activities on the environment (e.g. strategic planning and stewardship by the local community). Catchment and marine based activities that may cause a decline in water quality in Botany Bay are well documented (Cullen 1982; Cocks and Crossland 1991; ABS 1992; Coastal Committee of NSW 1993, 1994, unpublished; OECD 1993; RAC 1993a, b, c; EPA 1994; SOMER 1995). They include:

- Urban runoff and stormwater (e.g. sedimentation & raised nutrient levels),
- Sewage waste (e.g. overflows & aging infrastructure),
- Unustainable development (e.g. minimal erosion and sedimentation measures & inappropriate planning),
- Loss of habitat (e.g. sea grass beds, mangrove & wetlands),
- Shipping & fisheries activities,
- Little focused regional and strategic planning for the catchment.

These types of pressures on the Bay continue despite all good intentions by government organisations. We need to review and alter any existing and proposed activities that may not be sustainable at a regional level in a cooperative and coordinated manner.

PLANNING ACTIVITIES IN THE BOTANY BAY CATCHMENT

Responsible organisations for coastal areas

Administrative arrangements for managing the resources of the coast are complex with many government authorities, local area committees of management, industries and other stakeholders involved.

Australia's federal system allows the Commonwealth Government to enact laws for those matters listed in the Constitution (e.g. *Constitution Act 1900*, section 51 (vii, x and xxix)). Those matters not listed fall under the responsibility of the states and

territories. Local Government powers are conferred by state legislatures (RAC 1993a). The State Governments have devolved most of the day to day management of land to local governments (State Committee on State Development 1989, 1991 & 1992; TASQUE 1992 and Coastal Committee of NSW 1994).

Local governments have the overall responsibility for coastal development on private land and council owned, controlled and managed land. They also have been given powers to enforce state pollution and public health regulations (RAC 1993a and 1993c). The other spheres of government rely primarily on regulatory mechanisms, and to a lesser extent on financial and economic instruments (e.g. tied grants and taxes) to control activities on private land. Legislation provides the framework for the allocation, use and management of coastal resources (RAC 1993a & 1993c).

Existing planning and management practices

Local communities, through their actions, are responsible for the condition of the local environment. Governments have taken on a large portion of the responsibilities for managing aquatic and land based resources. Local government, as a local coastal manager, has an important role to play (Gilmour 1988; TASQUE 1993; Coastal Committee of NSW 1994; Graham 1994). New South Wales legislation, planning instruments and guidelines encroach and impact on the responsibilities of local councils for environmental management in coastal areas - provides a case in point. Figure 2 shows the region covered by the State Government's *Policy Guidelines for Botany Bay (1992)*. Table 1 lists NSW legislation that impacts on the functions of local government. Table 2 lists some key examples of regional planning documents for Botany Bay. The Appendix also provides key examples of local planning documents and a brief summary of land uses and population sizes for several of the councils adjacent to the Bay.

Local councils in New South Wales are required to prepare many types of

management plans in coastal areas to satisfy state government requirements and statutory obligations (LGA 1993). Some key plans prepared and implemented by local councils are environmental and conservation, floodplain, estuary, coastal hazards, lagoon, foreshore reserve and bushland management plans. Councils are also involved in the preparation of catchment management plans with community based catchment management committees.

There are no principal guidelines for coordinating these plans and ensuring that the separate goals and objectives are consistent with each other (e.g. lagoon, catchment, estuarine and coastal management plans). The examples listed in Table 2 and the Appendix demonstrate the numerous plans designed for separate resource problems and activities in NSW and the Botany Bay region that are not necessarily coordinated at the local level. Valuable resources may be duplicated or wasted, and at the worst the objectives of individual plans may be at cross purposes. Implementation of each of these existing plans requires allocation of valuable resources (human and financial) by local councils (often with state and federal funding assistance), and can be complex and time consuming.

This situation is beginning to alter with several State Government agencies (e.g. Department of Urban Affairs and Planning with regional planning committees and Department of Land Management and Water Conservation with catchment and estuary management committees) taking a leading role in coordination of management committees. Local Government management practices are beginning to address key problems for the Bay, including sediment controls for developments, stricter enforcement of pollution regulations, catchment based planning, installation of stormwater pollution controls and conservation of biodiversity of species through protection and rehabilitation of habitats. Examples of management activities undertaken by councils adjacent to the foreshores of Botany Bay are listed in Table 3.

Table 1: NSW legislation impacting on the environmental functions of local government.

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|------------------------------------------------------------------------|
| <i>Bush Fires Act 1949</i> |
| <i>Catchment Management Act 1989</i> |
| <i>Clean Air Act 1961</i> |
| <i>Clean Waters Act 1970</i> |
| <i>Coastal Protection Act 1979</i> |
| <i>Dangerous Goods Act 1975</i> |
| <i>Dog Act 1966</i> |
| <i>Environmentally Hazardous Chemicals Act 1985</i> |
| <i>Threatened Species Conservation Act 1995</i> |
| <i>Environmental Offences & Penalties Act 1989</i> |
| <i>Environmental Planning & Assessment Act 1979 and Regulation</i> |
| <i>Fisheries Management Act 1994</i> |
| <i>Fire Brigades Act 1989</i> |
| <i>Heritage Act 1977</i> |
| <i>Local Government Act 1993</i> |
| <i>National Parks and Wildlife Act 1974</i> |
| <i>Noise Control Act 1975</i> |
| <i>Ozone Protection Act 1989</i> |
| <i>Pollution Control Act 1975</i> |
| <i>Public Health Act 1991</i> |
| <i>Recreation Vehicles Act 1983</i> |
| <i>Roads Act 1993</i> |
| <i>Soil Conservation Act 1938</i> |
| <i>Waste Disposal Act 1970</i> |
| <i>Unhealthy Building Land Act 1990</i> |

(after Bates 1992)

AN OPTION FOR BETTER COORDINATION AND STRATEGIC PLANNING

It is argued that a simpler system for management of coastal areas is required. A regional study for coastal Sydney has been developed to trial, and assist in implementing the recommendations of the Resource Assessment Commission Coastal Zone Inquiry Final Report and to take account of the recommendations of the Coastal Committee of NSW in the revised Coastal Policy for NSW (SCCs Group 1995).

Principal aim

The aim of the Project is to protect and conserve terrestrial and marine ecosystems in the study area, and to manage the social and economic conditions to achieve this, through

Table 2: Examples of regional planning documents

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- *Cities for the 21st Century* (Dept Urban Affairs & Planning 1995)
 - *Urban Stormwater Management Model Policies and Guidelines* (SCCs Group 1995)
 - *Integrated Traffic Strategies for Greater Sydney* (NSW Department of Transport 1993)
 - *A Greenhouse Strategy for the Southern Sydney Region* (SSROC 1992)
 - *Botany Bay Regional Policy Guidelines* (Dept Planning 1992)
 - *Kurnell Peninsula Sydney REP I 7* (Dept Planning 1989)
 - *Eastern Beaches Sydney REP 14* (Dept of Environment & Planning 1987)
 - *Eastern Beaches. Design and Management Guidelines* (Dept of Environment & Planning 1987)
 - *Open Space in the Sydney Region* (Dept Planning 1985)
 - Numerous State Environmental Planning Policies and guidelines (e.g. SEPP 19 Bushland in Urban Areas; Energy Guidelines for Local Planning 1991 & Better Drainage 1993).
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Table 3: Examples of councils' management activities in-the Botany Bay catchment

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- **Stormwater management**
* e.g. street & gutter cleaning, installing and maintaining GPTs, source controls, soil and water management plans for developments and waste disposal.
 - **Stormwater educational programmes**
* e.g. stencilling of drains, displays, talks, pamphlets and Streamwatch.
 - **Support and involvement in catchment management committees, Bushcare, Dunecare and Landcare group**
* Cooks River CMC, Georges River CMC and Hacking CMC.
 - **Water quality monitoring**
* Public health - Harbourwatch (11 locations e.g. Sandringham baths, South Ramsgate, Brighton Le Sands Baths, Frenchmans Bay & Silver Beach).
* Identify sources of pollution and eliminate - Sutherland's Strategic Monitoring Program and Groundwater monitoring for Botany Mascot area.
 - **Environmental Audits - Compliance and pollution assessment**
* Audit of Botany industrial area.
 - **Dune and remnant vegetation restoration and rehabilitation**
* e.g. Yarra Point & Frenchmans Bay - Randwick; Dune rehabilitation - Botany; Spring Street Wetlands - Rockdale.
 - **Threatened Species Recovery Plans**
* studies on native flora and fauna underway as many locally or regionally threatened.
 - **Strategic planning and plans of management**
* Numerous studies - Heritage - Conservation - Transport - Energy - Vegetation.
* draft plans of management must be prepared by July 1996 - Plan of Management for Botany Wetlands 1989.
 - **Council committees of management** (community based)
* Floodplain, Reserve and Estuary Management Committees.
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the implementation of identified sustainable coastal planning and management practices. A major component of the project will be the integration of catchment and coastal management principles. For the study area this implies a cooperative and integrated approach to natural resource management encompassing land based and marine activities. Figure 1 shows the approximate location of the study area. The study area covers the coastal region of Sydney from Pittwater in the north to Sutherland in the south.

Objectives

The objectives of the Project are:

- Develop and implement a regional coastal management strategy to assist in integrating local needs with the recommendations of governments' coastal policies and strategies.
- Integrate catchment and coastal management principles (land based and marine activities).
- Review and analyse past and existing coastal management practices in the study area so as to identify the most suitable practices for this study area.
- Incorporate best management practices as identified in national and state inquiries e.g. the *Resource Assessment Commission Coastal Zone Inquiry 1993* and the *Draft Revised Coastal Policy for NSW*.
- Involve regional communities (including the private sector) in the development and implementation of the strategy.
- Incorporate ILAP (integrated local area planning) as a framework for developing a strategic integrated approach to regional coastal management.

Expected Outcomes

The expected outcomes of the Project are:

- An agreed list of actions for achieving better integration and cooperation between the three spheres of government and the community.
- A regional strategy for application to the study area.

- A list of improved actions encompassing land based and marine activities.
- A list of management activities for key environmental, social and economic issues and problems required to address, inter alia, the enhancement and maintenance of terrestrial and marine ecosystems in the study area.
- A regional coastal state of the environment report.
- Close liaison with catchment management committees in and adjacent to the study area.

Key stakeholders

Representatives from some key organisations with interests and/or responsibilities in coastal planning and management were invited by the Sydney Coastal Councils Group to establish a Regional Steering Committee to direct the Project. Many of these organisations are represented on the Coastal Committee of NSW. A comprehensive community consultation and participation campaign will identify all the relevant stakeholders and focus on those areas adjacent to and in the study area.

The organisations represented on the Regional Steering Committee are:

- Australian Conservation Foundation
- CSIRO
- NSW Department of Land and Water Conservation
- Department of Environment, Sport and Territories
- NSW Department of Urban Affairs and Planning
- NSW Environment Protection Authority
- Local Government and Shires Associations of NSW
- Marine and Coastal Community Network
- Office of Marine Safety and Port Strategy
- NSW National Parks and Wildlife Service
- Nature Conservation Council of NSW
- NSW Fisheries
- Sydney Coastal Councils Group and local councils
- Sydney Water Corporation.

CONCLUSIONS

There is an urgent need to take stock of the natural resource planning and management system in NSW to properly evaluate its suitability to coastal areas (i.e. are sustainable), particularly where population pressures are rapidly increasing.

It is argued that the numerous plans, policies and regional guidelines for Botany Bay have not arrested the deterioration of Botany Bay. A simpler system that provides flexibility may be able to better account for the need to amend policies and management practices to suit the dynamic nature of the coastal environment. Other possible advantages include more effective implementation, support from coastal land managers, more effective use of scarce resources and a more integrated and coordinated approach to coastal planning and management. Such an approach will require the support and participation of all the key stakeholders in the study area. The Study Brief for the Regional Coastal Management Strategy presented in this paper has been developed to identify and test the viability of such a planning system for the coast of Sydney.

ENQUIRES AND CORRESPONDENCE

Correspondence should be directed to the Sydney Coastal Councils Group, C/- Coastal Environment Centre, PO Box 882, Mona Vale NSW 2103, or alternatively enquires can be directed to the Secretariat on (02) 9970 6908 or by facsimile on (02) 9970 6907.

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APPENDIX- EXAMPLES OF EXISTING PLANNING GUIDELINES, INSTRUMENTS & STUDIES FOR LOCAL COUNCILS ADJACENT TO THE FORESHORES OF BOTANY BAY

RANDWICK CITY COUNCIL AREA

Examples of local planning documents:

- Randwick Planning Scheme Ordinance 1978 - amended by 17 Interim Development Orders, 110 LEPs, 2 REPs and 21 SEPPs.
 - LEP 18 Foreshore development 1983 & LEP 102 Randwick Heritage Plan 1993
 - draft LEP for Greenhouse effect considerations
 - Council Management Plan 1994- 1997
 - Malabar beach and foreshore Plan of Management 1994
 - State of the Environment Report 1993
 - Stormwater Pollution Control Code 1993
 - Tree Preservation Order (amended 1992)
 - Randwick Conservation Study 1983

Brief summary of geographical details:

- **Eight** sub-catchments draining to Botany Wetlands and/or Botany Bay covering approx. 1,800 ha.
- Population approx. **115,000** (slow decline), (ABS 1991).
- **Land tenure:** Open Space, Botany Bay National Park, Centennial and Moore Parks, Lachlan Swamp & Botany Wetlands; golf courses; residential; business; roads; industrial and port.

BOTANY COUNCIL AREA

Examples of local planning documents:

- Botany LEP 1995, 3 draft LEPs, Interim Development Order No. 19, 8 DCPs and 9 draft DCPs.
 - Draft DCP for Energy Efficiency 1995
 - Two draft Industrial Development Control Plans 1995
 - Botany Code of Residential Development 1975
 - Draft Botany Heritage Study 1995
 - Stormwater Pollution Control Code 1992
 - State of the Environment Report 1993
 - Botany Tree Preservation Order

Brief summary of geographical details:

- **Fourteen** sub-catchments draining to Botany Wetlands, Cooks River and into Botany Bay covering approx. 2,675 ha.
- Population approx. **35,000** (slow increase), (ABS 1991).
- **Land tenure:** Sydney Airport; Port Botany; Open Space, Centennial and Moore Parks, Botany Wetlands, Sir Joseph Banks Park & foreshore reserves; golf courses; residential; business; roads; waterways and industrial.

ROCKDALE CITY COUNCIL AREA

Examples of local planning documents:

- Rockdale Planning Scheme Ordinance 1973 - amended by 89 LEPs, 4 DCPs and 21 SEPPs.
 - Beach Street Precinct, Kogarah Plan of Management 1995
 - Stormwater Pollution Control Code 1993
 - Heritage Study
 - Total Environment Policy 1993
 - State of the Environment Report 1993
 - Rockdale Wetlands and Recreational Corridor draft Plan of Management 1989
 - draft Local Environmental Plan 44 1993
 - Botany Bay Foreshores Environmental Study 1991
 - Tree Preservation Order 1985

Brief summary of geographical details:

- **Ten** sub-catchments draining to Wolli Creek, Cooks and Georges Rivers and into Botany Bay covering approx. 2,980 ha.
- Population approx. **84,000** (increasing), (ABS 1991).
- **Land tenure:** Sydney Airport; Open Space, Rockdale Wetlands Corridor and Eve Street Wetland; residential; commercial; waterways and industrial.

SUTHERLAND SHIRE COUNCIL AREA

Examples of relevant planning documents:

- Sutherland - Sutherland's LEP 1993 - amended by 11 LEPs and 3 DCPs.
 - Sutherland Shire 2010 - Your Future 1993
 - Clean Waters Management Plan and Policy 1995
 - Heritage Study 1993 & Transport Options Strategy 1995
 - Port Hacking Plan of Management 1992
 - Hacking River Catchment Management Strategy 1992
 - Stormwater Management Position Statement 1991
 - Urban Bushland Plan of Management 1990
 - Plan of Management for Deepwater Estate, Woronora 1994
 - Woronora River Floodplain Management Plan 1995

Brief summary of geographical details:

- **Twenty** sub-catchments draining to Georges and Woronora River and into Botany Bay covering approx. 19,600 ha.
- Population approx. **185,000** (rapid increase) (ABS 1991).
- **Land tenure:** Open Space, Towra Point Nature Reserve & Aquatic Reserve, four national parks including Botany Bay and Royal National Park; residential; small commercial; waterways and industrial.