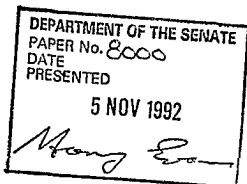


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OUR BUSH CAPITAL

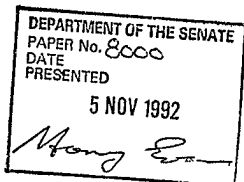
Protecting and Managing the National Capital's Open Spaces

Report of the Joint Committee on the
National Capital

October 1992

Australian Government Publishing Service
Canberra

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TERMS OF REFERENCE

On 17 December 1991, the Minister for the Arts, Tourism and Territories, the Hon. David Simmons MP, asked the Committee to inquire into and report on nature conservation policies and environmental management practices within those areas of open space in the ACT which are of national significance. In particular, the Committee was asked to:

- . inquire into and identify the ecological, symbolic, landscape and recreational values of the 'Inner Hills' component of the National Capital Open Space System (the NCOSS);
- . examine the relationship between, and the adequacy of, current planning and management arrangements for those areas of the NCOSS which are Designated Areas under the National Capital Plan, and for those areas to which 'special requirements' apply;
- . examine the current legislative and other protection afforded to areas within the NCOSS and make recommendations for the types of protection appropriate to the different environments within the NCOSS;
- . consider the impact such protection might have on future urban and transport planning;
- . identify potential long and short term threats to areas within the NCOSS and suggest how these threats might be avoided or minimised;
- . examine the administrative and financial arrangements between the Commonwealth and Territory governments for the management of the NCOSS with recommendations as to how these arrangements might be improved; and
- . examine such other matters as the Committee may consider relevant to the subject of the inquiry.

These terms of reference were endorsed 18 February 1992 by Mr Simmons' successor, the Hon. Wendy Fatin MP, the Minister for the Arts and Territories.

PREFACE

This is the first report of the Joint Committee on the National Capital. Known since 1957 as the Joint Committee on the ACT, the Committee adopted the new name in May this year to reflect the change in its role since the establishment of self government in the ACT.

The Committee is no longer involved with the detailed planning and development of the ACT. It is now concerned only with issues relating to the significance of Canberra as the National Capital.

The inquiry into the management of nationally significant areas of open space in the ACT brought to the fore the need to distinguish between Canberra as the National Capital and Canberra as home to 300,000 Australians. Preserving the special character of our National Capital while meeting the requirements of one of the most rapidly growing regions in Australia is likely to become an increasingly complex task. The inquiry showed that achieving this task is not possible without the support of the local community. Canberra has become a national capital which is admired internationally largely as a result of the pride and commitment shown by its residents.

Our thanks go to all of the individuals, community and professional groups and government agencies that have contributed to the inquiry by writing submissions and attending our public hearings.

I would like to acknowledge formally the professional assistance provided to the Committee by the Parliamentary Reporting Service and the printing, corporate services and other staff of the Department of the House of Representatives. In particular I would like to record our thanks to the secretariat: Ms Ann Lyons Wright, seconded to the secretariat from the National Capital Planning Authority, for drafting the report; Ms Lindy Smith, the Committee Secretary, for managing the inquiry and editing the report; and Mrs Marlene Lyons, the Administrative Officer, for providing administrative support.

John Langmore
Committee Chair

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ABBREVIATIONS

ACTEW	ACT Electricity and Water
ACT PA	ACT Planning Authority
ANBG	Australian National Botanic Gardens
COG	Canberra Ornithologists Group
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DAS	Department of Administrative Services (Commonwealth)
DASET	Department of the Arts, Sport, the Environment and Territories (Commonwealth)
DELP	Department of Environment, Land and Planning (ACT)
GETS	Gungahlin External Transport Study
GIS	Geographic Information System
IDCE	ACT Interdepartmental Committee on Environment
NCDC	National Capital Development Commission (Commonwealth)
NCOSS	National Capital Open Space System
NCPA	National Capital Planning Authority (Commonwealth)
TESAL	Towards Ecologically Sustainable Australian Landscapes

SUMMARY AND RECOMMENDATIONS

Summary

The National Capital Open Space System is a valuable legacy of visionary design and planning. Its significance is far greater than a municipal or regional open space network.

The ecological values of the NCOSS are the principal reason for its existence. At the same time, other values have an important place. These include its role as a symbolic and landscape setting for the national capital, the definition of the urban form of the city, the protection of cultural heritage, and the provision of opportunities for recreation, rural use, forestry, research and education, as well as for urban infrastructure (where stringent environmental assessment allows). It is vital that all of these other values be protected and managed so as not to detract from the primary value of the system to all Australians as part of the natural setting for their National Capital.

The Commonwealth has a special responsibility to ensure that values of the NCOSS are properly recognised and adequately protected. This is because most of the mountains, bushland, river corridors and open space buffers surrounding the city is either 'designated' in the National Capital Plan as being of national significance, or is within the area for which the Plan specifies 'special requirements' in the interests of the national capital.

The planning, management and administrative arrangements for the NCOSS are quite complex. There are two land managers: National Land is administered by the National Capital Planning Authority on behalf of the Department of the Arts, Sport, the Environment and Territories (DASET). The remainder, Territory Land, is under the administrative responsibility of the Territory government. There are also two plans: the National Capital Plan determines the general land use plan for the ACT and the specific planning policies for Designated Areas. The Territory Plan covers all other areas of the ACT and must be 'not inconsistent' with the National Capital Plan.

The Committee has identified a number of inadequacies in the present planning arrangements for the NCOSS:

- . Specific policies for the key areas of the Inner Hills and the Molonglo River Corridor have not been completed, although work on the former is in progress.
- . Management Plans for the Inner Hills, the Murrumbidgee River Corridor, Tidbinbilla Nature Reserve and Lanyon Bowl also need to be finalised.
- . Better co-ordination between the *planning and management agencies is required* and the Committee has concluded that an NCOSS Advisory Committee to the Commonwealth Minister for Territories would be the most effective mechanism (para. 4.39 - 4.61).

- . Greater co-operation over the collection and storage of planning information should be a priority for the planning and management agencies.
- . A regional approach to open space planning could maximise the effectiveness of protection and management programs.
- . The Committee firmly believes that public involvement, especially at the early stages of policy development, should be pursued by the planning and management agencies with responsibilities in the NCOSS.

With regard to the adequacy of the protection of the various components of the NCOSS, the Committee considers that the new ACT Land Planning and Environment legislation is a strong legal form of protection for nature conservation and other values of the NCOSS, where it applies. There is legal advice that suggests that the legislation may not apply to areas which are Designated under the National Capital Plan. This uncertainty must be resolved quickly and Commonwealth legislation enacted to protect key areas of the NCOSS if required. Planning policies under the National Capital Plan can also offer a reasonable measure of protection for nature conservation and other values where detailed policies are in place. This is because amendments to the Plan are subject to disallowance by Parliament.

Some areas with important ecological values are not at present protected by either of these mechanisms. The Committee has concluded that a number of additional areas should be added to Canberra Nature Park and protected under the ACT Land (Environment and Planning) legislation. The Committee also believes these areas should be considered for addition to the NCOSS.

The Burley Griffin design for Canberra, including the NCOSS as an important element, is of international significance and warrants consideration for listing as a world heritage site.

The Committee has concluded that the total Commonwealth funding provided for the management of the NCOSS is inadequate to meet the legislative requirements set by the Commonwealth through the National Capital Plan.

The determination of the appropriate level of funding for the NCOSS is difficult because the cost differential between Commonwealth and ACT standards is only beginning to be understood. The only practical method of determining such costs appears to be specific funding on a case by case basis as differences in standards and their cost are quantified. This means that the completion of management plans for key elements of the NCOSS is crucial.

The Committee has reviewed a range of management problems which have significant impacts on the values of the NCOSS and has made many suggestions and recommendations. For example, the Committee generally supports TESAL's recommendations about problem plants and advocates: control of domestic cats; co-ordinated research on other introduced animals; a telecommunications plan for the Inner Hills; guidelines for ACTEW servicing activities; Commonwealth and ACT representation on the Murrumbidgee River Catchment Management Committee, and

continued Commonwealth funding for the Lake Burley Griffin Catchment Protection Scheme and Googong Dam catchment management activities.

The Committee recognises that there are costs involved in the recommendations which we have made. They are made on the basis of what we believe is necessary to achieve the long term goals of protecting the values of the National Capital Open Space System. We recognise that they can only be implemented as funding becomes available.

The Committee is committed to the continued existence of what most people believe is the essential character of the national capital, a bush capital where the open spaces will be protected as the population continues to grow.

Through the recommendations in this report the Committee aims to set in place a system to achieve this long term protection of the National Capital's open spaces.

Recommendations

The Committee recommends that:

- (1) The orientation of policies for the NCOSS be changed to reflect more clearly the significance of the ecological values of the system as well as its value as a scenic backdrop and landscape setting. *(Paragraph 4.6)*
- (2) The NCPA give priority to the completion of detailed policies for the Inner Hills Designated Area so that they can be finished in 1992 as planned. *(Paragraph 4.19)*
- (3) The NCPA make resources available for the studies required to allow the detailed policies to be developed for the Molonglo Corridor and incorporated in the National Capital Plan in 1993. *(Paragraph 4.19)*
- (4) The above work be carried out by the NCPA in close co-operation with the ACT Department of Environment, Land and Planning and involve a public consultation process similar to that used for the Lake Burley Griffin Management Plan. *(Paragraph 4.19)*
- (5) Special Requirements for the Murrumbidgee River Corridor and Namadgi National Park in the National Capital Plan be reviewed in co-operation with the managers. *(Paragraph 4.23)*
- (6) The National Capital Plan be amended to include policies which specifically cover the Australian National Botanic Gardens portion of the Inner Hills. *(Paragraph 4.27)*
- (7) The NCPA and the ACT Planning Authority co-operate with Australian National Botanic Gardens to resolve the boundary problems for the ANBG site quickly. *(Paragraph 4.29)*

- (8) The NCPA and ACT DELP work together to develop common guidelines for the preparation of management plans for open space areas which will satisfy the requirements of both the National Capital Plan and the ACT *Land (Environment and Planning) Act 1991*. (Paragraph 4.33)
- (9) The ACT Parks and Conservation Service gives high priority to the completion (in close co-operation with the NCPA) of management plans for:
- . The Inner Hills
 - . The Murrumbidgee Corridor
 - . Tidbinbilla Nature Reserve
 - . Lanyon Bowl. (Paragraph 4.33)
- (10) The NCPA and the ACT Planning Authority urgently clarify and resolve the inconsistencies with regard to definitions, the range of permitted land uses and the boundaries of open space between the National Capital Plan and the Draft Territory Plan and/or take measures to ensure this information in those documents is presented in a form which is readily understandable to the community. (Paragraph 4.38)
- (11) The Minister for the Arts and Territories appoint a National Capital Open Space Advisory Committee to advise the National Capital Planning Authority Board. (Paragraph 4.61)
- (12) The committee could include, in addition to representatives from the NCPA and the ACT Department of Environment, Land and Planning (ACT PA, ACT Parks and Conservation Service): nature conservation groups; rural lessees; professional groups such as the Institute of Landscape Architects, Royal Institute of Parks and Recreation; TESAL; Park Care groups; the scientific community; special interest groups such as Canberra Ornithologists; and recreational interests. (Paragraph 4.61)
- (13) The Terms of Reference for the committee include:
- To advise the NCPA Board on the implementation of the policies of the National Capital Plan concerning the National Capital Open Space System, in particular:
- . the completion of detailed policies and management plans
 - . the co-ordination of research efforts relevant to the planning and management of the NCOSS
 - . review of policies
 - . investigations of possible extensions

- . allocation of funds to management and development activities consistent with the policies for the NCOSS
 - . preparation of Memoranda of Understanding between the NCPA and the Territory government agencies which clearly define responsibilities within the NCOSS. *(Paragraph 4.61)*
- (14) The NCPA and the ACT Department of Environment, Land and Planning co-operate to build an up-to-date and comprehensive listing of sites of significance in the NCOSS, including the location of endangered, rare and threatened species and other sites of biological significance as well as geological and cultural heritage sites, and to store this information in a database which is readily accessible by all relevant agencies. *(Paragraph 4.67)*
 - (15) The NCPA and the ACT Department of Land, Environment and Planning co-operate to complete a Geographic Information System for the NCOSS which is adequately maintained and accessible to all relevant agencies. *(Paragraph 4.67)*
 - (16) The ACT and Sub-Region Planning Committee consider in its work on a long term strategy for the sub-region, a regional open space network as a means of achieving complementary management of open space across borders in the sub-region. *(Paragraph 4.76)*
 - (17) The ACT and Sub-Region Planning Committee commission a study of the Murrumbidgee River Corridor upstream and downstream of the ACT, in order to ensure a solid information base for decisions regarding future development which may impact on water quality in the river. *(Paragraph 4.81)*
 - (18) A group of Friends of the National Capital Open Space System be established by the NCPA to involve the community in the planning and management of the NCOSS. *(Paragraph 4.94)*
 - (19) The issue of whether the ACT *Land (Planning and Environment) Act 1991* applies to areas designated under the National Capital Plan as having the special characteristics of the National Capital be resolved as a matter of urgency. *(Paragraph 5.25)*
 - (20) If it is found that the ACT *Land (Planning and Environment) Act 1991* does not apply to Designated Areas in the National Capital Plan, the NCPA move to have appropriate Commonwealth legislative protection put in place for the Inner Hills Designated Areas. *(Paragraph 5.25)*
 - (21) The Mount Painter area of the Inner Hills be managed as part of Canberra Nature Park as soon as possible so as to better achieve the protection of its nature conservation, landscape and symbolic values and that appropriate regeneration and revegetation programs be undertaken *(Paragraph 5.27)*
 - (22) The Molonglo Gorge be gazetted as a nature reserve under the ACT *Land (Environment and Planning) Act 1991*. *(Paragraph 5.29)*

- (23) Stirling Ridge be protected for its nature conservation and scenic values. *(Paragraph 5.33)*
- (24) The NCPA and ACT Parks and Conservation Service investigate whether Commonwealth or Territory legislation is the most appropriate means of achieving this and take action accordingly. *(Paragraph 5.32)*
- (25) (a) The following areas be considered for addition to the National Capital Open Space System:
- . Mulligan 's Flat;
 - . Callum Brae;
 - . Molonglo River Corridor;
 - . Castle Hill; and
 - . Rob Roy Range and Tuggeranong Hill;
- (b) detailed investigations required to determine whether these extensions are appropriate and if so, where boundaries should be sited, should be co-ordinated through the proposed National Capital Open Space Advisory Committee (Recommendation 11) so that appropriate input from both governments, as well as the community and scientific experts can be obtained; and
- (c) after detailed investigation, that several of these sites be included in the NCOSS. *(Paragraph 5.45)*
- (26) The Commonwealth and ACT governments explore the possibility that the parts of Canberra designed by Walter and Marion Burley Griffin and the surrounding hills and open space be included in the indicative list of possible Australian World Heritage Sites. *(Paragraph 5.58)*
- (27) The funding for the NCPA be substantially increased to match the responsibilities given to it by Parliament. *(Paragraph 6.13)*
- (28) The development of plans of management for elements of the NCOSS be used to further identify the additional financial responsibilities borne by the Territory government due to the influence of the National Capital Plan. *(Paragraph 6.36)*
- (29) The Commonwealth provide specific funding on a case by case basis as these additional financial responsibilities are clearly identified. *(Paragraph 6.36)*
- (30) The proposed NCOSS Advisory Committee work with Commonwealth agencies administering the special programs listed in para. 6.35 to identify further sources of funding for the NCOSS. *(Paragraph 6.36)*

- (31) The NCPA ensure that the problem plants on TESAL's list are no longer used for landscaping in areas of the National Capital under their planning and management control. *(Paragraph 7.7)*
- (32) The Territory government publicise the damage caused by seriously invasive plants and discourage their sale in the Territory and ensure that invasive and potentially invasive plants are labelled accordingly. *(Paragraph 7.7)*
- (33) The ACT government continues to fund the Park Care program in the long term to at least the same real level as in 1992-93. *(Paragraph 7.10)*
- (34) The NCPA expedite the amendment of the National Capital Plan to remove the Intertown Public Transport route through O'Connor Ridge and to remove the John Dedman Drive east road reservation. *(Paragraph 7.47)*
- (35) A telecommunications plan for the Inner Hills be developed jointly by the NCPA and the ACT government in consultation the telecommunications industry. *(Paragraph 7.51)*
- (36) ACTEW produce, in co-operation with the ACT Parks and Conservation Service and the NCPA, policy guidelines for minimising the effects of their activities on the values of the National Capital Open Space System. *(Paragraph 7.65)*
- (37) The NSW government be asked to accept the proposal that the Australian Capital Territory be represented on the Murrumbidgee River Catchment Management Committee by representatives from both the Commonwealth and ACT governments. *(Paragraph 7.105)*
- (38) Commonwealth funding be continued for a further three year agreement under the Lake Burley Griffin Catchment Protection Scheme. *(Paragraph 7.110)*
- (39) The Commonwealth fund monitoring of the effectiveness of the catchment protection work done under this scheme, after the completion of the last three year agreement, and provide funds for follow up work where necessary. *(Paragraph 7.110)*
- (40) The Commonwealth government contributes \$500,000 towards the completion of catchment management work in the Googong Dam subcatchment. *(Paragraph 7.115)*

CHAPTER ONE: INTRODUCTION

Background

1.1 Canberra is recognised internationally as a well planned and unique modern capital. There is continuing interest from countries planning new national capitals in the way this was done in Australia. There is respect for what is seen as a commendable outcome. Planners, architects and landscape architects visit Canberra from around the world to study Canberra and its development. The landscape has been an integral part of this interest in Canberra. Professor Ken Taylor, representing the Australian Institute of Landscape Architects, said at the first public hearing: 'It is the most renowned urban landscape laboratory in the world'.¹

1.2 A key element of the planning of the national capital has been the emphasis on the protection of open spaces surrounding the city. This has been seen not only as particularly important for providing a unique and natural setting for the city but also for providing accessible recreation for its population and protecting a range of natural communities and species.

1.3 When the Committee conducted its inquiry into the proposed transport connections to Gungahlin last year, it became clear that the values of Canberra's bushland were not adequately protected. We found that roads were proposed in areas which are ecologically significant or which are an essential part of the landscape setting of the national capital.

1.4 The Commonwealth has a special responsibility to ensure that the ecological, symbolic, cultural and recreational values of these areas are properly recognised and adequately protected. This is because most of the mountains, bushland, river corridors and open space buffer surrounding the city is either 'designated' in the National Capital Plan as being of national significance, or is within the area for which the Plan specifies 'special requirements' in the interests of the national capital.

1.5 Concerns about the adequacy of the protection of Canberra's open spaces are not new. Some community groups have recalled in their submissions what they see as a continuing battle against proposed incursions into their open space areas. As far back as the 1970s, groups were fighting infill plans by the former National Capital Development Commission. Since 1985, residents of North Canberra have opposed road proposals for links with Gungahlin on the basis of threats to areas of natural bushland.

¹ *Evidence*, Canberra, 14 April 1992, p. 160.

The Inquiry

1.6 The Committee was asked by the Commonwealth Minister for the Arts, Tourism and Territories on 17 December 1991 to inquire into and report on nature conservation policies and environmental management practices within those areas of open space in the ACT which are of national significance. The focus of the inquiry was the National Capital Open Space System (NCOSS) - its values and the effectiveness and adequacy of administrative, planning, financial and management arrangements to protect and maintain these values.

1.7 The Committee has received 39 submissions and has held three days of public hearings in Canberra at which some 29 groups, government agencies and individuals were able to put their positions. Inspections and informal briefings were also conducted in key parts of the NCOSS including the Inner Hills, the Murrumbidgee River Corridor and Namadgi National Park.

1.8 The main issues that were raised through the submissions and the hearings were:

- whether the NCOSS covers all of the areas which are considered of significant nature conservation value and which would contribute to it being an effective and fully integrated open space network;
- how adequately, through legislation or other means, the areas encompassed by the NCOSS are protected;
- the lack of co-ordination between the agencies responsible for planning and management;
- the extent to which the Commonwealth government contributes to the cost of environmental management in these areas;
- the need to control feral animals and weeds to protect the values of the NCOSS; and
- how the recreational needs of the community can be accommodated while preserving ecological, symbolic, scenic and heritage values of the NCOSS.

The National Capital Open Space System

1.9 The NCOSS is a valuable legacy of visionary design and planning. It covers some 72% of the Territory and provides a range of conservation, recreation and symbolic opportunities from wilderness, through alpine forests, woodlands and grasslands to river corridors, artificial lakes and associated rural areas.

1.10 The evolution of the open space systems can be traced back to the beginnings of town planning in the era of rapid industrialisation. George Seddon described the history when he reviewed the role of the NCOSS for the former National Capital Development

Commission in 1977.² Some highlights of this history may help to give a picture of the rich heritage of the development of planning, design, nature conservation and recreation which is embodied in the NCOSS.

1.11 Public open space was developed as a response to the growing public health problems in nineteenth century industrialised cities. Prior to this, the compact pre-industrial cities had little need for urban open space because the countryside was readily accessible. Gardens were the private domain of royalty and the wealthy. The French monarchy began to open their pleasure gardens to the public in the eighteenth century. Baron Haussmann, Prefect of the Seine under Napoleon III, developed a hierarchy of planted areas set within a network of streets, created by large scale demolition. The primary function of this open space system was to 'ventilate' the congested urban agglomeration of Paris, although these areas also became important for recreational uses.

1.12 The uncontrolled growth of nineteenth century industrial cities in England resulted in overcrowding, squalor and disease. In response, a number of private and royal gardens were opened to the public and a Public Health Act in 1848 empowered local boards of health to provide and maintain public walks and pleasure grounds. Many parks were established in British cities over the next fifty years. The English concept of the public park remained as an isolated garden oasis in contrast to the french models and those developing in the new world.

1.13 In America, planners such as Olmsted extended the park to become a linked open space system and a structural element in the shaping of a city. This concept was applied in designing Central Park, New York, which was closely linked to the city by four separate circulation systems. He also developed the idea of a series of parks linked into a working complex. This was first applied in Boston in 1891 and subsequently in many other cities around the world. The idea of comprehensive planning of cities and their environs came about largely through this early experience in planning complete open space systems in the late 1800s.

1.14 In the early twentieth century large municipal parks systems were established in many North American cities. In Washington and Ottawa the metropolitan open space system was regarded as an integral part of the national capital concept, as distinct from its civic or municipal character. Individual parklands were gradually extended and linked by parkways and waterways to become continuous open space networks.

1.15 At the same time, the growing national park movement was influential both in providing open space and in creating a demand for it. Australia was initially at the forefront of this movement, with the dedication of three national parks: Royal in 1886, Ku-ring-gai Chase in 1891 and Tower Hill in 1892, although it did not maintain this position. Australia has generally followed the American concept of the national park as a tract of relatively undisturbed land in public ownership.

² Seddon, G., *An Open Space System For Canberra - A Policy Review*, National Capital Development Commission, Canberra 1977.

1.16 The connections between planning, protection of open space and good environmental management have been given expression in Canberra through the design of Walter and Marion Burley Griffin. Their plan proposed that the national capital should be contained in a natural setting of near hills and distant mountains, the Brindabellas. Urban development was to be confined to the plains and the valley floors, leaving the slopes and hilltops in their natural state. The formal design for the city used topography as a dominant element. The hills and ridges flanking the city were to be the termini of the key land and water axes and the city was designed to provide long views to these prominent natural features.

1.17 The Burley Griffins' vision for Canberra was of a city which would always be seen in relation to the hills, the sky, the clouds and the clear atmosphere which together created such a dramatic setting. The beauty of the site was the prime consideration in their vision which was described as follows:

Taken altogether, the site may be considered as an irregular amphitheatre with Ainslie at the north-east in the rear, flanked on either side by Black Mountain and Pleasant Hill, all forming the top galleries; with the slopes to the water, the auditorium; with the waterway and flood basin, the arena; with the southern slopes reflected in the basin, the terraced stage and setting of monumental Governmental structures sharply defined, rising tier on tier to the culminating highest internal forested hill of the Capital; and with Mugga Mugga, Red Hill and the blue distant mountain ranges, sun reflecting, forming the back scene of the theatrical whole.³

1.18 In 1917 Burley Griffin wrote a memo to the Minister for Home and Territories urging:

the desirability that the lands at the Federal Capital which are to form local National Parks, and on which it is proposed to establish forests, be preserved in, or reforested in their natural state.⁴

1.19 Burley Griffin requested that Green Hills paddock, Red Hill paddock, Mugga paddock, Black Hill and Ainslie be withdrawn from leases as early as possible for afforestation and natural reforestation.

1.20 Thus the idea of a national capital open space system had its origins in Walter and Marion Burley Griffins' sensitive perception of landform and landscape and their reliance on them in their planning. In particular, it grew from their respect for topography and landscape as generators of urban form and their advocacy of the principles of maintaining convenient access to the countryside and keeping clear demarcation between town and country by sharp urban edges.

1.21 The importance of protecting the natural and cultural landscapes which provided the setting for the national capital remained a theme through a series of important planning documents produced by the NCDC. These included two landmark documents: *The Future Canberra* published in 1965, and *Tomorrows Canberra* published in 1970. It was not until 1975 that the term National Capital Open Space System appeared when

³ Submission No. 28.

⁴ Submission No. 11.

the NCDC and the Department of the Capital Territory undertook a joint study of the National Capital Open Space System to determine needs, resources and a strategy for planning and management. The outcome was a report on the *National Capital Open Space System* published for public comment in 1976.

1.22 This was further developed through George Seddon's review of the role of the open space system for Canberra in 1977. He encapsulated his view of an open space system for the national capital as follows:

Canberra needs, deserves and can afford a generous open space system, and it should reserve open space for the future needs of a major metropolis. The system should be integrated, sometimes physically, always in terms of policy, management and design.⁵

1.23 Seddon also pointed out one of the key issues in the design, planning and management of open space:

Planning, design and management must be constantly interactive if they are to be effective. Separating the management function from the other two inhibits feedback of responses from users and managers about the functioning of designs and planning policies. Although this ideal is difficult to achieve in most systems, it is based on an important principle: that the best possible co-ordination of efforts in design, planning and management will produce the most effective (and possibly the most efficient and economic) results.⁶

1.24 The concept of the National Capital Open Space System which has thus evolved embraces the principles of protection of the highly valued components of the natural Australian landscape and elements of the landscape which show the interaction of humans with the landscape, the provision of a range of different types of opportunities for recreation and enjoyment close to urban areas as well as provision for future urban needs.

1.25 The acceptance of these principles by the agencies which have been responsible for the planning and development of the national capital since that time has resulted in an interconnected system of undeveloped hills and rural areas between towns as well as a linear park system of lakes and streams.

1.26 In the ACT, land can either be National Land managed by the Commonwealth, or Territory Land managed by the Territory government. A number of agencies are involved. For the Commonwealth, the National Capital Planning Authority (NCPA) and the Department of Administrative Services (DAS) are the main agencies, and the Parks and Conservation Service manages all public land for the Territory government.

⁵ Seddon G., *An Open Space System for Canberra - A Policy Review*, National Capital Development Commission, Canberra, 1977.

⁶ Seddon G., *An Open Space System for Canberra - A Policy Review*, National Capital Development Commission, Canberra, 1977.

1.27 Under the *Australian Capital Territory (Planning and Land Management) Act 1988*, the planning of the national capital is the responsibility of the Commonwealth. The Act established the National Capital Planning Authority to prepare, review and administer the National Capital Plan. The Plan, which was approved in 1990:

- sets out planning principles and policies for the NCOSS;
- specifies the key parts of the NCOSS (Inner Hills area and Lake Burley Griffin) as 'land having special characteristics of the National Capital', called Designated Areas, for which it may set out detailed planning policies; and
- specifies 'special requirements that are desirable in the interests of the National Capital' in the form of general and specific policies for the development of most of the rest of the NCOSS (Namadgi National Park, Murrumbidgee and Molonglo River Corridors and Lanyon Bowl). Special requirements are administered through the Territory Plan by the ACT Planning Authority in compliance with the requirements in the National Capital Plan.

1.28 The ACT Planning Authority also plays an important role. It is required under the same Act to prepare and administer a Territory Plan which is 'not inconsistent' with the National Capital Plan.

1.29 The Commonwealth has recognised and formally adopted the concept of the National Capital Open Space system through the National Capital Plan. The National Capital Open Space System, as now defined in the National Capital Plan, includes the corridors of the Murrumbidgee and Molonglo Rivers, Lake Burley Griffin, the hills that form a backdrop to the existing and proposed towns of Canberra, the mountain and bushland areas in Namadgi National Park, the Cotter Catchment and Mt Tennant area, Tidbinbilla Nature Reserve, Paddy's River, Bullen Range and the Gibraltar Creek area and the pine forests west and south of Canberra. These areas are distinguished from the local or municipal open space areas in Canberra by the role they play in enhancing the city as the national capital.

1.30 The National Capital Plan recognises the values of the NCOSS as an integrated system:

Together these open spaces constitute a system which protects the environmental quality of Canberra's present and future water catchments, river systems and important ecological and heritage areas from the increasing pressure of Canberra's growth. While each part has its own land use and character they are all interrelated as parts of a total system. It is important therefore that the system is planned, developed and managed on an integrated basis.⁷

1.31 Within the system, however, the Plan identifies four different types of open space, each with its own specific planning and management requirements:

- symbolic spaces that provide the unique and monumental landscapes necessary in a national capital;
- conservation spaces that protect the natural and cultural heritage of the ACT and consist generally of national park, heritage and wilderness areas and nature parks and reserves;
- living spaces that consist of a network of regional and metropolitan parks and which are generally accessible for a broad variety of recreation and tourist uses; and
- linking spaces that consist of fingers of urban land and open space that physically join and visually unite the city and the countryside.

1.32 The day to day management of most of the NCOSS is carried out by the ACT Parks and Conservation Service including Namadgi National Park, the Murrumbidgee River Corridor, Canberra Nature Park, Jerrabomberra Wetlands and a number of other small reserves.

The Report

1.33 This introductory chapter has provided the background to the inquiry and to the NCOSS. Chapter Two provides an overview of the administrative and planning arrangements for the Open Space System. Chapter Three looks in some detail at the perceived values of the NCOSS and from this draws out the conflicts and issues which arise from this consideration. For clarity, the major sets of issues raised are discussed separately in the following chapters. Planning issues are examined in Chapter Four. Chapter Five evaluates the effectiveness of various types of protection for the values of the NCOSS. Chapter Six concentrates on the adequacy of financial arrangements for the management of the NCOSS. The major problems experienced by the managers, their present responses and some additional measures which the Committee considers should be taken, are reviewed in Chapter Seven.

⁷ NCPA, *National Capital Plan*, 1990.

CHAPTER TWO: ADMINISTRATION AND PLANNING

Introduction

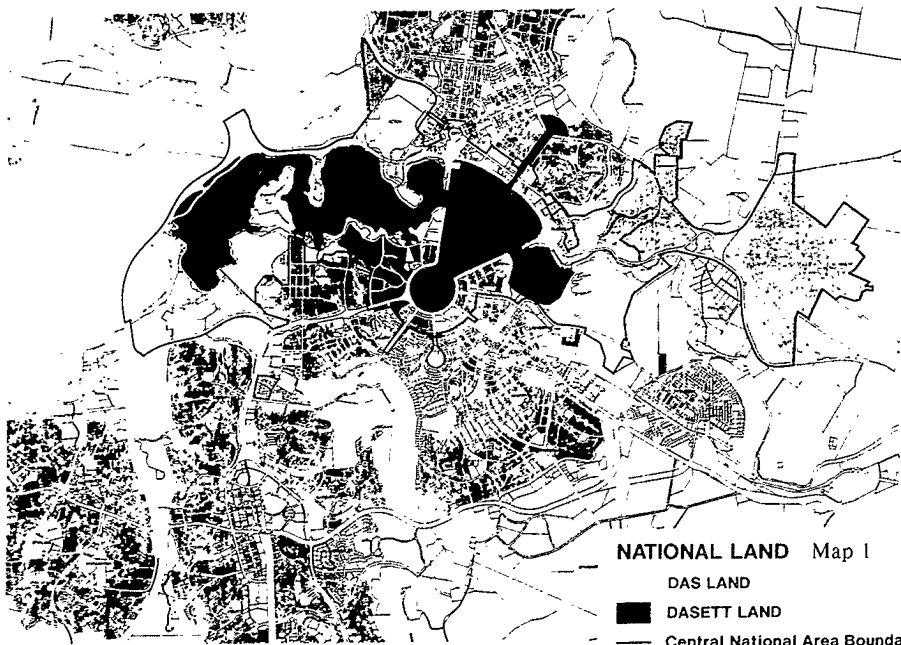
2.1 The introduction of self government in the ACT led to a division of responsibilities for administration, planning and management of land. Now two governments, several ministers, two planning authorities and a number of management agencies share these responsibilities.

2.2 This chapter sets the background for the discussions to follow. It describes the administrative arrangements for both National Land and Territory Land and details the role of the two planning authorities and the two plans that they administer. In particular it describes the two tiers of the planning framework which are relevant to the NCOSS. These are: general and specific policies in the National Capital Plan and management plans.

Administration

2.3 The planning, management and administrative arrangements for the NCOSS are quite complex. This is because planning responsibilities are overlaid on two administrative jurisdictions. The *Australian Capital Territory (Planning and Land Management) Act 1988* provides that land used by or on behalf of the Commonwealth may be declared National Land and managed by the Commonwealth (Map 1). At present, this is managed either by the NCPA on behalf of the Department of the Arts, Sport, the Environment and Territories (DASET) or the Department of Administrative Services (DAS). Other Commonwealth agencies, such as the Department of Defence, also manage land on which their activities are located. The remainder, Territory Land, is under the administrative responsibility of the Territory government and is managed on behalf of the Commonwealth.

2.4 Funds for the management of NCOSS National Land have been provided by DASET on behalf of the Commonwealth. Management and maintenance activities are carried out under agreements between DASET and the Territory government and its agencies, principally the Environment and Conservation Division of the ACT Department of Environment, Land and Planning (DELP). Amendments to the *Australian Capital Territory (Planning and Land Management) Act 1988* are planned which will hand over the responsibility for managing DASET National Land to the National Capital Planning Authority.



NATIONAL LAND Map 1

DAS LAND

 DASETT LAND

 Central National Area Bounda

2.5 The majority of the NCOSS is Territory Land. The National Land in the NCOSS covers the following areas:

- . Lake Burley Griffin and foreshores;
- . Stirling Park;
- . Attungu Point;
- . National Museum of Australia site at Yarramundi Reach; and
- . Kings and Commonwealth Parks.

2.6 Territory Land in the NCOSS is generally managed by the Territory government through DELP. A branch of the *Environment and Conservation Division of DELP*, known to the public as the Parks and Conservation Service, carries out day to day management of a large part of the NCOSS including Namadgi National Park, the Murrumbidgee River Corridor, Canberra Nature Park, Jerrabomberra Wetlands and a number of other smaller reserves.

2.7 The ACT Parks and Conservation Service and the office of the Conservator of Wildlife were established under the *Nature Conservation Act 1980*. This organisation is the only public land management agency in the Territory, managing both Territory and national capital open space. The range of land management responsibilities includes weed and pest control, bushfire and fire hazard management, nature conservation and wildlife management, asset maintenance and law enforcement. The range of professional resources and responsibilities of the ACT Parks and Conservation Service is equivalent to those of state and municipal bodies responsible for landcare, agriculture, national park and wildlife, fisheries, and parks and gardens.

Planning Policies

The National Capital Plan

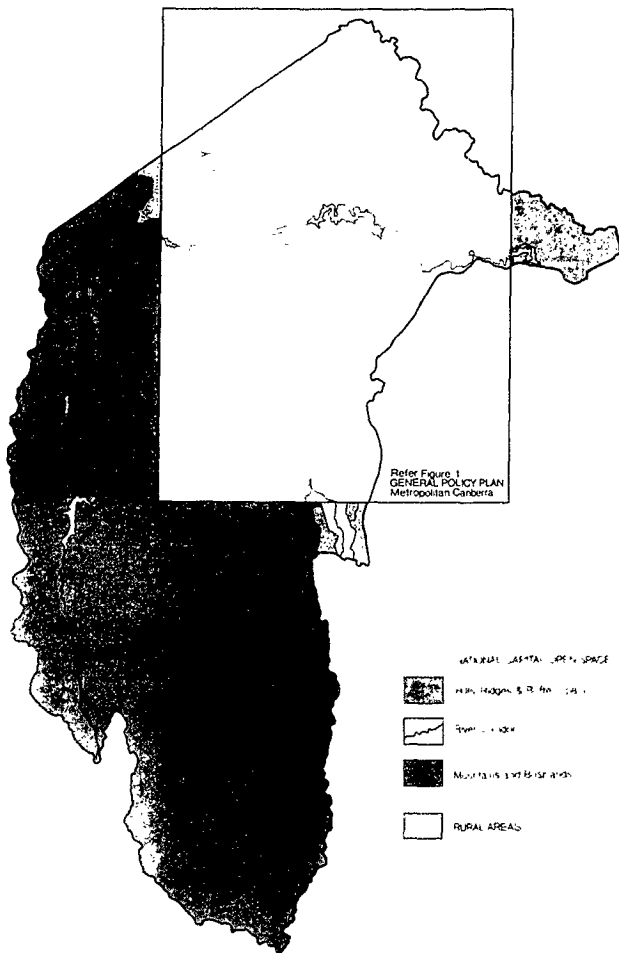
2.8 The Commonwealth retains a strong interest in the planning of the national capital through the National Capital Plan which is administered by the National Capital Planning Authority.

2.9 The Plan sets out general land uses for all of the ACT. The National Capital Open Space System is one of the major land use categories in the National Capital Plan. The Plan sets out principles and policies to guide the development of the NCOSS. It also has more specific policies for parts of the NCOSS.¹

2.10 *The protection of the open space framework as backdrop setting for the city; uses based on natural, cultural, scenic and recreational values; and a blending of city and country character, are the main thrust of the principle for the NCOSS.*

¹ *Submission No. 28.*

GENERAL POLICY PLAN – Australian Capital Territory



2.11 The general policies emphasise that the NCOSS should be planned as an integrated system, that the natural and cultural resources should be protected, and that public utilities and roads will be located in the NCOSS only where stringent environment and visual assessment are favourable.

2.12 The general policies also require the preparation of management plans by the Commonwealth on National Land and the ACT Government on Territory Land as a basis for determining financial responsibility and for works approval in Designated Areas.

2.13 The Plan contains specific policies for components of the NCOSS under four land use categories (Maps 2 and 3):

- . Lake Burley Griffin
- . Hills, Rivers and Buffer Spaces
- . River Corridors
- . Mountains and Bushlands.

2.14 The first two categories are Designated Areas and the second two are areas where Special Requirements apply. The planning controls which apply in these areas are discussed below.

Lake Burley Griffin - Designated Area

2.15 The principle is:

To conserve and develop Lake Burley Griffin as the major landscape feature which unifies the National Capital's central precincts and the surrounding inner hills; and to provide for National Capital uses and a diversity of recreational opportunities.²

2.16 Specific policies emphasise that the lake is a key landscape element which should be predominantly open space, providing for national capital and community uses, and a range of recreational, educational, symbolic experiences. The protection of Jerrabomberra Wetlands as a wildlife refuge and the maintenance of water quality and hydraulic operation of the lake are also significant.

Hills, Ridges and Buffer Spaces - Inner Hills Designated Area

2.17 The principle is:

The hills, ridges and buffers spaces are to remain substantially undeveloped in order to protect the symbolic role and the Australian landscape character of the hills and ridges as the scenic backdrop to the Parliamentary Zone, Civic and other National Capital precincts, to maintain the visual definition and physical containment of the surrounding towns and to ensure that their landscape, environmental and recreation values become an integral part of the National Capital.³

² NCPA, *National Capital Plan*, 1990.

³ NCPA, *National Capital Plan*, 1990.

2.18 Specific policies emphasise the protection of the environment and landscape character as key visual and symbolic elements, and the multiple use nature of the area with recreation, pine plantations, viewing points and telecommunications facilities (only in specific areas).

River Corridors - Special Requirements

2.19 The principle is:

To protect and enhance the environmental quality, landscape setting and the natural and cultural resources of the Murrumbidgee and Molonglo River Corridors. The Murrumbidgee River Corridor is to be conserved as an important national resource and a key open space element which provides a definable edge to the developed urban areas.⁴

2.20 Specific policies emphasise the protection from urban encroachment; the maintenance of streamflow and water quality; the provision for a range of recreation; and the protection of cultural resources.

Mountains and Bushlands - Special Requirements

2.21 The principle for this area is:

The mountain and bushland area is to be maintained as an important visual background to the National Capital; to protect both its nature conservation values and Canberra's existing and future water supply and to develop appropriate National Capital and tourist uses, particularly in the Tidbinbilla/Paddy's River area.⁵

2.22 Specific policies emphasise the maintenance of the area as a visual background for the city and the protection of water resource, nature conservation, cultural heritage and wilderness values.

2.23 The areas of the NCOSS which are not covered by either of these mechanisms are the hills, ridges and buffers spaces around Gungahlin, those from West Belconnen to the NSW border, and those south and west of Tuggeranong.

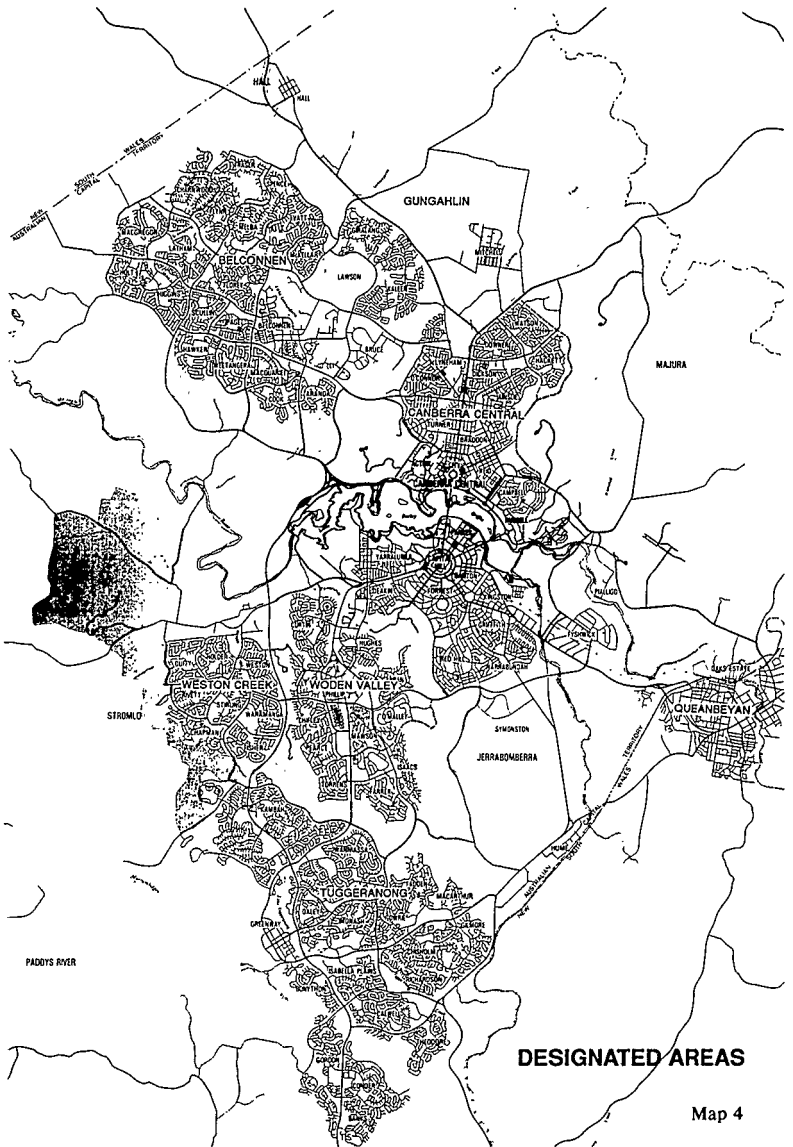
2.24 How these policies are implemented depends on the level of significance which the Commonwealth attaches to the particular area. The Plan provides for two main categories of land, reflecting their significance: Designated Areas and areas where Special Requirements apply.

Designated Areas

2.25 Areas regarded as having 'the special characteristics the National Capital' are Designated Areas under the National Capital Plan (Map 4). The Plan may set out detailed conditions of planning, design and development in Designated Areas including priorities for carrying out these activities. The NCPA has planning control in Designated Areas and is responsible for implementing detailed policies through works approval and approval of management plans, development control plans and master plans.

⁴ NCPA, *National Capital Plan*, 1990.

⁵ NCPA, *National Capital Plan*, 1990.



DESIGNATED AREAS

Map 4

2.26 Work approval means that the approval of the National Capital Planning Authority is required for any works (the definition is broad, including tree planting and removal as well as excavation and construction) in designated areas. The NCPA must be satisfied that a particular proposal is 'not inconsistent' with the National Capital Plan.

2.27 The parts of the NCOSS which are Designated Areas under the National Capital Plan are:

- . Lake Burley Griffin and Foreshores (Map 5);
- . the Inner Hills, including: Black Mountain; Mount Ainslie; Mount Pleasant; Russell Hill; Mount Mugga; O'Connor Ridge; Bruce Ridge; Mount Painter; the Pinnacle; Lyncham Ridge; Oakey Hill; Mount Taylor; Isaacs Ridge; Mount Stromlo; Mount Arawang; Neighbour Hill; Wanniasa Hill; and Narrabundah Hill (Map 6).⁶

Areas where Special Requirements Apply

2.28 There are areas specified in the National Capital Plan where 'special requirements are desirable in the interest of the National Capital'. The Commonwealth can specify policies for these areas as special requirements through the National Capital Plan; however, the responsibility for implementing these policies lies with the Territory government. The ACT Planning Authority administers these special requirements through the Territory Plan. Areas where special requirements apply in the NCOSS are (Map 7):

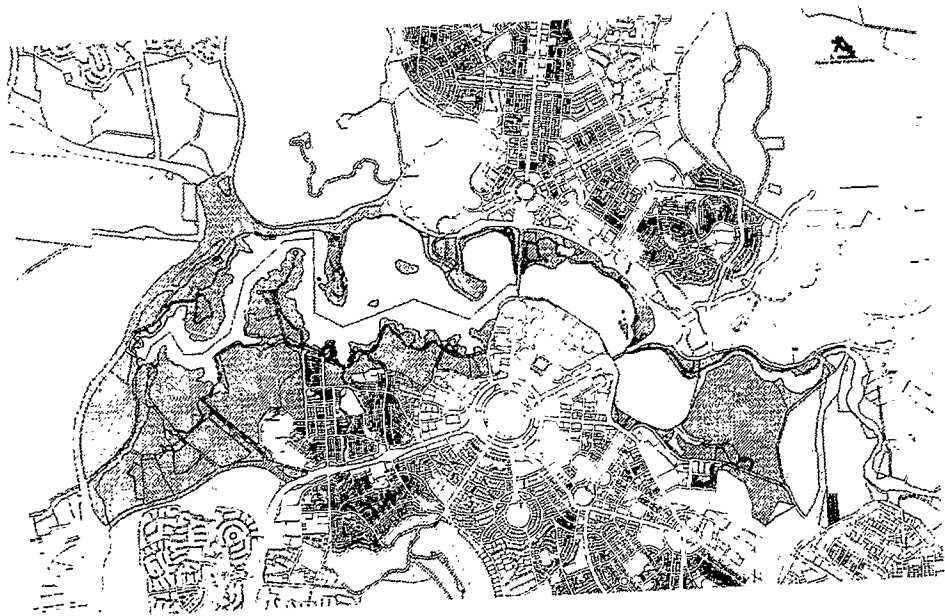
- . the Murrumbidgee and Molonglo River corridors;
- . Namadgi National Park Area;
- . Lanyon Bowl; and
- . National Land not included within a Designated Area.⁷





2.29 The special requirements for the Murrumbidgee River Corridor and Namadgi National Park area have been incorporated in the National Capital Plan as sets of general and specific policies which guide development and management of these areas. The special requirements for the Molonglo River Corridor and for National Land not in a Designated Area are that development is to conform to development control plans agreed to by the NCPA. A development control plan has not yet been prepared for the Molonglo River Corridor.

2.30 Other areas of the NCOSS which are not covered by either of these mechanisms are the hills, ridges and buffers spaces around Gungahlin, those from West Belconnen to the NSW border, and those south and west of Tuggeranong.

⁶ Submission No. 28.

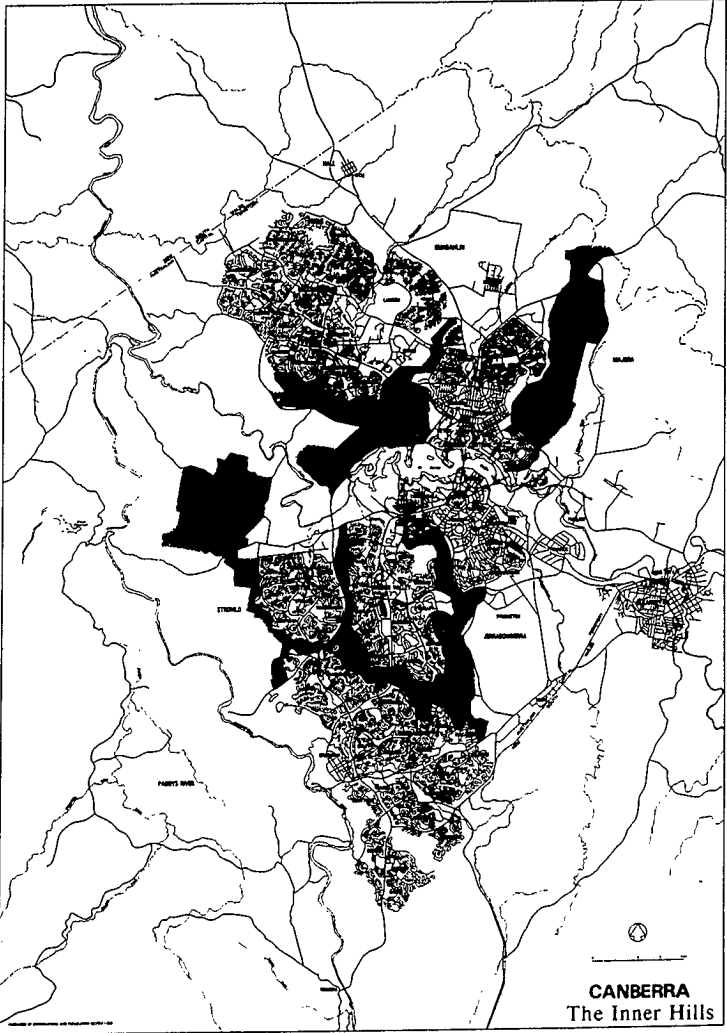
⁷ Submission No. 28.



-  Lake Burley Griffin
-  Lake Foreshores
-  River Corridors
-  Designated Inner Hills

LAKE BURLEY GRIFFIN AND FORESHORES

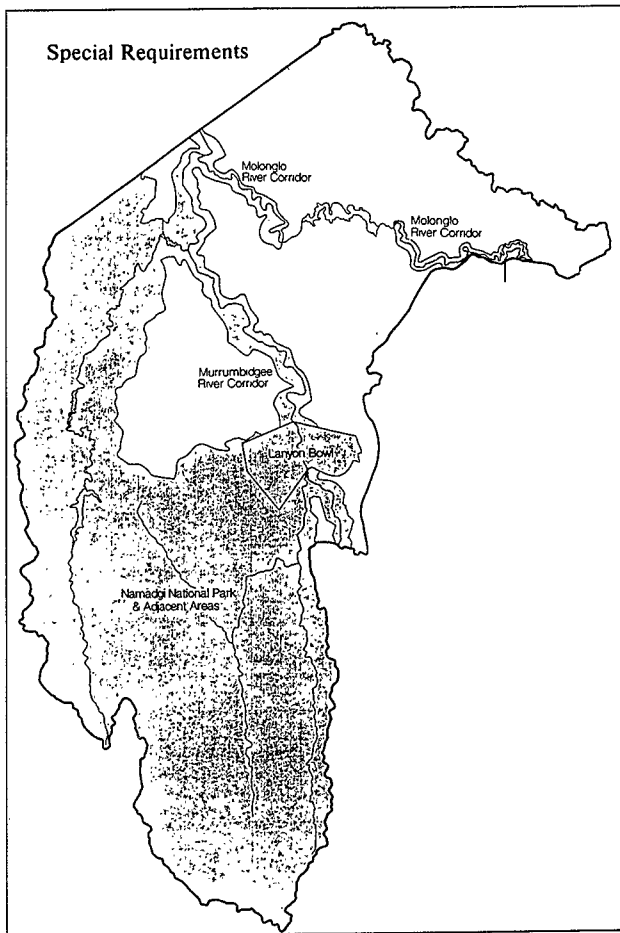
Map 5



CANBERRA
The Inner Hills

Map 6

Special Requirements



Map 7

Management Plans

2.31 The second level of planning for the NCOSS takes the form of management plans that translate the planning policies contained in the National Capital Plan into management prescriptions. This level of planning is a vital step in the management of individual parts of the NCOSS, ensuring that the vision of an integrated system, which protects environmental qualities, recreational opportunities and the setting that symbolises the national capital, can be achieved.

2.32 The National Capital Plan specifies in its policies for the National Capital Open Space System that:

As soon as practicable after the coming into operation of this Plan, Management Plans should be prepared for the major NCOSS elements to assist in determining financial responsibilities and as a means of enabling the NCPA to authorise works in Designated Areas. Such Management Plans will be the responsibility of the Commonwealth on National Land and the ACT Government on Territory Land. The ACT Bush Fire Council should be consulted.

Within Designated Areas of the Plan all Management Plans shall be prepared in close consultation with the NCPA. Pending the preparation of the Management Plans, maintenance and other works shall be the subject of liaison with the Authority, and the Authority will identify those works or classes of work which require more formal approval.⁸

The Territory Plan

2.33 The ACT (*Planning and Land Management*) Act 1988 requires establishment of the ACT Planning Authority with the function of preparing and administering the Territory Plan. The Territory Plan applies to all land in the ACT which is not Designated under the National Capital Plan. The Territory Plan is required to define planning principles in a manner which is 'not inconsistent with the National Capital Plan'.

2.34 The ACT Planning Authority is preparing a new Territory Plan under the new Land (*Planning and Environment*) Act 1992 to replace the large number of gazetted NCDC policies which comprise the present Territory Plan. This new legislation also provides for reservation and management of public land and establishes a Heritage Council and a Heritage Places Register.

2.35 Under the Draft Territory Plan, land included in the Hills, Ridges and Buffer Areas land use policy comprises the Inner Hills, as defined in the National Capital Plan, together with a number of other hills and ridges. This land shapes and contains the spread of urban areas or is of local importance because it is visually prominent from the main approach roads or visually part of a river corridor.

2.36 Under the Draft Territory Plan, this land will be protected from all forms of development which would interfere with the visual impression of the hills and ridges, so that the unified landscape setting for Canberra can be preserved. The Draft Territory Plan dovetails with the National Capital Plan by permitting a range of uses in its Hills, Ridges and Buffer Areas land use policy which are consistent with those in the National Capital Plan. The intention is to provide for an interconnected system of open space in which different parts have their own special character and use. Those hills and ridges which will be regulated through the Draft Territory Plan shall be subject to controls safeguarding compatibility with maintaining the landscape and environmental qualities of the hill system.

2.37 Management plans are a statutory requirement for open space reserved as Public Land in the Territory Plan. They provide management guidelines for the achievement of management objectives (based on those specified in the Land (*Planning and Environment*) Act 1991) and are prepared under the authority of the Conservator by the ACT Parks and Conservation Service. They are also public documents which outline Territory government intentions for the protection of natural and cultural values and the provision of appropriate community recreational opportunities. They take account of Territory Plan and National Capital Plan land use prescriptions and public comment on management proposals.⁹

2.38 Where Designated Areas are identified as Public Land in the Territory Plan, the ACT Parks and Conservation Service is the management authority and prepares a management plan for endorsement by the NCPA and adoption by the Minister under the provisions of the Land (*Planning and Environment*) Act 1991.¹⁰

2.39 Management plans do exist for some parts of the NCOSS but plans for a number of key areas are yet to be completed.¹¹

2.40 The present position with regard to management plans for the components of the NCOSS is summarised below. The following progress has been made on management plans for Designated Areas.

Lake Burley Griffin

2.41 A management plan is presently being developed for Lake Burley Griffin. This is in accordance with the Detailed Conditions of Design, Planning and Development for the lake which are incorporated in the National Capital Plan. The Commonwealth is providing funds for this important project. The NCPA is managing the consultancy and chairing the Steering and Technical Advice Committees to ensure that the range of organisations and groups which have a role in the planning, management and use of the lake are involved in the preparation of the plan. It is programmed to be completed this year.

⁹ Submission No. 36.

¹⁰ Submission No. 36.

¹¹ Submissions Nos. 28, 36.

⁸ NCPA, *National Capital Plan*, 1990.

The Inner Hills

2.42 The ACT Parks and Conservation Service is preparing a plan of management for Canberra Nature Park. This covers a large proportion of the Inner Hills Designated Area. A preliminary issues document was published in 1990 and public submissions have been considered as a contribution to this Plan. This management plan must fulfil the requirements of both the National Capital Plan and the ACT *Land (Planning and Environment) Act 1991*.

Jerrabomberra Wetlands

2.43 The policy context for the management of Jerrabomberra Wetlands has been set by the Detailed Conditions of Planning, Design and Development for the areas which are included in the National Capital Plan. The ACT Parks and Conservation Service has completed a draft management plan for the Jerrabomberra Wetlands Nature Reserve which has been released for public comment. The NCPA has been consulted in the development of this plan. Its role is to ensure that the management plan is consistent with the detailed policies referred to above. The final plan is in preparation.

2.44 The following progress has been made on management plans for areas with special requirements.

Lanyon Bowl

2.45 A draft management plan was completed for the Lanyon Landscape Conservation Reserve in 1989 by the ACT Parks and Conservation Service.

Namadgi National Park Area

2.46 Development within Namadgi National Park and adjacent areas in the Gudgenby and Cotter catchments must be in accordance with the general and specific policies incorporated in the National Capital Plan. These were first developed by NCDC as a policy plan and later incorporated in the National Capital Plan. A management plan for the National Park which was completed by ACT Parks and Conservation Service in 1985 is in accordance with these policies. Draft management plans for the recently gazetted extensions are in preparation. Other areas still require management plans to be developed such as Tidbinbilla Nature Reserve. The ACT Parks and Conservation Service is preparing a draft plan.

Murrumbidgee River Corridor

2.47 A detailed policy framework for the Murrumbidgee River Corridor has been set by the general and detailed policies incorporated in the National Capital Plan as a Special Requirement for the area. A draft management plan was prepared some time ago by the ACT Parks and Conservation Service but has not been finalised.

Molonglo River Corridor

2.48 Detailed policy development similar to that which exists for the Murrumbidgee River Corridor is necessary for the Molonglo. This should recognise conservation of its natural and cultural values as the primary goal and recreation as the key land use. No management plan has been developed for this area.

Conclusion

2.49 Not all levels of the planning and management framework for the NCOSS are in place. The National Capital Plan requires detailed planning policies to be developed for the Inner Hills Designated Area. The Plan also recognises that detailed policy development similar to that in place for the Murrumbidgee River Corridor is necessary for the Molonglo River Corridor.

2.50 Management plans for four areas are still to be completed to comply with the requirement of the National Capital Plan. These areas are:

- . Lake Burley Griffin (in progress);
- . Canberra Nature Park (in progress);
- . the Murrumbidgee River Corridor; and
- . the Molonglo River Corridor.

CHAPTER THREE: VALUES

Introduction

3.1 The Committee's first task in this inquiry was to define the key values at stake in the NCOSS, particularly the inner hills component.

3.2 This chapter draws from the submissions, public hearings, inspections and briefings which were conducted during the inquiry. The Committee heard from a broad cross section of interests including: recreational users; voluntary Park Care groups; residents; rural lessees; conservation groups; professional associations; geologists; and birdwatchers; as well as the organisations responsible for planning and management.

3.3 The key values nominated were: ecological and nature conservation values; science and education; catchment protection; symbolism and landscape setting; cultural heritage protection; recreation and tourism; forestry; rural use; definition of urban structure; and provision for urban infrastructure. The discussion of these values raises a number of conflicts and issues which are addressed in the following chapters.

Ecological Resources

3.4 Possibly the most significant value of the NCOSS lies in the opportunity it provides for the national capital to show how environment protection and nature conservation can be integrated into our community life and economy. This is in essence the challenge of ecologically sustainable development. Ecologically sustainable development relies on, among other things, the maintenance of our 'biological capital' or biodiversity: like money in the bank this 'biological capital' can, if carefully managed, provide us with 'interest' to live on and a healthy resource base to hand on to our children, grandchildren and generations to follow.

3.5 Biodiversity is the variety of all forms of life - plants, animal and micro-organisms and the genetic information they contain and the ecosystems of which they form a part.

3.6 The ACT is in a special biogeographical location. It is part of the southern tablelands which divide the flora and fauna of the drier west (Eyrean province) and cooler, moister, south-eastern regions of Australia (Bassian province). The southern and western parts also join the alpine and subalpine areas of Kosciusko National Park. Consequently, the ACT has examples of organisms more usually associated with the flora and fauna of the western, eastern, northern and southern parts of the region around it.

This means that the area contains many organisms at the fringe of their normal ranges. These may be locally uncommon species and have conservation interest, particularly to the scientific community, though less so at the state or national level.

3.7 The NCOSS will play a crucial role in maintaining biodiversity in the ACT and the surrounding region. By maintaining the biological diversity within the NCOSS, we not only conserve examples of all species and communities but we also protect the ecosystems in which they live. These ecosystems perform vital functions such as nutrient recycling, breakdown and absorption of pollution, stabilising climate and helping to maintain the natural balance that aids recovery from unpredictable events.

3.8 By protecting the NCOSS, the Commonwealth and ACT governments will also be protecting the catchments and soils of the ACT - ensuring good water quality not only for the residents of the ACT but for the communities downstream in the Murray-Darling Basin. This will result in the preservation of a rich biological and genetic resource with applications in production of food and pharmaceuticals, stock breeding programs and industrial processes. It will provide opportunities for research, education and monitoring of our environment as well as for recreation and tourism. Finally, protecting the NCOSS will enhance the quality of life of urban communities by providing opportunities for close contact with natural areas and reinforcing our cultural values.

3.9 The ecological values of the NCOSS are widely recognised.¹ It is acknowledged that the present system has been instrumental in protecting the majority of ecosystems, communities and species occurring in the ACT. Nevertheless there are concerns about the future of NCOSS areas which have no clear legislative protection for nature conservation, and also about the ecosystems which are poorly represented in the present open space system.² For example, David Hogg commented:

NCOSS offers an excellent opportunity to conserve a representative range of all plant communities, individual plant species and habitats for individual animal species that occur naturally in the ACT. Indeed the majority of all these are already included within some NCOSS areas, although some of those areas are protected only by virtue of planning policies rather than as formally gazetted reserves.³

3.10 Such areas are particularly vulnerable when they are adjacent to urban areas. David Hogg drew attention to this:

There are other areas of land at the interface between urban development and existing NCOSS areas (e.g. Mount Ainslie, Red Hill, Bruce Ridge) which are tempting from a development viewpoint because they are readily serviceable using existing infrastructure. The ecological value of such areas often rests in the fact that they are different from the higher slopes, and the ecological consequences of the loss of land cannot be judged solely in terms of area.⁴

¹ Submissions Nos. 2, 8, 11, 15, 16, 17, 18, 19, 21, 23, 24, 25, 26, 28, 29, 31, 32, 33, 34, 35, 36, 37.

² Submissions Nos. 11, 16, 17, 19, 20, 21, 23, 28, 29, 31, 33, 34, 35, 38.

³ Submission No. 21.

⁴ Submission No. 21.

3.11 Current and past urban development in the northern ACT has followed a strategy of preserving the hills and ridges (as corridors separating suburbs, and as land too expensive to develop for housing) whilst the flatter and generally more fertile low lying land has been targeted for development. This strategy, whilst justified on a town planning basis, results in the preferential degradation and destruction of lowland ecological systems, which are different to, and in many cases richer than, those on the hilltops. The Canberra Ornithologists Group wrote:

Canberra Ornithologists Group acknowledges that successive Commonwealth and ACT Government decisions have resulted in the protection for posterity, of the splendid alpine, wet forest, riverine and dry mountain habitats and their ecological resources of the ACT. COG's strong concern is that Governments in their future development strategies should recognise that the remaining lowland ecosystems are poorly protected, and modify their development strategies to protect these values also.

The maintenance of migration corridors (and particularly those with native vegetation) is certainly important. COG is concerned that certain native vegetated open space areas in Canberra suburbs that are targeted for higher density urban development are important migration corridors. Whilst, regrettably, it is not possible at this time to be more specific on which areas are of greatest importance, the issue deserves attention in planning the in-fill of existing suburban areas.⁵

3.12 The Committee agrees that there are significant gaps in the protection of a full range of ecosystems in the NCOSS. It believes that the framework that should be used is to try to conserve whole hill ecosystems including the lower slopes in the few areas where they are still found. This is discussed in more detail in Chapter Five.

Conservation of Plant Communities and Species

3.13 The conservation status of ACT vegetation communities is summarised in Table 1. This shows that 31 of the 35 recognised vegetation types in the ACT are protected in areas under the ACT Nature Conservation Act 1980 and two reserves under the Public Parks Act 1928, namely Black Mountain and Molonglo Gorge Reserves. The higher altitude plant communities of the ACT are reasonably well represented in permanent reserves such as Namadgi National Park. These include the alpine, wet forest, riverine and dry mountain communities.

⁵ Submission No. 29.

Table 1: Plant Communities represented in ACT Parks and Reserves

Type of Plant Community	Number of Major Species Groupings within Areas		
	In the ACT	Gazetted under Nature Conservation Legislation	Not Gazetted under Nature Conservation Legislation
Eucalypt & other Tree Dominated	18	15 (4)*	3
Shrubs & Herbland	14	14	0
Grassland	3	2	1

* This includes four communities which are reserves which were recently gazetted or which are proposed to be gazetted under new legislation.

Source: Adapted from NCPA (1989)

3.14 Land use pressures in the lower altitude areas of the Territory have resulted in loss or modification of much of the dry sclerophyll forest, most of the savanna woodland and virtually all of the native grassland. These communities which were once widespread are now restricted in distribution. Low altitude communities which are particularly in need of protection are (Tables 2 and 3):

- open forest, *Eucalyptus macrorhyncha* - *E. rossii* community;
- woodland, *Eucalyptus melliodora* - *E. blakelyi* community;
- fringing woodland, *Casuarina cunninghamiana* community; and
- native tussock grassland, *Stipa spp* community.⁶

⁶ Frawley, K., *The Conservation of Remnant Woodland and Native Grassland in the ACT*, National Parks Association, 1991, p. 6.

Table 2: ACT Tree Dominated Communities and their Conservation Status

COMMUNITY	STRUCTURAL FORMATION	LOCATION	CONSERVATION STATUS
<i>Eucalyptus delegatensis</i> - <i>E. dalrympleana</i>	Wet sclerophyll forest (tall open forest, open forest)	Cool, humid, sheltered mountain	All associations in alliance adequately protected slopes and gullies of Brindabella Range
<i>E. fastigata</i> - <i>E. viminalis</i>	Wet sclerophyll forest (tall open forest, open forest)	Moist, sheltered mountain slopes and valleys of Brindabella Range	As above
<i>Casuarina cunninghamiana</i>	Swamp sclerophyll woodland or fringing woodland (open forest,	Fringing Murrumbidgee River and tributaries	Protection in Murrumbidgee River Corridor Nature Reserves (does not include lower Molonglo
<i>E. macrorhyncha</i> - <i>E. rossii</i> (large number of associations)	Dry sclerophyll forest (open forest, woodland, low open forest, low woodland)	Widespread, Higher altitudes (northern Cotter catchment) to hill slopes to lowlands	Uncertain, Community needs further investigation. Some associations protected in Black Mountain Reserve, Tidbinbilla N.R., Namadgi N.P.
<i>E. pauciflora</i> - <i>E. stellulata</i>	Savannah woodland (montane) (woodland, low woodland)	High altitude valleys	Generally well protected in Namadgi N.P.
<i>E. melliodora</i> - <i>E. blakelyi</i>	Savannah woodland (woodland, low woodland)	Undulating land at lower elevations and footslopes	Highly disturbed by past land use (esp. grazing), cleared for urban development. Some associations protected in Namadgi N.P., remainder not formally protected. Community needs further investigation.
<i>E. glaucescens</i> - <i>E. moorei</i>	Mallee (low open forest, open scrub)	High altitude, Brindabella Range	Protected in Namadgi N.P.
<i>E. pauciflora</i> spp <i>niphophila</i>	Subalpine woodland (low woodland, tall shrubland)	High altitude, Brindabella Range	Protected in Namadgi N.P.

Source: Frawley, K., *The Conservation of Remnant Woodland and Native Grassland in the ACT*, National Parks Association, 1991 (data from: NCDC, 1984a; Hogg, 1990a).

Table 3: ACT Native Grassland Communities and their Conservation Status

COMMUNITY/ASSOCIATION	STRUCTURAL FORMATION	LOCATION	CONSERVATION STATUS
<i>Poa clivicola</i> - <i>Celmisia</i> spp. (association)*	Montane/subalpine herbfield	High elevation, well drained basins, flats	Protected in Namadgi N.P.
<i>Danthonia monticola</i> - <i>Deyeuxia monticola</i> (association)	Open montane/subalpine herbfield/heath	Intermediate to high elevation, skeletal soil	Protected in Namadgi N.P.
<i>Poa labillardieri</i> (association)**	Tussock grassland	Lower elevation, moderately drained	Protected in Namadgi N.P.
<i>Poa clivicola</i> - <i>Festuca hookeriana</i> <i>Epacris microphylla</i> (association)	Wet herbfield, open heath	Intermediate elevation, moderately drained slopes	Protected in Namadgi N.P.
<i>Stipa</i> spp. (community). Eight associations	Tussock grassland	Low altitude	Poorly protected. None of most important sites are formally protected. Some protected incidentally as ground cover in reserves, by land use or management

* Broadly consistent with *Poa* spp. - *Danthonia nudiflora* (alpine/subalpine grassland) community of NCDC (1984a).

** Broadly consistent with *Poa* spp. (tablelands grassland) community of NCDC (1984a).

Source. Frawley, K., *The Conservation of Remnant Woodland and Native Grassland in the ACT*, National Parks Association, 1991 (data from. NCDC, 1984a, Hogg, 1990a, Helman and Gilmour, 1985)

3.15 Relatively few of the low altitude communities have formal legislative protection, although the gazetting of the four Murrumbidgee River Corridor Nature Reserves last year improved this position somewhat. The only gazetted reserves in the low altitude areas are Black Mountain, Molonglo Gorge and the footslopes of Mount Ainslie (Remembrance Park). The majority of areas containing these communities that have some potential for protection and appropriate management are located in the urban hill areas of the NCOSS. Some of these areas are managed as part of Canberra Nature Park. Territory government plans to gazette Canberra Nature Park as a Nature Reserve under the new Land (Environment and Planning) legislation will provide secure protection for these communities.⁷ Others are in areas which are partly under rural use, which is likely to inhibit natural regeneration.

3.16 Most of the plant species occurring in the ACT are protected within gazetted reserves or other areas managed for conservation purposes. However the two rarest plants, *Swainsona recta* and *Rutidosis leptorhynchoides*, are not known within gazetted reserves and are vulnerable in several of their known locations (Table 4). It is significant that both of these species occur naturally in native grassland and woodland areas which, as discussed above, are relatively uncommon in the ACT.⁸ *Rutidosis leptorhynchoides* (the Button Wrinklewort) is listed as nationally rare and endangered. It is found on Red Hill where the colonies are listed on the Register of the National Estate. Red Hill is included in the area that is proposed to be reserved as Canberra Nature Park under the ACT Land (Planning and Environment) Act 1991. However, the largest known population of the Button Wrinklewort occurs on Stirling Park Ridge, the proposed site for the new Prime Minister's Lodge. *Swainsona recta* is protected by ACT Government planning policies on a small fenced site in Kambah.⁹

Conservation of Animal Species

3.17 The majority of animal species recorded in the ACT are protected in nature conservation areas (Table 5). However, a number are not protected and are considered either endangered, threatened or uncommon. Of these animal species, a number are associated with native grassland, lowland woodland or lowland forest habitats. These were previously common, but have now been greatly reduced to a few remnant areas with the result that the species associated with them have also been drastically reduced (Table 6).

3.18 Only one animal species currently considered endangered at the national level is present in the ACT. This is the legless lizard *Aprasia parapulchella*, though this may not be as rare as previously thought. It is found at several hill and river corridor areas within the NCOSS, some of which have been reserved under the ACT Nature Conservation Act 1980. Another lizard *Delma impar* has been recorded recently on a number of native grassland sites within the NCOSS, including Gungahlin and Yarramundi Reach. The level of protection that can be given on these sites is limited at present. This lizard and several other reptiles found in ACT are not found in gazetted reserves.¹⁰

⁷ Submission No. 37 and Evidence, Canberra, 13 April 1992, p. 116.

⁸ Submission No. 28.

⁹ Submission No. 31.

¹⁰ Submission No. 28.

Table 4: Rare or Threatened Plants in the ACT

SCIENTIFIC NAME	LISTED IN			DISTRIBUTION CATEGORY*	CONSERVATION STATUS*	PROTECTION STATUS*
	1979	1985	1988			
<i>Carex capillacea</i>			x	3	Rare	Namadgi National Park
<i>Discaria pubescens</i>		x	x	3	Rare	Namadgi National Park
<i>Drabastrum alpestre</i>	x	x	x	3	Rare	proposed reserves Murrumbidgee River Corridor
<i>Geranium obtusisepalum</i>	x	x	x	3	Rare	Namadgi National Park
<i>Grevillea diminuta</i>	x	x	being considered			Namadgi National Park
<i>Koeleria australiensis</i>			x	3	Poorly known	Namadgi National Park
<i>Olearia sp</i>		x	x	2	Rare	Namadgi National Park
<i>Parantennaria uniceps</i>	x	x	x	3	Rare	Namadgi National Park
<i>Pomaderris pallida</i>		x	x	2	Vulnerable	proposed reserves Murrumbidgee River Corridor
<i>Rutidosis leptorhychoides</i>	x	x	x	3	Endangered	nil
<i>Swainsona recta</i>		x	x	3	Endangered	nil
<i>Taraxacum aristum</i>			x	3	Rare	Namadgi National Park
<i>Thesium australe</i>		x	x	3	Endangered	Namadgi National Park
<i>Viola improcera</i>			x	3	Rare	Namadgi National Park
<i>Westringia lucida</i>			x	2	Rare	Namadgi National Park

Rare - species which are rare in Australia but which overall are not currently considered Endangered or Vulnerable.
Vulnerable - species not presently Endangered but at risk of disappearing from the wild over a period (20-50 years) through continued depletion, or which largely occur on sites likely to experience changes in land use that would threaten the survival of the species in the wild.
Endangered - species in serious risk of disappearing from the wild state within one or two decades if present land use and other causal factors continue to operate.
Poorly known - species that are suspected, but not definitely known, to belong to any of the above categories.
2 - Species with a very restricted distribution in Australia and with a maximum geographic range of less than 100km.
3 - Species with a range over 100km in Australia but occurring only in small populations which are mainly restricted to highly specific and localised habitats.

Table 5: Animal Communities Represented in ACT Parks and Reserves

GROUP OF ANIMAL SPECIES	NUMBER OF MAJOR SPECIES			
	In the ACT	Recorded in areas protected for nature conservation by legislation	Recorded in NCOSS not protected for nature conservation by legislation	Not Recorded in areas legally protected for nature conservation or in NCOSS
Mammals	43	42	1	-
Birds	200	193	3	4
Reptiles	49	42	6	1
Amphibians	16	13	3	0
Insects	?	?	?	2

Source: Adapted from Hogg, D., *The Ecological Resources of the ACT - A Review of Recent Information*, 1990, and *Submission No. 29*, Canberra Ornithologists Group (COG) and additional information from COG.

Table 6: Rare or Threatened Animals in the ACT

TYPE OF FAUNA	SCIENTIFIC NAME	COMMON NAME	HABITAT
Insect	<i>Keyacris Scurra</i>	Wingless grasshopper	Native grassland near Hall and Royalla
	<i>Synemon plana</i>		- Belconnen Naval Base, York Park
Fish	<i>Macquaria australiasica</i>	Macquarie Perch	Murrumbidgee River & Cotter Catchment
	<i>Gadopsis Mamorata</i>	River blackfish	Cotter Catchment
Reptiles	<i>Aprasia parapulchella</i>	Legless lizard	Red Hill, Mount Taylor & Coppin 's Crossing
Birds	<i>Stricktonetta naevosa</i>	Freckled Duck	Jerrabomberra Wetlands
Mammals	<i>Pseudomys fumeus</i>	Dusky field mouse	Cotter Catchment

Source: NCPA Canberra's Environment - State of the Environment in the National Capital and ACT (1989)

3.19 Of the 43 mammal species in the ACT, all except two occur in gazetted reserves. These are the Common Marsupial Mouse and the Common Bent-winged Bat.¹¹

3.20 The habitats of the majority of the 200 bird species recorded in the ACT are protected in parks and nature reserves. The Canberra Ornithologists Group (COG) has pointed out, however, that there are two poorly conserved habitats that are significant to several birds which are uncommon or rare in the ACT, namely lowland open forest and woodland, dominated by two species of eucalypt, Blakely's Red Gum (*Eucalyptus blakelyi*) and Yellow Box (*Eucalyptus melliodora*). COG has listed the following seven rare or uncommon birds in roughly descending order of concern: regent honeyeater, painted button-quail, hooded robin, diamond firetail, superb parrot, brown treecreeper and speckled warbler. COG has attributed their decline to the continuing destruction, fragmentation and degradation of their habitat.¹²

3.21 Two frog species have apparently become extinct in the ACT. Of the remaining 16 species, 13 are in protected areas and three are in the NCOSS.

3.22 Two insects also appear to be threatened. These are *Synemona plana*, a day-flying moth which is listed nationally as endangered, and the morabine grasshopper, *Keyacris scurra*. The first of these has been found in reasonable numbers in grassland areas on Belconnen Naval Station and a few smaller inner city sites such as the foreshore of Lake Burley Griffin and York Park. The latter has been found in native grassland near Hall and Royalla.¹³

Wildlife Movement Corridors

3.23 The submission from David Hogg highlights the importance of linking the NCOSS reserves:

One of the important functions of NCOSS is in providing a protected movement corridor for wildlife. The value of such a corridor depends on its width and degree of continuity. The value of a corridor can be reduced if it is traversed by a major road or reduced in width so that it is readily patrolled by predators. Its value can be negated entirely for some species by a high fence or a strip of building development. The potential fringing away of edges of NCOSS areas is hence more significant from a wildlife viewpoint if those edges form a link in the corridor system which has evolved through NCOSS.¹⁴

3.24 The continuity of the NCOSS is therefore important for faunal diversity and in turn for the viability of animal populations. These linkages are not perfect, being interrupted by major roads in many locations. It is desirable to minimise further development which cuts across corridors. Such development leaves hills which may appear to have viable vegetation communities but which are unable to attract a complementary faunal component.

¹¹ Submission No. 28.
¹² Submission No. 31.
¹³ Submission No. 28.
¹⁴ Submission No. 21.

3.25 Some regard incremental development as a major threat to the integrity of the NCOSS. The Ecosystem Dynamics Group at ANU described the effects of such development:

Coyne (1969) demonstrates the incremental effect of separate development decisions (also known as the tyranny of small decisions (Odum 1982)) on the integrity of the Inner Hills areas. A series of aerial photographs of Black Mountain taken from 1944 to 1968 by Coyne shows the fragmentation of the Black Mountain area, principally by roads and tracks. This is still occurring today with the bulldozing of another track on the eastern side of Black Mountain by the ACT Public Works Department. The proposed John Deedman Freeway would further fragment the Black Mountain Reserve, and potentially destroy long term study sites monitoring the recovery of eucalypts after fire. These incursions cause increasing fragmentation of plant and animal habitats. Large developments, such as the proposed freeways, are a significant barrier to animal movement and destroy native vegetation in the relatively small areas remaining in the NCOSS. Smaller tracks within native bushlands provide pathways for introduced animals such as dogs and foxes. The continuity and size of the bushland areas are important, and the more they are nibbled away at, the more their integrity is threatened.¹⁵

3.26 Areas within the NCOSS are increasing in vegetation diversity through a combination of natural regeneration and management actions. This should in turn promote increased diversity of animal populations while the movement of animals between these areas remains feasible. It is desirable to enhance this where possible by planting appropriate vegetation species. This not only maintains movement corridors for wildlife but also increases landscape and recreation values.¹⁶

Research and Education

3.27 Canberra's three universities and the CSIRO, which are an important part of the Canberra economy and community, make extensive use of areas of the NCOSS for research and fieldwork courses. The proximity of relatively undisturbed natural communities to research institutions in Canberra provides the opportunity to closely study the processes underlying the dynamics of ecological systems. In particular it allows long term studies to be conducted efficiently. The results of this research are important at both fundamental and applied levels, providing basic information on the ecology of these systems, with potential input into the design and management of these areas. A submission from the Ecosystem Dynamics Group at the ANU describes the scope of this research effort.

Research into the ecology of the native plant and animal communities in the Inner Hills areas has been occurring for decades. Pook and Moore (1966), working on Black Mountain, described the distribution and abundance of plant species with aspect, illustrating how plant species are sensitive to changes in the local environment. Another classic study, often cited in the scientific literature, was conducted on the lower slopes of Black Mountain in the mid 1970's (Purdie and Slatyer 1976, Purdie 1977). There are several projects being conducted by scientists from the Australian National University and CSIRO on the response of native biota to burning after the fire on Black Mountain in February 1991. I am specifically involved with projects on the regeneration of eucalypts

¹⁵ Submission No. 38.
¹⁶ Submissions Nos. 28, 32.

after fire. On Mt Ainslie, recent research has focused on the usage by birds of woodland habitat (Possingham pers. comm.) and an investigation of the regulation of insects that defoliate eucalypt seedlings (Driscoll 1991).

The Inner Hills are not the only valuable resource for research into native communities. Further afield, the Cotter Catchment area and the Namadjli National Park are also extensively used for ecological research (for examples see O'Laughlin *et al.* 1982, Talsman and Gardner 1986, Williams 1989). The CSIRO Division of Forestry have a long term study site in the Cotter Catchment investigating the impact of different fire regimes on nutrient cycling in native forests (Raison *et al.* 1986, Keith 1991). This research has greatly increased our knowledge of the way natural and altered ecosystems function. Once again, the area is used as a teaching resource for undergraduate students.¹⁷

In addition to the work cited above, some important research on native grasslands and insect species is being conducted by the CSIRO.

3.28 The fact that a number of research groups use the NCOSS means that the area has an important role in adding to our knowledge of our biological resources. Understanding Australia's biodiversity is an enormous unfinished task. After 150 years of study it is estimated that we have identified fewer than 50% of native species and at the present rate it will take another century for this task to be completed. Australia's ecosystems are only now being described, and our knowledge of ecological processes and genetic diversity is far from complete. Recent work on a draft biodiversity strategy for Australia by the Biodiversity Advisory Committee has identified this information gap as critical to our ability to conserve our biological diversity, a fundamental goal of ecologically sustainable development.¹⁸

3.29 Parts of the NCOSS form a very useful teaching resource for tertiary courses. The Departments of Botany and Zoology, ANU, use Black Mountain to acquaint undergraduate students with basic ecological principles. The Forestry Department also uses Black Mountain as a case study for the management of native bushland. The proximity of this relatively undisturbed area to the University represents an efficient use of resources in finding field sites suitable for teaching purposes.

3.30 The education values of the NCOSS at the school and community level have also been pointed out. Schools use these areas because they are readily accessible outdoor classrooms. There is a broader community educational value in having access to natural areas where native plants and animals and natural processes can be observed and become part of our everyday experience.

¹⁷ Submission No. 38.

¹⁸ Biodiversity Advisory Committee, *Draft Biodiversity Strategy for Australia 1992*, DASET.

Catchment Protection

3.31 The National Capital Plan provides for the protection of catchments in the NCOSS which supply water for Canberra. The following specific policies are stated in the Plan:

The North Cotter area should be planned and managed in a manner consistent with Namadjli National Park in terms of protection for nature conservation and water supply requirements, with the additional potential of use for low to medium intensity recreation particularly in the pine plantations and adjacent Uriarra rural area.

The Tennant area should be planned and managed to protect its long term use as the location for an additional water supply reservoir for the National Capital. Interim use for rural and nature conservation purposes is to be permitted with steeper slopes progressively revegetated to protect and enhance the area's future role as a water supply catchment.

The streamflow and water quality of the rivers shall be protected from adverse external influences and maintained in a manner which ensures compatibility between land uses, water uses and the environmental character of the rivers and in accordance with criteria for the use of rivers and the protection of the aquatic environment set out at Appendix E of the National Capital Plan.¹⁹

3.32 At present the quality of ACT water is particularly high. The protection of these catchments is vital to the continued provision of high quality potable water at reasonable cost to the ACT. Natural vegetation cover in catchments helps to maintain hydrological cycles, regulating and stabilising water runoff, preventing soil erosion and acting as a buffer against extreme events such as flood and drought. This helps to keep the costs of water treatment to a minimum. Catchment protection can also serve the dual purpose of protecting samples of natural ecosystems.

3.33 The wider issue of water quality in a regional context is discussed in Chapter Seven.

Symbolism and Landscape Setting

3.34 The symbolism of the natural and modified landscapes and landforms around Canberra has two dimensions. First, the Burley Griffins' design emphasised the concept that the major monuments in Canberra are not the buildings, but the hills and valleys which dominate the landscape. Significance of this kind can be enhanced by encouraging a better understanding of the landscape, its geology, history, landforms, soils, vegetation and land use.

¹⁹ NCPA, *National Capital Plan*, 1990 pp. 56, 58 and 59.

3.35 Second, the landscapes of Canberra symbolise the dynamic relationship between people and the environment. Canberra as a city has an international landscape. It has a collection of exotic plantings which add diversity and interest to the national capital and in some cases have symbolic and historic significance. Australian landscape elements survive in the surrounding hills and mountains, the bushland and the grassland, and pastoral country. These landscapes are classic symbols of the essence of Australia.

3.36 Therefore the NCOSS protects, enhances and defines the landscape. Certain key areas are important, especially the pastoral foreground along the Cotter to the triple tiered backdrop of the Bullen Range, the Tidbinbilla Range and the Brindabellas. The rural landscapes also have a particular heritage significance. They provide a visual link with our rural past and as such are an essential element of both the landscape and historic values of the NCOSS.²⁰

3.37 The Institute of Landscape Architects argues that the historic, symbolic, social and aesthetic values of the NCOSS, which reflect the original innovation in Walter and Marion Burley Griffin's plans; and the subsequent planning and management, are inextricably linked. Canberra's landscape setting is the basis for its international and national reputation as a planned city. The NCOSS is a major element of that landscape setting. Professor Ken Taylor said:

Historic values and social values which result from connections with the Griffin plan and subsequent reinforcement of the open space ideal by people such as John Sulman who headed the Federal Capital Advisory Committee and led the movement to build Canberra as a garden city; Thomas Weston the first and remarkably innovative Parks Superintendent from 1913 to 1926 who laid down the tree planting heritage of Canberra and insisted on the policy of eucalypt trees on the hills; Professor Lindsay Prior who continued Weston's work in the 1940s and 1950s and who was also a great supporter for Lake Burley Griffin; and the foresight of NCD, in particular the Landscape Branch with Professor Richard Clough and then John Gray. The NCOSS is a symbol of the achievement of Canberra as the premier open space city in the world with international links with the Garden City movement pioneered by Ebenezer Howard in the 1890s and applied by Griffin and then John Sulman and others.²¹

Heritage

3.38 The Register of the National Estate lists a number of sites within the NCOSS including: sites of landscape and scenic significance such as the Parliamentary vista; sites of historical significance such as Lanyon Bowl, Tharwa Bridge, Cuppacumbalong Cemetery and the cork oak plantation; sites of natural heritage significance such as Stirling Ridge, the Namadji area, the Murrumbidgee Corridor, Tidbinbilla Nature Reserve, the Red Hill *Rutidosia* site and sites of *Drabastrum alpestre* and *Pomaderris pallida* at Paddy's River; archaeological sites such as the Tuggeranong axe grinding grooves and the Lanyon canoe tree; and geological sites such as the Cotter Caves area (Table 7).

²⁰ Submission No. 28.

²¹ Submission No. 20.

3.39 The ACT also has provision for a Heritage Places Register under the *Land (Planning and Environment) Act 1991*. This will include places of historical interest such as Lanyon, Cuppacumbalong and Remembrance Park as well as places of geological, archaeological and landscape interest. When the ACT Heritage Committee is appointed it will prepare an Interim Register. Finalisation of the Register will require comprehensive cultural resource surveys. Priority is on areas scheduled for development such as the rural areas of Gungahlin.²²

Table 7: ACT Sites on the Register of the National Estate

Landscape and Scenic Significance

Parliamentary Vista

Geological Sites

Cotter Caves

Historical Significance

Lanyon Bowl

Tharwa Bridge

Cuppacumbalong Cemetery

The Cork Oak Plantation

Natural Heritage Significance

Stirling Ridge

Namadji Area

Murrumbidgee River Corridor

Tidbinbilla Nature Reserve

Red Hill *Rutidosia leptorhynchoides* sites

Paddy's River *Drabastrum alpestre* and *Pomaderris pallida* sites

Archaeological Sites

Tuggeranong Axe Grinding Grooves

Lanyon Canoe Tree

3.40 Cultural Resource Surveys of pine forests at Stromlo and Kowen have been completed, and of Uriarra and Pierce's Creek Forests are commissioned. The aim of these surveys is to locate, identify and describe sites of historical/cultural/natural and archaeological significance. These surveys have located and mapped a considerable number of sites of significance, both Aboriginal and European. Information on these sites will be used to plan forestry operations, take account of sites and ensure their protection. When cultural resources surveys are completed, ACT Forests and the ACT Heritage Unit will prepare long term plans for the protection of the majority of these sites, and the development of a select few (for example the cork oak plantation adjacent to Glenloch Interchange) for public access and interpretation.²³

²² Pers. comm. John Feint, Heritage Unit, ACT DELP.

²³ Submission No. 37.

3.41 No detailed cultural resource investigations have been undertaken for most of the open space system. However, in 1989 the NCPA completed a listing of sites of significance in the ACT which included cultural (historic and prehistoric) sites as well as geomorphological, geological, botanical and zoological sites (Table 8). This work began some 10 years earlier and was compiled in nine volumes. This data base was handed over to the Territory by the NCPA on completion. Although it should be significant in development of the Register, there is some concern that it is out of date and may not have been as comprehensive in listing heritage sites as we would expect today. Therefore the Cultural Resource Surveys described above are still required. Coverage of the NCOSS will take considerable resources and time.²⁴ The adequacy of planning information such as this is discussed further in Chapter Four (para. 4.62).

3.42 The Geological Society has also brought to the Committee's attention the need to protect two significant geological sites. These sites are the road cutting through shale on State Circle and the Woolshed Creek fossil site. Both sites are of national significance and have been listed on the register of the National Estate. Neither site is in the NCOSS and therefore their protection is not an issue within the scope of this inquiry. However, the Commonwealth does have a clear role in the protection of the State Circle road cutting as it is on National Land. The Woolshed Creek site is Territory Land just outside the Designated Area under the National Capital Plan. The Society would like to see protective measures put in place for these sites.²⁵ This issue is further discussed in Chapter Five (para. 5.33).

Table 8: Summary of Sites of Significance in the ACT

Significance type	Number of sites*		
	National	Regional	Local
Geomorphological	9	39	16
Geological	4	37	29
Botanical	21	68	11
Zoological	7	49	10
Cultural (Prehistoric)	3	19	3
Cultural (Historic)	16	68	44

* Sites in the Gudgenby area have yet to be assessed

Source: NCPA (1989)

²⁴ Pers. comm. John Feint, Heritage Unit, ACT DELP.
²⁵ Submission No. 6 and Evidence, Canberra 14 April 1992, pp. 37,44.

Recreational and Tourism Values

3.43 The NCOSS represents a large and varied recreation resource which offers a range of recreational opportunities. The most popular type of recreation is picnicking and water-based recreation at riverside and lakeside sites where access and facilities are provided. Since 1970 there have been a number of major studies of recreation in these areas. These have shown that the proportion of the population enjoying traditional summer Sunday recreation in the NCOSS has remained fairly constant for the last 20 years. Lake Burley Griffin accounted for 51% of NCOSS visitors while Lake Ginninderra accounted for 10% and the Murrumbidgee River Corridor accounted for another 27% in the 1985 survey. A study in 1988 found that the most favoured recreation activities in the ACT were walking, picnicking, bushwalking and jogging or cycling. These activities were centred on Lake Burley Griffin, the Murrumbidgee Corridor, paths and cycle ways, regional urban parks/pools/golf courses and Lake Ginninderra. Most of these sites are located within the NCOSS. Their ability to provide recreational opportunities is closely related to their proximity and accessibility to urban areas.²⁶ This is particularly well demonstrated by the heavy and increasing use of the Pine Island picnic areas in the Murrumbidgee River Corridor. The Parks and Conservation Service visitor figures of around 500,000 per year is attributable to the proximity to the growing Tuggeranong valley population as well as the lack of urban park picnic facilities in this area.

3.44 A study of tourist use of the NCOSS showed that, on average, 39% of all visits to 13 recreation areas in the NCOSS were made by tourists. It also indicated that the Cotter Reserve, Mt Ainslie, Black Mountain and Red Hill accounted for 75% of estimated weekly tourist demand in the NCOSS. The study estimated that, in total, about 900,000 tourist visits and 1,400,000 resident visits would be made to the 13 NCOSS recreation areas during the year. Other survey work by the NCDC indicated that, on an annual basis, some 180,000 tourists visited the river corridors, while over 190,000 visit Lake Burley Griffin, and 205,000 visit Mt Ainslie Lookout. Namadji National Park attracts 12,000 tourists a year, Tidbinbilla Nature Reserve about 50,000 and Canberra Nature Park 19,000. These figures are summarised in Table 9. This gives a reasonable indication that the tourist value of the National Capital Open Space System is significant. Richards²⁷ also shows in a visitor survey that most tourists visit a natural area or park during their stay in Canberra.

3.45 However, the Royal Australian Institute of Parks and Recreation comments that, from a national perspective, it is difficult to argue that the bulk of the NCOSS has a significant recreational value to the non-residents of Canberra. The key tourist areas are the lake and the hilltop lookouts in the Inner Hills. This view is reflected to some extent in the visitor use figures given below (Table 9).

²⁶ Wood, J., *Outdoor Recreation Demand Study, Tourist use of the National Capital Open Space System*, NCDC, Canberra, 1977.
²⁷ Richards, G. P., *Outdoor Recreation: The Opportunity Spectrum Approach Applied in the ACT*, ACT Parks and Conservation Service and Canberra College of Advanced Education, Canberra, 1988.

3.46 The pine forests around the ACT attract considerable recreational use by residents of the ACT. Recreational use of Stromlo Forest is extremely high. On most weekends, hundreds of people visit Stromlo, either attending organised events or undertaking passive recreation. Annually, many thousands of Canberrans use the pine forests (particularly those parts of the forests which are close to the suburbs) for a diversity of recreational pursuits including jogging; orienteering; bike riding and mountain bike events; horse riding; forest drives; family events such as parties, picnics, camping, barbecues, bushwalking, walking dogs, blackberry, mushroom and firewood collection; bird watching; motor-sports events (strictly controlled); and fishing (where permitted). ACT Forests believes that the high level of visitation takes a great deal of pressure off the nature reserves and other 'natural' areas around the ACT.²⁸

Table 9: NCOSS Visitor Use

	Total p/a	Tourist p/a	Source
River Corridor	470,000 (650,000)	180,000	Seasonal Counts and 1984 Survey (1990-91 Counts)
Lake Burley Griffin	575,000	191,000	*
Namadji National Park	75,000 (120,000)	12,000	Estimate (1990-91 Counts)
Tidbinbilla Nature Reserve	105,000 (154,000)	48,000	Counts (1990-91 Counts)
Lanyon	80,000	25,000	Counts
Canberra Nature Park	51,000	20,000	Counts
Mount Ainslie	342,000	205,000	Counts
Black Mountain Tower	548,000	Not available	Counts

Source: Compiled from NCDC 1986 Figures, NCDC Internal Paper and 1990-91 visitors figures from the ACT Parks and Conservation Service

3.47 The next section looks at three different recreation activities. They serve to illustrate user requirements and related management issues. The activities considered are horse riding, recreational fishing and orienteering.

3.48 Horse riding is a significant recreational use of the NCOSS. It is one of the fastest growing leisure activities in the ACT. Worth conservatively about \$6 million to the Territory economy annually, it provides enjoyment to several thousand riders and employment to veterinary surgeons, farriers, saddlers, produce merchants, riding instructors, horse float manufacturers, retailers and hirers, horse trainers, dealers and others. The ACT Equestrian Association, which represents 20 affiliated clubs comprising some 3,000 family members with over 4,500 horses, raised a number of pertinent issues during the inquiry.²⁹

3.49 The government horse holding paddocks form an important part of the NCOSS. They are a valuable recreational resource for the community ensuring that horse agistment is available at reasonable cost. This means that horse riding in the ACT is not the preserve of the wealthy but is accessible to most members of the community. The paddocks themselves are open space, much of which is unsuitable for residential or commercial development because of closeness to major electricity transmission lines, land fill sites, airport flight paths or nature parks. The Equestrian Association wrote:

These paddocks have been carefully planned and developed by the various responsible authorities over a period in excess of 30 years. The paddocks form a discrete and necessary part of the whole fabric of equestrian infrastructure. This has evolved through painstaking work and close co-operation between successive governments and the equestrian community. The Association is concerned that this infrastructure be preserved, not destroyed to meet short term objectives. With the growing popularity of equestrian sports we believe more areas should be, and could be, open for horse agistment. At the minimum growth in facilities needs to keep pace with population growth. This would assist in relieving pressure on existing horse holding paddocks and, with responsible management, prevent exploitation of the land by overstocking leading to such problems as erosion and weed infestation. Sensible grazing of these areas will also reduce fire hazards.

The Bicentennial National Trail, used by both horse riders and walkers, passes through the ACT from Namadji Park to Gundaroo. Part of it is in National Capital Open Space. The preservation and enhancement of this section of the National Trail is pivotal to the planned development of equestrian facilities in the area. The Association would like to see the development of several major centres of equestrian activity along this trail. These centres, in South and Central Canberra, would be part of or adjacent to National Capital Open Space and would include, in reasonably close proximity, government agistment paddocks, commercial stables with some agistment, exercise areas and competition facilities, all linked by trails with forest and bush areas. An example of such a centre is Equestrian Park, Yarralumla, and the areas nearby, which provide some of these facilities, however, the Association has suggested a review of these facilities.³⁰

3.50 Recreational uses like horse riding can have significant environmental effects. These are discussed further in Chapter Seven (para 7.28). In the longer term it is unlikely that expansion of facilities to allow for a continued growth in the horse population will be able to be accommodated without jeopardising the nature conservation values in some areas. At present, however, areas are still available where carefully designed and managed facilities can be located without affecting significant ecosystems.

²⁸ Submission No. 37.

²⁹ Submission No. 9.

³⁰ Submission No. 9.

3.51 Recreational fishing is also significant economically and as a leisure activity at the national level. A survey in 1984 showed that over one quarter of the adult Australian population fish recreationally in a year and that the value to the economy considerably exceeds that of commercial fishing.³¹ Although fishing does not figure in the list of most favoured recreation activities in the ACT³² it is likely that this national interest is also reflected in the ACT.

3.52 Native Fish Australia, a society of biologists, anglers and interested members of the community, is concerned to see more resources given to the management of important fisheries in the ACT included in the NCOSS, namely Lake Burley Griffin and the Murrumbidgee River and its tributaries.

3.53 The submission recommends that a comprehensive management plan be prepared for ACT fisheries, relevant legislation be updated, a fishing inspector be appointed and that an angler survey and more frequent fish population and environment surveys be conducted.³³

3.54 The NCOSS provides 'playing fields' for orienteering, a sport which has been shown by numerous Australian and overseas studies to have a low environmental impact. The ACT Orienteering Association therefore believes that this recreational activity is compatible with the nature conservation role of the NCOSS. The Orienteering Association reported:

The forested and wooded areas within the city area, and on its fringe, provide us with a significant recreational resource, particularly for events targeted at junior and occasional orienteers who may be unable or unwilling to travel long distances. Within the city area, the areas of most value to us are the less steep areas of open space; we do not generally use the steepest areas, such as the upper slopes of Black Mountain or Mt Majura. Areas in or near the city which we currently make use of include:

Mount Ainslie	Bruce Ridge
Aranda Bushland	The Pinnacle
Stromlo Forest	Red Hill
Farrer Ridge	Mount Majura West
Black Mountain	Mulligan's Flat
Yarramundi Reach	Stirling Park
Wannlassa Hills	

Major events are held further afield in Namadji National Park and nearby areas.³⁴

³¹ Submission No. 10.
³² Richards, G. P., *Outdoor Recreation: The Opportunity Spectrum Approach Applied in the ACT*, Act Parks and Conservation Service and Canberra College of Advanced Education, Canberra, 1988.
³³ Submission No. 10.
³⁴ Submission No. 7.

3.55 The Association's interests are in allowing as little development as possible in the open space areas it uses. In particular, it views with some concern the proposed alignment of the John Dedman Parkway, which would greatly reduce the available amenity of Bruce Ridge. While Association members do not require specific facilities for their sport, access roads and parking are important.

Forestry

3.56 ACT Forests manages working pine plantations in the NCOSS. Stromlo Forest, Green Hills Forest and Fairbairn Pines are in the 'Inner Hills' designated area under the National Capital Plan. Pierce's Creek, Uriarra, Sherwood, Tidbinbilla and Gibraltar Creek are within the Mountains and Bushlands component of the NCOSS which has special requirements under the National Capital Plan. The plan specifies policies for these areas which requires that they should be managed for multiple use and that native vegetation should be retained, particularly along plantation edges, public roads, rivers and creeks, to preserve wildlife corridors and habitats.³⁵

3.57 ACT Forests in its submission stated that its objective was the continuation of sustainable commercial forest management in the ACT, while providing the full range of other values such as water catchment protection, conservation (of soil, biota and heritage areas under the control of ACT Forests), recreation, landscape and amenity. Softwood (pine) plantations generate up to 170,000 cubic metres of logs per annum which feed six mills in the Canberra Region - the Territory's largest manufacturing industry. These mills supply building and landscaping materials to Canberra and Sydney and their turnover exceeds \$75 million each year.³⁶

3.58 ACT Forests also manages areas of native vegetation within the ACT, a number of which are of national heritage significance such as Molonglo Gorge. Of the 26,900 ha of land under the control of ACT Forests, only around 16,000 ha is under pine plantation. A proportion of the remainder is taken up with roads, forest operations facilities (depots, etc) recreation sites and some unplanted ex-agricultural land and sites of heritage significance. The rest is native vegetation. This consists of major reserves (Molonglo Gorge and Woods Reserve at Gibraltar), stream reserves and other native vegetation corridors (a network of which can be found throughout ACT Forests lands). ACT Forests policy is to maintain and protect these natural areas and to manage recreational use in their vicinity so as to minimise adverse impacts.³⁷

3.59 In many places, the ACT's pine forests adjoin areas of multi-layered native vegetation or grassland. These plantation/vegetation interfaces enjoy a high density of wildlife, particularly parrots and larger macropods. ACT Forests has also described its active involvement in nature conservation in other areas.

³⁵ NCPA, *National Capital Plan, 1990*.
³⁶ Submission No. 36.
³⁷ Submission No. 36.

For example, in 1992/93, ACT Forests intends to instigate a program aimed at ensuring the survival of some nationally endangered eucalypt species and protecting the genetic diversity of some other eucalypts by establishing 'seed orchards' (genetically diverse plantations) of these species on ACT Forests lands, in conjunction with the CSIRO Australian Tree Seed Centre. ACT Forests is also active in protecting rare and endangered wildlife on lands under its management; for example, the Peregrine Falcon in the Kowen Forest area.³⁸

3.60 ACT Forests also believes that its plantations in the NCOSS provide other significant benefits including: restoring degraded land, protecting catchments (especially given current methods of land preparation) and fire protection. ACT Forests personnel provide the bulk of the ACT's rural fire service and ACT Forests has an on-going process of heritage identification described in Chapter Three (para. 3.40).³⁹

Urban Structure

3.61 An important function of the NCOSS is to contain and shape urban expansion. The corridors of the Murrumbidgee, the Molonglo and the Gudgenby rivers have a particularly significant role.

3.62 Some submissions put forward the view that this functional value, determining urban form and structure of self-contained towns, is in fact the most important value of the NCOSS.⁴⁰ For example, Ed Wensing wrote:

While the National Capital Plan states that the Inner Hills are to be protected as 'key symbolic and landscape elements', they have achieved that status because they have also contributed significantly to Canberra's metropolitan open space structure. Can you imagine Canberra without them?, or with only the very peaks preserved from urban development? Canberra's urban structure would be very different indeed.

It must be remembered that in the early years of the NCDC a very conscious decision was made to confine urban development to the valleys and to preserve the hills. With the benefit of hindsight and almost thirty years later, we can now see the fruits of that foresight.⁴¹

3.63 Unfortunately, while this has protected the higher altitude ecosystems very well, some other lowland ecosystems have been almost completely altered by development as discussed earlier in this chapter.

³⁸ Submission No. 36.
³⁹ Submission No. 36.
⁴⁰ Submissions Nos. 19, 27.
⁴¹ Submission No. 19.

Urban Infrastructure

3.64 National Capital Plan policies for the NCOSS provide for public utilities and roads to be located in the NCOSS only where environmental, visual and technical assessments clearly demonstrate that the impacts on the area's conservation and landscape values can be reduced to an acceptable level.⁴²

3.65 The original architects of the National Capital Open Space System saw one of its functions as a 'land bank' for future urban needs. In particular they were concerned to cater for future roads and services in a way which would skirt around existing built up areas. It is this 'land bank' role that has been the source of the greatest conflict. The belief of planners has been that the use of parts of the open space system for urban services such as transport corridors, telecommunications facilities, electricity supplies etc was essential to protect the urban environment of Canberra. This was the basis of the original parkway system of arterial roads and it was planned that urban services could use the same corridors. This, it was thought, would avoid the expense, difficulty and loss of amenity caused by the construction of additional roads and services through the existing built-up areas at a later stage.⁴³

3.66 In the meantime, ACT residents in areas adjacent to the NCOSS have become attached to their local bushland, they use it and enjoy it and sometimes put considerable time and effort into its protection, restoration and enhancement. When the need for additional urban services arises, as with the positioning of a large population in Gungahlin, proposals to put urban services through these open spaces are vigorously opposed, the main opposition being from community groups formed from residents who have come to love and value their particular areas of open space. Clearly, the threat of losing their local bushland to urban infrastructure is of greatest concern to most community groups in the present inquiry. The same concerns were brought forward by groups to the Committee's inquiry on Gungahlin's transport links.⁴⁴

3.67 Some groups, particularly community groups trying to protect their areas of bushland from development, see the planners as the enemy. They feel that they are constantly battling against the planners' will to develop any area that they can. One submission cites examples of the 'pro-development' mentality of the ACT planners.⁴⁵

3.68 The planners on the other hand see their role as balancing the need to protect the character of Canberra and its natural ecosystems and easy access to open space, with the need to protect the amenity of existing urban areas from congestion, pollution and disruption.⁴⁶

⁴² Submission No. 28.
⁴³ Submissions Nos. 15, 19, 21, 27, 28, 36.
⁴⁴ Submissions Nos. 3, 4, 8, 11, 13, 16, 17, 21, 23, 24, 29, 31, 32, 34, 35, 38.
⁴⁵ Submission No. 23.
⁴⁶ Submissions Nos. 28, 36.

3.69 Some professional groups and individuals recognise the need to balance both the protection of the NCOSS and the protection of the amenity of the urban environment.⁴⁷ For example, the Royal Australian Institute of Parks and Recreation commented:

Neither this Institute nor the general community would agree to unfettered exploitation of current open space to meet the demands of urban expansion. However, in the very long term (say 50 to 100 years from now) urban needs will emerge which are difficult to anticipate.

The process which is established to protect NCOSS, and in the very long term, which allows for alienation of small tracts of land for needs which must, after full and proper deliberation, over-ride the importance of NCOSS values, must be responsive to both National and Territory needs.⁴⁸

3.70 David Hogg believes that, while many infrastructure facilities such as powerlines, pipelines, water storages and telecommunications towers may conflict to some degree with the nature conservation and recreation values of those areas, the impacts are generally manageable and less than if the same facilities were established within urban areas.⁴⁹

3.71 The issue of roads through NCOSS areas is the most difficult to resolve. Several submissions have suggested that decisions about future transport proposals must look at the broad community interest. For instance, David Hogg wrote:

The evaluation of future road proposals affecting NCOSS cannot be made solely on the grounds of effects on the open space. It also need to give equal weight to the consequences elsewhere (particularly within the urban environment) if such roads are not built or are built in an inappropriate location in terms of attracting traffic. It is an unfortunate reality that the integrity of NCOSS has been compromised and will continue to be compromised in order to protect other aspects of the Canberra urban environment. Notwithstanding this, the Canberra community is extremely fortunate in having on its doorstep a system of conservation and recreation areas which is unsurpassed anywhere else in Australia.⁵⁰

3.72 The Royal Institute of Parks and Recreation also warned:

In the case of transport, impacts within the existing infrastructure will adversely affect large numbers of Canberrans. The welfare of the total Canberra community will need to be weighed against vocal groups from local communities.⁵¹

⁴⁷ Submissions Nos. 15, 19, 21, 27.

⁴⁸ Submission No. 15.

⁴⁹ Submission No. 11.

⁵⁰ Submission No. 21.

⁵¹ Submission No. 15.

3.73 A large number of submissions expressed concern about particular proposals for urban infill or more generally about the threat that urban consolidation poses to the open space systems.⁵² For example, Ecosystem Dynamics Group at ANU commented:

It is difficult to believe that using relatively small areas of space for housing could outweigh the myriad of other uses these areas provide. Community support for their retention is very strong.⁵³

3.74 Graeme Evans has suggested that, before setting out on a program of urban consolidation, it is necessary to define which land must be preserved.⁵⁴ He has proposed an approach which involves the classification of open space into two broad categories: non-discretionary and discretionary open space. Non-discretionary open space is land which must be protected because of its ecological intactness, its visual amenity, its cultural significance or because it has natural hazards (such as flood prone areas) or is contaminated or badly degraded. Discretionary open space is land which has none of the special qualities described above but which is important for sporting fields, playgrounds and small neighbourhood parks. Such open space is much more readily relocated and can be subject to the various criteria which planners use for determining quantity and location.

3.75 The Committee is committed to the protection of the significant values of the NCOSS. It is also mindful of the potential benefits of urban consolidation in terms of efficient use of community facilities and infrastructure and energy. The challenge is to accommodate urban consolidation in such a way that quality of urban life is enhanced and protected.

Rural Use

3.76 A considerable area of land within the NCOSS is farmland held under lease from the ACT Government or held under agistment arrangements. This land, along with the rural land that comprises about 24% of the ACT, contributed \$16.6 million to the local economy in 1989.

3.77 The Rural Lessees Association is concerned that 'more and more rural land is being taken up for NCOSS. This means not only a loss of productive working pastoral stations, but also a loss of symbolic and historic values and the opportunity to dedicate land to an open space function at low cost through the lease hold system'.⁵⁵

⁵² Submissions Nos. 3, 4, 8, 11, 13, 16, 17, 21, 23, 24, 29, 32, 33, 34, 35, 38.

⁵³ Submission No. 38.

⁵⁴ Background Paper - G Evans, 'The Urban Consolidation/Open Space Nexus', unpublished.

⁵⁵ Evidence, Canberra, 14 April 1992, p. 173.

3.78 The Rural Lessees Association contends that the retention of rural land as open space is consistent with the views of George Seddon, a leading proponent of the NCOSS. The Association quotes from Seddon's work, *An Open Space System for Canberra*, produced for the NCDC in 1977:

The cost of acquiring and maintaining large areas of open space is very much less in the ACT than elsewhere in Australia. The nature of the leasehold system in the ACT allows a unique opportunity to dedicate land to open space functions at little cost, where a similar provision on the outskirts of the State capitals would be astronomically expensive. It would be foolish not to take advantage of this situation. Maintenance costs of much of the land in the system would be low and in some specially important cases, there need be no maintenance costs to the public purse, where land is leased, and maintained by the lease-holder. This option, rarely available elsewhere in Australia, should allow Canberra to maintain its sharp urban-rural boundaries into the future.

The case for retaining these areas in pastoral use is probably best argued in the context of a public open space policy; although leased land is not in fact public, it would remain a visual part of the open space around Canberra, and public in that sense. The case is both visual and psychological, and much of it has already been stated in passing. In summary, then: Canberra should retain some visible links with its history, and be reminded physically of what is still a major primary industry and export earner in Australia.

3.79 The Committee recognises the historic, cultural and economic values of rural land in the NCOSS and of the benefits of having working rural properties within the open space system. Two issues which arise are the need to maintain appropriate public access and to maintain, or preferably improve, the condition of the land. The Committee is aware that the values of the rural land are affected by the poor condition of rural land in the ACT which has been recognised in the ACT Decade of Landcare Plan.⁵⁶ This document and the report of the recent ACT Government Inquiry into Environmental and Heritage Aspects of Rural Leases in the ACT⁵⁷ advocated changes to the lease hold system to encourage better land management practices. Suggestions include: the introduction of requirements that the ability to manage on an environmentally sustainable basis be a condition of sale; the imposition of lease conditions which require farm management plans and regular reviews; improved security of tenure; improved monitoring of land condition and stocking rates; and the provision of government assistance with tree-regeneration, control of weeds and feral animals and soil conservation. This issue is discussed further in Chapter Seven (para 7.97).

3.80 While it is beyond the scope of this inquiry to make detailed recommendations about the rural leasehold system, it is clear to the Committee that this can have significant effects on the management of land in the NCOSS.⁵⁸ The Committee therefore supports the view that changes are needed to this system to encourage landholders to invest in the best long term land management practices.

⁵⁶ ACT Government, *ACT Decade of Landcare Plan*, 1991.

⁵⁷ Standing Committee on Conservation, Heritage and Environment, Report No. 5, *The Environment and Heritage Aspects of Rural Leases in ACT*, 1991.

⁵⁸ *Evidence*, Canberra 14 April 1992, pp. 178-182.

Conclusion

3.81 The National Capital Open Space System is a valuable legacy of visionary design and planning. Its significance is far greater than a municipal or regional open space network. It has a national significance, symbolising Australian landscapes and the relationship of people with them, providing a dramatic and appropriate landscape setting for the national capital. It has potential to demonstrate how the protection of our natural and cultural resources can be achieved through careful use and management, so that these resources can continue to provide us with clean air, water, stable soils, and a diversity of biological resources. It provides a range of recreational opportunities which are extensively used by both visitors to Canberra and residents. It is a source of scientific information, education and enjoyment.

3.82 The Committee concludes that the ecological values of the NCOSS are paramount. At the same time it recognises the place of other values, including its role as a symbolic and landscape setting for the national capital, defining the urban form of the city, the protection of cultural heritage, and the provision of opportunities for recreation, rural use, forestry, research and education, as well as providing for urban infrastructure (where stringent environmental assessment allows). It is vital that these other values be protected and managed so as not to detract from the primary ecological value.

CHAPTER FOUR: PLANNING ISSUES

Introduction

4.1 The consideration of the current administrative and planning arrangements for the NCOSS (Chapter Two) and the discussion of the values of the NCOSS (Chapter Three) have raised a number of issues.

4.2 The main planning issues concerned:

- . the emphasis of the general policies;
- . the lack of specific policies for key areas, such as the Inner Hills and the Molonglo Gorge;
- . the need for a review of some of the policies which were developed some years ago under the NCDC;
- . the need to complete management plans for key areas such as the Inner Hills and the Murrumbidgee Corridor;
- . the inconsistencies between the National Capital Plan and the Draft Territory Plan;
- . the lack of co-ordination;
- . the need for better planning information;
- . the importance of working in the regional context; and
- . the need for community involvement.

Policy Emphasis

4.3 While there is general support for the planning policies for the NCOSS as expressed in the National Capital Plan,¹ there has been some concern expressed that these policies emphasise the scenic and landscape values to a greater extent than the ecological values.²

¹ Submissions Nos. 7, 9, 15, 19, 20, 21, 23, 26, 27, 32, 34, 38.
² Submission No. 31.

4.4 The Committee believes that even though the policies for various components of the NCOSS do give considerable weight to ecological values, the principles and general policies do not do so to an appropriate level. They should emphasise ecological values of the NCOSS as significant as well as the ability to provide for other values such as recreation and a natural setting for the national capital.

4.5 The policies should embody the vision of a functioning multiple use system with emphasis primarily on maintaining nature conservation values of the area and providing diverse recreation opportunities while, within the constraints of this primary objective, allowing for other uses.

4.6 The Committee recommends that:

- (1) **The orientation of policies for the NCOSS be changed to reflect more clearly the significance of the ecological values of the system as well as its value as a scenic backdrop and landscape setting.**

Lack of Specific Policies

4.7 A number of submissions raised concerns about the generality of the policies for the Inner Hills area. Because the policies allow multiple use including roads, recreation facilities and utilities, it is felt that they offer little protection to key ecological resources.³

4.8 Closely related to this issue is the criticism that there 'has been little attempt to evaluate the relative importance of sub-areas within the system in protecting particular values recognised'. This shortcoming leaves planners and decision makers without any reliable basis on which to assess development proposals when changes in land use are proposed for portions of the system. There is the potential for attrition of natural values through incremental development and maintenance decisions: the so called 'tyranny of small decisions'.⁴

4.9 The Committee believes that these concerns arise because of the incompleteness of the planning framework for the NCOSS. This framework needs to be put in place as a matter of urgency to allow for the co-ordinated, holistic planning that the NCOSS requires.

4.10 The National Capital Plan requires the completion of detailed policies for both the significant Inner Hills area, which is mostly designated in the National Capital Plan as having the special characteristics of the National Capital, and the Molonglo River Corridor, which the National Capital Plan includes as an area having special requirements in the interest of the National Capital.⁵

³ Submission No. 31.
⁴ Submission No. 31.
⁵ Submission No. 28.

4.11 It would have been desirable if the Detailed Conditions of Planning Design and Development for the Inner Hills had been in place before the management plan was developed by the ACT Parks and Conservation Service. The NCPA has done a considerable amount of work towards the preparation of Detailed Conditions, including establishing a biophysical database for the area and undertaking a detailed land assessment and evaluation exercise. This is forming the basis for detailed policy development which is now in progress. At the same time, the ACT Parks and Conservation Service has been working on the plan of management for some years. Informal consultation has continued over this period.

4.12 These detailed policies are needed to differentiate between areas with different values. Several submissions have advocated the zoning method which is widely used in planning for parks and reserves in natural areas.⁶ This method involves defining sub-areas in a management plan which emphasises particular values. For example, a zone might recognise ecological, landscape, cultural heritage or recreation values. The planning objectives for each sub-area are developed to reflect the dominant values in the area.

4.13 The CSIRO has pointed out that there are planning information systems that can be used to determine the dominant value in a sub-area. For example, LUPIS (previously known as LUPLAN) has been applied to producing a management zoning plan for Tidbinbilla.⁷

4.14 The Committee is pleased to hear that the NCPA has adopted the zoning approach in the development of the Inner Hills Policy Statement.⁸ It has used CSIRO's LUPLAN planning information system to assist in the production of detailed policies for sub-areas within the Inner Hills.⁹

4.15 The work on the Inner Hills detailed policies is well under way and the NCPA has programmed this to be completed this year.¹⁰ In preparing the Inner Hills Policy Statement, the NCPA will undertake thorough public consultation. This is required under the ACT (Planning and Land Management) Act as the detailed policies will be incorporated as an amendment to the National Capital Plan.

4.16 The ACT Parks and Conservation Service has also adopted a zoning approach to the preparation of the management plan for Canberra Nature Park, which will translate the NCPA policy statement for the Inner Hills into detailed management prescriptions. When this work is completed it should go a long way towards overcoming the problems of policies which are too general in nature.

⁶ Submissions Nos. 15, 20, 33.

⁷ Submission No. 33.

⁸ Evidence, Canberra, 13 April 1992, p. 13.

⁹ NCPA, *Inner Hills Policy Statement Outline*.

¹⁰ Evidence, Canberra, 13 April 1992, p. 13.

Inner Hills Policy Statement¹¹

It is proposed that the policy statements would be in two parts - the first being the *general Principles and Policies* and the second being the *Detailed Conditions*. An explanation of each of these is set out below.

Principles and Policies are broadly based and define the key objectives and the *primary values for the Hills, Ridges and Buffer Spaces* as a whole. Some specific issues and land uses can be included in the policies where these relate to the whole of the hills system rather than just specific locations. Policy statements do not refer directly to areas defined on the Detailed Conditions maps. The *Principles and Policies* are to be based on those set out in the current National Capital Plan for the Hills, Ridges and Buffer Spaces. They are being revised and expanded to a level of detail which is suited for framing the Detailed Conditions, thereby avoiding the need to include general statements in the Detailed Conditions which apply equally to all of the hills.

Detailed Conditions relate to particular land uses, issues and locations within the *Inner Hills* and are to be presented as a series of statements referring directly to areas defined on the Detailed Conditions maps. These areas are being identified on the basis of their existing ecological and land use characteristics and the proposed land use considered to be suitable within the context of the *Principles and Policies*.

4.17 The development of policies for the Molonglo will be no easy task. Although there has been some useful work done recently by Dr Peter Barrer under a National Estate Grant, detailed ecological study is still required before a policy document can be prepared.

4.18 It is important that this exercise take advantage of the experience and expertise of planners, managers, scientists and interested groups. This could be best achieved by seeking input from a range of these interested people early in the development of policies for the Molonglo. The model being used in the development of a management plan for Lake Burley Griffin would be appropriate. The process involved inviting public comment on a preliminary issues paper and setting up meetings with special interest groups and the general public.¹² Work on the Molonglo Corridor is to be completed in 1993.¹³

4.19 The Committee recommends that:

- (2) The NCPA give priority to the completion of detailed policies for the Inner Hills Designated Area so they can be finished in 1992 as planned.

¹¹ NCPA, *Inner Hills Policy Statement Outline*.

¹² NCPA, 'Lake Burley Griffin Management Plan', *Issues Paper* 1992.

¹³ Evidence, Canberra, 13 April 1992, p. 13.

- (3) The NCPA make resources available for the studies required to allow the detailed policies to be developed for the Molonglo Corridor and incorporated in the National Capital Plan in 1993.
- (4) The above work be carried out by the NCPA in close co-operation with the ACT Department of Environment, Land and Planning and involve a public consultation process similar to that used for the Lake Burley Griffin Management Plan.

Need for Policy Review

4.20 The detailed policies for the Murrumbidgee River Corridor and Namadji National Park which are already incorporated in the National Capital Plan have been in place for some years now. These policies were developed as NCDC policy plans in 1986 and 1988 respectively.

4.21 The policies for the Murrumbidgee Corridor in particular need review in light of changes in funding, the development of Tuggeranong and hence changing patterns of usage, and the experience of the managers of the ACT Parks and Conservation Service in working with the present policies.¹⁴

4.22 The National Capital Plan also provides detailed conditions for planning design and development of Lake Burley Griffin. The preparation of the Lake Burley Griffin Management Plan will provide a basis for review of those policies in the National Capital Plan.

4.23 The Committee recommends that:

- (5) **Special Requirements for the Murrumbidgee River Corridor and Namadji National Park in the National Capital Plan be reviewed in co-operation with the managers.**

4.24 A specific concern with the policies which cover the Australian National Botanic Gardens (ANBG), which is in the Inner Hills Designated Area of the National Capital Open Space System, has been raised by the Australian National Parks and Wildlife Service.¹⁵

The problem that we have with the positioning of the botanic gardens in the National Capital Plan is that we are put in with the hills and ridges grouping. Whilst the botanic garden certainly provides part of the back drop of the Parliamentary Triangle - we have no problems with that - the particular criteria that apply to the hills and ridges are simply

an antithesis of what a botanic garden is. The cutting of any plant, the making of paths, the erecting or taking down of buildings and fences are all very tightly controlled in hills and ridges, as they ought to be. But this is part and parcel of the ordinary day to day running of the botanic gardens.¹⁶

4.25 This issue has been raised with the NCPA and its solution is that the incorporation of a management plan for the ANBG in the National Capital Plan will cover the specific purpose of the site. The ANBG disagrees:

All of these exceptions to the core of what constitutes hills and ridges would then be accepted for the gardens. This seems an exceedingly ad-hoc way of attacking the core of what hills and ridges are about to make exceptions for the gardens. It would make much more sense if the gardens were recognised as a special land purpose. It is significant in its size and is not part of that concept of hills and ridges.¹⁷

4.26 The Committee supports the view that specific policies for ANBG in the national capital plan would be a more desirable outcome.

4.27 The Committee recommends that:

- (6) **The National Capital Plan be amended to include policies which specifically cover the Australian National Botanic Gardens portion of the Inner Hills.**

4.28 The ANBG, in its submission to the Committee, has also discussed the long running and as yet unresolved problems with the boundaries of the ANBG. The Committee finds it hard to understand why these problems have not been resolved given that there appear to be no disagreements over the changes that are proposed.¹⁸

4.29 The Committee recommends that:

- (7) **The NCPA and the ACT Planning Authority co-operate with the Australian National Botanic Gardens to resolve the boundary problems for the ANBG site quickly.**

4.30 In commenting on these requirements, the ACT Department of Environment, Land and Planning notes that there is a formal recognition that the extent of the NCOSS areas, their characteristics, the standard to which they are maintained, and how they are managed, will affect the level of resources necessary for the Territory-funded bush fire brigades. However, there is no commensurate recognition and acknowledgment of the financial implications of setting and maintaining certain standards within the NCOSS areas.¹⁹

¹⁴ Inspection, Murrumbidgee River Corridor and Namadji National Park, 19 June 1992.
¹⁵ Submission No. 25.

¹⁶ Evidence, Canberra, 3 April 1992, pp. 24, 25.
¹⁷ Evidence, Canberra, 3 April 1992, pp. 24, 25.
¹⁸ Evidence, Canberra, 13 April 1992, pp. 25, 26.
¹⁹ Submission No. 37.

4.31 The financial responsibilities for the NCOSS should rest with the Commonwealth and with the Territory. The Commonwealth's share should reflect the national significance of the NCOSS as defined in the National Capital Plan. The Plan proposes the use of management plans to determine financial responsibilities. However, DELP considers that it would seem inappropriate to attempt to address the global financial responsibilities associated with the NCOSS through individual management plans.²⁰ These financial arrangements are considered in more detail in Chapter Six.

4.32 The provisions of both the National Capital Plan and the ACT *Land (Planning and Environment) Act 1991* require the preparation of management plans for most of the NCOSS. The ACT is working towards guidelines to meet these new requirements.²¹ It is essential that guidelines be developed and agreed upon to meet both requirements so that duplication and inefficiencies can be avoided.

4.33 The Committee recommends that:

(8) *The NCPA and the ACT DELP work together to develop common guidelines for the preparation of management plans for open space areas which will satisfy the requirements of both the National Capital Plan and the ACT Land (Environment and Planning) Act 1991.*

(9) *The ACT Parks and Conservation Service gives high priority to the completion (in close co-operation with the NCPA) of management plans for:*

- . The Inner Hills
- . The Murrumbidgee Corridor
- . Tidbinbilla Nature Reserve
- . Lanyon Bowl.

Inconsistencies Between Plans

4.34 The Committee is concerned about the different names used by the two planning authorities for the open spaces around Canberra. The NCPA uses the term 'National Capital Open Space System'. This is embodied in the National Capital Plan. The Department of Environment, Land and Planning uses the term 'Metropolitan Open Space System'. It seems that if the system were only a metropolitan system there would be no call on the Commonwealth for a funding contribution to its planning and management. It is because the system is national in character and fulfils Commonwealth policies expressed through the National Capital Plan that the Committee feels strongly that the Commonwealth should make a greater financial contribution.

²⁰ Submission No. 37.

²¹ Submission No. 37.

4.35 It is therefore important that the title National Capital Open Space System be acknowledged by the ACT Government and used consistently when describing the National component of Canberra's open space (which must be over 90% of it). This should apply to the Territory Plan also. This will remove some confusion expressed by the community. Since the NCOSS is a group of land use categories in the National Capital Plan it seems unnecessarily confusing to avoid its use in the Territory Plan.

4.36 Inconsistencies in definitions, the range of land uses and boundaries of open space between the Draft Territory Plan and the National Capital Plan have also been pointed out.²² The Committee believes that these are a source of confusion to the community, given that the provision in the ACT *(Planning and Land Management) Act 1988*, Section 26, provides that:

The Territory Plan has no effect to the extent that it is inconsistent with the National Capital Plan, but the Territory Plan shall be taken to be consistent with the National Capital Plan to the extent that it is capable of operating concurrently with the National Capital Plan.

4.37 The Committee assumes that these inconsistencies must be resolved before the draft Territory Plan is finalised. If some of these inconsistencies are apparent rather than actual, it is important that the planning authorities give greater consideration to the presentation of planning information to the public in a form which is more 'user friendly'.

4.38 The Committee recommends that:

(10) *The NCPA and ACT Planning Authority urgently clarify and resolve the inconsistencies with regard to definitions, the range of permitted land uses and the boundaries of open space between the National Capital Plan and the Draft Territory Plan and/or take measures to ensure this information in those documents is presented in a form which is readily understandable to the community.*

Co-ordination

4.39 The National Capital Plan recognises the importance of co-ordination under the self-government arrangements:

Planning and management for NCOSS in the interests of both the National Capital and Territory residents will require co-operation between the Commonwealth and Territory authorities. The National Capital's requirements will be specified through its detailed land use policies in those parts of NCOSS which are Designated Areas, through the general policies and through the special requirements of the National Capital Plan for

²² Submissions Nos. 27, 19.

other NCOSS areas. The Territory will provide for its requirements through the Territory Plan. Management plans, usually prepared by Territory authorities, will be the key to successful implementation of these policies and plans.²³

4.40 Consultation and joint studies in those areas where the NCPA and the ACT Planning Authority both have a significant interest will be the best means of achieving consistency of planning and management, the ultimate goal being an open space system which symbolises the character of the National Capital and provides a unique landscape for the city.²⁴

4.41 There are various legislative requirements for consultation between Commonwealth and ACT planning authorities.²⁵

4.42 Control of National Land in the Territory is through the NCPA if the land is in the Designated Area and through the ACT Planning Authority for other land. Special Requirements in the National Capital Plan require that many activities relating to National Land be referred to the NCPA for comment prior to a decision by the ACT Planning Authority. All proposals received by the ACT Planning Authority which relate to Territory Land in Designated Areas are referred to the NCPA and there is a continuous process of liaison at all levels.

4.43 The NCPA is required under Commonwealth law to consult with the ACT Planning Authority on amendments to the National Capital Plan. The NCPA may request the (Federal) Minister to certify a draft amendment to the National Capital Plan which brings it into temporary effect while being further considered. If the ACT Planning Authority has objected to a proposed amendment the (Federal) Minister must be advised of this and must consult with the ACT Executive prior to certifying or approving the draft amendment.

4.44 Similarly, the ACT Planning Authority is required under Territory law to consult with the NCPA on variations to the Territory Plan. A report on those consultations accompanies the proposed variation when it is forwarded to the ACT Executive for approval and to the Legislative Assembly for tabling.

4.45 In addition to the processes of consultation and liaison referred to above, the Territory administers, on behalf of the Commonwealth, a number of laws relating to leasing and control of land and water in the form that those laws applied before self-government.

4.46 Other formal consultation mechanisms are weekly meetings at Chief Executive level, the ACT Interdepartmental Committee on Environment (IDCE) and the ACT Parks and Conservation Consultative Committee.

4.47 The IDCE is the major forum for the co-ordination of environmental matters amongst the represented agencies.

²³ NCPA, *National Capital Plan*, pp. 51, 52.

²⁴ *Submission No. 28.*

²⁵ *Submission No. 37.*

4.48 Membership includes representatives from all agencies with responsibilities for planning and management of land in the ACT, agencies from adjoining areas of NSW and the Department of the Arts, Sport, the Environment and Territories.²⁶

4.49 The Parks and Conservation Consultative Committee is the only formal mechanism whose terms of reference focus on open space. The committee consists of eight members who are appointed in an individual capacity by the Minister responsible for the ACT Parks and Conservation Service. These members provide expertise and advice in the following areas: forest management, nature conservation, water quality and lake management, rural lease management, cultural resource management, recreational planning, environmental education and interpretation, research and investigation, remote sensing and geographic information systems, liaison with scientific/academic institutions and liaison with community organisations.

4.50 The terms of reference for this committee are as follows:

To advise the Minister responsible for the ACT Parks and Conservation Service on issues relating to park management, nature conservation and outdoor recreation in the ACT, and on the following issues in particular:

- preparation of management plans
- content of legislation
- investigation, study and research requirements
- community information, education and interpretation
- community participation.

To provide the Minister and the ACT Parks and Conservation Service with a point of liaison and communication with community interests in relation to park management, nature conservation and outdoor recreation management.²⁷

4.51 Other co-ordination mechanisms relevant to the NCOSS are the ACT Heritage Committee and the ACT Bush Fire Council.

4.52 The ACT Heritage Committee's functions are to:

- advise the Minister on heritage matters;
- make recommendations on policies which provide incentives to preserve and conserve places and objectives of heritage significance; and
- establish an Interim Heritage Places and Objects Register for the ACT.

²⁶ ACT Parks and Conservation Service, *ACT Decade of Landcare Plan 1991.*

²⁷ ACT Parks and Conservation Service, *ACT Decade of Landcare Plan, 1991.*

4.53 The ACT Bush Fire Council has a primary function of developing policies to facilitate the implementation of the *Careless Use of Fire Act 1936*. It has members representing the Parks and Conservation Service, ACT Forests, Urban Fire Service, Rural Lessees Association and the Conservation Council of the South East Region and Canberra.

4.54 While all these co-ordination mechanisms are useful, they do not focus specifically on the NCOSS as does the Parks and Conservation Consultative Committee. This Committee, however, is responsible to the Minister responsible for the Parks and Conservation Service. It cannot represent Commonwealth interests in the implementation of NCOSS policies through the National Capital Plan.

4.55 There is concern that the informal and formal co-ordination which presently exists between the Commonwealth and ACT governments and other relevant groups with regard to the NCOSS is not achieving effective integration of planning and management.²⁸

4.56 The Society for Growing Australian Plants commented:

It has become obvious to the Society (through previous submissions we have contributed to) that there is a decided lack of consultation between public authorities at the early planning and development stages of public and private development projects in the Territory. This is especially so when stands of natural vegetation are concerned.²⁹

4.57 David Shorthouse expressed concern that:

Such a multitude of overlapping and sometimes competing interests could easily lead to ineffectual planning and management of NCOSS and a lack of vision and will to achieve for the National Capital what *Burley Griffin envisaged in his original design for the city*. The result could well be the lowest common denominator that achieves acceptance by all parties rather than the sort of NCOSS envisaged in the Mission and Aims referred to [earlier in the submission].³⁰

4.58 While both the Commonwealth and Territory planning authorities have expressed their commitment to protecting the values which this inquiry has identified as important, the involvement of these and other agencies in the planning and management of the NCOSS highlights the need to establish priorities and ensure effective co-ordination in planning, design, works approval and management functions.

4.59 The Committee believes that if the NCOSS policies in the National Capital Plan are to be effectively implemented then the Commonwealth must take a coordinating role. The NCPA as the body responsible for preparing, reviewing implementing the National Capital Plan should take on this task. Under the *ACT (Planning and Land Management) Act 1988* the Minister for Territories is able to appoint advisory committees to the NCPA Board. These Committees can comprise representative government agencies, community groups or individuals. This would seem to be an appropriate mechanism for achieving

²⁸ Submissions Nos. 11, 26, 28, 31, 32, 34.

²⁹ Submission No. 32.

³⁰ Submission No. 26.

better co-ordination between the planning and management of the NCOSS. It could allow input and involvement of relevant community and scientific interest groups.

4.60 The Committee also supports the suggestion that the NCPA and the Territory need to establish formal administrative mechanisms to link planning and management within the NCOSS and other aspects of environmental planning and management. These might be in the form of memoranda of understanding which prescribe procedures for agencies with responsibilities within the NCOSS (such as the ACTEW), and clearly defined management arrangements.³¹

4.61 The Committee recommends that:

(11) The Minister for the Arts and Territories appoint a National Capital Open Space Advisory Committee to advise the National Capital Planning Authority Board.

(12) The committee could include, in addition to representatives from the NCPA and the ACT Department of Environment, Land and Planning (ACT Planning Authority, ACT Parks and Conservation Service): nature conservation groups; rural lessees; professional groups such as the Institute of Landscape Architects, Royal Institute of Parks and Recreation; TESAL; Park Care groups; the scientific community; special interest groups such as Canberra Ornithologists; and recreational interests.

(13) The Terms of Reference for the committee include:

To advise the NCPA Board on the implementation of the policies of the National Capital Plan concerning the National Capital Open Space System, in particular:

- the completion of detailed policies and management plans
- the co-ordination of research efforts relevant to the planning and management of the NCOSS
- review of policies
- investigations of possible extensions
- allocation of funds to management and development activities consistent with the policies for the NCOSS

³¹ Submission No. 31.

preparation of Memoranda of Understanding between the NCPA and the Territory government agencies which clearly define responsibilities within the NCOSS.

Planning Information

4.62 The adequacy of current planning information to support the National Capital Plan has been questioned. The Society for Growing Australian Plants has said in its submission:

Sites of cultural or heritage significance are mentioned in the Plan but we feel there is a need to have separate or distinct references to endangered, rare or threatened plant species or communities in the ACT.³²

4.63 There is also concern about the adequacy of this listing for heritage sites as mentioned in Chapter Three (para. 3.41). This type of information is vital not only for the development of detailed planning policies and management plans but also for their implementation through the work approval process.

4.64 As noted in Chapter Three, the NCPA completed a listing of Sites of Significance in the ACT on the basis of work started under the NCDC.³³ It covered geomorphological, geological, botanical, zoological and cultural (historic and prehistoric) sites. It is likely that a large proportion of the sites for endangered species and communities is covered in this listing. However, this work is some years old now and requires updating. In a database form the updated sites of significance list would be an invaluable planning and management tool.

4.65 The NCPA has converted part of the list to a database. All the area east of the Murrumbidgee has been added to the database.

4.66 In addition to this information, there is a need for data on a range of biophysical and land use themes to ensure that planning and management are well informed. The NCPA has at present a partial Geographic Information System (GIS) for some of the NCOSS especially for the Inner Hills Designated Areas. The ACT Parks and Conservation Service has also developed a GIS data base. Some information has been exchanged including a CSIRO vegetation classification from LANDSAT data prepared for the NCPA. A co-operative effort is required to complete this work and to ensure that appropriate storage, access and maintenance of data is arranged.

³² Submission No. 32.

³³ Submission No. 28.

4.67 The Committee recommends that:

(14) The NCPA and the ACT Department of Environment, Land and Planning co-operate to build an up-to-date and comprehensive listing of sites of significance in the NCOSS, including the location of endangered, rare and threatened species and other sites of biological significance as well as geological and cultural heritage sites, and to store this information in a database which is readily accessible by all relevant agencies.

(15) The NCPA and the ACT Department of Land, Environment and Planning co-operate to complete a Geographic Information System for the NCOSS which is adequately maintained and accessible to all relevant agencies.

4.68 The Canberra Ornithologists Group (COG) has undertaken a range of detailed studies and surveys which provide valuable planning information. In particular, the Group has drawn attention to the project on the database for the forthcoming *Atlas of Birds of the ACT*, which has been sponsored by both the Commonwealth and ACT governments.

4.69 Almost 300 COG members surveyed each of the 166 2.5 minute grid squares which comprise the Territory, providing more than 7,000 record sheets on the bird species present or breeding in the grid, for at least every season and for more than three years from 1986 to 1989. This is one of the most intensive studies of its type ever undertaken in any comparable area in Australia. Nonetheless, COG is necessarily cautious in its assessments of the conservation status of the woodland bird species discussed above, and COG sees the need to continue and extend monitoring and reporting on the birds of the region:

With the latter objective in mind, COG has contracted the special expertise in computerised database models of the CSIRO Division of Wildlife and Ecology, and has purchased new computer equipment and specialised software, which will greatly facilitate the longer term recording, monitoring and reporting on the birds in the region. This will allow us to consolidate (with details of location, habitat, time, weather, breeding) the number and species of birds we record in our surveys of wilderness and bushland, Canberra's urban lakes, Lakes George and Bathurst in NSW, the weekly survey by members of their own gardens and special surveys, such as the 1991 Hooded Robin project and the nation-wide Australian Bird Count. The database project will broaden in both area and time, the data collected for the ACT Bird Atlas, and will focus closely on the association between birds and their habitats.³⁴

³⁴ Submission No. 29.

4.70 COG believes the database project will contribute significantly to understanding birds in our region and will be of considerable use to bodies associated with land use planning in the Canberra region. COG has offered to co-operate with the Commonwealth, Territory or NSW bodies in any future studies, or in discussing possible access to the database for environmental studies.

4.71 The Committee understands that the NCPA already has access to the data base because it has contributed funds to the project. The Committee urges other government agencies to which this database would be useful to take up COG's offer.

The Regional Context

4.72 A number of issues which were covered in the inquiry concern cross border influences. It is clear to the Committee that the ACT cannot work in isolation when dealing with environment planning and management issues. Co-operative mechanisms do exist and the Committee is concerned that these should be used effectively to deal with some of the critical issues raised here.

4.73 The Commonwealth, ACT and NSW governments, in co-operation with the Victorian government, have recognised the importance of co-operative nature conservation management through the Australian Alps National Parks Agreement. This has endeavoured to ensure complementary management of alpine and sub-alpine national parks and policies.³⁵

4.74 The three governments and local governments in the region are also involved in the ACT and Sub-Region Planning Committee. This group has produced an Interim Strategy for the region to address immediate planning issues while a long term planning strategy is developed.³⁶ The interim strategy identified in a preliminary way the significant regional ecological resources, to ensure that no short term decisions were made which would jeopardise these values. The early work on the long term strategy is suggesting that sustainable development should be the underlying theme.

4.75 The Committee believes that the strategy should deal with the issue of complementary cross-border management of open space. An appropriate vehicle for management may be to identify a regional open space network, together with the broad management requirements for different elements of the system such as river corridors, mountains, escarpments etc.

4.76 The Committee recommends that:

- (16) *The ACT and Sub-Region Planning Committee consider, in its work on a long term strategy for the sub-region, a regional open space network as a means of achieving complementary management of open space across borders in the sub-region.*

³⁵ Submission No. 25.

³⁶ Background Information - NCPA.

4.77 The availability of water and its quality is an overriding environmental issue for this region and no doubt will be important in the development of the long term strategy by the Canberra ACT and Sub-Region Planning Committee. These issues are also pertinent to this inquiry because the planning and management of NCOSS areas has significant effects on water quality in the ACT and in turn affects the quality of water which flows out of the ACT. Under the Seat of Government Acceptance and Severance Acts 1909 to 1955, both the NSW and ACT governments have responsibilities to protect the water quality of rivers which cross the borders.³⁷

4.78 In this context the Committee is concerned that the information base available for decision making with regard to the impacts of development on the river corridors in the region is inadequate. In particular the impact of development on the water quality of the Murrumbidgee River has received attention during the inquiry.³⁸

4.79 Concern was expressed during the inquiry that planning decisions were being made on developments within the Murrumbidgee River Corridor which could significantly affect water quality in the river. The decisions were being made in the absence of adequate natural resource studies of the river corridor. Given the importance of this issue in the long term planning of the region, the Committee believes that the ACT and Sub-region Planning Committee should act to ensure an adequate information base for future decision making.

4.80 The Committee is aware of the significant and useful work that has been done on the Murrumbidgee River Corridor within the ACT. In the mid 1980s the Parliamentary Joint Committee on the Australian Capital Territory looked closely at issues involved in the protection and management of this area. The Committee suggests that these studies could be a model for work on the sections of the corridor outside the ACT.

4.81 The Committee recommends that:

- (17) *The ACT and Sub-Region Planning Committee commission a study of the Murrumbidgee River Corridor upstream and downstream of the ACT, in order to ensure a solid information base for decisions regarding future development which may impact on water quality in the river.*

4.82 A closely related regional issue which has been brought to the Committee's notice during the inquiry is the need for a catchment management group to cover the Upper Murrumbidgee River. This is discussed in more detail in Chapter Seven.

³⁷ Evidence, Canberra, 13 April 1992, p. 60.

³⁸ Evidence, Canberra, 13 April, pp. 72-75; Canberra, 15 June 1992, pp. 238, 242-247.

Community Involvement

4.83 Canberra is notable for the degree of well informed, active public involvement in local issues. The protection of open space is one issue that has stimulated debate and action for many years.

4.84 Canberrans have shown a readiness not only to be involved in this issue by lobbying, petitions, letters, and submissions to inquiries like this one but also by getting their hands dirty in voluntary Park Care groups. There are some 13 Park Care groups in Canberra Nature Park including a number of groups which made submissions to this inquiry.³⁹ These groups contribute significant resources to the protection and enhancement of the open space areas around Canberra. The managers of the NCOSS, the ACT Parks and Conservation Service, have co-operated effectively with volunteers to restore, enhance and maintain areas of Canberra Nature Park which are part of the NCOSS.⁴⁰

4.85 There are also other vital roles played by groups such as the Canberra Ornithologists Group and the Canberra and Commonwealth Territories Division of the Geological Society of Australia. These people collect and record information on a voluntary basis which is of invaluable assistance to both planners and managers of the open space system.⁴¹ A recent report by the National Parks Association on the protection of native woodlands and grasslands in the ACT is another example of the useful role that special interest groups can play in providing an improved information base for decision making.⁴²

4.86 Attempts by planners to formally involve the community in discussion of issues that have made an impact on open space, have meet with less favourable reaction. For example, when the Committee inquired into Gungahlin's transport links it was clear that there was considerable scepticism among some sections of the North Canberra community about the objectivity of the major program of public information and consultation undertaken by the former National Capital Development Commission, called the Gungahlin External Travel Study.⁴³

4.87 It is almost inevitable that any public consultation over issues as complex and controversial as those associated with Gungahlin travel will reveal very strongly held, differing viewpoints in the community. The Committee's view was that the level of participation, debate and even disagreement generated during this study did not cast doubt on the objectivity of the commitment to genuine community consultation of those involved in this exercise. Instead it illustrated the importance of the issues to the local community, indicated their complexity and confirmed the success of the exercise in informing and educating the community about the issues.

³⁹ Submissions Nos. 11, 13, 16, 17, 35.

⁴⁰ Submission No. 37.

⁴¹ Submissions Nos. 6, 29.

⁴² Frawley, K J., *The Conservation of Remnant Woodland and Native Grassland in the ACT*, National Parks Association, 1990.

⁴³ Joint Committee on the ACT, *Gungahlin's Transport Links*, 1991.

4.88 We believe that such proactive consultation exercises can be valuable in seeking to involve the community in decision making processes. Some groups appreciate such initiatives in public consultation. For example, the Canberra Ornithologists Group, while expressing reservations about some aspects of the Draft Territory Plan, praised the forums provided for comprehensive public information and consultation.⁴⁴

4.89 The concept statement developed for the NCOSS in 1988, at the time of the changeover to self-government, aptly emphasises the need for community involvement.⁴⁵ In his submission David Shorthouse quoted from this concept statement:

To create for the National Capital a unique setting that blends city and country in a way that symbolises the character of the National Capital and provides for the present and future needs of the living city.

The cornerstone is community involvement in the ongoing planning and conservation process and an overall commitment to planning land management of NCOSS as an integrated system.⁴⁶

4.90 The Committee believes that the importance of community involvement should be reinforced through new consultative mechanisms and approaches. The Committee appreciates a broad support for the concept of community involvement in the NCOSS, not just through Park Care or commenting on draft proposals by planning and management authorities but as partners in the development and implementation of policies and management prescriptions. To achieve this will require co-ordinated effort.

4.91 The ACT Parks and Conservation Service's exercise in seeking community comments on issues to be included in the draft management plan for Canberra Nature Park, is the kind of early public involvement that the Committee supports. It may also be possible to provide for community involvement on a continuing basis through community membership of the advisory body proposed in Recommendations 11, 12 and 13.

4.92 The Committee urges that the planning and management authorities with responsibility for the NCOSS continue to seek effective ways to involve the community early in the development of policies and plans.

4.93 The Committee also believes that the community would be interested in closer involvement in the planning and management of the NCOSS. One means of achieving this would be to establish a broader community group of friends of the National Capital Open Space System.

4.94 The Committee recommends that:

- (18) A group of Friends of the National Capital Open Space System be established by the NCPA to involve the community in the planning and management of the NCOSS.

⁴⁴ Submission No. 29.

⁴⁵ Submission No. 26.

⁴⁶ Submission No. 26.

Conclusion

4.95 The Committee has identified a number of inadequacies in the present planning arrangements for the NCOSS. Specific policies for the key areas of the Inner Hills and the Molonglo River Corridor have not been completed, although work on the former is in progress.

4.96 Management plans for the Inner Hills, the Murrumbidgee River Corridor, Tidbinbilla Nature Reserve and Lanyon Bowl need to be finalised.

4.97 Better co-ordination between the planning and management agencies is required and the Committee has concluded that an NCOSS Advisory Committee to the Commonwealth Minister for the Arts and Territories would be the most effective mechanism. Greater co-operation over the collection and storage of planning information should be a priority for the planning and management agencies.

4.98 A regional approach to open space planning could maximise the effect of scarce management resources and the effectiveness of protection and management programs.

4.99 Finally, public involvement at the early stages of policy development is essential despite the criticism of a previous attempt. The Committee believes that the community should also be invited to be involved in the ongoing planning and management of the NCOSS through a Friends of the National Capital Open Space Group.

CHAPTER FIVE: PROTECTION ISSUES

Introduction

5.1 There are three main issues with regard to the protection of the NCOSS:

- First, are the present areas of the NCOSS adequately protected according to their identified values?
- Second, are all the open space areas which have ecological resources which are significant to the National Capital protected?
- Third, is there a need to recognise and protect the NCOSS as part of the Burley Griffins' design for Canberra, with values beyond those that are national and regional?

This chapter attempts to answer these questions and makes proposals to address some of the problems identified.

Adequacy of the Present Protection of the NCOSS

5.2 The formal legal protection of the NCOSS was seen as essential by many groups and individuals.¹ However, the best method for achieving such protection was not clearly understood or agreed. The protection that does exist is at a number of different levels through both legislation and planning controls.²

Protection as a Nature Conservation Area under ACT Legislation

5.3 Gazetted as a reserve under the ACT *Land (Environment and Planning) Act 1991* provides appropriate long term protection for nature conservation purposes. This replaces reservation under the *Nature Conservation Act 1980* and the *Public Parks Act 1928*. The new Act provides for protection of areas for nature conservation purposes through three categories of reservation of public land: wilderness reserve, national park and nature reserve.

5.4 The management objectives specified in the new Act for these reserves are:

- to conserve the natural environment; and

¹ Submissions Nos. 9, 11, 14, 17, 20, 21, 23, 26, 27, 29, 31, 33, 34, 38.

² Adopted from Hogg (1990), *The Ecological Resources of the ACT - A review of recent information*.

- to provide for public use of the area for recreation, education and research (for wilderness and national park only).

5.5 Areas protected under the ACT *Nature Conservation Act 1980* are:

- Namadgi National Park;
- Tidbinbilla Nature Reserve;
- Remembrance Park (behind the War Memorial);
- Murrumbidgee River Corridor - four reserves: Gigerline Nature Reserve, Stoney Creek Nature Reserve, Woodstock Nature Reserve and Bullen Range Nature Reserve;
- Lanyon Landscape Conservation Reserve; and
- Jerrabomberra Wetlands Nature Reserve.

About 119,000ha, or 50% of the open space in the Territory, is reserved under this Act.

5.6 It is proposed that Canberra Nature Park will be reserved under the new Land (Environment and Planning) legislation. This will cover twenty three inner hill units which are either currently managed or intended for management as Canberra Nature Park by the ACT Parks and Conservation Service, in the short term (Map 8). Canberra Nature Park areas have been identified as Public Lands within the Territory Plan. Most units of Canberra Nature Park are designated areas under the National Capital Plan. Areas included in Canberra Nature Park are:

D/E	Aranda Bushland	D/*	Mount Pleasant
D	Black Mountain	D/E	Mount Taylor
D	Bruce Ridge	D/N	Oakey Hill
D	Cooleman Ridge	D	O' Connor Ridge
D	Farrer Ridge	D	Red Hill
	Gossan Hill	D	Remembrance Nature Park
E	Gungahlin Hill		Mount Rob Roy
D/E	Isaacs Ridge	D	The Pinnacle
N	McQuoids Hill		Tuggeranong Hill
D/E	Mounts Ainslie and Majura		Urambi Hills
D/N	Mount Mugga Mugga	D	Wanniassa Hills
D/E	Mount Painter		

D = designated area

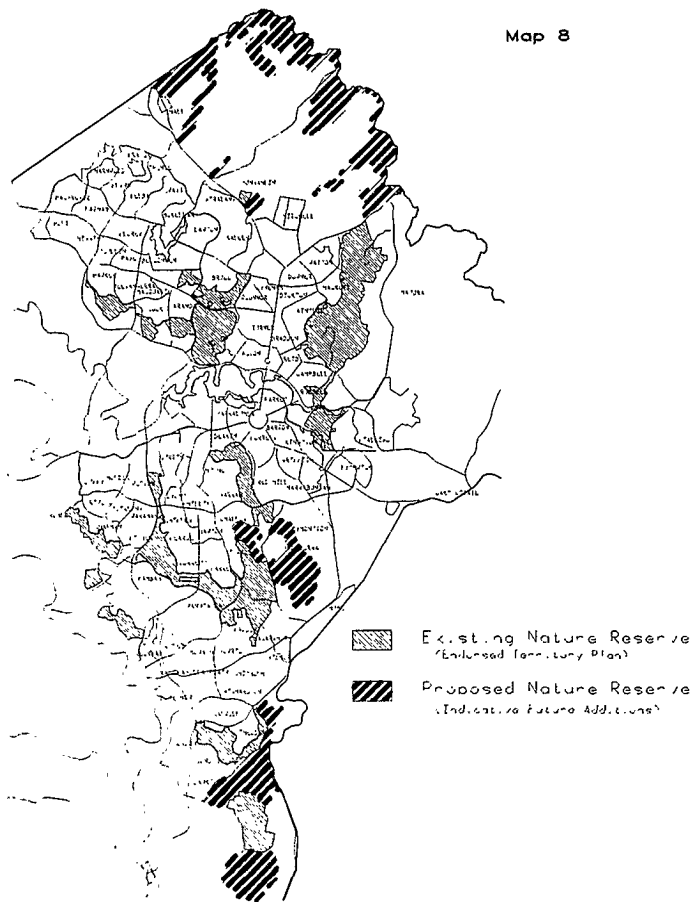
E = area is being extended

N = new area

* = partly National Land, currently no formal management agreement between Commonwealth and Territory governments

Canberra Nature Park

Map 8



Prepared by the Planning and Conservation

Protection under the ACT Public Parks Act 1928

5.7 The *Public Parks Act 1928* preceded the *Nature Conservation Act*. However, some natural areas are still reserved under this legislation. It provides statutory authority for management of Territory Lands reserved as urban open space for community recreation and related uses. It offers legal protection to gazetted land but not specifically for nature conservation purposes.

5.8 Areas protected under the *Public Parks Act 1928* are:

- Black Mountain Reserve;
- Remembrance Park; and
- Molonglo Gorge Reserve.

5.9 The *Lakes Act 1976* is also relevant as it provides statutory authority for the management of the Territory Land on the foreshores of Lake Burley Griffin, which is part of the NCOSS, as well as Lakes Ginninderra and Tuggeranong. This Act does not provide protection for nature conservation purposes; however, the management of this area has an important role in the protection of nature conservation values.

Inclusion in the National Capital Open Space System under the National Capital Plan.

5.10 The National Capital Plan gives a measure of legislative protection to an area where its policies specify the protection of nature conservation values, as in the case of the NCOSS. Any proposal to change these policies requires a formal amendment to the National Capital Plan which must undergo public consultation and lie before Parliament for a disallowance period. *General Policies for the NCOSS specify multiple uses* including roads, telecommunications facilities, water storage, access, transmission lines, parking areas, and recreational facilities. However, these policies also specify that public utilities or roads can be located in the NCOSS only where environmental visual and technical assessments clearly demonstrate that impacts on the area's conservation and landscape values can be reduced to an acceptable level. The National Capital Plan provides for the development of detailed policies for Designated Areas and areas to which Special Requirements apply. These policies can specify the protection of nature conservation values of an area. For example, detailed policies are already in place for Namadgi National Park and the Murrumbidgee River Corridor which specify the protection of the nature conservation values of these areas.

5.11 Areas of the NCOSS with detailed policies specified are:

- *Lake Burley Griffin and Foreshores Designated Area* - detailed conditions of design and development incorporated in the National Capital Plan
- *Jerrabomberra Wetlands Designated Area* - detailed conditions of design and development incorporated in the National Capital Plan

· *Namadgi National Park and Adjacent Areas* - General and Specific Policies incorporated in the National Capital Plan as a Special Requirement

· *Murrumbidgee River Corridor* - General and Specific Policies incorporated in the National Capital Plan as a Special Requirement.

5.12 Areas of the NCOSS with General Policies specified only are:

- the Inner Hills Designated Area;
- the Molonglo River Corridor where Special Requirements apply; and
- Lanyon Bowl where Special Requirements apply.

Australian Heritage Commission Act 1975

5.13 Listing on the Register of the National Estate under the *Australian Heritage Commission Act 1975* requires that all feasible and prudent means of protection be applied and that the Australian Heritage Commission be consulted when a listing is affected.

The Environment Protection (Impact of Proposals) Act 1974

5.14 The Commonwealth *Environment Protection (Impact of Proposals) Act 1974* also requires notification in relation to any decision, action or proposal which is likely to have a significant impact on the environment.

The National Parks and Wildlife Conservation Act 1975

5.15 Legislative protection for areas which are National Land is clearly a matter for the Commonwealth. The Australian National Botanic Gardens is the only area of National Land presently declared as a reserve under the *National Parks and Wildlife Conservation Act 1975*.³

The ACT Heritage Places Register

5.16 The ACT Heritage Places Register under the Land (Environment and Planning) legislation provides protection through the process of consultation which is triggered when a listed place is likely to be affected by a proposal.

Sites of Significance

5.17 Recognition in the Sites of Significance in the ACT listing completed in 1989 by the NCPA on the basis of work started under the NCDP, does not provide protection in a formal sense but is an information source which helps to ensure that sites are acknowledged in the planning process.

³ Submission No. 25.

5.18 There is some concern that the ACT *Land (Planning and Environment) Act 1991* will not provide adequate protection. However, this legislation provides an equivalent level of nature conservation protection as that which applies in other states and territories in that any gazettal or degazettal action must be before the Parliament for a disallowance period.⁴ The Committee believes that this is an adequate level of protection for nature conservation areas.

5.19 The more worrying question is whether the ACT legislation can apply to areas which are designated under the National Capital Plan. Conflicting legal advice has been provided by the NCPA and the ACT DELP.⁵ The Commonwealth Solicitor-General argues that under the ACT *Land (Administration and Management) Act 1988*, no one can do anything that is inconsistent with the National Capital Plan.⁶ He interprets declaring public land and preparing plans of management as a planning activity which would be inconsistent with the National Capital Plan in designated areas. The ACT legal advice, on the other hand, states that declaring public land over designated areas is not inconsistent with the National Capital Plan.⁷ This issue is yet to be resolved. Both the NCPA and the ACT PA are seeking further legal advice.

5.20 The implications of this issue could be quite significant. If the new ACT legislation does not apply, then legal protection for nature conservation values in Designated Areas may only be available through Commonwealth nature conservation legislation.

5.21 The Committee considers that the NCOSS should receive the highest level of protection available. This is already the case for the large part of the NCOSS, that is, the areas protected under the ACT Nature Conservation Act, but the Committee is concerned to see this level of protection extended to the valuable Inner Hills component of the NCOSS.

5.22 The Committee acknowledges that the National Capital Plan provides greater legislative protection than most planning policies. Generally, planning policies are considered to be more easily changed than reservations under specific legislation. However, the requirement that any amendment to the National Capital Plan is subject to disallowance by the Parliament does provide an additional measure of protection.

5.23 This protection would be more effective if the specific policies were in place for all significant components of the NCOSS (see Recommendation 2). Unfortunately, these detailed policies have not yet been completed for key components, notably the Inner Hills, although work is in progress. When these conditions are completed and incorporated as amendments to the National Capital Plan, a reasonable level of protection will be afforded.⁸

⁴ Evidence, Canberra, 15 June 1992, p. 203.

⁵ Evidence, Canberra, 15 June 1992, p. 210.

⁶ Evidence, Canberra, 15 June 1992, p. 262; Exhibit No. 9.

⁷ Background Paper - ACT Department of Environment, Land and Planning, DELP.

⁸ Submission No. 28.

5.24 As noted above, Canberra Nature Park, which covers most of this area, is proposed to be gazetted under the new ACT *Land (Planning and Environment) Act 1991*. It is important that the legal question about the validity of such reservation over Designated Areas under the National Capital Plan is resolved quickly and an appropriate form of protection put in place.

5.25 The Committee recommends that:

(19) The issue of whether the ACT *Land (Planning and Environment) Act 1991* applies to areas designated under the National Capital Plan as having the special characteristics of the National Capital be resolved as a matter of urgency.

(20) If it is found that the ACT *Land (Planning and Environment) Act 1991* does not apply to Designated Areas in the National Capital Plan, the NCPA move to have appropriate Commonwealth legislative protection put in place for the Inner Hills Designated Areas.

5.26 The Committee is particularly concerned about the condition of the Mt Painter section of the Inner Hills.⁹ Some land around the base of Mt Painter is managed as part of Canberra Nature Park but most of the hill has been under short term agistment for many years and is proposed as an extension to Canberra Nature Park. The Committee concludes that the significance of the area as a part of the Inner Hill system with its symbolic, landscape, ecological and recreational values warrants swift action to bring the area under Canberra Nature Park management. The Committee concludes that the area requires changed management practice to control the land degradation and encourage regeneration.

5.27 The Committee recommends that:

(21) The Mt Painter area of the Inner Hills be managed as part of Canberra Nature Park as soon as possible so as to better achieve the protection of its nature conservation, landscape and symbolic values and that appropriate regeneration and revegetation programs be undertaken.

5.28 The Committee has also concluded that the protection offered under the Public Parks Act is no longer appropriate or adequate for the NCOSS areas listed above. The Committee understands that some of these reservations will be overtaken by the gazettal of Canberra Nature Park as a nature reserve. Molonglo Gorge, however, will require a separate gazettal under the *Land (Planning and Environment) Act 1991*.

⁹ Inspection, Inner Hills, 6 March 1992.

5.29 The Committee recommends that:

- (22) **The Molonglo Gorge be gazetted as a nature reserve under the ACT Land (Environment and Planning) Act 1991.**

5.30 Legislative protection of Stirling Ridge is also of concern to the Committee. This area contains a population of the rare native plant *Rutidosia leptorhynchoides* (the Button Wrinklewort) which is listed on the Register of the National Estate. The site is almost the only site left in the central national area of Canberra where a fairly natural piece of nature bushland remains. It forms a visual link with Black Mountain bushland and the rest of the NCOSS which enhances the generally highly modified landscape of the central area of the city.

5.31 Stirling Ridge is on national land which is part of the NCOSS. Submissions have suggested that this should be protected as a nature conservation reserve.¹⁰ This could be achieved through the *Australian National Parks and Wildlife Conservation Act 1975*. The Committee agrees that this is an important area requiring protection.

5.32 The ACT Parks and Conservation Service has also suggested this area as an extension to Canberra Nature Park. This would require the formal agreement of the Commonwealth. Whether reservation can be achieved under Territory legislation is questionable.

5.33 The Committee recommends that:

- (23) **Stirling Ridge be protected for its nature conservation and scenic values.**
- (24) **The NCPA and ACT Parks and Conservation Service investigate whether Commonwealth or Territory legislation is the most appropriate means of achieving this and take action accordingly.**

5.34 The issue of protection of the two significant geological sites, the road cutting on State Circle and the Woolshed Creek fossil site, was raised in Chapter Three (para. 3.42). These sites are protected by listing on the Register of the National Estate under the *Australian Heritage Commission Act 1975*. Adequate protection of these sites may require active management of the sites. The NCPA is the Commonwealth agency responsible for the management of National Land around State Circle and hence it would have to arrange any protective management for the road cutting. The Territory government is responsible for the management of the Woolshed Creek fossil site. The Committee urges both the NCPA and the Territory government to consult with the Geological Society to ensure appropriate protective measures are in place.

¹⁰ Submission No. 31.

The Need for Extensions of the NCOSS

5.35 Chapter Three described how the NCOSS protects a large proportion of the ACT's biodiversity. However, due to a greater emphasis on visual and scenic values in its early development, the NCOSS is confined to upland areas, leaving four lowland vegetation communities poorly represented in open space reserves. Consequently, a number of species which depend on these communities are at risk.

5.36 A number of extensions to the open space system have been suggested to protect remnants of these communities. These have been well documented by the National Parks Association.¹¹ They include:

Mulligan's Flat - This area is regionally significant with important flora and fauna values. It has diverse vegetation, the densest in Gungahlin with good regeneration potential. It contains poorly conserved open forest and woodland communities and is the most important land bird habitat in Gungahlin. The area is all under short term pastoral lease, and is in the broadacre land use category under the National Capital Plan.

Greenwood Hill, Fairbairn, Kowen - This is a large area of relatively undisturbed dry sclerophyll forest with potential to form part of a larger wooded corridor. It has high actual and potential wildlife values and warrants detailed investigation. This area is currently in the Majura Field Firing Range. The Department of Defence has no plans to relocate at this stage. This restrictive use has protected the area to date.

Callum Brae - This is the second largest area of remnant savanna woodland in the ACT connecting to thinned open forest of ridges to the north, with potential for regeneration. It is also an important fauna movement corridor. The area is under short term leases, agistment or some long term leases. It is mainly covered by the broadacre land use category under the National Capital Plan.

Rob Roy Range, Tuggeranong Hill - The area is dominated by open forest. It contains the largest area of red box - scribbly gum - mealy bundy associations in the ACT and retains an understorey. Variation in vegetation and topography provides a wide range of habitats, from riparian to rocky hill tops. The area is part of the NCOSS in the National Capital Plan. It is covered by short term and long term pastoral leases.

Castle Hill - This area contains thinned woodland currently under pastoral use. It is a widely cleared savanna woodland. It is a significant bird habitat with over 70 species being recorded, usually at high densities. This area is part of the honeyeater migration route. It is in the rural land use category under the National Capital Plan and Special Requirements apply.

¹¹ Frawley, K., *The Conservation of Remnant Woodland and Grassland in the ACT*, National Parks Association.

Molonglo River corridor - This refers to the section below Scrivener Dam. It contains the River Oak (*Casuarina cunninghamiana*) community and has important habitat and scenic values.

5.37 The recent announcement by the ACT Government that Mulligan's Flat is to become a nature reserve is warmly welcomed. The Committee is convinced of the values of this area and the need for its protection.

5.38 The Committee was also pleased to be informed during the inquiry that the ACT Parks and Conservation Service is considering extensions to Canberra Nature Park to include some of these areas, namely: Callum Brae woodland, parts of Gungahlin Hills, and Isaacs Ridge (north), Mt Taylor (east), Rob Roy Range (NE, NW and south), Wanniasa Hills (east) and Stirling Ridge. The precise boundaries of these areas are being developed in consultation with the NCPA and the ACT Planning Authority. However, the ACT Department of Environment, Land and Planning has provided a map of proposed extensions to the Canberra Nature Park which it is hoped can be gazetted as a nature reserve under the ACT *Land (Planning and Environment) Act 1991* in the near future.

5.39 The Committee believes that when these areas are gazetted for nature conservation purposes under the ACT *Land (Planning and Environment) Act 1991*, values will be adequately protected. The question of the validity of this Act over land designated under the National Capital Plan is not relevant here. Because of the requirement that the Designated Areas possess the 'special characteristics of the national capital' it is extremely unlikely that any of these areas could be considered for designation.

5.40 However, the Committee believes that the nature conservation values of some of these areas justifies their consideration for inclusion in the NCOSS under the general land use categories for open space.

5.41 Mulligan's Flat, Callum Brae and Rob Roy Range are in the broadacre land use category under the National Capital Plan. It is therefore possible for the ACT Government to reserve these areas as 'open space' or 'park' because such land uses are included in the range of permitted uses. It would be preferable, however, for the National Capital Plan to reflect the values of the areas for nature conservation by including them in the NCOSS.

5.42 Castle Hill is in the rural land use category in the National Capital Plan. 'Open space' would not be consistent with the permitted uses; however, 'park' or 'landscape buffer' would. Again, it would be possible for the Territory government to add such areas to Canberra Nature Park and gazette them as reserves without the National Capital Plan being amended. However, the Committee believes that inclusion in the NCOSS would be an appropriate recognition of their ecological values.

5.43 The Committee also understands that some of these sites require further detailed investigation to determine ecological values and whether reservation as a nature reserve is appropriate. Such investigations could also look in detail at boundaries, particularly with regard to linkages with the rest of the NCOSS.

5.44 The Committee urges that the guiding principle in determining appropriate reservations and boundaries be to preserve a continuum of ecosystems from valleys to hilltops.

5.45 The Committee recommends that:

- (25) (a) The following areas be considered for addition to the National Capital Open Space System:
- . Mulligan's Flat;
 - . Callum Brae;
 - . Molonglo River Corridor;
 - . Castle Hill; and
 - . Rob Roy Range and Tuggeranong Hill;
- (b) detailed investigations required to determine whether these extensions are appropriate, and if so, where boundaries should be sited, should be co-ordinated through the proposed National Capital Open Space Advisory Committee (Recommendation 11) so that appropriate input from both governments, as well as the community and scientific experts, can be obtained; and
- (c) after detailed investigation, several of these sites be included in the NCOSS.

The Possibility of World Heritage Listing for Canberra

5.46 The recent world heritage listing of Brasilia, the national capital of Brazil, has promoted consideration of the benefits of the possible listing of Canberra.

5.47 Like Canberra, Brasilia is acknowledged world wide as a significant example of city planning of the twentieth century. Brasilia is also a modern city, although it was conceived and built later than Canberra - largely in the 1950's.

5.48 Assessment of World Heritage sites is by an international committee on the basis of a list of criteria which includes both natural and cultural values. Nominations must have universal and international values. Some sites included on the World Heritage List which cover cities or parts thereof are: Brasilia, the banks of the Seine river in Paris, Trinidad and Quebec. An Australian listing which includes settled areas is Lord Howe Island (see Appendix C for a complete list).¹²

¹² DASET - World Heritage Information.

5.49 The process for the inclusion of a site on the list involves nomination by a national government which must be derived from an indicative list compiled by that country. As yet, Australia, like a number of other countries, does not have an indicative list but has embarked on the process of preparing one.

5.50 To assist in this process, the Commonwealth has funded a consultancy which will draw up a framework for the preparation of an indicative list. This will attempt to refine the very general criteria used for assessing nominations. The consultant reported to the Heritage Ministers' Council in June 1992 and the Minister for the Arts, Sport the Environment and Territories intends to prepare the indicative list by the end of this year. The types of sites that are being considered on the 'draft indicative list' include major natural sites such as the Nullarbor. Few cities or towns have been suggested, with the exception of Fremantle. The Commonwealth, consistent with the Inter-governmental Agreement on the Environment, will only carry forward nominations which are made with the full co-operation of the states or territories.

5.51 For Canberra to be included on the indicative list for Australia, the ACT and Commonwealth governments would have to make a joint nomination. If this were successful, they would be required to prepare studies and the brief for the nomination.¹³

5.52 The Commonwealth Government has an obligation to protect and conserve a World Heritage property. However, no additional controls are imposed externally. It is up to the nation involved to protect these areas through their own systems of planning and environmental management.¹⁴

5.53 Australia is considered by the international panel to have among the best environmental and planning legislation of the signatory countries. Canberra is well served with protective legislation at both Commonwealth and local levels. Therefore, it is likely that the protection already provided for Canberra under the National Capital Plan and the Territory Plan, with the backup of more general environmental and heritage legislation, would be considered adequate. Additional specific legislation for the protection of NCOSS areas may be considered desirable but it is probably unnecessary.¹⁵

5.54 According to information provided by DASET about the World Heritage system, listing does not affect local laws, ownership of land or existing land use unless any of these threaten the universal natural and cultural values of a site. If World Heritage listing were proposed for Canberra, it would not change existing laws which give shared planning responsibility to both the ACT Government through the ACT Planning Authority and to the Commonwealth Government, through the National Capital Planning Authority.¹⁶

¹³ Pers. comm. World Heritage Unit DASET

¹⁴ DASET - World Heritage Information.

¹⁵ Pers. Comm. - World Heritage Unit - DASET.

¹⁶ DASET - World Heritage Information.

5.55 Other cities which have been listed, for example Brasilia and Quebec, continue to grow and develop as the controlling governments deem appropriate without additional constraints imposed as a result of the World Heritage listing. In Australia, Lord Howe Island is still under the planning control of the Lord Howe Island Board which reports to the NSW Government through the Minister for Environment. The Commonwealth did not assume planning control when listing occurred.

5.56 Australian sites already listed, such as Uluru, Kakadu, the Tasmanian Wilderness and the Great Barrier Reef, have experienced the benefit of greatly increased tourism as a result of being featured in various promotions of their world heritage listing. This in turn has resulted in a considerable increase in income and employment. Canberra may benefit from increased tourism if it becomes a World Heritage site. The additional revenue generated may allow more resources to be directed to strengthening management and improving interpretation and visitor facilities. World Heritage listing may also help in cultivating local and national pride in the area and developing a feeling of national responsibility to protect the site.¹⁷

5.57 If Canberra were nominated it would be important to consider, in the detailed listing, the relationship between the developing urban areas and the natural features. A listing could include the key elements of the Burley Griffin design, namely: the central parks of the National Capital Open Space System and the Parliamentary Zone; the major national institutions; the major arterial roads; and the general layout of the city but not specifically the details of urban areas. The details of the listing for the city itself would need to be considered in depth by both the Commonwealth and the ACT governments in close co-operation.

5.58 The Committee recommends that:

- (26) The Commonwealth and ACT governments explore the possibility that the parts of Canberra designed by Walter and Marion Burley Griffin and the surrounding hills and open space be included in the indicative list of possible Australian World Heritage Sites.

Conclusion

5.59 The new ACT Land Planning and Environment legislation is a strong legal form of protection for nature conservation and other values of the NCOSS, where it applies. There is legal advice that suggests that it may not apply to areas which are Designated under the National Capital Plan. This needs to be resolved quickly and Commonwealth legislation employed to protect key areas of the NCOSS if necessary.

5.60 Planning policies under the National Capital Plan would provide a reasonable measure of protection if detailed policies which specified the nature conservation values of key components of the NCOSS were in place.

¹⁷ DASET - World Heritage Information.

5.61 Some areas with important ecological values are not at present protected by either of these mechanisms. The Committee has concluded that a number of additional areas should be added to Canberra Nature Park and protected under the ACT Land (Environment and Planning) legislation. The Committee also believes that these areas should be considered as additions to the NCOSS.

5.62 The significance of the Burley Griffin design for Canberra, including the NCOSS as an important element, is international and warrants consideration for listing as a World Heritage site.

CHAPTER SIX: FINANCIAL ARRANGEMENTS

Introduction

6.1 The benefits of the protection and management of the NCOSS accrue to all Australians as well as to the people of Canberra. The NCOSS provides a fitting setting for a national capital as part of a nationally and internationally renowned urban design. The NCOSS protects nationally and regionally significant ecosystems and species and is visited by a large proportion of the tourists that come to Canberra. For ACT residents, the NCOSS is also a valuable ecological resource, for research and educational uses and as a major recreation venue for a range of activities.

6.2 The values of the NCOSS are readily identified but determining the relative contributions of the Commonwealth and the ACT to its protection and maintenance is far more difficult.

6.3 This chapter examines the four mechanisms through which the Commonwealth provides funds for the protection and management of the NCOSS. These are: funding for the management of National Land; funding for the NCPA; the Commonwealth Grants Commission; and special programs such as the Endangered Species Program and the National Soil Conservation Program.

Funding Responsibility

6.4 The *ACT Self Government Act 1988* provides that the Commonwealth conduct its financial relations with the Territory on the same basis as it does with the states and the Northern Territory while having regard to the special circumstances of the national capital. It also clearly provides that the Territory is not liable to bear the cost of any power of the Commonwealth or its authorities.¹

6.5 This is a significant provision in terms of environmental management and nature conservation in the ACT. At present, the Commonwealth provides funding for the management of the NCOSS via three mechanisms.

¹ *Submission No. 37.*

Management of National Land

6.6 During the course of the Inquiry, it became obvious that there is confusion about the administrative and funding arrangements for the NCOSS. Few people (even within the public administration) are aware of exactly what the relationship is between the two planning authorities with regard to the NCOSS and even fewer understand how the responsibility and funding for land management is shared between Commonwealth and ACT agencies.

6.7 To date, land management funding has been divided on the basis of National Land and Territory Land. The ACT (Planning and Land Management) Act sets out the basis for the division of responsibility. The land which has been declared National Land under that Act is managed by the Commonwealth. The rest of the ACT is Territory Land and is managed by the Territory government.

6.8 The Commonwealth agencies which manage National Land are the Department of Administrative Services and the National Capital Planning Authority on behalf of the Department of the Arts, Sport, the Environment and Territories.

6.9 The funds provided for the management of National Land cover areas such as Lake Burley Griffin and its foreshores, Commonwealth and Kings Parks and Stirling Ridge (see Chapter 2). The amount of funding which is provided for the NCOSS through this appropriation is difficult to estimate as it is not separated clearly from services provided for other National Land. However, an estimate can be made which indicates that some \$5,750,000 is spent directly on NCOSS related activities each year. Additional amounts could be added for fire protection and control and environment protection. In total, about \$6 million is paid to the ACT Government in contracts for work on NCOSS National Land (see Table 10).

6.10 The Committee understands that the adequacy of this level of funding will be progressively reviewed by the NCPA over the next one to two years, as it sets in place appropriate systems for the management of Commonwealth assets on National Land.

Funding for the NCPA

6.11 The Commonwealth funds the NCPA to carry out the functions required under the ACT (Planning and Land Management) Act. These include: the preparation, ongoing administration and review of the National Capital Plan; fostering awareness of the national capital; and the commissioning and carrying out of works to maintain or enhance the character of the national capital. It must prepare, administer and review general policies for land use in the NCOSS as well as specific for areas of the NCOSS which are designated under the National Capital Plan, namely, Lake Burley Griffin and the Inner Hills.

6.12 The NCPA has been given substantial powers and responsibilities, but has not been allocated sufficient funds to effectively fulfil these roles. This inquiry has identified a number of key activities which are essential to the proper planning and management of the NCOSS as required by the Commonwealth's policies in the National Capital Plan.

If the NCPA is to undertake these activities as well as its other responsibilities it will require an appropriate level of funding.

6.13 The Committee firmly recommends that:

- (27) The funding for the NCPA be substantially increased to match the responsibilities given to it by Parliament.

Table 10: Agency Services provided to the Commonwealth in the Australian Capital Territory in relation to the National Capital Open Space System (Budget Allocations 1991-92)²

	\$ million
Environment and recreation open space maintenance and rural lands management	4.158
Soil Conservation -	
Lake Burley Griffin catchment	0.286
Lake Burley Griffin maintenance	0.513
Lake Burley Griffin flushing	0.112
Scrivener Dam	0.660
Blundell's Cottage management	0.019
TOTAL (directly related to NCOSS)	5.749
<i>Fire Protection and Control</i> <i>(in part only, not included in total)</i>	<i>5.061</i>
<i>Environment Protection</i> <i>(in part only, not included in total)</i>	<i>0.296</i>
Source:	Reports to DASET of receipts and expenditures for services provided to the Commonwealth by the ACT Government in the 1991-92 Financial year.

The Commonwealth Grants Commission

6.14 The second funding mechanism is through the Commonwealth Grants Commission. The Commission has recognised the special circumstances of the ACT by assessing special allowances for indirect national capital or other Commonwealth policy influences.³

² Background Information, NCPA.

³ Commonwealth Grants Commission, Fourth Report 1991 on the ACT.

6.15 These allowances were considered under three categories:

1. The continuing costs and benefits imposed due to the location of the capital in the ACT (NATIONAL CAPITAL ALLOWANCES).
2. The short term effect of the establishment of self-government and of past policies inherited from the Commonwealth. (TRANSITIONAL ALLOWANCES)
3. Differences between Commonwealth-ACT financial arrangements and Commonwealth-State arrangements.⁴ (SPECIAL FISCAL NEEDS)

The first two of these are relevant to open space management.

6.16 National Capital allowances totalled \$14.7 million for 1990-91. Those allowances which relate to the maintenance of open space are listed below (Table 11).

	\$ million
(a) National Parks and Wildlife	\$1.846
(b) Recreation	\$1.226
(c) Local Government and Town Planning	\$0.288
	—————
	\$3.360
	—————

Source: Commonwealth Grants Commission Report on General Revenue Grant Relativities for the States, the Northern Territory and the ACT 1992 Update, AGPS.

6.17 These were assessed as follows:

- (a) An allowance of \$1.84 million was assessed by the Commission, by broad judgement, (a term used by the Commission to describe an assessment where no formulae were available or appropriate for use in this particular case), because of the requirements of the National Capital Plan as detailed in the ACT's submission to the Commission's inquiry. These include:

- the need to carry out soil conservation and revegetation programs;
- the need to consider the visual effect on the landscape of any decisions regarding the management of live plantations; and

⁴ Commonwealth Grants Commission, *Fourth Report 1991 on the ACT*.

the need to monitor use of the river corridors to meet the clear water run-off objectives of the Water Policy Plan.

- (b) An allowance of \$1.226 million was assessed, by broad judgement, in the Recreation Category. This comprised:

- a negative allowance of \$0.75 per capita or \$0.216 million (derived on the basis of 50% of the standard costs of State botanical gardens) for the contribution made by the Australian National Botanic Gardens to the recreational facilities of the ACT population; and
- a positive allowance of \$1.442 million for Commonwealth policy influences on the maintenance costs of open space.

- (c) An allowance of \$0.288 million was assessed, by broad judgement, in recognition of the additional cost faced by the ACT because of its unique need to co-ordinate planning matters consistent with the National Capital Plan.

6.18 Transitional allowances of \$1.5 million were assessed for parks and wildlife. These allowances will be phased out. The justification for this is that the ACT Government has the ability to progressively redress the policies inherited from the Commonwealth and that, as other additional costs associated with the establishment of self-government decrease, it is appropriate that the allowances for these factors, in most categories, should decline. The allowance for the National Parks and Wildlife expenditure categories was reduced from \$2.2 million in 1989-90 to \$1.5 million in 1990-91. However, it has decreased at a slower rate than other similar expenditure areas to recognise the fact that 1992-93 would be only the second year of ACT administration of these services.⁵

6.19 In commenting on the Grants Commission's assessment of indirect allowances for the national capital and other Commonwealth policy influences relating to parks, recreation and planning functions, the ACT Department of Environment, Land and Planning said:⁶

In its Fourth Report on Financing the Australian Capital Territory, the Grants Commission has assessed allowances for indirect national capital and other Commonwealth policy influences totalling some \$25 million, although only \$3.3 million relates to parks, recreation and planning functions. The determination of these allowances involved the use of a considerable measure of broad judgement by the Grants Commission. There have been difficulties in quantifying the effect of various Commonwealth policies on expenditures by the Territory government, and this is in part due to the changing financial arrangements for the Territory over recent years.

The Grants Commission has included the amounts as transitional allowances and as these are phased out the Territory will lose this financial recognition of the costs arising from national capital and other Commonwealth policy influences. The question of costs for those functions outside the scope of the Grants Commission's assessments remains.

⁵ Commonwealth Grants Commission, *Report on General Revenue Grant Relativities for the States, Northern Territory and the ACT 1992 Update*, AGPS.

⁶ Submission No. 37.

Both the prospect of these previous allowances being phased out and the need to address costs relating to functions outside the scope of the Grants Commission's assessments, make it more important that if the Commonwealth wishes to continue to have policy involvement, they must accept financial responsibility.

6.20 This assessment is incorrect in that the national capital allowance of \$3.4 million (1990-1991) for national parks and wildlife, recreation and town planning is clearly an allowance for the continuing effect of the location of the national capital on the ACT,⁷ and so the ACT should continue to receive funding on that basis.

6.21 However, the Committee agrees that the Commonwealth must accept financial responsibility for its continuing policy role with regard to open space in the ACT. For example, the Committee accepts the argument that:

The provisions of the *Australian Capital Territory (Planning and Land Management) Act 1988* and the National Capital Plan impose a number of requirements which result in additional recurrent costs to the Territory.

It has been previously mentioned that the National Capital Plan requires that Management Plans be prepared for Territory land within Designated Areas. These Management Plans must be prepared to the satisfaction of the NCPA so that the NCPA will then have a reference document when authorising works on that land. The cost of preparing such Management Plans currently lies with the Territory government yet the heads of consideration to be addressed and the goals and objectives to be achieved are set by the Commonwealth through the National Capital Plan and implemented through the NCPA.

There are significant real costs associated with the maintenance of these open space components of the National Capital at a high standard. Such responsibility now rests with the Territory but with Commonwealth agencies setting the standards. It is appropriate that Commonwealth initiatives be funded from Federal Budgetary allocations.⁸

6.22 It could be argued that the level of Commonwealth policy influence over open space areas is unlikely to diminish because the National Capital Plan gives clear responsibility to the Commonwealth for setting policies for the National Capital Open Space System which covers most of the ACT open space. It would seem that the ability of the Territory government 'to progressively redress the policies inherited from the Commonwealth', the justification for transitional allowances, is limited. It may therefore be appropriate for this transitional allowance to be included in the continuing allowance for the effect of the National Capital.

6.23 The ACT Treasury contends that the Grants Commission process is severely limited in its ability to recognise the additional financial impact on the Territory resulting from the requirements of the National Capital Plan. Specifically, ACT Treasury claims:

⁷ ACT Treasury response to inquiry.
⁸ ACT Treasury, *Supplementary Information 1992*.

The Grants Commission can only be concerned with cost in the ACT relative to the States. In all inquiries, special allowances (whether described as national capital, other Commonwealth policy or transitional allowances) have attempted to explain part of the extent to which per capita expenditures in the ACT exceed State levels. There is no assumption that the State levels of expenditures are adequate or appropriate.

Secondly, the allowances impact on the ACT's relativity factor. The resulting impact on the actual level of assistance provided to the ACT depends on the level of Commonwealth general revenue assistance to the States and changes in the ACT's relative needs for all other expenditure and revenue items. In recent years general revenue grants actually paid to the ACT have been reduced in real per capita terms compared to the States. Whether specific allowances are maintained therefore has no direct link to the ACT's financial capacity to continue past levels of expenditure.

Thirdly, national capital allowances have been assessed when national capital influences add to the cost of providing a standard (or State-like) level of service. That is, the allowances are intended to provide the ACT with some recognition of the adverse impact of Commonwealth policies on the efficiency of providing services. They are not intended to provide, and do not provide, financial capacity for the ACT to achieve a higher standard of service than in the States.

Fourthly, the Commission's terms of reference require it to apply the principle of fiscal equalisation. In accordance with that principle, if national capital influences result in the ACT receiving a higher standard of service than residents of the States (albeit at a higher level of expenditure) then the citizens of the ACT must be responsible for financing that higher level of service (either by achieving greater levels of efficiency than the States, by imposing higher taxation or by providing lower standards of other services).

In this sense the issue of whether Commonwealth policy influences are enduring is not persuasive in having transitional allowances reclassified as national capital influences. Although the distinction is difficult to make, the transitional allowances are meant to quantify costs which relate to higher standards of service, which, over time, the ACT should pay for, whatever their cause, rather than (as in national capital influences) higher costs of achieving a State-like level of service.⁹

6.24 The Committee questions the appropriateness of the Grants Commission applying the *fiscal equalisation principle to the determination of ACT funding*. This results in ACT citizens being responsible for funding the higher standard of service brought about by national capital requirements.

6.25 The Committee is concerned that the Grants Commission process does not adequately reflect the financial implications of the requirements of the National Capital Plan for the planning and management of the NCOSS.

6.26 However, determining an appropriate level of funding is extremely difficult. These difficulties relate to the changing financial arrangements for the Territory over recent years and the fact that it has taken some time to appreciate the effects of the planning arrangements under self-government. The ACT Department of Environment, Land and Planning commented:

⁹ ACT Treasury, *Supplementary Information*.

The National Capital Plan has now been in effect for over a year and the administrative arrangements and resource levels necessary to meet the requirements of that Plan are becoming clearer to the Commonwealth and Territory agencies involved.¹⁰

6.27 Despite this claim the ACT Government is still unable to provide a clear indication of the costs involved.

6.28 The ACT Parks and Conservation Service directly spent about \$2.6 million in 1991-92 on Namadgi National Park, the Murrumbidgee River Corridor, Canberra Nature Park and Tidbinbilla Nature Reserve (Table 12). This figure does not cover the head office administrative and support costs, research and support for law enforcement and interpretation. The portion of these costs attributable to the NCOSS would be likely to raise this figure considerably. On the other hand, the \$4.9 million contributed by the Grants Commission covers many costs of associated areas and functions outside the NCOSS.

**Table 12: Conservation and Wildlife - NCOSS Areas
Expenditure for the 1991-92 financial year**

	Salaries and Wages	Other Recurrent
Namadgi National Park	\$ 451,077	\$197,753
Murrumbidgee River Corridor	\$ 456,558	\$148,821
Canberra Nature Park	\$ 472,322	\$201,036
Tidbinbilla Nature Reserve	\$ 468,316	\$198,708
TOTAL	\$1,848,273	\$746,318

NOTE:

- The above costs do not include expenditure incurred for:
 - Head Office administration/support
 - Wildlife, plant or ecqaotic ecology support and research
 - Support given for law enforcement or interpretation (other than that conducted on-site).
- The salaries and wages figures include costs above and below line as well as overtime, penalties etc.

Source: ACT Parks and Conservation Service.

¹⁰ Submission No. 37.

6.29 Outside the Grants Commission's scope of consideration is funding for housing, roads, land development and capital works. Areas of expenditure not included in the Commission's assessments but which are most likely to impact on national capital planning requirements in open space, national parks and recreation areas, relate to those of a capital infrastructure nature, including roads.¹¹ This funding is negotiated with the Commonwealth separately from Grants Commission funding. It has declined in real terms in recent years. This has implications for the ACT's ability to meet national capital requirements. In its submission to the Committee the ACT Department of Environment, Land and Planning stated that:

Funding for capital works generally, and for roads in particular, has declined in real terms in recent years. Funding of the order required to meet the expectations of the Parliamentary Joint Committee on the Australian Capital Territory (reflected through the Gungahlin External Transport Study recommendations) and the National Capital Plan will be extremely difficult (if not impossible) for the Territory to achieve, even if the works are to be staged over a number of years.

As a result, it is possible that there may be some reduction in the physical standard of the roads, how sensitively they are located in the metropolitan open space system and how they may impact upon nature conservation and environmental management strategies. Their implementation may need to be delayed or there may need to be some reconsideration of the principles which led to the GETS proposals.¹²

6.30 The Committee concludes that, given that it is unlikely that the allowances due to the influence of national capital planning considerations on the extent of open space in the ACT will be increased in future years, the only feasible alternative is for the Commonwealth to provide specific funding commitments where its priorities differ from the priorities, and funding capacity, of the ACT. Development of appropriate management plans within national parks and areas of open space which clearly identify any additional requirements under the National Capital Plan, would assist in this process.¹³

6.31 This accords with the policies of the National Capital Plan for the NCOSS.

As soon as practicable after the coming into operation of this Plan, Management Plans should be prepared for the major NCOSS elements to assist in determining financial responsibilities and as a means of enabling the NCPA to authorise works in Designated Areas. Such Management Plans will be the responsibility of Territory Land. The ACT Bush Fire Council should be consulted.¹⁴

6.32 The ACT Government has put to the Commonwealth that a mechanism is required which allows for recognition of the financial implications of Commonwealth policy on functions outside the scope of the Grants Commission's assessment, but this has not received support.¹⁵ The ACT Treasury further argues that:

¹¹ ACT Treasury, *Supplementary Information*.

¹² Submission No. 37.

¹³ ACT Treasury, *Supplementary Information*.

¹⁴ NCPA *National Capital Plan*, 1990.

¹⁵ ACT Submission to the Commonwealth Grants Commission of Inquiry into the Financing of the Australian National Capital, 1990.

In the absence of such a framework between the Commonwealth and the ACT (to take account of those costs outside the Commission's scope of assessments), financial compensation should be negotiated on a case by case basis.¹⁶

6.33 The Committee also agrees that financial compensation for the implications of Commonwealth policy on functions outside the scope of the Grants Commission assessment should be negotiated on a case by case basis.

Special Programs

6.34 The third avenue for Commonwealth funds is through a broad range of programs which are not directed specifically at open space planning and management but which can assist in the management and protection of the NCOSS. The Committee considers that these funding avenues should be fully explored. The most appropriate mechanism for co-ordinating applications for these programs may be through the NCOSS advisory committee proposed in Recommendation 11 (para 4.61).

6.35 The programs, as listed in the *ACT Decade of Landcare Plan*, include:

The National Soil Conservation Program (NSCP)

The NSCP, by assisting in the protection of Australia's soil resources, also has an important role in achieving sustainable land use. The Program complements Territory government activities in soil conservation and is consistent with the objectives of the National Soil Conservation Strategy which was agreed between the Commonwealth and the States and Territories in 1988.

Funding from the Program will be directed through State and Territory Decade of Landcare Programs as outlined in the Decade of Landcare Plans.

The Murray Darling Basin Natural Resources Management Strategy (NRMS)

The NRMS provides Murray-Darling Basin communities with an opportunity to accelerate and complement national and Territory programs by planning and carrying out integrated local and regional natural resources management projects.

The Federal Water Resources Assistance Program (FWRP)

The aim of the FWRAP is to ensure that the nation's water resources are efficiently and equitably developed, used and managed. The FWRAP provides financial assistance to the States and Territories for works and measures that advance Commonwealth water policy objectives, are of national significance and represent special circumstances warranting Commonwealth support.

The One Billion Trees Program (OBTP)

The OBTP aims to have at least a billion new trees planted, sown and regenerated by the year 2000, together with a much greater community awareness and capacity to conserve, restore and nurture Australia's native vegetation.

The Save the Bush Program (STBP)

The STBP is primarily concerned with maintenance of biological diversity (e.g. through conservation and regeneration of flora and fauna habitat and wildlife corridors), although it recognises other benefits of vegetation such as enhancing agriculture (e.g. provision of wind breaks, shade and fodder), assisting soil conservation (e.g. salinity and erosion control), providing economic return (e.g. forestry, woodlots and honey production), providing aesthetic pleasure, protecting water catchments and facilitating sporting and recreational activities.

The Endangered Species Program (ESP)

The ESP is designed to further the aims of a national strategy for the conservation of species and habitats threatened with extinction.

The National Estates Grant Program (NEGP)

The NEGP provides assistance to the Territory and organisations within it to conserve the national estate. The national estate includes the natural and built environments.¹⁷

6.36 The Committee recommends that:

- (28) The development of plans of management for elements of the NCOSS be used to further identify the additional financial responsibilities borne by the Territory government due to the influence of the National Capital Plan.
- (29) The Commonwealth provide specific funding on a case by case basis as these additional financial responsibilities are clearly identified.
- (30) The proposed NCOSS Advisory Committee work with Commonwealth agencies administering the special programs listed in 6.35 to identify further sources of funding for the NCOSS.

Conclusion

6.37 The Committee has concluded that the funds provided through the above mechanisms do not adequately reflect the Commonwealth's role in determining policies for the NCOSS.

6.38 In particular, the Committee questions the application of the fiscal equalisation principle by the Grants Commission which requires that the residents of the ACT have to pay for the higher standard of service which is a requirement of the national capital.

¹⁶ ACT Treasury, *Supplementary Information*.

¹⁷ ACT Parks and Conservation Service, *ACT Decade of Landcare Plan 1991*. pp. 73, 74.

6.39 The determination of the appropriate level of funding for the NCOSS is difficult because the cost differential between Commonwealth and ACT standards is only beginning to be understood.

6.40 The only practical method of determining such costs appears to be specific funding on a case by case basis as differences in standards and their cost are quantified. This means that the completion of management plans for key elements of the NCOSS is crucial.

CHAPTER SEVEN: MANAGEMENT ISSUES

Introduction

7.1 Maintaining the values of the NCOSS which were identified in Chapter Three relies on proper management. During the inquiry, a number of serious management problems have been identified which threaten the protection of these values. These included:

- . weeds and feral and domestic animals;
- . urban expansion and urban servicing;
- . bushfire;
- . grazing effects;
- . water quality decline; and
- . recreational impacts.

7.2 In this chapter these problems and the present management strategies are briefly reviewed and some suggestions are made on additional measures which may be appropriate. However, it is not within the scope of this inquiry to make detailed recommendations about each of these management issues. Indeed, some of these issues are in themselves subjects for further detailed analysis.

Weeds

7.3 A number of submissions have discussed weed problems and have suggested various solutions.¹ The NCPA made the following comments:

At least 28% of the present ACT flora is introduced. Some introduced species are important to our community. The most obvious are the pine forests, which, while not as diverse ecologically as native forests, do have value for soil protection, habitat and recreation as well as their timber value. However, many introduced or translocated species are without predators or disease to control them and have increased rapidly.

Plant invasions through competition for limited resources reduce native plant and animal diversity and modify the landscape. For example, willows planted in creek lines are readily dispersed downstream and can choke waterways dramatically changing fish habitat. Tree of heaven, *Ailanthus altissima* and introduced wattles such as *Acacia decurrens* disperse

¹ Submissions Nos. 13, 21, 28, 31, 34.

themselves readily through native bushland and constitute a serious problem. Other garden escapes such as firethorn (*Pyracantha spp*), cotoneaster (*Cotoneaster spp*), pampas grass (*Cortaderia sellonae*) and hawthorn (*Crataegus oxyantha*) are also significant weed problems.

These plants are available for sale in nurseries around Canberra and it has been suggested that it may help to control the problem if they were withdrawn from sale and if Government agencies took a lead in avoiding their use in landscaping. Education of the public and private landscape and horticultural firms would also be beneficial.²

7.4 The principles of weed management are well established:

- . remove sources of weed seed and other propagules;
- . reduce conditions which favour weed establishment; and
- . use integrated weed management methods to remove weed infestations, including bushland regeneration methods, as well as chemical, mechanical and biological control methods where appropriate.

7.5 The Committee is aware of the work of the group called Towards Ecologically Sustainable Australian Landscapes (TESAL) which addresses the first principle. This is an informal umbrella group made up of the Society for Growing Australian Plants, the Canberra Ornithologists Group, the Field Naturalists Association, the Herpetological Association, the Conservation Council of the ACT and the South East Region as well as representatives from the City Parks Section of the ACT Parks and Conservation Service, the Australian National Botanic Gardens and the Australian Institute of Landscape Architects.

7.6 TESAL has prepared a list of problem plant species in the ACT, which classifies their degree of invasiveness, recommends where they should not be used and suggests alternative native and exotic species (see Appendix D).³

7.7 The Committee recommends that:

- (31) The NCPA ensure that the problem plants on TESAL's list are no longer used for landscaping in areas of the National Capital under their planning and management control.
- (32) The Territory government publicise the damage caused by seriously invasive plants and discourage their sale in the Territory and ensure that invasive and potentially invasive plants are labelled accordingly.

² Submission No. 28.

³ Submission No. 13.

7.8 With regard to the second principle, the conditions which favour weed spread and establishment are usually disturbance such as clearing, grazing and fire or urban runoff with excess nutrients. These management issues require a range of measures outside NCOSS boundaries and are discussed further in later sections of this chapter.

7.9 The third principle regarding the use of integrated management techniques based on bushland regeneration methods is important in the daily management of NCOSS areas. The use of Park Care groups is particularly important in implementing bush regeneration methods of weed removal. This effort complements the work of Parks and Conservation Service staff which for reasons of staff numbers and efficiency are more likely to concentrate on mechanical and chemical methods of weed control. It is important that funding for this work continues to at least the same level.

7.10 The Committee recommends that:

- (33) The ACT government continues to fund the Park Care program in the long term to at least the same real level as in 1992-93.

An Australian Landscape for the National Capital

7.11 A consistent theme in a number of submissions was that we need to place more emphasis on Australian native plants in landscaping areas of open space.⁴

7.12 While it may have been understandable that early landscaping practice paid little attention to Australian plants, our increasing knowledge of ecological processes should suggest that well established native landscapes will be most likely to provide habitat or corridors for native animals and will commonly require less water, less fertiliser and less maintenance: a step towards ecologically sustainable city landscapes.

7.13 Graeme Horn of the Farrer Ridge Revegetation Group has suggested a native landscape for Lake Burley Griffin foreshores:

My own choice for the area (around the lake) would be a woodland setting with native grasses and herbs such as bluebells, daisies and small shrubs. This would run down to the lake area where Casuarinas would be the dominant tree but would be interspersed with open areas of lawn for recreational purposes. This would lead to more interesting and personal spaces rather than large areas of sterile grasses covering huge areas.⁵

7.14 The concept of reinforcing and maintaining corridors for wildlife by native planting throughout the NCOSS is favoured by a number of groups.⁶ The Society for Growing Australian Plants proposed an east-west wildlife corridor:

⁴ Submissions Nos. 13, 29, 31, 32, 34.

⁵ Submission No. 13.

⁶ Submissions Nos. 13, 21, 26, 28, 29, 31, 32, 34.

At present the Molonglo River Corridor ceases at Lake Burley Griffin. This should be extended through to the border of the ACT near the Molonglo Gorge, thus linking the Brindabellas to our eastern border forests. This would entail further native plantings linking areas such as Black Mountain, Commonwealth Gardens, Kings Park and Jerrabomberra Wetlands thus making the corridor more complete. There is ample room surrounding the Lake verges to achieve this. This may involve the removal (over a number of years) of some of the introduced vegetation eg. willows along the corridor.⁷

7.15 More recently, the TESAL group has produced a document on 'Wildlife Corridors and Habitat in Canberra' which develops these ideas further. The paper provides a list of low cost options for enhancing the role of open space areas as wildlife habitat and corridors.⁸

7.16 The Committee recognises that there is pleasure and value in a diversity of landscapes. Combinations of formal landscapes with exotic plantings and Australian landscapes and plants will add beauty to the city.

7.17 Thus, in planning for the future of the NCOSS, it is important to give weight to the desirability of creating Australian landscapes, like that found in the National Gallery sculpture garden. Such native landscapes should incorporate local flora so that they will function more effectively as wildlife corridors and habitats.

Feral and Domestic Animals

7.18 The issue of control of feral and domestic animals is of great significance to the long term survival of the NCOSS.

7.19 Both feral and domestic animals are having a severe impact on native vegetation and animals. They are predators, they compete for resources and they alter conditions to make them unsuitable for native species.

7.20 If we are to protect natural areas of open space to retain natural communities we must do more than provide appropriate legislation. Feral animals and plants will erode the diversity of the protected areas if effective means of control cannot be found and funded. The list of problem species is long but the following comments highlight some of the main problems.

Cats

7.21 Evidence from a number of studies shows that domestic cats kill large numbers of native animals particularly small birds and reptiles. Damage caused by feral cats is less easy to quantify. The ACT Minister for Environment, Land and Planning recently made an announcement advocating voluntary control measures such as de-sexing of animals not required for breeding by registered breeders, keeping cats in at night or

⁷ Submission No. 32.
⁸ *Use of the Urban Environment, in Particular Open Spaces, as Wildlife Habitat and Corridors*, Canberra, 1992.

requiring them to wear bells.⁹ While registration and de-sexing have received support there is considerable doubt in the community about the effectiveness of wearing bells, because the bells are used are generally too small.¹⁰

7.22 The ACT Parks and Conservation Service plans to review the legislation and policies in relation to companion animals. This will follow the completion of animal welfare legislation. The cat problem will be high priority for action such as compulsory de-sexing or wearing bells.¹¹

7.23 The Committee believes that, while registration may be necessary in the long term, in the short term the promotion of de-sexing of cats and wearing of bells is desirable.

Pigs

7.24 Pigs are both predators and highly destructive modifiers of their habitat. The ACT Parks and Conservation Service has co-operated with the New South Wales National Parks and Wildlife Service and the Cooma Pastures Protection Board to control pigs in the southern half of the ACT. The program involves selective spreading of baits containing the poison 'Wafarin'.

7.25 The Parks and Conservation Service, based on previous research in conjunction with the CSIRO, believes that the program is 90% effective; that is, 90% of the pigs in a particular area are killed.¹² This program has received attention from interstate agencies because of its effectiveness and safety.¹³ The Committee has received reports that pigs are being introduced deliberately into areas for hunting.¹⁴ The Committee understands that this is an offence which could be prosecuted either under the *Nature Conservation Act 1980* or the new *ACT Animal Welfare Act 1992*.

7.26 Under the *Nature Conservation Act*, it is an offence to liberate an animal, other than wildlife, in to a gazetted nature conservation reserve or to release an animal which may place wildlife in danger. Penalties for these offences range from \$1,000 - \$2,000. The *Animal Welfare Act* prohibits the hunting of animals and there are quite substantial penalties for this offence. The Committee recognises the difficulties in catching offenders due to the isolated areas in which they operate, however, it urges that every effort be made to apprehend and prosecute such people.

⁹ *Evidence*, Canberra, 15 June 1992, p. 222.

¹⁰ *Evidence*, Canberra, 13 April 1992, p. 110.

¹¹ *Evidence*, Canberra, 13 April 1992, p. 110.

¹² *Evidence*, Canberra, 15 June 1992, p. 221.

¹³ *Inspection*, Namadgi National Park, 19 June 1992.

¹⁴ *Evidence*, Canberra, 15 June 1992, p. 267.

Dogs

7.27 Dogs can be predators of native animals but they are also a major threat because their scent can be a deterrent to wildlife. This may affect wildlife movement and distribution patterns. There have been suggestions that dogs should be confined to specific areas away from areas utilised by wildlife¹⁵ and that some important wildlife areas could be fenced to exclude dogs and other introduced predators.¹⁶

Horses

7.28 The Committee recognises that horses are a source of recreational pleasure and enjoyment for a significant section of the population. However, the agistment of horses and their use on trails can have impacts on the NCOSS. Some eucalypt species, especially stringybarks, are susceptible to ring barking in horse paddocks. Overstocking of agistment areas has led to erosion and trampling of vegetation. Stocking rates and land condition need to be monitored and action taken to prevent overstocking.¹⁷ Careful selection and design of agistment paddocks to reduce runoff and erosion as well as good stock management practices are also required to reduce these effects. Horses can cause erosion of trails, trampling of vegetation off trails and their manure can be a great source of weed seed. Horse trails should be well planned and maintained to ensure that sensitive areas are avoided and that damage is repaired.

Rabbits

7.29 Rabbits are also found throughout the open space system. Control measures are being used by the ACT Parks and Conservation Service in a continuing program which includes spreading new strains of the myxomatosis virus and ripping and blowing up burrows with explosives. The scale of this problem is such that the best hope is through more effective biological control.¹⁸ A recent report on Genetic Manipulation by the House of Representatives Standing Committee on Industry, Science and Technology, highlighted the useful and innovative work being done by the CSIRO on biological control of rabbits and foxes. This is important research which should receive long term support.

Goats

7.30 Goats tend to locate in particular areas; they can denude areas of vegetation resulting in soil erosion and long term changes in ecosystems. The ACT Parks and Conservation Service uses a control program known as the Judas goat. A radio transmitter is attached to one animal and it is released to mix with others. Radio tracking is then used to locate and shoot the group of animals.¹⁹

¹⁵ Submission No. 34.

¹⁶ Evidence, Canberra, 14 April 1992.

¹⁷ Standing committee on Conservation, Heritage and Environment, Report No. 5.

¹⁸ The Environment and Heritage aspects of Rural Lease in the ACT 1991.

¹⁹ Inspections, Namadgi National Park, 19 June 1992 and Evidence, Canberra, 15 June 1992, p. 221.

Foxes

7.31 Foxes are widespread in the ACT. They are particularly effective predators of small animals and birds. The control of these predators must be closely linked with the control of rabbits, as they are an important food source for the foxes. If rabbits are reduced rapidly, native populations may suffer greatly increased predation.²⁰ The ACT Parks and Conservation Service has a Masters degree student working on fox control with a view to introducing biological control through a salt lick program.²¹

Introduced Birds

7.32 Urban development brings the spread of pest species such as Common Starlings, House Sparrows, Common Mynas, Blackbirds and Feral Pigeons, some of which compete for nesting sites with native species. The impact of urban development on some native bird species can be reduced by the planting of trees and shrubs which attract native birds, and through responsibility in the ownership and control of domestic pets.

Other Problem Species

7.33 Black rats, house mice and introduced fish such as carp have also been mentioned as problem species.²²

7.34 The Committee supports the work of the ACT Parks and Conservation Service to control feral animals on the NCOSS. While it is beyond the scope of this report to recommend specific management actions for all these problem species, it has become clear to the Committee that there are a number of actions which may help in the battle to protect the values of our open space areas. In particular, legislative action appears to be warranted to deal with the feral and domestic cat problem. Responsible pet ownership also needs to be promoted.

7.35 The research effort on the control of feral and domestic problem animals needs to be effectively focussed to deal with the major issues. The Committee suggests that a research workshop be held to bring together all the appropriate research centres, the funding agencies, and the planning and management agencies to:

- document relevant present research into feral and domestic animal control;
- identify key areas and priorities for future research and research centres; and
- identify the most likely funding sources.

²⁰ Evidence, Canberra 13 April 1992, p. 110.

²¹ Evidence, Canberra, 15 June 1992, p. 222.

²² Submissions Nos. 10, 31.

Urban Expansion and Urban Servicing

7.36 While it is valuable in urban planning terms to have open space areas that provide corridors for services and small areas for additional facilities, from the point of view of the manager of the open space area this makes it difficult to retain ecological, recreational and heritage values.

7.37 Urbanisation has a number of significant effects on the NCOSS. First, there are direct effects of loss of land on the margins, particularly the footslopes, and of cutting through areas and isolating parts of reserves. Second, there are less direct effects including water quality decline and sedimentation, 'edge effects', and the impacts of access and maintenance activities by service agencies.

7.38 The ACT Planning Authority provided information on proposals which will directly affect the open space system, as discussed below.²³

Gungahlin External Roads System

7.39 The John Dedman Parkway is proposed to be the northern section of the main north-south peripheral road system on the western side of Canberra. It is considered by the ACT Planning Authority to be the most important road project contained within the Gungahlin External Transport Study (GETS) proposals.

7.40 The Committee conducted an inquiry into the GETS proposals and recommended that provision for John Dedman Drive east (i.e. the section between the Australian National Botanic Gardens and the CSIRO), should not be included in the National Capital Plan. It also recommended that Monash Drive should not be constructed but that its reservation should be retained.²⁴

7.41 The ACT Government has since decided not to proceed with construction of Monash Drive or John Dedman Drive east and the ACT Planning Authority is working with the NCPA to consider the need for amendments to the National Capital Plan and the Draft Territory Plan.²⁵

7.42 The Committee also recommended that, before any decisions are made with respect to the provision of new major roads, there should be a comprehensive study of public transport options for Canberra, to determine what form of new or improved public transport systems could be developed and how this might reduce the need for major road construction.²⁶ Such a study has been commenced and is due to be completed towards the end of 1992. This is a joint study between the ACT Planning Authority, the ACT Department of Urban Services (including ACTION) and including the NCPA. This study is to cost about \$250,000 with funding being shared between the participating agencies and the Commonwealth Department of Transport and Communications.²⁷

²³ Evidence, Canberra 15 June 1992, pp. 192 - 194.

²⁴ Joint Committee on the ACT, *Gungahlin's External Transport Links* 1991.

²⁵ Submission No. 37.

²⁶ Joint Committee on the ACT - *Gungahlin's External Transport Links* 1991.

²⁷ Submission No. 37.

7.43 The NCPA is awaiting the outcome of this study before amending the National Capital Plan to remove transport corridors.²⁸

The Intertown Public Transport Route

7.44 The route through O'Connor Ridge was marked as an investigation area under the Draft Territory Plan. The Territory government's policy now is that the investigation areas should return to their current land uses, and that any future changes to those land uses should only occur through the normal process, after due consideration and consultation with the community.²⁹

7.45 The Committee is concerned that this public transport corridor has not been removed from the National Capital Plan and the Draft Territory Plan so that the Bruce Ridge - O'Connor Ridge area can be protected as recommended in our Gungahlin transport links inquiry.

7.46 The National Capital Plan must be amended first so that the Territory Plan can comply with the requirement to be 'not inconsistent with the National Capital Plan'.³⁰ The NCPA has stated that it wishes to see the outcome of the Transport Options Study before amending the present transport corridors in the National Capital Plan.³¹

7.47 The Committee recommends that:

- (34) The NCPA expedite the amendment of the National Capital Plan to remove the Intertown Public Transport route through O'Connor Ridge and to remove the John Dedman Drive east road reservation.

Optus proposal for underground cables from Queanbeyan via the Molonglo and airport to the Mitchell Optus facility and on to Yass

7.48 The Committee would like to see strict conditions applied to the route along the Molonglo River to ensure that the river corridor is not affected adversely.

Optus proposals for antennas on prominent hilltop locations for its cellular telephone network

7.49 The Committee is concerned that the proliferation of telecommunications facilities could pose a threat to the values of the hills as a natural backdrop to the national capital. If decisions to approve these facilities continue to be made on a one-off basis the cumulative effects may not be adequately dealt with.

²⁸ Supplementary Submission No. 39.

²⁹ Submission No. 37.

³⁰ ACT Planning and Land Management Act 1988, S 26.

³¹ Supplementary Submission No. 39.

7.50 The National Capital Plan provides for Black Mountain, Mount Taylor, Tuggeranong Hill and Isaacs Ridge to continue as locations for current facilities, but any major expansion of hilltop use shall be subject to a comprehensive telecommunications plan, developed jointly by the NCPA and the ACT Government, in consultation with the telecommunications industry.³² The Committee considers the proposals by Optus for antennas on prominent hilltop locations constitute a major expansion of hilltop use.

7.51 The Committee therefore recommends that:

- (35) A telecommunications plan for the Inner Hills be developed jointly by the NCPA and the ACT government in consultation with the telecommunications industry.

Fire and Telecommunications Tower for One Tree Hill in Gungahlin

7.52 The Committee believes that this proposal should be considered as part of a comprehensive telecommunications plan as proposed in Recommendation 35 above.

Urban Development

7.53 The indirect affects of urban development on nearby NCOSS areas will be experienced both in the short term as new areas are constructed and in the long term from the output of these areas.

7.54 The development stage in new urban areas provides the conditions for broadacre wind and water erosion. Up to 600 tonnes of sediment per square kilometre may be eroded annually from urban construction sites if adequate control measures are not used. The resulting sediment may clog stormwater drains, reduce water quality and fill in lakes and streams.³³

7.55 The extent of urbanisation will affect peak flows, total runoff and pollutant loads in the lakes and rivers of the ACT. Each of these factors increases with a change of land use from rural to urban. Pollutants washed off roads and other hard surfaced areas, in addition to fertilisers, pesticides and organic matter washed from lawns, gardens and bare soil, and other contaminated runoff, cause eutrophication in lakes and rivers and affect aquatic communities. Established urban catchments also contribute significant amounts of sediment to the stormwater system and are a source of weed infestation. Proximity to urban areas also increases the likelihood of fires, rubbish dumping, destructive use and over use of tracks by trail bikes, horses, mountain bikes and, in some cases, pedestrians.³⁴

7.56 Urban areas developed in close proximity to river corridors require stringent runoff control measures in the construction stage and comprehensive management arrangements in the long term.

³² Submission No. 28.

³³ ACT Parks and Conservation Service, *ACT Decade of Landcare Plan 1991*.

³⁴ Submission No. 28.

7.57 Of particular concern is the West Belconnen development. The NCPA and the ACT Planning Authority propose to amend the National Capital Plan to enable urban development to extend west into an area which at present is classified in the National Capital Plan as broadacre land use (under investigation for urban use). This proposal is at present undergoing public scrutiny as is required by law for any amendment to the National Capital Plan. It is vital that such proposals be thoroughly investigated with regard to the ability of proposed urban runoff controls to ensure that the water quality of the Molonglo River is not diminished.

7.58 The construction and maintenance of public utilities such as water reservoirs, transmission lines and water pipelines affects the visual amenity, landscape values, soil stability and some vegetation communities. Some of the activities which have adverse impacts are:

- felling of trees and movement of vehicles around construction sites, causing erosion, the introduction of pest plants and damage to vegetation;
- flushing of water reservoirs, causing erosion;
- poor siting and maintenance of access tracks, causing erosion, weed invasion and loss of amenity; and
- clearance around powerlines, causing vegetation damage, increased fire hazard, erosion and loss of visual amenity.

7.59 The main service authority which has responsibilities in the NCOSS is ACT Electricity and Water (ACTEW), which constructs and maintains electricity transmission lines and substations, sewerage systems, water storages, pipelines and pumping facilities and many kilometres of access tracks.

7.60 The North Canberra Protection Group criticised the clearing policy and practices of ACTEW. It claimed that the recent clearing in the O'Connor Ridge and Bruce Ridge area has had devastating effects on the bushland. This was caused by the clearing operation which involved the movement of heavy machinery such as cherry pickers and chippers through boggy areas. It was exacerbated by the policy to clear only every 10 years. The North Canberra Protection Group thought that this was an inappropriately long interval considering the values of the area.³⁵

7.61 ACTEW responded to criticism by pointing out that ACTEW generally follows clearance standards which are adopted in other states, and which meet the requirements of its public risk insurance. This is insurance against the risk of bush fire started by ACTEW's transmission system. An ACTEW spokesperson commented:

In particular, in the work which we have recently undertaken on the O'Connor Ridge and Black Mountain area, which is managed by the Canberra Nature Park people, we sought their involvement; and they actually constructed the technical clauses in the documents that we used. It was the Canberra Nature Park staff who helped us provide

³⁵ Evidence, Canberra, 14 April 1992, p. 155.

the right sort of input to ensure that we got the trimming which met our objectives and at the same time was as sympathetic as possible to the environment. Throughout the operation of the contract - we employed professional contractors who were experienced in that sort of work - the Canberra Nature Park's rangers worked in association with our supervisors to manage that contract in accordance with the necessary objectives.³⁶

7.62 Commenting on the criticism that the lower slopes of Mt Ainslie had a 'general air of neglect' due to the installation, access routes and infrastructure there, ACTEW said:

With most of those power lines we build, we minimise the access requirements throughout the construction period. We try to use existing access paths, or tracks where they exist. Where we create new ones, we often either restore those tracks afterwards or they are incorporated in the permanent access to the area. Following the creation of the asset, we go along only for regular maintenance inspections. There is very little that we are actually doing to impinge on the area. I am not quite sure that we would be causing any neglect of the area as such.³⁷

7.63 ACTEW did not have any special procedures for preventing erosion during flushing of water storages except as part of the original design of installations.

7.64 While the Committee believes that ACTEW is attempting to minimise the effects of its activities in open space areas, we also consider that it should develop a set of policy guidelines or a code of conduct for minimising the adverse environmental impact of its activities in open space areas.

7.65 The Committee recommends that:

- (36) ACTEW produce, in co-operation with the ACT Parks and Conservation Service and the NCPA, policy guidelines for minimising the effects of their activities on the values of the National Capital Open Space System.

7.66 Under the recently enacted *ACT Land (Planning and Environment) Act 1991*, public works are a controlled activity. This means that the Conservator of Wildlife and the ACT Planning Authority will be required to concur in the approval of any public work. The Committee hopes that this will result in better control of the activities of government agencies within the NCOSS.³⁸

Bushfire

7.67 Most fire management techniques are likely to have some impacts on natural areas. Fire hazard reduction techniques are employed around the ACT to reduce the frequency and/or intensity of wildfires, particularly in and around urban areas. These include prescribed or controlled burning, mowing and grazing.

³⁶ *Evidence*, Canberra, 15 June 1992, pp. 231, 232.
³⁷ *Evidence*, Canberra, 15 June 1992, pp. 232.
³⁸ *Submission No. 37.*

7.68 While fire is a natural part of the Australian environment, ecosystems and their plants and animals are usually adapted to a limited range of fire regimes. This means that a change in the intensity or frequency of fire may result in the loss of species and therefore in a loss in biodiversity. The routine use of some of these management practices may result in loss of fire sensitive species in some areas and the encouragement of more fire adapted and fire prone species as well as weeds. Regeneration of native grassland and woodland can be adversely affected by frequent mowing or by fire hazard reduction through burning and grazing. Careful use of these techniques will be needed in areas with these remnant vegetation communities.³⁹

7.69 The effective use of fire as a fire hazard management tool requires sound research into the appropriate fire regime for particular ecosystems.⁴⁰ While some fire studies have been conducted in parts of the NCOSS,⁴¹ they have not focussed on this problem.

7.70 Buffer zones of more intensive fire fuel management between bushland and urban areas is one approach to this problem.⁴² The Conservation Council of Canberra and the South East Region and the National Parks Association favour the use of buffer strips rather than controlled burning in close proximity to urban areas or where the growth of fire weeds may be encouraged. These buffer strips would be maintained by way of mowing or, in some rural areas, restricted grazing. The Council contends that controlled burns should only take place where: there is a fire management plan developed with public consultation; there is an ecological benefit such as encouraging natural communities, which provides specific habitat requirements for species under threat; and/or there is a threat to life and property.⁴³

7.71 There is undoubtedly a need for fire hazard reduction near urban areas. However, this should be carried out bearing in mind the significant nature conservation values of parts of the NCOSS. The completion of detailed management plans which identify zones of differing ecological significance would allow appropriate fire hazard reduction methods to be matched to valuable areas.

7.72 The use of various precautions by householders in their own back yards and homes can also go a long way to reduce the effects of bushfires.

Grazing

7.73 As mentioned in Chapter Three rural use in the NCOSS has a considerable economic value, as well as a role in maintaining an historic landscape setting for the National Capital and preserving a traditional lifestyle. There are, however, concerns about the effects of grazing on native vegetation and animal species. Research has indicated that grazing stock can retard the regeneration of native eucalypts. For example,

³⁹ *Submission No. 28.*
⁴⁰ *Submission No. 34.*
⁴¹ *Submission No. 35.*
⁴² *Submission No. 31.*
⁴³ *Submission No. 34.*

horses chew on the bark of certain species and sheep graze on seedlings. Grazing intensity can also affect the balance between native and introduced species of grasses and herbs. The regeneration or planting of vegetation in rural areas of the NCOSS is likely to be successful only if grazing stock is excluded or kept to low numbers. Such a strategy will have financial costs in terms of fencing and reduced stocking rates.⁴⁴

7.74 Grazing has been linked to the loss of several native species and to the spread of dieback.⁴⁵ The Conservation Council wrote:

Grazing has resulted in the historic local disappearance or endangerment of several native species, including the plants *Rutidosia leptorhynchoides*, *Swainsona recta* and *Theseum australe* as well as the morabine grasshopper (*Keyacris scurra*), the pink-tailed legless lizard (*Aprasia parapulchella*), the striped legless lizard (*Delma impar*) and possibly the earless dragon (*Tympanocryptis lineata*). Grazing and pasture retention have also been implicated as significant contributing factors towards dieback, though the full suite of causal factors is complex and varied. Certainly, pasture management practices such as 'improvement' is believed to exacerbate dieback through facilitating insect attack, insectivore decline, understorey loss, soil change and nutrient stress. Additional factors such as ringbarking by stock and failure of tree regeneration through intensive grazing are also factors.⁴⁶

7.75 The Conservation Council has also questioned the argument that grazing is a powerful fire deterrent because it removes fuel. The Council contends that grazing promotes fire weeds, encourages more fire intolerant plants and discourages regeneration of native grasses which tend to remain green for longer during the bushfire season. Because of these impacts, the Conservation Council argues that grazing is generally inappropriate in the NCOSS.⁴⁷

7.76 On the other hand the Rural Lessees Association is advocating an increased role for grazing in the management of the NCOSS. The Association has recommended to the Committee that:

...a controlled grazing system be introduced and accepted as an element of the NCOSS management system where feasible and appropriate.⁴⁸

7.77 The grazing permits for such a system could specify stocking levels, standard adjustment fees, weed and feral animal control required, fencing of conservation areas, control of dogs and public access to the areas.

7.79 The Committee concludes that, while grazing can be a useful management tool for purposes such as fire hazard reduction in buffer areas or other specific management requirements, it is inappropriate in areas of high conservation values or where regeneration or planting strategies are being implemented. The completion of detailed management plans for the NCOSS is essential to provide a basis for matching grazing as a management tool, with identified values and management requirements.

⁴⁴ Submission No. 28.
⁴⁵ Submissions Nos. 28, 31, 34.
⁴⁶ Submission No. 34.
⁴⁷ Submission No. 34.
⁴⁸ Submission No. 34.

7.78 The need for better fire protection systems has also been raised in the inquiry. The main body responsible for fire protection in the rural areas in the ACT is the ACT Bushfire Council. This is staffed by rural lessees on a voluntary basis, and by personnel of the ACT Parks and Conservation Service and ACT Forests, all of whom make a valuable contribution.

7.79 The Farrer Ridge Revegetation Group has expressed some concern about this staffing arrangement.

The Bushfire Council is seriously understaffed. This becomes critical in bad fire years. The main hill areas of Canberra City are inadequately protected in hot summers. It also leaves Canberra Nature Park unable to carry out interpretation work and work with Parkcare during summer.⁴⁹

7.80 The Farrer Ridge Group has also proposed several solutions:

The Commonwealth should provide funds for adequate fire protection of the inner hills. These should be directed so that they reach the target rather than be substituted for ACT government funds i.e. both Governments should provide funds for adequate fire protection.

Volunteer Brigades could be formed from young people and other interested people in the city's areas. This would supplement the present fire fighting service as well as providing an opportunity for people to learn skills in firefighting, organisation and teamwork which they would carry into life. It would also provide a valuable community service. In funding such a service the Commonwealth would be getting value for money and improving people's skills as well as providing long term fire protection for the areas.

Another method of fire protection would be to provide funds for education of the public about fires and about minimising fires.⁵⁰

7.81 The Rural Lessees Association supports the present Bushfire Council as a 'tried and proven system'. They believe that some efficiencies could be achieved by changing the top management structure, but they emphasise the value of local knowledge and expertise.⁵¹

7.82 The Committee is aware that the ACT government is looking at the operation and organisation of the emergency services including fire fighting. This is expected to address concerns relating to changing responsibilities with administrative boundaries and compatible training, equipment and communications systems.

7.83 The Committee commends the idea of volunteer fire brigades to assist in the protection of the NCOSS, particularly in the urban fringe areas, and suggests that it be considered by the ACT Government in its review of the emergency services.

⁴⁹ Submission No. 13.
⁵⁰ Submission No. 13.
⁵¹ Evidence, Canberra, 14 April 1992, p. 183.

7.84 The identification of the need for additional funds for fire fighting in the Inner Hills of the NCOSS should be considered as part of the management planning exercise for the area.

Recreational Impacts

7.85 While recognising the community's need to use and enjoy the NCOSS, it is acknowledged that pressure from increased recreational activity in open space areas, as the population of Canberra continues to grow, has the potential to seriously degrade the landscape.

7.86 The negative impacts of recreational use include:

- Older recreational tracks in the Namadgi National Park and Nature Reserves which have been developed in an unplanned way and without regard to good erosion control practices. These earlier mistakes need to be remedied.
- Mountain bike tracks and horse trails are particularly prone to erosion and the latter can be a source of weed seeds through horse droppings.
- The proliferation of unformed and unofficial tracks in areas where recreational pressure is heavy contributes to erosion, weed invasion and compaction of soils.
- Heavy use of waterside recreation areas can lead to loss of riverside vegetation, and to bank erosion.
- Reduction of habitat values for native animals through human disturbance.⁵²
- Off road traffic, trail bikes, horses, mountain bikes, and people, especially in sensitive areas or bad weather conditions, contribute to the spread of weed seeds, compaction, damage to ground cover and consequent erosion and damage to other vegetation.⁵³

7.87 The National Parks Association advocates that 'planning and management should undertake to identify areas of varying ecological value, aim to reduce recreational pressure on the most sensitive areas and direct it to the more robust, less valuable areas.'⁵⁴

7.88 However, David Hogg considers that, although recreation will conflict to some degree with conservation values, a certain level of conflict should not be considered unacceptable provided that the areas are managed sensibly with a view to maintaining their long-term stability. He favours managing areas for fairly open recreational access.

⁵² Submissions Nos. 28, 31.

⁵³ ACT Parks and Conservation Service, *ACT Decade of Landcare Plan 1991*.

⁵⁴ Submission No. 31.

It is important, however, that such land be available for community recreation use with a minimum of restrictions. There are some areas, for example, where the exclusion of dogs or horses can be justified on ecological grounds, or where small plots may be fenced off to protect endangered plants. As a general principle, however, NCOSS areas should be made as available as possible to those members of the community who enjoy their values and respect them. The present management of NCOSS appears to be generally consistent with this principle.⁵⁵

7.89 Management plans which look at recreational opportunities and the carrying capacity of particular sites will be a critical step in managing recreational impacts on the NCOSS. For example David Hogg points out:

In terms of numbers of people, the most valuable recreation land tends to be the gentler slopes, which include the foothills of the hill areas. These areas are not only the most popular, being easier to walk, jog, run or ride through, but also tend to have the highest ecological carrying capacity for accommodating recreational pressures.

The real community benefits of having such land available for recreation can offset in part the opportunity cost to the ACT community of foregoing development of the land.⁵⁶

7.90 It is therefore important that decisions about additional areas to be reserved as part of Canberra Nature Park or as extensions to the NCOSS consider conserving whole hill ecosystems, not just the upper slopes.

7.91 The need for better management of our recreational fisheries was brought to the Committee's attention by Native Fish Australia.

The crux of fisheries management is to adjust the numbers of fisheries organisms to a number the environment can support and at the same time prevent their over exploitation. This is an active process which requires trained staff equipped to undertake systematic field based ecological and population studies, not an easy task with animals that are by definition aquatic and inaccessible to normal observation. Unmanaged fish stocks can either reproduce to excess, stunting their own growth or, if overfished, reduce in numbers. Both situations can destroy the recreational value of a fishery and will only be avoided by activities such as regular field monitoring of fishing and angler numbers, pollution controls and suppression of illegal fishing activities. There is considerable evidence that Australian (including ACT) river fish populations are now much smaller than they once were (Refs. 4,5)[in submission].⁵⁷

7.92 Management responsibility of our local fisheries is vested in the ACT Parks and Conservation Branch of the Department of Environment, Land and Planning. ACT fisheries and their management fall into two main categories: lakes and rivers. The former category includes not only Lakes Burley Griffin, Ginninderra and Tuggeranong but Googong Reservoir (which is in NSW but managed by agreement with NSW authorities). The main river fishery is based on the Murrumbidgee River and its tributaries (in the ACT).⁵⁸

⁵⁵ Submission No. 21.

⁵⁶ Submission No. 21.

⁵⁷ Submission No. 10.

⁵⁸ Submission No. 10.

7.93 The major concern of Native Fish Australia is that, despite the potential competence of the staff, logistic and resource constraints have inhibited the development and implementation of appropriate management strategies for ACT fisheries. Native Fish Australia recommends that: a comprehensive fisheries management plan should be developed for ACT fisheries; the Fishing Ordinance should be updated to reflect present needs and practices; a fishing inspector should be appointed; and angler surveys, fish population sampling and monitoring of environmental factors relevant to fish populations should be undertaken.

7.94 The Committee agrees that good resource information, management planning, up-to-date legislation and inspection capacity would assist in the better management of ACT fisheries. Native Fish Australia has suggested that one possible source of funding for this work could be fishing licences.⁵⁹ The Committee believes that this would be worthy of further investigation by the ACT Parks and Conservation Service.

Land Degradation

7.95 Land degradation, like water quality, is an indicator of the impact of various activities on the land. A number of these have already been discussed in this chapter. Land degradation takes a number of forms including tree decline, soil erosion, soil structure decline, soil acidity and salinity.

7.96 Previous surveys of land degradation in the ACT have indicated a number of serious problems which are summarised below.

Soil erosion - gully erosion and streambank erosion occurs along the Murrumbidgee Corridor and in the catchments of Jerrabomberra Creek and the Molonglo Rivers.

Soil structure decline - moderate decline is found in 24% of ACT rural fringe areas where horse agistment, grazing and softwood production occurred. This is likely to result in decreasing levels of production and further degradation.

Acidity - a moderate level is found in agricultural areas.

Salinity - there is evidence of a potential problem at a number of sites.

Tree decline - loss of trees and associated shrubs and grasses has a significant effect on soil and water degradation. Loss of vegetation cover is dramatic during urbanisation. Although Canberra has some of the best urban runoff controls in Australia, the construction phase and the period before individual house blocks are landscaped can contribute significant loads of sediment to the system. Maturing urban landscapes can, on the other hand, offer enhanced environmental quality. For example, the growth of vegetation in the established areas of Tuggeranong appears to be facilitating honeyeater migration through this area.

Tree decline in rural areas is a major problem in overgrazed paddocks where gradual decrease in plant density reduces surface cover and allowed erosion to occur or the invasion of weed species. A study of rural tree decline in the ACT (Hogg 1983) indicated the problem was serious in many areas. The worst affected being Mt Painter

⁵⁹ Evidence, Canberra, 13 April 1992, p. 80.

and the Pinnacle and the least affected being the West Murrumbidgee area. (Since that time a considerable effort has been put in the revegetation of the Pinnacle through the involvement of the local park care group). The study also concluded that given the right conditions, including reduced grazing pressure, there was good potential for regeneration of native tree cover in the ACT.⁶⁰

7.97 The Committee is aware that an ACT Decade of Landcare Plan has been prepared by the ACT Landcare Committee. The Plan proposes the key actions for dealing with the ACT's land degradation problems including mechanisms for better interagency co-ordination and community involvement; sustainable use of rural land; development of monitoring and rehabilitation programs; preparation of management plans for public lands; changes to rural tenure arrangements; adoption of an environmental auditing policy for the ACT; development of a Geographical Information System; completion of a land resource survey program; and improved research co-ordination.

7.98 The Committee appreciates the importance of such a co-ordinated program to deal with land degradation in the ACT and fully supports actions which will insure that the values of the NCOSS are not reduced.

Water Quality

7.99 The impact of the city of Canberra on its surrounding waterways is considerable, and includes: the introduction of excessive nutrients; chemical waste; litter from urban drains; sedimentation from development sites and degrading of the catchment; and the introduction of exotic species e.g. European carp, willows and other weeds.⁶¹

7.100 Canberra has pioneered urban runoff control measures in Australia through catchment management design. Despite this, urban development can have adverse impacts on the water quality of lakes and rivers within the NCOSS, particularly in periods of heavy rain. While of a lower magnitude, runoff from rural catchments also contributes nutrients and sediments. This is largely due to poor management practices such as overgrazing, excessive use of fertilisers and intensive land use associated with horse agistment. Surface and streambank erosion in the catchments of NCOSS rivers and lakes has resulted in sedimentation. This is particularly evident in the East Basin of Lake Burley Griffin.⁶²

7.101 The need to address these issues through integrated catchment management is canvassed in a number of submissions.⁶³

7.102 NSW has a Catchment Management Act which provides for setting up catchment management committees. Their role is to co-ordinate government and private land management activities aimed at ensuring the stability, productivity and water quality of their catchment. A Committee has been formed for the lower Murrumbidgee (below

⁶⁰ Submission No. 28 and ACT Parks and Conservation Service *Decade of Landcare Plan*, 1991.

⁶¹ Submission No. 31.

⁶² Submission No. 28.

⁶³ Submission Nos. 5, 22, 28, 31, 34.

Burrinjuck Dam) on which the ACT is an observer. There is no committee for the upper Murrumbidgee because a suitable mechanism has not been found that satisfies the requirements of the Catchment Management Act and effectively represents the ACT and Commonwealth governments.⁶⁴

7.103 It has been suggested that the upper Murrumbidgee could be represented by a sub-committee of the Murrumbidgee River Catchment Management Committee.⁶⁵ The sub-group could then be represented on the main Murrumbidgee River Catchment Management Committee. The Committee is aware that the NSW State Catchment Management Co-ordinating Committee is considering the issue of geographic distribution of membership of committees and renewal of membership will occur early next year. The Committee also understands that the State Catchment Management Co-ordinating Committee does not favour splitting catchments into separate catchment management committees.⁶⁶

7.104 The Committee views with concern the lack of a formal mechanism for dealing with common issues of water quality and catchment protection. It believes that a catchment management committee for the whole of the Murrumbidgee is desirable but that the best way to represent both the ACT and Commonwealth interests on this would be to have direct representation on the Murrumbidgee Catchment Management Committee rather than through an Upper Murrumbidgee sub-group.

7.105 The Committee recommends that:

- (37) The NSW government be asked to accept the proposal that the Australian Capital Territory be represented on the Murrumbidgee River Catchment Management Committee by representatives from both the Commonwealth and ACT governments.

7.106 The Commonwealth contributes funds to the Lake Burley Griffin Catchment Scheme. Since 1966 this funding has amounted to \$2.5 million. The work proceeding in the Molonglo catchment started in 1988, and contributions have been:

- . Landholder funds \$604,000
- . Federal Government funds \$689,000
- . NSW Government \$702,000.⁶⁷

7.107 The present work has been refocused as a result of sediment studies by the CSIRO, the ACT Government, the Soil Conservation Service of NSW and the NSW Department of Water Resources. The studies have pointed to the significance of the Molonglo River in transporting sediment to the lake and, within the Molonglo catchment,

⁶⁴ Evidence, Canberra, 13 April 1992, pp. 73, 74.

⁶⁵ Evidence, Canberra, 13 April 1992, p. 74.

⁶⁶ Pers. comm. David Marston, NSW Department of Conservation and Land Management.

⁶⁷ Submission No. 22.

Ballalaba Creek and a number of other subcatchments are significant sediment sources. The 1991-92 program of soil conservation works will be focussed on the Ballalaba Creek catchment as a result of this study. Queanbeyan City is also seen as a significant source of sediment for the Queanbeyan River and thus Lake Burley Griffin. Close liaison with Queanbeyan City Council planners and engineering staff has gone some way to solving this problem. For instance, soil conservation conditions are incorporated into development control plans for all major developments. Also, in early 1991, the Queanbeyan City Council released an National Soil Conservation Program funded video highlighting some of the solutions to urban erosion.⁶⁸

7.108 It is envisaged that at least one further three year agreement will be required to complete works in the Lake Burley Griffin Catchment. A period of maintenance would then commence, during which time the effectiveness of the works would be monitored, and repairs carried out as necessary. A continuing effort would also be made to keep landholders aware of the need for sound land management.⁶⁹

7.109 The Committee supports the continuation of Commonwealth funding to ensure that works identified as essential for the protection of Lake Burley Griffin are completed. DASET had responsibility for funding and overseeing this work but this was passed to the NCPA by administrative agreement from 1 July 1992.

7.110 The Committee recommends that:

- (38) Commonwealth funding be continued for a further three year agreement under the Lake Burley Griffin Catchment Protection Scheme.
- (39) The Commonwealth fund monitoring of the effectiveness of the catchment protection work done under this scheme, after the completion of the last three year agreement, and provide funds for follow up work where necessary.

7.111 The Googong Dam subcatchment is also part of the Lake Burley Griffin catchment. In the past, extra catchment management effort has been applied to the subcatchment at the request of the Commonwealth, with the legislative backing of a specific Act and regulations. As it has ceased providing funds for the soil conservation effort and management in the Googong catchment, it appears that the Commonwealth has now placed a lower priority on the Googong Dam subcatchment.⁷⁰

7.112 As a consequence of this reduction in funding, soil conservation works by the NSW Soil Conservation Service in the Googong catchment have totally ceased and the management operations of the NSW Department of Water Resources have been reduced.⁷¹

⁶⁸ Submission No. 22.

⁶⁹ Submission No. 22.

⁷⁰ Evidence, Canberra, 13 April 1992, pp. 60 and 61.

⁷¹ Evidence, Canberra, 13 April 1992, p. 61.

7.113 There is concern that this may lead to deterioration of water quality as the condition of the catchment degrades. The soil conservation work in the catchment was about 70% completed when funding ceased. This work was in the form of a co-operative program under which landholders in the catchment, the NSW government and the Commonwealth contributed about equal resources toward soil conservation structures, plantings and management practices.⁷²

7.114 To complete the work the NSW Soil Conservation service estimates it would require funding of approximately \$480,000.⁷³ The Committee believes that this would be a cost effective use of funds.

7.115 The Committee recommends that:

- (40) The Commonwealth government contributes \$500,000 towards the completion of catchment management work in the Googong Dam subcatchment.

Conclusion

7.116 This chapter has reviewed a range of management problems which have significant impacts on the values of the NCOSS and has made many suggestions and recommendations. Some of the key ones are that:

- TESAL's recommendations about problem plants in the ACT should generally be supported;
- legislation is required to control domestic cats;
- the recommendations of the Gungahlin External Transport Inquiry be implemented by NCPA and the ACT PA;
- a telecommunications plan should be developed to control the proliferation of facilities especially in the Inner Hills;
- guidelines for minimising the effects of servicing activities on the NCOSS may allay some concerns about the impacts of such activities;
- detailed management plans would assist in matching the use of fire hazard reduction measures, including grazing and burning, to ecologically suitable areas and will help in managing recreational impacts;
- the Commonwealth and ACT governments should be represented on the Murrumbidgee River Catchment Management Committee; and

⁷² Evidence, Canberra, 13 June 1992, pp. 62, 63.

⁷³ Correspondence, 30 April 1992, NSW Soil Conservation Service and 1 May 1992, NSW Department of Water Resources.

Commonwealth funding for the Lake Burley Griffin Catchment Protection Scheme should be continued for a further three years and a contribution should also be made to the completion of the Googong Dam catchment management program.

John Langmore
Committee Chair

16 October 1992

**BIRDS OF THE THREATENED LOWLAND
OPEN FOREST AND WOODLAND**
(In rough descending order of concern)

Regent Honeyeater. *Xanthomyza phrygia*. A rare summer breeding migrant to the region, it is often associated with flowering Yellow Box and mistletoes. This bird species, once common in eastern Australia, is declining nationally, and this decline is probably associated with the continuing destruction and fragmentation of woodland as well as competition from more aggressive species.

Painted Button-quail. *Turnix varia*. A rare breeding resident, found predominantly in undisturbed lowland forests, but also occasionally in Apple Box (*Eucalyptus bridgesiana*) and Narrow-leaved Peppermint (*Eucalyptus radiata*) forests at higher altitudes. The regional 'hotspot' for the species in recent years has been the dry western slopes of Mt Ainslie and Black Mountain. Once abundant in southern Australia where it was hunted, like several species of Button-quail in Australia, the Painted Button-quail is now rare, including in the ACT region.

Hooded Robin. *Melanodryas cucullata*. An uncommon breeding resident. Occurs in small numbers in open wooded areas in the ACT region, especially those not subject to heavy grazing, and those with low shrubs or vantage points from which the bird can locate prey on the ground. COG designated the Hooded Robin 'Bird of the Year for 1991', when it was subject to intensive study. The bird is sensitive to disturbance from humans and from heavy grazing, and is now absent from areas such as the lower slopes of Black Mountain, where it once bred. COG's studies last year indicate that there are now only about 40 active Hooded Robin territories in the ACT.

Diamond Firetail. *Emblema guttata*. An uncommon breeding resident, which inhabits relatively undisturbed woodland with scattered shrubs or re-growth. This habitat has been reduced greatly by clearing, grazing and urban development. Remnant populations (some very small) remain in suitable areas such as at Campbell Park, Mulligan's Flat and Castle Hill in the ACT, but it is believed to be declining.

Superb Parrot. *Polytelis swansonii*. A rare breeding summer migrant, the Superb Parrot is endemic to an area of NSW west of the ACT. Flocks of up to 20 occasionally migrate to the Belconnen, Gungahlin, Sutton, Hall and Murrumbateman areas in spring and summer. The bird is threatened throughout its range by clearing of woodland, cutting of standing dead trees, illegal trapping, nest site competition from Common Starlings and road kills. Of particular concern is the impact of increasing demand for firewood on nesting trees.

Brown Treecreeper. *Climacteris picumnis*. A breeding resident, the Brown Treecreeper, is dependent upon dead timber (for both foraging and nesting) in relatively undisturbed woodland and open forest. The birds inhabit areas in the Clear Range and Naas Valleys in the ACT, as well as lowland forest and woodland such as at Campbell Park, Castle Hill and Mulligans Flat. The Brown Treecreeper is still reasonably common in suitable habitat, but clearing of woodland, and removal of both standing and fallen dead timber for firewood, is a definite medium to long-term threat. Populations in woodland areas have declined in recent years.

Speckled Warbler. *Sericornis sagittatus*. An uncommon breeding resident, this bird is dependent on grassy areas in woodland, often where there are rocks and gullies. It nests and spends much time on the ground, and is sensitive to disturbance from heavy grazing and from humans, particularly when nesting. There are small populations at Mulligan's Flat, Campbell Park and Bruce Ridge.

Source: *Submission No. 29* - Canberra Ornithologists Group.

CANBERRA NATURE PARK

Extent

Twenty three of the inner hill areas are either currently managed or intended for management as Canberra Nature Park by the Parks and Wildlife Service in the short term. Canberra Nature Park areas have been identified as Public Lands within the Territory Plan and are intended to be categorised as Nature Reserves under the *Land (Planning and Environment) Act 1991*. Most units of Canberra Nature Park are designated areas under the National Capital Plan. Areas included in Canberra Nature Park are shown on Map 8. They are :

D/E	Aranda Bushland	D/*	Mount Pleasant
D	Black Mountain	D/E	Mount Taylor
D	Bruce Ridge	D/N	Oakey Hill
D	Cooleman Ridge	D	O' Connor Ridge
D	Farrer Ridge	D	Red Hill
	Gossan Hill	D	Remembrance Nature Park
E	Gungahlin Hill		Mount Rob Roy
D/E	Isaacs Ridge	D	The Pinnacle
N	McQuoids Hill		Tuggeranong Hill
D/E	Mounts Ainslie and Majura		Urambi Hills
D/N	Mount Mugga Mugga		Wanniassa Hills
D/E	Mount Painter	D	

D = designated area

E = area is being extended

N = new area

* = partly National Land, currently no formal management agreement between Commonwealth and Territory Governments

Proposed Extensions

Areas proposed for future inclusion in Canberra Nature Park are:

- . Callum Brae woodland;
- . parts of the Gungahlin Hills;
- . Mulligan's Flat in Gungahlin;

further extensions - Isaacs Ridge (north), Mount Taylor (east), Rob Roy Range (NE, NW and south), Stirling Ridge*, Wanniassa Hills (east).

- * will require a formal agreement between the Commonwealth and Territory Governments. The precise boundaries for these areas are being developed in consultation with the NCPA and the ACT Planning Authority.

Values

Canberra Nature Park

- provides protection for sites of natural and cultural resource value;
- provides movement corridors for wildlife;
- contributes to the urban landscape setting;
- provides opportunities for public appreciation of natural and cultural resources;
- provides natural area education, research and recreation opportunities.

Management Plans

Management plans are required under the National Capital Plan for Designated Areas, and under the *Land (Planning and Environment) Act 1991* for Public Land areas. A draft management plan must be consistent with both the National Capital Plan and the Territory Plan. The *Land (Planning and Environment) Act 1991* also provides for environmental assessment of aspects of a management plan.

Management Policies

General policies for management of Canberra Nature Park are:

- Conserve and enhance native plant and animal communities, including the enhancement of wildlife movement corridors through the urban area.
- Conserve features of cultural, geological, geomorphological and landscape significance - including the setting of Canberra as the 'bush capital'.
- Maintain environmental processes in as naturally stable a state as possible.
- Provide and promote a range of opportunities for raising awareness, appreciation and understanding of resources through research, education and interpretation.
- Provide and promote appropriate recreation opportunities.
- Protect Canberra Nature Park and adjacent areas from damaging effects of fire, accelerated erosion, pollution, pest plants and animals or other disturbances.
- Ensure appropriate practices by other agencies carrying out works in or adjacent to Canberra Nature Park.
- Rehabilitate degraded areas.
- Provide resources, facilities (including access) and programs to meet management aims.
- Control influences that are not compatible with management aims.

Community Involvement

In Management Plans

A community awareness program about Canberra Nature Park began in early 1988 to increase community understanding of Canberra Nature Park to allow effective participation in the management planning process. In planning for the management of Canberra Nature Park the Parks and Wildlife Service has encouraged the community to participate in identifying issues to be addressed in the draft plan.

Park Care

Park Care arose as a concept through community initiative in the early stages of raising community awareness about Canberra Nature Park and its management planning process. Park Care was implemented as a program of bush regeneration in 1989 within Canberra Nature Park and has broadened to all nature reserves managed by the Parks and Wildlife Service. There are thirteen groups within Canberra Nature Park, and others within Namadgi National Park, Tidbinbilla Nature Reserve, Murrumbidgee River Corridor and Googong Foreshores, involving over 500 individuals.

Park Care has continued to be supported by the Territory Government and funding currently covers a Service Co-ordinator position and a works program (\$50,000 in 1991-92).

Park Care provides opportunities for individual members of the community in groups organised for specific land areas to participate in a range of activities depending on the area, the season and the availability of volunteer and Services resources. Current activities include:

- woody and annual weed removal;
- seed collection;
- propagation and planting;
- removal of litter;
- wildlife survey;
- training and promotion.

Future activities may include trail maintenance, interpretation, wildlife and visitor monitoring, and soil conservation works. Benefits of such community participation include development of skills and networks, positive attitudes and behaviour, support for management, reduced management costs, and opportunities for field based education and recreation.

Source: *Submission No. 37* - Department of Environment, Land and Planning.

THE WORLD HERITAGE LIST

ALGERIA

Al Qal'a of Beni Hammad
 Tassili n' Ajjer
 M'Zab Valley
 Djemila
 Tipasa
 Timgad

ARGENTINA

Los Glaciares
 Iguazu National Park

ARGENTINA AND BRAZIL

Jesuit Missions of the Guaranis:
 San Ignacio Mini, Santa Ana,
 Nuestra Senora de Loreto and
 Santa Maria Mayor (Argentina),
 Ruins of Sao Miguel das Missoes (Brazil)

AUSTRALIA

Kakadu National Park
 Great Barrier Reef
 Willandra Lakes Region
 Tasmanian Wilderness
 Lord Howe Island Group
 Australian East Coast Temperate and
 Sub-Tropical Rainforest Parks
 Uluru National Park
 Wet Tropics of Queensland
 Shark Bay, Western Australia

BANGLADESH

The Historic Mosque City of
 Bagerhat
 Ruins of the Buddhist Vihara at
 Paharpur

BENIN

Royal Palaces of Abomey

BOLIVIA

City of Potosi
 Jesuit Missions of the Chiquitos
 Historic City of Sucre

BRAZIL

Historic Town of Ouro Preto
 Historic Centre of the Town of
 Olinda
 Historic Centre of Salvador de Bahia
 Sanctuary of Bom Jesus do
 Congonhas
 Iguazu National Park
 Brasilia
 Serra da Capivara National Park

BULGARIA

Boyana Church
 Madara Rider
 Thracian Tomb of Kazanlak
 Rock-hewn Churches of Ivanovo
 Ancient City of Nessebar
 Rila Monastery
 Srebarna Nature Reserve
 Pirin National Park
 Thracian Tomb of Sveshtari

CAMEROON

Dja Faunal Reserve

CANADA

L'Anse aux Meadows National Historic Park
 Nahanni National Park
 Dinosaur Provincial Park
 Anthony Island
 Head-Smashed-In-Buffalo Jump
 Wood Buffalo National Park
 Canadian Rocky Mountains Parks
 (Burgess Shale, previously inscribed on the
 World Heritage List, is part of this site)
 Quebec (Historical Area)
 Gros Morne National Park

CANADA AND UNITED STATES OF AMERICA

Kluane National Park/Wrangell-Saint Elias National Park and Preserve

CENTRAL AFRICAN REPUBLIC

Parc National du Manovo-Gounda Saint Floris

CHINA (PEOPLE'S REPUBLIC OF)

Mount Taishan
The Great Wall
Imperial Palace of the Ming and Qing Dynasties
Mogao Caves
The Mausoleum of the First Qin Emperor
Peking Man Site at Zhoukoudian
Mount Huangshan

COLOMBIA

Port, Fortresses and Group of Monuments, Cartagena

COSTA RICA/PANAMA

Talamanca Range-La Amistad Reserves/La Amistad National Park

COTE D'IVOIRE

Tai National Park
Como National Park

CUBA

Old Havana and its Fortifications
Trinidad and the Valley of de Los Ingenios

CYPRUS

Paphos
Painted Churches in the Troodos Region

DOMINICAN REPUBLIC

Colonial City of Santo Domingo

ECUADOR

Galapagos Islands
City of Quito
Sangay National Park

EGYPT

Memphis and its Necropolis - the Pyramid Fields from Giza to Dahshur
Ancient Thebes with its Necropolis
Nubian Monuments from Abu Simbel to Philae
Islamic Cairo
Abu Mena

ETHIOPIA

Simen National Park
Rock-hewn Churches, Lalibela
Fasil Ghebbi, Gondar Region
Lower Valley of the Awash
Tiya
Aksum
Lower Valley of the Omo

FINLAND

Old Rauma
Fortress of Suomenlinna

FRANCE

Mont-Saint-Michel and its Bay
Chartres Cathedral
Palace and Park of Versailles
Vezelay, Church and Hill
Decorated Grottoes of the Vézère Valley
Palace and Park of Fontainebleau
Chateau and Estate of Chambord
Amiens Cathedral
The Roman Theatre and its surroundings and the 'Triumphal Arch' of Orange
Roman and Romanesque Monuments of Arles
Cistercian Abbey of Fontenay
Royal Saltworks of Arc-et-Senans
Place Stanislas, Place de la Carrière and Place d'Alliance in Nancy
Church of Saint-Savin sur Gartempe
Cape Girolata, Cape Porto and Scandola Nature Reserve in Corsica
Pont du Gard (Roman aqueduct)
Strasbourg - Grande Ile
Paris, Banks of the Seine
Cathedral of Notre-Dame, former Abbey of Saint-Remi and Tau Palace, of Reims

GERMANY

Aachen Cathedral
Speyer Cathedral
Würzburg Residence with the Court Gardens and Residence Square
Pilgrimage Church of Wies
The Castles of Augustusburg and Falkenlust at Brühl
St Mary's Cathedral and St Michael's Church at Hildesheim
Roman Monuments, Cathedral and Liebfrauen-Church in Trier
Hanseatic City of Lübeck
Palaces and Parks of Potsdam and Berlin
Abbey and Altenmunster of Lorsch

GHANA

Fort and Castles, Volta Greater Accra, Central and Western Regions
Ashante Traditional Buildings

GREECE

Temple of Apollo Epicurius at Bassae
Archaeological Site of Delphi
The Acropolis, Athens
Mount Athos
Meteora
Paleochristian and Byzantine Monuments of Thessalonika
Archaeological Site of Epidaurus
Medieval City of Rhodes
Archaeological Site of Olympia
Mystras
Delos
Monasteries of Daphni, Hossios Loukas, and Nea Moni of Chios

GUATEMALA

Tikal National Park
Antigua Guatemala
Archaeological Park and Ruins of Quirigua

GUINEA AND COTE D'IVOIRE

Mount Nimba Strict Nature Reserve

HAITI

National History Park - Citadelle Laferrière
Ramières

HOLY SEE

Vatican City

HONDURAS

Maya Site of Copan
Rio Platano Biosphere Reserve

HUNGARY

Budapest, the Banks of the Danube with the District of Buda Castle
Hollókö

INDIA

Ajanta Caves
Ellora Caves
Agra Fort
Taj Mahal
The Sun Temple, Konarak
Group of Monuments at Mahabalipuram
Kaziranga National Park
Manas Wildlife Sanctuary
Keoladeo National Park
Churches and Convents of Goa
Khajuraho Group of Monuments
Group of Monuments at Hampi
Fatehpur Sikri
Group of Monuments at Pattadakal
Elephanta Caves
Brihadisvara Temple, Thanjavur
Sundarbans National Park
Nanda Devi National Park
Buddhist Monuments at Sanchi

INDONESIA

Komodo National Park
Ujung Kulon National Park
Borobudur Temple compound
Prambanan Temple compound

IRAN

Tehgha Zanbil
Persepolis
Maidan Emam, Esfahan

IRAQ

Hatra

ITALY

Rock Drawings in Valcamonica
The Church and Dominican Convent of Santa Maria delle Grazie with 'The Last Supper' by Leonardo da Vinci
Historic Centre of Florence
Venice and its Lagoon
Piazza del Duomo, Pisa
Historic Centre of San Gimignano

ITALY/HOLY SEE (EACH ACCORDING TO ITS JURISDICTION)

Historic Centre of Rome, the properties of the Holy See in that city enjoying extraterritorial rights, and San Paolo fuori le Mura

JORDAN

Old City of Jerusalem and its Walls
Petra
Quseir Amra

LEBANON

Anjar
Baalbek
Byblos
Tyr

LIBYAN ARAB JAMAHIRIYA

Archaeological Site of Leptis Magna
Archaeological Site of Sabratha
Archaeological Site of Cyrene
Rock-art Sites of Tadrart Acacus
Old Town of Ghadames

MADAGASCAR

Tsingy Bemaraha Strict Nature Reserve

MALAWI

Lake Malawi National Park

MALI

Old Towns of Djenne
Timbuktu
Cliff of Bandiagara (Land of the Dogons)

MALTA

Hal Saflieni Hypogeum
City of Valetta
Ggantija Temples

MAURITANIA

Banc d'Arguin National Park

MEXICO

Sian Ka'an
Pre-Hispanic City and National Park of Palenque
Historic Centre of Mexico City and Xochimilco
Pre-Hispanic City of Teotihuacan
Historic Centre of Oaxaca and Archaeological Site of Monte Alban
Historic Centre of Puebla
Historic Town of Guanajuato and Adjacent Mines
Pre-Hispanic City of Chichen-Itza
Historic Centre of Morelia

MOROCCO

Medina of Fez
Medina of Marrakesh
Ksar of Ait-Ben-Haddou

MOZAMBIQUE

Island of Mozambique

NEPAL

Sagarmatha National Park
Kathmandu Valley
Royal Chitwan National Park

NEW ZEALAND

Te Wāhipounamu - South West New Zealand (Westland/Mount Cook National Park and Fiordland National Park, previously inscribed on the World Heritage List, are a part of this site)
Tongariro National Park

NIGER

Air-Tenere Reserve

NORWAY

Urnes Stave Church
Bryggen
Roros
Rock Drawings of Alta

OMAN

Bahla Fort
Archaeological Sites of Bat, Al-Khutim, and Al-Ayn

PAKISTAN

Archaeological Ruins at Moenjodaro
Taxila
Buddhist Ruins of Takht-i-Bahi and neighbouring City Remains at Sahr-i-Bahlol
Historical Monuments of Thatta
Fort and Shalamar Gardens in Lahore

PANAMA

The Fortifications on the Caribbean side of Portobelo-San Lorenzo
Darien National Park

PERU

City of Cuzco
Historic Sanctuary of Machu Picchu
Chavin (Archaeological Site)
Huascarán National Park
Chan Chan Archaeological Zone
Manu National Park
Rio Abiseo National Park
Historic Centre of Lima

POLAND

Cracow's Historic Centre
Wieliczka Salt Mine
Auschwitz Concentration Camp
Bialowieza National Park
Historic Centre of Warsaw

PORTUGAL

Central Zone of the Town of Angra do Heroísmo in the Azores
Monastery of the Hieronymites and Tower of Belém in Lisbon
Monastery of Batalha
Convent of Christ in Tomar
Historic Centre of Evora
Monastery of Alcobaca

ROMANIA

Danube Delta

RUSSIAN FEDERATION

Historic Centre of St-Petersburg and Related Groups of Monuments
Khizi Pogost
Kremlin and Red Square in Moscow

SENEGAL

Island of Gorée
Niokolo-Koba National Park
Djoudj National Bird Sanctuary

SEYCHELLES

Aldabra Atoll
Vallee de Mai Nature Reserve

SPAIN

The Mosque of Cordoba
The Alhambra and the Generalife, Granada
Burgos Cathedral
Monastery and Site of the Escorial, Madrid
Parque Güell, Palacio Güell and Casa Mila, in Barcelona
Altamira Cave
Old Town of Segovia and its Aqueduct
Churches of the Kingdom of the Asturias
Santiago de Compostela (Old Town)
Old Town of Avila with its Extra Muros Churches
Mudejar Architecture of Teruel
Historic City of Toledo
Garajonay National Park
Old Town of Cáceres
The Cathedral, the Alcázar and the Archivo de Indias, in Seville
Old City of Salamanca
Poblet Monastery

SRI LANKA

Sacred City of Anuradhapura
Ancient City of Polonnaruwa
Ancient City of Sigiriya
Sinharaja Forest Reserve
Sacred City of Kandy
Old Town of Galle and its Fortifications
Golden Temple of Dambulla

SWEDEN

Royal Domain of Drottningholm

SWITZERLAND

Convent of Saint Gall
Benedictine Convent of Saint John at Mustair
Old City of Berne

SYRIAN ARAB REPUBLIC

Ancient City of Damascus
 Ancient City of Bosra
 Site of Palmyra
 Ancient City of Aleppo

THAILAND

Thungyai-Huai Kha Khaeng Wildlife Sanctuaries
 Historic Town of Sukhothai and associated historic towns
 Historic City of Ayutthaya and associated historic towns

TUNISIA

Medina of Tunis
 Site of Carthage
 Amphitheatre of El Djem
 Ichkeul National Park
 Punic Town of Kerkuane and its Necropolis
 Medina of Sousse
 Kairouan

TURKEY

Historic Areas of Istanbul
 Goreme National Park and the Rock Sites of Cappadocia
 Great Mosque and Hospital of Divrigi
 Hattusha
 Nemrut Dag
 Xanthos-Letoon
 Hierapolis-Pamukkale

UKRAINE

Kiev: Saint Sophia Cathedral and related Monastic Buildings, and Lavra of Kiev-Pachersk

UNITED KINGDOM

The Giant 's Causeway and Causeway Coast
 Durham Castle and Cathedral
 Ironbridge Gorge
 Studley Royal Park including the Ruins of Fountains Abbey
 Stonehenge, Avebury and Associated Sites
 The Castles and Town Walls of King Edward in Gwynedd
 Saint Kilda
 Blenheim Palace
 City of Bath
 Hadrian 's Wall

UNITED KINGDOM CONTINUED

Palace of Westminster, Abbey of Westminster and Saint Margaret 's Church
 Henderson Island
 The Tower of London
 Canterbury Cathedral, Saint Augustine 's Abbey, and Saint Martin 's Church

UNITED REPUBLIC OF TANZANIA

Ngorongoro Conservation Area
 Ruins of Kilwa Kisiwani and Ruins of Songo Mnara
 Serengeti National Park
 Selous Game Reserve
 Kilimanjaro National Park

UNITED STATES OF AMERICA

Mesa Verde
 Yellowstone
 Grand Canyon National Park
 Everglades National Park
 Independence Hall
 Redwood National Park
 Mammoth Cave National Park
 Olympic National Park
 Cahokia Mounds State Historic Site
 Great Smoky Mountains National Park
 La Fortaleza and San Juan Historic Site in Puerto Rico
 The Statue of Liberty
 Yosemite National Park
 Chaco Cultural National Historic Park
 Monticello and University of Virginia in Charlottesville
 Hawaii Volcanoes National Park

UZBEKISTAN

Itchan Kala

YEMEN

Old Walled City of Shibam
 Old City of Sana 's

YUGOSLAVIA

Old City of Dubrovnik
 Stari Ras and Sopocani
 Historical Complex of Split with the Palace of Diocletian
 Plitvice Lakes National Park

YUGOSLAVIA CONTINUED

Ohrid Region with its Cultural and Historical Aspect and its Natural Environment
 Natural and Culturo-Historical Region of Kotor
 Durmitor National Park
 Studenica Monastery
 Skocjan Caves

ZAIRE

Virunga National Park
 Garamba National Park
 Kahuzi-Biega National Park
 Salonga National Park

ZAMBIA/ZIMBABWE

Victoria Falls/Mosi-oa-Tunya

ZIMBABWE

Mana Pools National Park, Sapi, and Chewore Safari Areas
 Great Zimbabwe National Monument
 Khami Ruins National Monument

February 1992

INVASIVE PLANTS IN THE ACT

RECOMMENDATIONS BY TESAL
(TOWARDS ECOLOGICALLY SUSTAINABLE LANDSCAPES)

RECOMMENDATION 1 : SERIOUSLY INVASIVE PLANTS IN THE ACT

The plants listed below are those which have the serious potential to cause harm to natural ecosystems under conditions normally found in the ACT. TESAL strongly recommends that such plant species be prohibited and/or restricted from being sold in commercial nurseries within the territory and are currently seeking help from government agencies, community groups and private horticulturists and landscapers to take action to prevent the further use of these species.

Trees

Botanical Name	Common Name
<i>Acacia decurrens</i>	Sydney Green Wattle
<i>Allanhus altissima</i>	Tree of Heaven
<i>Salix alba</i>	White Willow

Shrubs and/or Small Trees

Botanical Name	Common Name
<i>Acacia baileyana</i>	Cootamundra Wattle
<i>Cortaderia selloana</i>	Pampass Grass
<i>Cotoneaster franchetti</i>	Cotoneaster
<i>Cotoneaster glaucophyllus</i>	Cotoneaster
<i>Cotoneaster pannosus</i>	Cotoneaster
<i>Crataegus oxyantha and others</i>	Hawthorn
<i>Cytisus scoparius</i> †B	Spanish Broom
<i>Ligustrum lucidum</i>	Broadleaf Privet
<i>Ligustrum sinense</i> B	Small-leaf Privet
<i>Lycium ferocissimum</i>	African Boxthorn
<i>Pyracantha species</i> †	Firethorn
<i>Ulex europaeus</i> †B	Gorse

Vines and Creepers

Botanical Name	Common Name
<i>Lonicera japonica</i>	Japanese Honeysuckle

RECOMMENDATION 2: INVASIVE OR POTENTIALLY INVASIVE PLANTS IN THE ACT

The plants listed below are those which have the potential to cause harm to natural ecosystems under certain specific conditions found in the ACT. TESAL strongly recommends that such plants be appropriately labelled and the sale of such species in commercial nurseries within the territory be limited as follows and that government agencies, community groups and private horticulturalists and landscapers should take action to prevent the further spread of these species under the circumstances shown below.

Trees

Do not plant the following trees near natural areas, native bushland or Canberra Nature Park:

<i>Celtis australis</i>	Nettle Tree
<i>Pinus radiata</i>	Monterey Pine (destructive of native ecosystems)
<i>Prunus cerasifera</i>	Cherry Plum
<i>Robinia pseudoacacia</i>	Black Locust (a problem in grasslands and woodlands)
<i>Sorbus domestica</i>	Service Tree (also known as Rowan Tree)

Do not plant the following trees along watercourses. These can easily invade and alter natural riverine ecosystems. They can have a radically deleterious effect on water flow and generally are not supportive of native freshwater ecosystems nor wildlife:

<i>Populus alba</i>	White Poplar
<i>Populus nigra var italica</i>	Lombardy Poplar
<i>Salix babylonica</i>	Weeping Willow
<i>Salix fragilis</i>	Crack Willow

Shrubs

Do not plant the following shrubs near natural areas, native bushland or Canberra Nature Park:

<i>Acacia paradoxa</i>	Kangaroo Thorn (also known as <i>Acacia armata</i>)
<i>Sytisus Racemosus</i>	Fragrant Broom (also sometimes known as Spanish <i>Telina monspessulana</i> , <i>Gonista fragrans</i> or <i>Genista racemosa</i> , but separate from Scotch/Spanish Broom, <i>Cytisus scoparius</i>)

Herbaceous (non-woody) Plants

Do not plant the following herbaceous plants in high altitude areas. They have the demonstrated propensity to take over large areas and damage natural ecosystems.

<i>Achillea distans</i>	Yarrow
<i>Achillea millefolium</i>	Tansy

Do not plant the following herbaceous plants near native bushland, Canberra Nature Park or other natural areas, along watercourses or in moist places near native bushland :

<i>Escholzia californica</i>	Californian Poppy
<i>Vinca major</i>	Blue Periwinkle

SUBMISSIONS AND EXHIBITS

SUBMISSIONS

1	Mr Joss Haiblen
2	Mr Len Haskew
3	Mrs Lesley Kettle
4	Dr Michael Pidcock
5	Department of Water Resources New South Wales Government
6	Geological Society of Australia (Commonwealth Territories Division)
7	ACT Orienteering Association Inc.
8	Ms Margaret Howitt
9	ACT Equestrian Association
10	Native Fish Australia (Canberra Branch)
11	Red Hill Regeneration Group
12	Rural Lessees' Association
13	Mr Leon Horsnell
14	CSIRO Division of Wildlife and Ecology
15	Royal Australian Institute of Parks and Recreation (ACT Regional Committee)
16	Friends of the Remembrance Nature Park
17	Mount Ainslie Weeders
18	Withdrawn from circulation
19	Mr Ed Wensing

20 Australian Institute of Landscape Architects and
National Trust of Australia (ACT)

21 Dr David Hogg
David Hogg Pty Ltd

22 Soil Conservation Service (South East Region)
Department of Conservation and Land Management
New South Wales Government

23 North Canberra Protection Group

24 Mr John Howard

25 Australian National Parks and Wildlife Service

26 Dr David Shorthouse

27 Royal Australian Planning Institute Inc.
(ACT Division)

28 National Capital Planning Authority

29 Canberra Ornithologists Group Inc.

30 Dr Keith Williams

31 National Parks Association of the ACT Inc.

32 Society for Growing Australian Plants (Canberra Region) Inc.

33 CSIRO

34 Conservation Council of the South-East Region
and Canberra Inc.

35 O'Connor Ridge Parkcare Group

36 ACT Forests

37 Department of the Environment, Land and Planning

38 Dr Jann Williams
ANU

39 National Capital Planning Authority
Supplementary Submission

EXHIBITS

- 1 *Geological Time* - pamphlet by the Bureau of Mineral Resources (presented by the Geological Society of Australia).
- 2 A summary of the geological history of the Australian Capital Territory, produced by the Bureau of Mineral Resources (presented by the Geological Society of Australia).
- 3 *Community Responses toward a Draft Management Plan for Canberra Nature Park : Brief Summary*, ACT Parks and Conservation Service, August 1990 (presented by the representatives of the ACT Government).
- 4 Map of Special Requirements - from National Capital Plan 1990 (presented by the representatives of the ACT Government).
- 5 Supplementary submission to the inquiry provided by Dr David Hogg.
- 6 Map: NSW-ACT Consultative Forum Strategy Plan (presented by the Wallaroo Ratepayers Association).
- 7 Map: Oakey Creek Rural Residential Community Concept Plan (presented by the Wallaroo Ratepayers Association).
- 8 Document: DAS/DASET Funding Split (presented by the National Capital Planning Authority).
- 9 Legal advice of 15 June 1992, provided to the NCPA by the Solicitor-General about the applicability of the *ACT Land (Planning and Environment) Act 1991* to the NCOSS (presented by the National Capital Planning Authority).

WITNESSES WHO APPEARED AT PUBLIC HEARINGS

Monday, 13 April 1992

ACT Equestrian Association Inc.

Miss Beth Stone, Secretary

ACT Orienteering Association

Mr Phil Creaser, President
Mr Blair Trewin, Secretary

Australian National Parks and Wildlife Service

Mr Michael Hill, Deputy Director
Dr Roger Hnatuk, Acting Executive Director
Mr Theo Hooy, Senior Adviser, Parks

Canberra Ornithologists Group

Mr Bruce Lindenmayer, President

CSIRO

Mr Ian Baird, Research Projects Officer, Division of Wildlife and Ecology

Department of Conservation and Land Management (NSW)

Mr Peter Fogarty, Soil Conservationist, Soil Conservation Service
Mr Donald Manson, Regional Director, South East Region,
Soil Conservation Service

Department of Environment, Land and Planning (ACT)

Mr Greg Fraser, Director, Environment and Conservation
Mr Rod Grose, Acting Assistant Secretary,
Strategic and Environmental Planning, ACT Planning Authority
Mr John Thwaite, General Manager, ACT Parks and Conservation Service
Mr George Tomlins, Chief Planner, ACT Planning Authority

Department of Urban Services (ACT)

Mr Alan Davey, Manager, Policy and Community Liaison, ACT Forests
Mr Bruce Dockrill, Director, City Services Group
Mr Graham McKenzie Smith, Chief Executive Officer, ACT Forests

Department of Water Resources (NSW)

Mr Barry Starr, Catchment Officer

Native Fish Australia

Dr Peter Greenham, Member

Geological Society of Australia

Dr James Dickins, Convenor, Geological Society Monuments Subcommittee,
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Mrs Daniele Senior, Consultant

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Dr Kevin Frawley, Acting Director, Environmental Planning
Mr Malcolm Smith, Acting Chief Executive

National Parks Association ACT Inc.

Mrs Anne Taylor, Project Officer

Private Citizen

Dr Keith Williams

Society for Growing Australian Plants (Canberra Region) Inc.

Mr Geoff Butler, President

Tuesday, 14 April 1992

ACT Rural Lessees' Association

Mr Harold Adams, Vice President
Mr Alan Anderson, Secretary
Mr Neville Stuart, Committee Member

Australian Institute of Landscape Architects

Associate Professor Ken Taylor, President

Farrer Ridge Revegetation Group

Mr Leon Horsnell

Mount Ainslie Weeders

Mr Tim Fisher

North Canberra Protection Group

Mr Don Fraser
Mr Graham Horn
Mr Michael Savage

Private Citizen

Dr David Hogg

Red Hill Regeneration Group

Ms Sandra Berry, Coordinator

Royal Australian Institute of Parks and Recreation

Mr John Gray

Royal Australian Planning Institute

Mr Ted Schultheis, Committee Member, ACT Division
Mr Ed Wensing, Affiliate Member and Newsletter Editor

Monday, 15 June 1992

ACT Electricity and Water

Mr Wayne Harris, General Manager, Northern Region
Mr Mike Johnson, Principal Engineer, Electrical Planning

Conservation Council of the South-East Region and Canberra

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Ms Jacqui Rees, President

Department of Environment, Land and Planning (ACT)

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Mr Malcolm Smith, Executive Director

Private Citizen

Dr Gary Scott

Walleroo Ratepayers Association

Mr John Connolly, President