

**SCHEYVILLE NATIONAL PARK
AND PITT TOWN NATURE RESERVE

PLAN OF MANAGEMENT**

**NSW National Parks and Wildlife Service
September 2000**

This plan of management was adopted by the Minister for the Environment on 25th September 2000.

Acknowledgments: This plan of management was prepared by the Planning Unit, Field Services Division, in association with staff of the North Metropolitan District of the National Parks and Wildlife Service.

A number of brochures produced by the Cattai Catchment Management Committee provided valuable background information to the preparation of this plan.

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FOREWORD

Scheyville National Park and Pitt Town Nature Reserve are located in the Hawkesbury region approximately 50 kilometres north-west of Sydney and 5 kilometres north-east of Windsor.

Scheyville National Park protects a large area of the remaining Cumberland Plain woodland in western Sydney. The park is important for its range of vegetation associations, including threatened species and communities, the wetland values of Longneck Lagoon, and the range of wetland and forest birds which use the park.

Scheyville National Park also has significant historical values associated with over 100 years of use for public purposes. It contains a range of historic features relating to its use for farming, training, migration and military activities. It also contains important evidence of past Aboriginal occupation of the area.

Pitt Town Nature Reserve protects Pitt Town Lagoon which is an extremely important wetland area for western Sydney, especially for migratory birds.

In implementing this plan of management, priority will be placed on the protection and enhancement of the natural and cultural values of the national park and nature reserve. Opportunities will continue to be provided in Scheyville National Park for picnicking, bushwalking, cycling and horse riding. An interpretive walk incorporating the historic sites on the park will also be developed.

This plan of management establishes the scheme of operations for Scheyville National Park and Pitt Town Nature Reserve. In accordance with the provisions of Sections 75 and 76 of the *National Parks and Wildlife Act 1974*, this plan of management is hereby adopted.

Bob Debus
Minister for the Environment

TABLE OF CONTENTS

	PAGE NO.
SYNOPSIS	
1. INTRODUCTION	1
2. MANAGEMENT CONTEXT	2
2.1 The Planning Framework	2
2.1.1 National Parks in New South Wales	2
2.1.2 Nature Reserves in New South Wales	2
2.2 Scheyville National Park and Pitt Town Nature Reserve	3
2.2.1 Location, Reservation and Regional Context	3
2.2.2 Importance of Scheyville National Park and Pitt Town Nature Reserve	4
3. OBJECTIVES OF MANAGEMENT	8
3.1 General Objectives	8
3.2 Specific Objectives	8
3.3 Overall Strategy	9
4. POLICIES AND FRAMEWORK FOR MANAGEMENT	10
4.1 The Natural and Cultural Landscape	10
4.1.1 Geology, Soils and Landforms	10
4.1.2 Hydrology and Water Quality	12
4.1.3 Native Vegetation	14
4.1.4 Native Animals	18
4.1.5 Aboriginal Heritage	21
4.1.6 Historic Heritage	22
4.1.7 Introduced Plants and Animals	25
4.1.8 Fire Management	28
4.2 Use of the National Park and Nature Reserve	32
4.2.1 Promotion, Education and Interpretation	32
4.2.2 Recreation Opportunities in Scheyville National Park	35
4.2.2 Research	39
4.2.3 Management Operations	40
5. PLAN IMPLEMENTATION	43
6. SELECTED REFERENCES	47
MAP OF SCHEYVILLE NATIONAL PARK AND PITT TOWN NATURE RESERVE	Centre pages

1. INTRODUCTION

The National Parks and Wildlife Act 1974 requires that a plan of management be prepared for each national park and nature reserve. A plan of management is a legal document that outlines how the area will be managed in the years ahead.

The procedures for the adoption of a plan of management for a national park are specified in the Act and involve five stages:

- * The Director-General gives notice that a plan of management has been prepared.
- * The plan is placed on public exhibition for at least one month and any person may comment on it.
- * The plan and copies of all representations are referred to the National Parks and Wildlife Advisory Council for consideration.
- * The Director-General submits the plan, together with the recommendations of the Advisory Council, to the Minister.
- * The Minister may adopt the plan with or without amendment after considering the recommendations of the Advisory Council, or may refer the plan back to the Director-General and Council for further consideration.

Although it is not a requirement of the Act to exhibit plans of management for nature reserves, the Service has adopted a policy of exhibiting plans of management for most nature reserves in a similar manner to national parks.

Once a plan has been adopted by the Minister, no operations may be undertaken within a national park or nature reserve unless they are in accordance with the plan.

A draft plan of management for Scheyville National Park and Pitt Town Nature Reserve was placed on public exhibition from 21st May to 23rd August 1999. The exhibition of the draft plan attracted 29 submissions which raised 15 issues. All comments received were referred to the National Parks and Wildlife Advisory Council for its consideration and advice. The comments and suggestions of the Council were in turn considered by the Minister before adopting this plan of management.

Enquiries relating to the management of Scheyville National Park and Pitt Town Nature Reserve can be directed to the NPWS office at Scheyville National Park, Scheyville Road, SCHEYVILLE (telephone 02 4572 3533).

2. MANAGEMENT CONTEXT

2.1 THE PLANNING FRAMEWORK

2.1.1 National Parks in New South Wales

The national park concept was introduced into Australia through the establishment of Royal National Park in 1879. The National Parks and Wildlife Act 1974 defines national parks as spacious areas containing unique or outstanding scenery or natural phenomena.

For the purposes of preparing plans of management the NSW National Parks and Wildlife Service has adopted the International Union for the Conservation of Nature and Natural Resources (IUCN) 1994 definition of a national park:

“Natural area of land and/or sea, designated to (a) protect the ecological integrity of one or more ecosystems for present and future generations, (b) exclude exploitation or occupation inimical to the purposes of designation of the area, and (c) provide a foundation for spiritual, scientific, educational, recreational and visitor opportunities, all of which must be environmentally and culturally compatible.”

National parks are part of the regional pattern of land use. Many land uses throughout the region, for example forestry, mining and agriculture, require substantial modification of the natural environment. Management of national parks, however, aims at minimising disturbances to the natural environment.

2.1.2 Nature Reserves in New South Wales

Nature reserves in New South Wales arose out of faunal reserves. Faunal reserves were first established under the Fauna Protection Act 1948. Under the National Parks and Wildlife Act 1967 faunal reserves were reclassified as nature reserves. The 1967 Act has since been replaced by the National Parks and Wildlife Act 1974.

Under the National Parks and Wildlife Act, nature reserves are areas of special scientific interest containing wildlife or natural environments or natural phenomena.

The purposes of nature reserves are defined in the Act as:

- (a) the care, propagation, preservation and conservation of wildlife;
- (b) the care, preservation and conservation of natural environments and natural phenomena;
- (c) the study of wildlife, natural environments and natural phenomena; and
- (d) the promotion of the appreciation and enjoyment of wildlife, natural environments and natural phenomena.

The IUCN defines a nature reserve as:

“Area of land and/or sea possessing some outstanding or representative ecosystems, geological or physiological features and/or species, available primarily for scientific research and/or environmental monitoring.”

Nature reserves are valuable refuge areas where natural processes, phenomena and wildlife can be studied. Nature reserves differ from national parks which include as a major objective the provision of opportunities for outdoor recreation.

2.2. SCHEYVILLE NATIONAL PARK AND PITT TOWN NATURE RESERVE

2.2.1 Location, Reservation and Regional Context

Scheyville National Park and Pitt Town Nature Reserve are located in north-western Sydney, approximately 50 km north-west of the centre of Sydney and 5 km north-east of Windsor. Scheyville National Park and Pitt Town Nature Reserve are both within 2 km of Pitt Town and in the Hawkesbury Local Government Area.

Scheyville National Park comprises an area of 954 hectares. The park boundaries include:

- Midson Road and Scheyville Road to the east;
- Old Pitt Town Road and Old Stock Route Road to the west;
- Pitt Town Dural Road and Cattai Road to the north; and
- the backs of rural and residential properties facing Saunders Road to the south.

The park also adjoins rural and residential properties to the east and south of Longneck Lagoon (see Figure 1).

Since the early 1800s Scheyville was used for grazing and farming. This has modified the natural vegetation throughout much of the park, and a number of structures which were associated with its farming history remain on the park. The name “Scheyville” dates from around 1900 when the Government farm on the site was named after W. F. Schey, the Director of Labour and Industry. Immediately prior to its reservation, much of the area which is now Scheyville National Park was owned by Landcom and proposed for urban subdivision. Longneck Lagoon was not part of the Landcom proposal. It was declared a Wildlife Refuge in 1971, proposed as a nature reserve in 1973, and placed under an Interim Conservation Order in 1983. In 1987 the area surrounding Longneck Lagoon became a reserve under the Crown Lands Act for the “Promotion of the Study and Conservation of Native Flora and Fauna” managed by the Longneck Lagoon Trust. In 1996, following action by a number of conservation groups both the area managed by the Longneck Lagoon Trust and the area owned by Landcom were reserved as Scheyville National Park.

Pitt Town Nature Reserve covers an area of 46 hectares adjoining the township of Pitt Town (see Figure 2). It was dedicated in 1976 to preserve the wetland as waterbird habitat. This area had also been used for grazing since the early 1800s. Its past use meant that at the time of dedication the area was totally cleared, although replanting of native trees has been undertaken in recent years.

The national park and nature reserve are generally surrounded by rural and rural-residential properties. Subdivision of the local area is occurring at a rapid rate and it is likely that the national park and nature reserve will in future be situated within a more urban setting. Residential development around the boundaries is already placing pressure on the national park and nature reserve.

2.2.3 Importance of Scheyville National Park and Pitt Town Nature Reserve

Scheyville National Park and Pitt Town Nature Reserve lie on the rim of the Cumberland Plain close to the Hawkesbury River. The Cumberland Plain lies between the Macdonald Ranges to the north, Woronora Plateau to the south, Hornsby Plateau to the east and the Blue Mountains plateau to the west. It consists of low lying, gently undulating country on Wianamatta Group shales and sandstones and Tertiary alluviums.

Scheyville National Park protects an important component of the Cumberland Plain native plant and animal associations which once dominated western Sydney. Other conservation reserves which protect Cumberland Plain vegetation include Castlereagh, Windsor Downs and Mulgoa Nature Reserves and the Mitchell Park section of Cattai National Park. In contrast, there are a large number of national parks and nature reserves on the surrounding Sydney sandstone including Blue Mountains, Wollemi, Nattai and Marramarra National Parks, Muogamarra Nature Reserve and the majority of Cattai National Park.

The pressure to further develop the Cumberland Plain for urban, commercial and industrial uses, agriculture and mining will place increasing emphasis on the protection, management and expansion of existing reserves and the dedication of additional conservation areas in western Sydney.

Both Scheyville National Park and Pitt Town Nature Reserve contain other vegetation communities which are not well represented in other national parks or nature reserves in Sydney, including examples of typical back-swamps and lagoons of the Hawkesbury River. Most of the wetlands along the Hawkesbury have been altered, either drained and only holding water for short periods after flooding and heavy rain, or dammed to become permanent swamps. Pitt Town Lagoon is an example of the first of these processes while Longneck Lagoon is an example of the second. Both lagoons are important sites for waterbirds and have been listed on the Register of the National Estate and in Sydney Regional Environmental Plan No. 20 (Hawkesbury-Nepean).

Scheyville National Park also contains the largest protected remnant of Cumberland Plain Woodland. In June 1997, because of the substantial reduction in area occupied by Cumberland Plain Woodland, its fragmentation and the numerous threats to its integrity, this community was listed as an endangered ecological community under the Threatened Species Conservation Act 1995.

Both reserves provide habitat for a variety of wetland and terrestrial birds as well as other animals. Pitt Town Nature Reserve is particularly important for wetland birds.

Seventy-three wetland species, including 19 migratory birds protected under international treaties and 6 birds listed under the Threatened Species Conservation Act 1995 have been recorded in the reserve. Eight birds protected under international treaties and 5 birds (2 wetland and 3 terrestrial species) listed under the Threatened Species Conservation Act have been recorded in Scheyville National Park.

Both Scheyville National Park and Pitt Town Nature Reserve are established on land which was designated in 1804 as part the Pitt Town/Nelson Common. Pitt Town Nature Reserve remained a common until its dedication as a nature reserve however Scheyville has had a varied history. In 1890 it was removed from common usage and became a co-operative labour settlement for the unemployed, then a casual labour farm, and in 1911 the Scheyville Government Agricultural Training Farm training British boys to work on Australian farms. It was also used by the military during various wars and in the 1950s and 1960s became a major migrant hostel.

Scheyville National Park contains a number of features relating to past use of the area including 16 Aboriginal sites, archaeological sites relating to farming of the area prior to 1909, twin silos and 1929 Georgian-style buildings dating from Dreadnought years, and Nissen huts from when it was used as a migrant hostel. There are no Aboriginal or historic sites recorded on Pitt Town Nature Reserve but its long history as a common is of local historic interest.

Since 1971 Longneck Lagoon has been used for environmental education by schools and in 1978 a field studies centre was established near the edge of the lagoon. Both Scheyville National Park and Pitt Town Nature Reserve have scientific and educational value due to their abundance of bird life, and as areas for study of fluvial processes and human changes to the environment.

Statement of Significance

The significance of Scheyville National Park and Pitt Town Nature Reserve is summarised below:

Landscape and Water Quality Value:

- They are part of a system of national parks and nature reserves which protects regionally significant landscapes along the Hawkesbury River.
- The national park protects Longneck Lagoon and the majority of its catchment, while the nature reserve protects Pitt Town Lagoon. Both are important wetland areas in western Sydney.

Nature Conservation Value:

- The national park and nature reserve protect wetland areas which are important for a range of resident and migratory birds and are listed on the Register of the National Estate and in Sydney Regional Environmental Plan No. 20 (Hawkesbury-Nepean).
- Most of the naturally vegetated areas of the national park are also listed on the Register of the National Estate as they represent the most extensive remnant of vegetation on Wianamatta Shale remaining on the Cumberland Plain.
- The national park protects a significant area of Cumberland Plain Grey Box/ Ironbark Woodland, which was listed in June 1997 as an endangered community under the Threatened Species Conservation Act 1995.
- The national park is one of only a small number of conservation reserves in western Sydney which protects other vegetation communities typical of the Cumberland Plain, such as Castlereagh Scribbly Gum Woodland and Shale/Gravel Transition Forest.
- The national park protects three threatened native plants and a number of regionally rare plant species.
- Ten birds listed under the Threatened Species Conservation Act have been recorded in the national park and nature reserve.

Cultural Heritage Value:

- The national park contains evidence of Aboriginal occupation which is of both archaeological value and of significance to contemporary Aboriginal communities.
- The national park and nature reserve contain a number of historic features and places which demonstrate the early settlement of the Cumberland Plain, farming and migrant uses of the area.
- Scheyville National Park was the site of three unusual and often controversial social and agricultural ventures in the late 19th and early 20th centuries: the Pitt Town Co-operative Labour Settlement for the unemployed; a Casual Labour Farm for men who could not find work through ill health; and the Scheyville Government Agricultural Training Farm, a “Dreadnought Farm” for English boys.
- Scheyville is of social value to many migrants who arrived in Australia during the 1950s and early 1960s when it was a major migrant reception centre and to their descendants.
- The national park has a long association with the military, being used as an internment camp during World War I, a military training camp during World War II, and an officer training camp during the Vietnam War.

Environmental Education Value:

- Longneck Lagoon within Scheyville National Park has a long history of environmental education centred around the Longneck Lagoon Field Studies Centre.
- The location of the areas within western Sydney and close to the populations of Windsor and Richmond, their historic features, wetlands, wildlife and range of vegetation communities make them important areas for environmental education.

Research Value:

- The natural areas of the national park are becoming increasingly important areas for research as other natural areas in Sydney's west are cleared and developed.
- Both the national park and nature reserve offer opportunities for studying changes to the natural landscape brought about by human endeavours.
- The cultural resources of the national park provide opportunities for archaeological, historical and social research.

Recreation Value:

- The variety of landscapes within Scheyville National Park provide a range of outdoor recreation opportunities for the people of western Sydney, including walking, cycling, picnicking and horse riding.

3. OBJECTIVES OF MANAGEMENT

3.1 GENERAL OBJECTIVES

The following general objectives are derived from the National Parks and Wildlife Act and relate to the management of national parks in New South Wales:

- * the protection and preservation of scenic and natural features;
- * the conservation of wildlife;
- * the maintenance of natural processes as far as is possible;
- * the preservation of Aboriginal sites and historic features;
- * the preservation of catchment values;
- * the encouragement of scientific and educational enquiry into environmental features and process, and prehistoric and historic features; and
- * the provision of appropriate recreation opportunities.

The general objectives relating to the management of nature reserves in New South Wales include all but the last of the objectives listed above.

3.2 SPECIFIC OBJECTIVES

In addition to the general objectives outlined above, the following more specific objectives will be adopted for Scheyville National Park and Pitt Town Nature Reserve:

- * protection and enhancement of the natural vegetation of the national park and nature reserve, particularly the endangered Cumberland Plain Woodland;
- * protection and enhancement of Longneck and Pitt Town Lagoons as habitat for migratory water birds;
- * protection of the catchment values of Longneck Lagoon;
- * interpretation of the importance of the national park and nature reserve in conserving ecosystems which are poorly represented in the reserve system;
- * interpretation of the long and changing use of Scheyville National Park and Pitt Town Nature Reserve;

- * promotion of the appropriate use of the buildings at Scheyville so as to provide for their future maintenance; and
- * provision of facilities for informal recreational opportunities within Scheyville National Park consistent with the protection of the natural and cultural values of the park.

3.3 OVERALL STRATEGY

Scheyville National Park

Scheyville National Park will be managed primarily to protect and enhance its important vegetation communities. Revegetation of previously cleared areas of the park will be encouraged. Interpretation of the natural values of the park will be centred on the Longneck Lagoon area. Information will be provided through signs, guided tours and the continued operation of the Longneck Lagoon Field Studies Centre.

Emphasis will also be placed on the conservation and interpretation of the important historic values (both physical and social) of Scheyville National Park. Guided tours and signs will be used to interpret the cultural heritage of the park and a special history walk will be developed. Uses will be sought for the historic buildings which will ensure their continued maintenance.

Facilities for recreational use of the park will include a small number of picnic tables and trails suitable for bush walking, horse riding and cycling. These will be located so as not to impact on the natural and cultural values of the area yet still provide a range of experiences.

Management of weeds, feral animals and inappropriate activities such as rubbish dumping, which are a legacy of its past use for agriculture and the many roads which dissect the park, will continue to be addressed.

Pitt Town Nature Reserve

Pitt Town Nature Reserve will be managed primarily as habitat for water birds. Some additional planting will be undertaken on the reserve to improve habitat values. Bird watching is, and will continue to be, the primary public use of the reserve and no facilities will be provided for visitors other than interpretive signs near the entrance to the reserve.

4. POLICIES AND FRAMEWORK FOR MANAGEMENT

This section outlines the policies that, within the general policies of the National Parks and Wildlife Service, provide the framework for management of Scheyville National Park and Pitt Town Nature Reserve.

The policies established in this plan of management provide the framework for future management and are consistent with anticipated resources available to the Service and with anticipated community trends over the next five to ten years.

The activities identified in the plan implementation table at the end of this plan of management are those immediate proposals to which priority will be given in the foreseeable future. Other management actions may be developed over the life of this plan consistent with the objectives and policies set out in the plan.

Where not specifically provided for in this plan of management, the management of Scheyville National Park and Pitt Town Nature Reserve will be in accordance with the National Parks and Wildlife Act and general Service policies.

4.1 THE NATURAL AND CULTURAL LANDSCAPE

4.1.1 Geology, Soils and Landforms

Scheyville National Park and Pitt Town Lagoon Nature Reserve lie within the Sydney Basin, a major structural unit of Permian and Triassic age (270-180 million years ago) consisting almost entirely of horizontally bedded sedimentary rock. The Sydney Basin extends over the central eastern section of New South Wales from north of the Hunter Valley to Batemans Bay in the south and includes the Central Tablelands west of Sydney. The national park and nature reserve are located on the Cumberland Plain, a major subdivision of the Sydney Basin.

The Cumberland Plain is a gently undulating saucer-shaped depression within the Sydney Basin, ranging in altitude from 20 to 100 metres above sea level. It consists of a deep, almost unbroken layer of Wianamatta shale overlying Hawkesbury Sandstone. Poorly-consolidated Tertiary alluvial deposits, mainly clays and gravels, represent ancient higher floodplains of the Hawkesbury River (Taylor, 1970). Recent (Quaternary) sand, silt and clay alluvium occurs along the present floodplain of the Hawkesbury River. The heavy clay soils of the plain are poorly drained and poorly aerated, hence swampy depressions are common (Fairley and Moore, 1989).

The main geological formations which occur in the Scheyville-Pitt Town area are:

Quaternary Alluvials - Found on the Hawkesbury River floodplain. The present floodplain in the Windsor district is part of the Lowlands Formation. It consists of a basal gravel grading upwards into sand and silt, and generally gives rise to light loamy soils. In low-lying and swampy areas, soils are organic peaty or clayey types. Present day flooding has deposited silt and black mud over the floodplain. A number of wetlands, including Longneck and Pitt Town Lagoons, have formed on this terrace (Pressey, 1981).

Londonderry Clay - underlies the Quaternary sand and overlies the Rickabys Creek Gravels. Londonderry Clay forms the high terrace on which the township of Pitt Town is built but does not outcrop within the national park or nature reserve.

Rickabys Creek Gravels - outcrops to the south of Pitt Town Lagoon and along the foreshores of Longneck Lagoon. These Tertiary age soils relate to former courses of the Hawkesbury River over 6 million years ago. They consist of alluvial sediments of sand, gravel and pebbles within a fine matrix of silt and clay.

Wianamatta Shale - lies unconformably below the Rickabys Creek Gravels and provides the basement rock on which the later sediments have been deposited. It forms most of the upper areas of Scheyville National Park, and produces soils which are of moderate fertility and have poor drainage due to their higher water-holding capacity and the low permeability of their clayey subsoil.

Hawkesbury Sandstone - underlies the Wianamatta Shales. These rocks are of Triassic age and were deeply weathered before being uplifted during the Tertiary age. They surface in a small area of Scheyville east of Longneck Lagoon and form shallow highly permeable soil of low fertility and high soil erosion potential.

The relatively fertile soils of most of the area, proximity to Sydney and flat to undulating topography resulted in the Cumberland Plain being one of the first areas in Australia to be extensively cultivated. As early as 1803 an area which includes Scheyville National Park and Pitt Town Nature Reserve was declared a public common and used for grazing. Part of the eastern section of Scheyville National Park was used for gravel extraction and the revegetating pits remain as evidence of this past use, while quarrying of sandstone was undertaken immediately east of Longneck Lagoon. Clearing of native vegetation has accelerated soil erosion in a number of areas and the loss of topsoil has limited the ability of the steeper sections of the national park and nature reserve to support vegetation. Recreational activities have also increased erosion. Although not as susceptible to erosion as soils derived from Hawkesbury Sandstones, the clayey soils derived from Wianamatta Shale can become boggy after rain and crack during dry weather. Erosion is particularly a problem along watercourses.

Policies and actions

- * All developments and earth works within Scheyville National Park and Pitt Town Lagoon Nature Reserve will be designed and undertaken in a manner which minimises erosion, uses compatible material, and incorporates soil erosion and sedimentation control works.
- * No quarrying or soil removal will be undertaken in the national park or nature reserve.
- * Areas disturbed by past extractive activities and/or use for agriculture and recreation will be monitored and rehabilitation works implemented where necessary. Priority will be given to walking tracks and management trails which are eroding, or which cross or are along the edges of watercourses.

- * Controls will be placed on activities degrading soil or water quality. This may involve the prohibition of certain recreational activities, the restriction of horses near water courses, and the closure of certain tracks and trails within Scheyville National Park.

4.1.2 Hydrology and Water Quality

Scheyville National Park includes Longneck Lagoon and most of its catchment. This includes most of Llewellyn Creek and Longneck Creek and their tributaries, however it excludes a number of small rural properties adjoining these creeks and fronting Avondale Road, Pitt Town Dural Road and Whitmore Road which have the potential to have significant impacts on Longneck Lagoon.

Many of the creeks within the park only flow after rain. A number of farm dams were previously constructed along these watercourses, the majority of which dry out during long periods of dry weather. The walls of the dams have in most cases been breached to permit natural flow along the creeks however some armouring of the breaches is necessary to prevent soil movement during heavy rains. The 1:100 year flood line encompasses Longneck Lagoon, all of the area north of Pitt Town Dural Road (including the road) and part of the Llewellyn Creek catchment south of the road. Avondale Road is also frequently cut by floodwaters.

Longneck and Pitt Town Lagoons are typical examples of back swamps or flood basins, resulting from the river's tendency to deposit much of its sediment load, and particularly the coarse sediment, close to the channel when it overtops its banks. Most of the lagoons along the Hawkesbury River have been altered, so that they only hold water for short periods after flooding or heavy rain, or dammed to become permanent swamps. Pitt Town Lagoon is an example of the first while Longneck Lagoon is an example of the second.

Longneck Lagoon is fed by Longneck and Llewellyn Creeks, surface and ground water runoff from the catchment, and backwater flooding from the Hawkesbury River. Pitt Town Lagoon is supplied by a gradual downstream movement of ground water, lateral seepage from the Hawkesbury River and adjacent hill slopes, and backwater flowing along Bardenarang Gully from the Hawkesbury River. A complex system of aquifers underlie the area, with the regional water table lying within the Rickabys Creek Gravels. The ground water is brackish, becoming more saline in areas fed by ground water from underlying shale.

During the 1970s Longneck Lagoon had a much lower water level than at present. Upgrading of Cattai Road in the 1980s led to a partial damming of the lagoon and a permanently higher, less fluctuating water level. Overflow from Longneck Lagoon, and backwater flooding from the Hawkesbury River, enters the river at Canning Reach.

Pitt Town Nature Reserve includes Pitt Town Lagoon and the lower section of its catchment. Pitt Town Lagoon was a swamp which was drained to provide additional grazing land by the clearing and deepening of Bardenarang Gully in the late 1950s.

As a result, when the floodgates are open, outflow from the lagoon continues to a lower level than it would normally. Other works prevent the inundation of the lagoon during minor flooding. At most times the water level of Pitt Town Lagoon probably approximates the height of the water table, with water supplied by the downstream movement of ground water over an extensive front and lateral seepage from the adjacent hill slopes and Hawkesbury River, although it may be significantly higher after a period of runoff from the catchment (Pressey, 1981). A number of islands were constructed in the lagoon in 1985 to provide protection for water birds and enhance the lagoon's value as a resting and breeding area for wetland species. The habitat value of the Pitt Town Lagoon islands in their current configuration will be assessed (refer section 4.2.3).

Pitt Town Lagoon has been described as a eutrophic or unstable system with cycles of rapid biological growth and decay. Water quality analysis has revealed high nutrient concentrations, high turbidity and large fluctuations in pH and dissolved oxygen (Simmons and Stevens, 1993). The water quality of Longneck Lagoon is better because most of the catchment lies within the park. It however also suffers from high turbidity, high nutrient concentrations and high levels of salinity resulting in salt scalding and erosion on the margins of the lagoon. Benson and Howell (1990) suggested that the higher water levels and decreases in water quality in the 1980s led to the loss of reeds and rushlands on the margins of the lagoon.

In the late 1980s investigations were undertaken by the Longneck Lagoon Trust into the possibility of installing sluice gates on Longneck Lagoon so that the height of the water in the lagoon could be regulated to approximate natural changes in water levels. It is now considered that changing the water level in Longneck Lagoon will have a major impact on the surrounding vegetation which has adapted to the new water levels and that it would reduce the value of the lagoon as a habitat for waterbirds during drought years.

Scheyville National Park and Pitt Town Lagoon Nature Reserve lie within the Cattai catchment of the Hawkesbury-Nepean River. The Cattai Catchment Management Committee, which operated under the auspices of the Hawkesbury-Nepean Catchment Management Trust, provided valuable information to the local community on catchment management, including recommendations for improving water quality, decreasing soil erosion, and maintaining ecological processes within the catchment. The Service will continue to work co-operatively with the Catchment Management Trust and other landholders in the area to help protect soil resources, water quality and other catchment values.

Policies and actions

- * Research into the impacts of activities within the catchments of Pitt Town Lagoon and Longneck Lagoon on the water quality of the lagoons will be encouraged.
- * The Service will continue to support the concept of Total Catchment Management and will work with the Hawkesbury-Nepean Catchment Management Trust to protect water quality and other values of the national park and nature reserve.

- * Use of the nature reserve and parts of the national park may be restricted during flood times.
- * Revegetation will be encouraged along creek lines to minimise soil erosion and decrease turbidity in the lagoons. Planting and fencing will be undertaken where necessary.
- * Planting of salt-tolerant species will continue to be undertaken in salt scald areas around Longneck Lagoon.
- * Armouring of breaches in the old farm dams on Scheyville National Park will be undertaken where necessary to prevent erosion.

4.1.3 Native Vegetation

Scheyville National Park and Pitt Town Nature Reserve contain a range of native plant and animal associations. Nearly 200 years of grazing, timber collection and other agricultural practices resulted in the removal or destruction of all native trees and shrubs on Pitt Town Nature Reserve and in some areas of Scheyville National Park, however large areas of native vegetation remained in the national park and extensive planting of native species has been undertaken in the nature reserve.

Scheyville National Park

Cumberland Plain Grey Box/Ironbark Woodland: Most of the central section of Scheyville National Park is situated on Wianamatta shale and supports a woodland dominated by grey box (*Eucalyptus moluccana*), narrow-leaved ironbark (*Eucalyptus creba*) and forest red gum (*Eucalyptus tereticornis*). Benson and Howell (1990) estimated that only 6% of the original extent of this community remained in 1988. Scheyville National Park contains the largest single remnant of this community.

This type of woodland, which occurs on hilly shale country, was once extensive around the edge of the Cumberland Plain. It is markedly different to woodlands found on Hawkesbury sandstone and to remnant communities of grey box woodland that occur on the drier flats of the central Cumberland Plain between Parramatta and Penrith. Whilst grey box and forest red gum are represented in vegetation over most of the Cumberland Plain, ironbark is not common on the drier flats and only becomes co-dominant on hillier shale country such as in Scheyville National Park.

The understorey is dominated by blackthorn (*Bursaria spinosa*), a colonising shrub which often occurs in dense stands. Grasses and herbs make up the ground cover including kangaroo grass (*Themeda australis*), hedgehog grass (*Echinopogon caespitosus*), wire grass (*Aristida vagans*), *Microlaena stipoides* and *Cymbopogon refractus*.

In 1788 Governor Phillip described the vegetation west of Parramatta as “trees growing at a distance of 20 to 40 feet [6-12m] from each other, and in general entirely free from brushwood, which was confined to stony and barren spots” (Benson and Howell, 1990). Over the years since then many of the trees were cut

for timber and much of the area was cleared, burnt and heavily grazed leaving only scattered trees and introduced grasses in some areas of the park. Benson and Howell (1990) suggest that tree densities in the area are now generally much higher as they are regrowing after disturbance, and the amount of blackthorn may have increased after settlement as a result of grazing or changes in fire frequency, or a combination of these events.

Cumberland Plain Woodland is listed as an endangered ecological community under the *Threatened Species Conservation Act 1995*. The grey box/ironbark woodlands of Scheyville National Park fall into this category. Identified threats to the survival of the remaining Cumberland Plain Woodland include clearing, grazing, housing development, increases in nutrient loads and exotic plants. The endangered pea bush *Pultenaea parviflora* has been recorded in this community in the section of the park between Old Pitt Town Road and Saunders Road (Kinhill, 1990).

Castlereagh Scribbly Gum Woodland: On a ridge of well drained sandy soil between Pitt Town Dural Road and Avondale road, occurs a small patch of woodland dominated by hard-leaved scribbly gum (*Eucalyptus sclerophylla*) and narrow-leaved apple (*Angophora bakeri*). Broad-leaved ironbark (*Eucalyptus fibrosa*) occurs as a minor associated species within this community.

The understorey consists primarily of sclerophyllous shrubs, with *Hakea sericea*, *Melaleuca nodosa*, riceflower (*Pimelia* spp.), and geebung (*Persoonia linearis*) amongst a variety of grass ground cover. The threatened pea flower *Dillwynia tenuifolia* is also to be found within the low ground cover of this vegetation community.

This vegetation association is considered vulnerable as most areas of the Castlereagh Woodland have been cleared. The only other sites where similar vegetation is afforded any protection within Service estate are within Castlereagh and Windsor Downs Nature Reserves. Part of the Castlereagh Woodland within Scheyville National Park was disturbed by gravel extraction, however these areas are regenerating well although a number of trees appear in a mallee form.

Shale/Gravel Transition Forest: This community occurs on a transitional zone between Wianamatta Shale and Tertiary alluvial soils located west of Llewellyn Creek between Longneck Lagoon and Avondale Road. The vegetation grades from a paperbark forest along the creek to an open forest of ironbark and grey box.

Closest to the creek the main species are *Melaleuca linariifolia* and *Melaleuca decora*, with *Melaleuca stypheloides* on the better drained soils and *Melaleuca nodosa* on more elevated gravel/sandy loams. Broad-leaved ironbark and grey box are found amongst the paperbarks. Further from the creek the paperbarks disappear, to be replaced with thin-leaved stringybark (*Eucalyptus eugenoides*) and hard-leaved scribbly gum in association with the more dominant ironbark and grey box.

The understorey of this transitional open forest contains a variety of species that are a mixture of small trees and shrubs typical of both Wianamatta Shale and Tertiary alluvium. Blackthorn, *Daviesia ulicifolia*, *Dillwynia juniperina*, *Acacia parramattensis*

and *Exocarpus cupressiformis* are common. Two species listed as vulnerable under the Threatened Species Conservation Act are also found in this area: the pea flower *Dillwynia tenuifolia* and small populations of downy wattle (*Acacia pubescens*).

There is also a small area of park containing both these rare plants between Longneck Creek and Avondale Road. This area of the park contains the second largest known population of downy wattle and the largest reserved population of this species.

Freshwater Wetlands: Longneck Lagoon is located in the northern section of Scheyville National Park. It supports emergent reedland in zones of permanent water, which are dominated by *Eleocharis sphacelata* with minor association of other reeds and rushes including bullrush/cumbungi (*Typha orientalis*). Areas around the lagoon perimeter adjacent to the main water body are seasonal wetland zones. Rushland communities within this zone are populated with *Juncus usitatus* with associated herblands including various knotweeds (*Persicaria* spp.). Immediately surrounding Longneck Lagoon are stands of tall shrubland and woodland. Water tolerant trees growing in this area include *Melaleuca styphelioides*, *Melaleuca linariifolia* and swamp oak (*Casuarina glauca*). Some areas surrounding Longneck Lagoon, particularly the eastern edges, have been planted with indigenous species.

Wetland vegetation is dependent on such factors as water depth, periods of inundation and water quality. A number of wetland species rely on changing water levels to promote growth and diversity. Partial damming of Longneck Lagoon by roadworks along Cattai Road has created more permanent and deeper water.

The small dams on creeks within Scheyville National Park are dominated by reeds (*Typha* spp.), with other wetland herbs and grasses also present.

Grasslands: Approximately 30% of Scheyville National Park is a grassland dominated by introduced grasses. Scattered large trees, predominantly grey box (*Eucalyptus moluccana*), and small patches of woodland occur throughout the cleared paddock areas. Since the removal of domestic stock, which was completed in May 1997, considerable regeneration has been occurring around the isolated trees and in woodland areas.

Pitt Town Nature Reserve

The vegetation in the low-lying areas of Pitt Town Nature Reserve consists of native and introduced rushes, sedges, pondweeds and grasses, with common reeds (*Phragmites australis*) growing in shallow depressions and drains on the alluvial flat. Native knotweeds are common, and can be found growing on the fringes of the lagoon in wet periods, and over the entire area of the lagoon when it is dry.

All native trees and shrubs were cleared from around Pitt Town Lagoon last century and there are no records of the original vegetation, although it was probably similar to other alluvial flats along the Hawkesbury River (Pressey, 1981). In 1985 paperbark (*Melaleuca* spp.) and swamp oak (*Casuarina glauca*) were planted on the islands in Pitt Town Lagoon. Further revegetation works commenced at Pitt Town Nature Reserve in 1993, and involved the planting of 850 native trees and shrubs in

the northern part of the reserve. Species planted included coast myall (*Acacia binervia*), rough-barked apple (*Angophora floribunda*), forest red gum (*Eucalyptus tereticornis*), swamp paperbark (*Melaleuca ericifolia*) and swamp oak (*Casuarina glauca*). These trees now provide food and nesting sites for wildlife, and have diversified the range of habitats available in the reserve.

Policies and actions

- * As far as possible the natural vegetation of the national park and nature reserve will be protected through the maintenance of natural processes, the mitigation of human impacts, and through specific conservation and bush regeneration programs.
- * All management activities, including fire management and the control of pest plants and animals, will take into account the presence of significant species and communities and their ecological requirements.
- * All activities undertaken in the national park and nature reserve will minimise disturbance to native vegetation and any damage resulting from the activity will be rehabilitated.
- * An improved vegetation map will be prepared for the national park.
- * Plant communities within the national park and nature reserve will be monitored and processes which threaten their maintenance assessed and, where practicable, controlled.
- * A bush regeneration plan will be prepared for Scheyville National Park (excluding historic areas, see section 4.1.5). Regeneration will be encouraged through appropriate fire regimes, distribution of seed and selected planting with locally indigenous species. Locally collected seed stock will be used where practical. Priority will be given to revegetation of the creek lines, tracks and trails not required for visitor or management purposes, and around existing single trees or small stands of trees in grassland areas.
- * Additional planting of native species will be undertaken along Bardenarang Gully and on the south-west side of Pitt Town Nature Reserve. Planting will be consistent with a revegetation plan to be prepared for the reserve and only species identified as likely to be endemic to the area will be used. Care will be taken that revegetation works do not degrade the value of the reserve as habitat for waterbirds.
- * The local community will be encouraged to participate in the care of Scheyville National Park and Pitt Town Nature Reserve through involvement in bush regeneration groups.
- * Recovery plans and/or threat abatement plans will be implemented when prepared for plants and communities listed under the Threatened Species Conservation Act.

- * Research into changes in the vegetation patterns and species composition, and into the management requirements of threatened and uncommon plant species and communities, will be encouraged.

4.1.4 Native Animals

The variety of vegetation types within the national park and nature reserve support a range of native animals, although the larger mammals such as koalas (*Phascolarctos cinereus*), eastern quolls (*Dasyurus viverrinus*), rufous bettongs (*Aepyprymnus rufescens*), swamp wallabies (*Wallabia bicolor*) and eastern grey kangaroos (*Macropus giganteus*) which are listed in Australian Museum records for the area are no longer present (Recher *et al.*, 1993). The national park and nature reserve do however provide valuable habitat within the local area, including large areas of vegetation communities which are now uncommon. A number of birds more commonly seen west of the Dividing Range have been recorded in the park.

Birds

Birds are the most common native animal in both reserves, with 141 species (99 terrestrial and 42 wetland species) recorded within Scheyville National Park and 73 wetland species recorded within Pitt Town Nature Reserve.

Wetland Areas: Longneck Lagoon and Pitt Town Lagoon provide important wetland habitat for waterbirds within the Hawkesbury area. The importance of Longneck and Pitt Town Lagoons is highlighted by their listing in the Sydney Regional Environmental Plan 20 (Hawkesbury-Nepean) and on the Register of the National Estate.

At least 42 water birds have been recorded on or around Longneck Lagoon and 73 water birds, including 26 species of waders, on and around Pitt Town Lagoon. Water birds have a diverse range of requirements, with varying feeding, roosting and breeding habits. Some birds require more terrestrial habitat, others shallow water for wading, whilst others prefer deeper water for swimming. Pressey (1981) notes that Pitt Town Lagoon provides a distinctive type of habitat in the Hawkesbury district, being very shallow and lacking aquatic vegetation except on the margins. Benson and Howell (1990) suggest that the partial damming of Longneck Lagoon has reduced seasonal water level fluctuations over past years, which in turn has reduced the diversity of water birds using the lagoon.

More commonly sighted water birds on the lagoons include the dusky moorhen (*Gallinula tenebrosa*), purple swamphen (*Porphyrio porphyrio*), white-faced heron (*Ardea novaehollandiae*), royal spoonbill (*Platalea regia*), Australian pelican (*Pelecanus conspicillatus*), black-fronted plover (*Charadrius melanops*), black-winged stilt (*Himantopus himantopus*) and red-necked avocet (*Recurvirostris novaehollandiae*).

Two wetland birds, the black bittern (*Ixobrychus flavicollis*) and the comb-crested jacana (*Irediparra gallinacea*), both listed as vulnerable under the Threatened

Species Conservation Act 1995, have been recorded at Longneck Lagoon. Six wetland birds that are listed as vulnerable have been recorded in Pitt Town Nature Reserve. They are the comb-crested jacana (*Irediparra gallinacea*), black-necked stork (*Ephippiorhynchus asiaticus*), freckled duck (*Stictonetta naevosa*), painted snipe (*Rostratula benghalensis*), Mongolian plover (*Charadrius mongolus*) and black-tailed godwit (*Limosa limosa*).

Among the many water birds using the lagoons are numerous seasonal migrants to the area. Australia is signatory to a number of international treaties aimed at ensuring the protection of birds migrating to Australia from other countries. The Japan Australia Migratory Bird Agreement (JAMBA) and the China Australia Migratory Bird Agreement (CAMBA), and treaties such as the Bonn Convention and the Ramsar Convention, provide a framework for inter-governmental cooperation in the protection and conservation of wetlands and migratory species. Seven species protected under these treaties have been recorded within Scheyville National Park and 19 species within Pitt Town Nature Reserve. The lagoons are important staging areas for migratory species such as the Mongolian plover (*Charadrius mongolus*), Japanese snipe (*Gallinago hardwickii*), marsh sandpiper (*Tringa stagnatilis*), red-necked stint (*Calidris ruficollis*), great egret (*Ardea alba*) and glossy ibis (*Plegadis falcinellus*).

Woodland and Forest Communities: Many birds more typical of areas both coastal areas and west of the divide are found in the woodland and forest communities of Scheyville National Park. More common species of the woodland and forest areas include the laughing kookaburra (*Dacelo novaeguineae*), white-throated treecreeper (*Cormobates leucophaea*), superb fairy-wren (*Malurus cyaneus*), spotted pardalote (*Pardalotus punctatus*), noisy miner (*Manorina melanocephala*), eastern yellow robin (*Eopsaltria australia*), eastern whipbird (*Psophodes livaceus*), golden whistler (*Pachycephala pectoralis*), willie wagtail (*Rhipidura leucophrys*), black-faced cuckoo-shrike (*Coracina novaehollandiae*), grey butcherbird (*Cracticus torquatus*) and the Australian magpie (*Gymnorhina tibicen*).

Egan *et al.* (1997) have noted a marked decrease in the numbers of some species since the 1960s, particularly the speckled warbler (*Sericornis sagittatus*), weebil (*Smicronis brevirostris*) brown treecreeper (*Climacteris picumnus*), black-chinned honeyeater (*Melithreptus gularis*), jacky winter (*Microeca leucophaea*) and fuscous honeyeater (*Lichenostomus fuscus*). They also believe that some species once common in the area are now locally extinct, for example the diamond firetail (*Stagonopleura guttata*), zebra finch (*Taeniopygia guttata*), hooded robin (*Melanodryas cucullata*), red-capped robin (*Petroica goodenovii*), scarlet robin (*Petroica multicolor*), flame robin (*Petroica phoenicea*) and black-eared cuckoo (*Chrysococcyx osculans*). Suggested causes for the decline and loss of species from the area are a loss of habitat through urbanisation, timber getting, grazing, changed fire regimes, disturbance by people and the impact of introduced animals such as foxes, dogs, cats and horses. Protection of shale vegetation is particularly important because certain birds keep to shale areas.

Three birds listed under the Threatened Species Conservation Act have been recorded within the woodland and forest units of Scheyville National Park. They are the swift parrot (*Lathamus discolor*) and turquoise parrot (*Neophema pulchella*), both

listed as vulnerable under the Act, and the endangered regent honeyeater (*Xanthomyza phrygia*).

Mammals

The only mammals commonly seen in Scheyville National Park are the sugar glider (*Petaurus breviceps*) and brush-tailed possum (*Trichosurus vulpecula*). The little red flying fox (*Pteropus scapulatus*) and insectivorous bats have also been recorded within the national park. Recent surveys have revealed the existence of the ground dwelling bush rat (*Rattus fuscipes*) along creek areas and the echidna (*Tachyglossus aculeatus*) throughout the woodland and forest areas.

No native mammals have been recorded in Pitt Town Nature Reserve. The absence of mature trees and shrubs excludes arboreal species, and lack of canopy and understorey makes the reserve unsuitable for small ground-dwelling species.

Reptiles and Amphibians

Surveys in recent years have identified at least 20 reptile species throughout the national park. Commonly seen species include the long-necked tortoise (*Chelodina longicollis*), the blue tongue lizard (*Tiliqua scincoides*) as well as the red-bellied black snake (*Pseudechis porphyriacus*) and eastern brown snake (*Pseudechis textilis*). Other recorded species within the park include the lace monitor (*Varanus varius*), bearded dragon (*Pogona barbata*), wood gecko (*Diplodactylus vittatus*), eastern water dragon (*Physignathus lesuerii*), copper-tailed skink (*Ctenotus taeniolatus*), water skink (*Eulamprus quoyii*) and the red-throated skink (*Leiolopisma platynotum*).

Nine species of frog have been recorded in the park, with most concentrated around Longneck Lagoon. Frog species include the striped marsh frog (*Limnodynastes peronii*), bleating tree frog (*Litoria dentata*) and common eastern toadlet (*Crinia signifera*). During favourable wet weather, frogs can also be observed in smaller wetlands throughout the cleared areas of the park.

Aquatic Fauna

Longneck Lagoon provides habitat for numerous native fish species. Fish within the lagoon include Australian bass (*Macquaria novemaculeata*), sea mullet (*Mugil cephalus*), firetailed gudgeon (*Hypseleotris galii*), striped gudgeon (*Gobiomorphus australis*) and short-finned eels (*Anguilla australis*). Populations of native species have reduced considerably since European settlement, particularly with major decreases in local water quality. The population of bass and mullet, which return to the ocean environment as part of their breeding cycle, has been reduced by the partial damming of Longneck Lagoon along the Cattai Road as well as by competition from European carp (*Cyprinus carpio*).

Policies and actions

- * The national park and nature reserve will be managed so as to maintain and improve their value as habitat for native animals, particularly for migratory waterbirds and for threatened and uncommon animal species.

- * Species recovery plans will be implemented for all species listed under the Threatened Species Conservation Act.
- * Species lists for the national park and nature reserve will be regularly updated, animal communities will be monitored, and threatening activities (including visitor activities) assessed and where practical controlled.
- * Research into the habitat requirements, status and distribution of animals in the national park and nature reserve, particularly threatened/uncommon species and amphibians, will be encouraged.

4.1.4 Aboriginal Heritage

The Aboriginal people of the Hawkesbury area inhabited the area for at least 13,000 years prior to European settlement. The area which is now Scheyville National Park and Pitt Town Nature Reserve was once occupied by the Daruk people. Remaining evidence indicates that occupation by Aboriginal people was focussed around the lagoons where fish, tortoises, birds and eggs would have been available, although extensive hunting also occurred through the surrounding woodlands, probably aided by burning of the bush.

The arrival of Europeans was devastating to Aboriginal society. First interactions between the Daruk and European settlers were cordial, but soon deteriorated as land was cleared for farming, trees were cut down for fuel and firewood, and the Daruk were denied access to their traditional hunting, fishing and gathering areas along the Hawkesbury River and other watercourses by European settlers. In 1795 soldiers were sent to the district and several clashes are recorded in the district which resulted in massacres of Aboriginal people. Diseases such as smallpox, measles and influenza also took a heavy toll. By 1820 all resistance by the Daruk had been broken and there are few reports of Aboriginal people in the area after this time.

The long history of European occupation and use of the area has heavily disturbed some areas and is likely to have destroyed many Aboriginal sites, however a total of 16 sites have been recorded on the national park (Dallas and Navin, 1990). The highest number of sites were found on the margins of Longneck Lagoon and along Longneck and Llewellyn Creeks. The sites, which include stone cores and occupation sites, have generally been heavily disturbed by previous farming activities and floods and are not easily recognisable or interpreted to visitors. No Aboriginal sites have been found on Pitt Town Nature Reserve, however it is possible that sites and artefacts are buried beneath alluvial deposits.

Scheyville National Park and Pitt Town Nature Reserve are located in the area of the Deerubbin Local Aboriginal Land Council. On-going liaison is maintained with the Deerubbin Local Aboriginal Land Council in regard to the management of Aboriginal sites on the park.

Policies and actions

- * All Aboriginal sites found on the national park and nature reserve will be recorded and conserved.
- * The Deerubbin Local Aboriginal Land Council will continue to be consulted and involved in the management of all Aboriginal sites.
- * The Aboriginal heritage of the national park and nature reserve will be interpreted in park information however, due to the fragility of the Aboriginal sites on the national park, site locations will not generally be publicised.

4.1.5 Historic Heritage

Scheyville National Park and Pitt Town Nature Reserve are located on land designated by Governor King in 1804 as a common to be used as pasture by settlers with small holdings in the district. However subsistence farmers who needed common grazing did not survive and in 1890 the Pitt Town Common was revoked and much of the land sold or designated to be used for other purposes.

Scheyville National Park

In 1893 part of the Pitt Town Common became the Pitt Town Co-operative Labour Settlement, a farm established for the unemployed during the 1890s depression which was run along communal lines. Criticism of this socialist experiment and disagreements among the workers led to its abandonment in 1896. Largely through the work of William Francis Schey, the M.P. for Redfern/Darlington and later Director of Labour and Industry, it then became a Government-funded Casual Labour Farm for city men who could not find work through ill health or other "preventable causes". It was intended to be both a refuge and workplace until they were in better health and could go back to their normal work.

The success of this farm encouraged the Government to establish, as an adjunct to it, the Scheyville Government Agricultural Training Farm. The new farm became known as a "Dreadnought Farm" because it was financed with money raised by public subscription for the purchase of a Dreadnought battleship. Half the money was however reallocated to establish farms to teach British boys aged between 14-19 years the rudiments of farming so that they could be employed on Australian properties. The Scheyville Dreadnought farm, which operated between approximately 1911 and 1940, was the largest and most important of a number of similar establishments throughout New South Wales but by the end of the 1930s recruitment for the Second World War meant that there were insufficient boys wanting to be trained to justify the farm's continued existence.

In 1940 the Commonwealth took over the farm and used it as a military training camp for artillery and anti-tank warfare. With the influx of migrants following the war, the Commonwealth decided to convert the farm into a reception centre for migrants. By 1951 new dormitories and a range of other buildings had been constructed,

including the Nissen huts, and Scheyville became the largest immigration hostel in Australia.

In 1965 the site became part of an Officer Training Unit for National Servicemen. Following the end of National Service in 1972, there were a variety of uses of the area for short periods of time, including use of some of the buildings by community groups and as a campus of Hawkesbury Agricultural College. In the following years proposals for the site included a metropolitan rubbish tip, an airport, a prison and a major urban subdivision. These did not eventuate, largely through the action of local environment groups including the National Parks Association of NSW and CRADLE (Concerned Residents Against Development of the Longneck Environment), and on 3rd April 1996 the area was reserved as Scheyville National Park.

Longneck Lagoon and its immediate surrounds were not included in the farms. In 1904 it was again reserved from sale as a Temporary Common. In 1970 representations were made by the Gould League of NSW to preserve the wetlands and as a result in February 1972 the lagoon was gazetted as a Wildlife Refuge under the National Parks and Wildlife Act. In 1973 the lagoon and sections of Scheyville were proposed as a nature reserve. In September 1983 an Interim Protection Order (No. 325) under the Heritage Council of NSW was placed over the lagoon and forested areas of the catchment to preserve them from development. On 31 December 1987 the lagoon and surrounding area south to Pitt Town-Dural Road was dedicated under the Crown Lands Act for the "Promotion of the Study and Conservation of Native Flora and Fauna", and in 1996 it was also included in the national park.

An assessment of the historic significance of the site by Edds (1991) identified that Scheyville was important mainly for its largely intangible associations and interpretive values:

- as part of an old common;
- as the site of three unusual and controversial social and agricultural ventures undertaken by the NSW Government in the late 19th and early 20th centuries;
- it was a focus for migration in the early years of the 20th century through the Dreadnought scheme, and later through the massive immigration schemes of the 1950s; and
- it has a long association with the military, being used as an internment camp in World War I, a training centre during World War II, and as an officer training camp during the Vietnam War.

Thorp (1991) considered that the elements of the three agricultural establishments should be recognised as having a higher cultural significance than the later immigrant and military occupations. These include the sites of the pre-1929 administration centre, school and post office; the remains of fences, yards and farm buildings; silos and wells; and a log bridge across Longneck Creek.

A conservation plan prepared by Edds (1991) identified that a number of structures on the park were badly vandalised and that many structures could be demolished. These dated mainly from the migrant hostel period and most have since been removed, although the cement slabs on which the buildings were constructed

remain. The conservation plan also identified the following sites and structures to be of considerable to high significance and consequently retained:

- archaeological sites relating to use of the area prior to 1929;
- the twin silos from the Dreadnought era (built around 1930);
- the 1929 Georgian revival style masonry buildings and quadrangle;
- the palm trees and avenue of pine trees to and around the buildings, which may have been part of the architect's design for the buildings;
- the two large Nissen huts used during the migrant period;
- the 1929 electrical sub-station; and
- the small water storage tank built in 1911.

The 1929 masonry buildings at Scheyville were designed by the same architect, Bruce Dellit, who designed the 1939 extensions to the Arndell homestead in Cattai National Park. This provides an architectural link between the two parks.

Other structures on the park include three small Nissen huts, an ammunitions store, a squash court, a large water storage tower, brick and timber houses, and corrugated iron toilet blocks. The small Nissen huts and one of the houses were considered by Edds (1991) to be of "some significance".

Due to its long and varied history, there are large numbers of people within Australia who have had, and continue to have, a long and continuing association with the place. These give the park a social value which is more than its historic features.

Pitt Town Nature Reserve

Following the break up of the Pitt Town Common in 1890, Pitt Town Lagoon was not sold as was much of the surrounding land. Instead it was reserved from sale as a Temporary Common in 1905 and continued to be used for grazing under the management of a local Trust. In 1974 the "wet" common was revoked and in March 1976 it was dedicated as Pitt Town Nature Reserve. Four local residents were allowed to continue grazing of the area under licence until 1991. Despite its long history of use, there are no known historic sites or structures on Pitt Town Nature Reserve.

Policies and actions

- * The historic sites and structures identified in the Edds report as being of high significance (see list on page 24), the remaining building foundations/cement slabs, the small Nissen huts and all structures associated with the early agricultural use of the park will be retained.
- * Historic buildings and structures will be stabilised where necessary.
- * No new buildings will be constructed in the historic precinct around the Dreadnought complex or near the pre-1929 sites.
- * Uses for the historic buildings on the national park, such as accommodation, interpretation and offices, which are consistent with the National Parks and Wildlife Act and protection of the natural and cultural environment will be

investigated. Any proposal which involves changes in the management or use of the buildings will be placed on exhibition for public comment.

- * Public access to the historic precinct will be maintained.
- * No structural alterations will be undertaken to the external fabric of historic buildings on the park except for the possible removal of the enclosed verandah around the former managers residence on the right hand side of drive, however doors, windows, roofs, etc. may be replaced and changes may be made to the internal fabric of the buildings to make the building useable.
- * No excavation work will be undertaken in the historic precinct around the Dreadnought/migration buildings or the pre-1929 sites without an excavation permit issued under the Heritage Act 1977.
- * The landscape surrounding the Dreadnought/migration buildings and the pre-1909 farm sites will be maintained as grassland with scattered trees. Introduced plants which are part of the historic landscape, including the palm trees in the Dreadnought courtyard, the pines along the entrance road and introduced trees associated with the pre-1929 sites, will be identified in a landscape plan and replaced with trees of the same species when they become senescent or die.
- * A trail which includes the significant historic sites and structures on the park will be developed (refer map for route) and the historic heritage of the park will be included on interpretive signs and brochures.
- * Wire and metal fence posts may be removed from internal fences, structures fenced, openings into buildings covered and some of the tin lying on the ground removed to make the park safer for visitors.
- * Research into the history of Scheyville will be encouraged.

4.1.6 Introduced Plants and Animals

Introduced species are those plants and animal species not native to an area. This definition also includes native species which do not occur naturally within the local area and which have been introduced e.g. lemon scented gums (*Eucalyptus citriodora*) which have been planted around the workshop area of the park, she-oaks (*Callitris* sp.) which are spreading through the grassland areas, and Queensland silver wattle (*Acacia podalyrisfolia*) commonly planted in gardens or on road verges. This section does not apply to introduced plants which have been identified as of historic value and are dealt with under section 4.2.5 Historic Heritage.

Introduced Plants

The areas now Scheyville National Park and Pitt Town Nature Reserve, like much of the fertile Cumberland Plain, have been subject to vegetation clearing since the early days of European settlement in Australia. Approximately 30% of Scheyville National Park and the majority of Pitt Town Nature Reserve are still covered with

introduced and native grasses. Introduced plants have been brought into the national park and nature reserve through the droppings of domestic stock, horses and birds, planting of grasses and trees, in run-off from neighbouring properties, in the tyres of vehicles and through the dumping of garden refuse on roadside verges and in the park.

Most introduced plants within Scheyville National Park occur in the previously cleared areas of the park. Species include African love grass (*Eragrostis curvula*), blackberry (*Rubus fruticosus*), lantana (*Lantana camara*), bridal veil creeper (*Myrsiphyllum asparagoides*), mother-of-millions (*Bryophyllum syksii*), prickly pear (*Opuntia stricta*), paspalum (*Paspalum dilatatum*), kikuyu (*Pennisetum clandestinum*), common couch (*Cynodon dactylon*), willow (*Salix* spp.), oleander (*Nerium oleander*) and liquidambar (*Liquidambar styraciflua*). Blackberry is of particular concern, with large clumps occurring in cleared areas and along Longneck Creek.

In the forested areas are scattered lantana and broad-leaved and narrow-leaved privet (*Ligustrum lucidum* and *Ligustrum sinense*). These have been distributed by birds and are not a major problem at present but have a potential to spread. Salvinia (*Salvinia molesta*) is washed down into Longneck Lagoon from neighbouring farm dams by flood waters.

Introduced plants in Pitt Town Nature Reserve include pasture grasses, variegated thistle (*Silybum mariana*), spear thistle (*Cirsium vulgare*), tall fleabane (*Conyza albida*), wild turnip (*Brassica rapa*) and purple top (*Verbena bonariensis*). *Persicaria* can be found growing on the fringes of the lagoon in wet periods, and over the entire area of the lagoon when it is dry. Pitt Town Nature Reserve is particularly vulnerable to invasion by non-native plants because the adjacent agricultural and urban land-uses are uphill of the reserve. The reserve has also been subject to disturbance from grazing which, combined with increased nutrients arising from agricultural lands, has led to the spread and dominance of introduced plants.

Blackberry, broad and narrow leaved privet, mother-of-millions, willow and salvinia are listed as noxious weeds by Hawkesbury City Council, while lantana is considered to be an environmental weed. The Noxious Weeds Act 1993 requires the Service to control these weeds to the level necessary to prevent their spread onto adjoining land.

Priority will be assigned in weed control programs to those species and occurrences which:

- are listed as noxious weeds under the Noxious Weeds Act, 1993;
- impact on natural or cultural values;
- have a high potential for dispersal; and/or
- are new isolated occurrences.

The most common control methods used are spraying with herbicides, burning, slashing and hand pulling. Choice of the control method will depend on the extent of the infestation, the type of introduced plant and its accessibility.

Introduced Animals

Introduced animals can destroy native vegetation, compete with and prey on native animals, adversely affect the breeding and feeding of native animals, and can detract from the experience for people visiting natural areas. The use of Scheyville National Park and Pitt Town Nature Reserve as commons mean that both have been grazed by domestic stock for long periods of time. Grazing ceased in the nature reserve in 1991 and in the national park in 1997.

Introduced animals observed in the national park and nature reserve include the red fox (*Vulpes vulpes*), cat (*Felis catus*), dog (*Canis familiaris*), rabbit (*Oryctolagus cuniculus*), brown hare (*Lepus capensis*), black rat (*Rattus rattus*), house mouse (*Mus musculus*), starling (*Sturnus vulgaris*), sparrow (*Passer domesticus*) and Indian myna (*Acridotheres tristis*). In addition, sheep and cattle from neighbouring properties have been occasionally observed in the national park and nature reserve.

Cats and dogs entering the park and reserve are generally domestic animals from nearby properties, or have been abandoned in or adjacent to the area. Packs of dogs have been observed roaming the area. Domestic cats and dogs scare native animals, predate on small native animals and their scent can disrupt breeding and feeding by native animals.

European carp (*Cyprinus carpio*) are present within both Longneck and Pitt Town Lagoons. Carp are of concern as they are believed to compete with native species and contribute to muddiness of the water and loss of aquatic vegetation.

Those animals that prey on native birds and/or their eggs, such as foxes, cats, dogs and rats, are of particular concern as many of the birds that breed within the national park and nature reserve are ground nesting. Priority will be assigned in feral animal control programs to species which:

- pose a threat to threatened or uncommon native species;
- pose a threat to migratory bird species;
- threaten the general nature conservation value of the area;
- threaten the conservation of cultural sites; and/or
- prey on native species.

Close liaison will continue to be maintained with the Moss Vale Rural Lands Protection Board in relation to control of introduced animals on the national park and nature reserve. NSW Fisheries will be consulted in regard to methods of eliminating carp from Longneck Lagoon.

Policies and actions

- * Introduced plants and animals will be controlled and where practical eliminated.
- * Control strategies for introduced plants and animals will be designed to minimise impact on biological diversity, neighbouring landholders and reserve visitors.
- * Introduced plant and animal control programs will be monitored to assess their effectiveness.

- * Neighbouring landholders, stakeholders and the local community will be informed of introduced plant and animal control programs being implemented in the national park and nature reserve, and encouraged to participate, through media releases, signs and written correspondence where appropriate.
- * Community information addressing problems caused by introduced species, and the actions that neighbours (and others) can take to help alleviate these problems, will be provided to the local community.
- * A weed management plan will be prepared and implemented for Scheyville National Park. Pending preparation of the plan priority will be given to removal of salvinia, blackberry, lantana and privet, especially the heaviest weed infestations around Longneck Lagoon, along Longneck Creek, around the sewage treatment plant, around the silo complexes, along the power line easement and along road edges (especially Old Stock Route Road, Avondale Road, Pitt Town Dural Road and Midson Road).
- * A weed management plan will be prepared and implemented for Pitt Town Nature Reserve. Pending preparation of the plan priority will be given to the control of wild turnip, variegated thistle, spear thistle and purple top.
- * Any pesticides/herbicides used in introduced species control programs will be selected for minimal impact on non-target species, and will where possible be avoided along watercourses and around the lagoons.
- * A feral animal control program will be prepared and implemented. Pending preparation of the plan priority will be given to the control of foxes, dogs and cats in both reserves, and to rabbits around the historic buildings.
- * Discussions will be held with NSW Fisheries regarding methods of removing carp from Longneck Lagoon.
- * With the exception of horses on approved horse trails in the national park and registered assistance animals, domestic animals and stock will not be permitted in the national park or nature reserve.

4.1.7 Fire Management

Management of fire in natural areas is an important and complex issue. It must aim to achieve both long term conservation of natural communities and ongoing protection of life and property within and adjacent to the national park and nature reserve.

Fire is regarded by the National Parks and Wildlife Service as a natural process, one of the established physical factors of the Australian environment to which native plant and animal communities have become adapted. It is believed that fire has been an influencing factor in the environment of the Cumberland Plain for thousands of years.

The correct management of fire is essential to avoid extinction of native plant and animal species. Frequent intense bush fire can result in extensive soil erosion, loss of plant and animal species diversity, simplification of structural diversity and weed and exotic animal invasion. Infrequent fires on the other hand, can lead to reductions in species diversity, inability to control wildfires and subsequent damage to life and property. Little research has been undertaken into fire management prescriptions for Cumberland Plain woodland and forest associations when compared to the nearby Hawkesbury sandstone communities, and the best intervals between fires for the maintenance of the communities threatened plant species found in the national park and nature reserve has not been determined. Care must therefore be taken in managing fire on the national park and nature reserve until further research into these vegetation communities has been undertaken.

Little is known of the fire history of Scheyville National Park or Pitt Town Nature Reserve. Prior to gazettal of the park in 1996, fire management in Scheyville was undertaken by the Oakville Volunteer Bush Fire Brigade. It is believed that the last major fire which burnt the entire park area occurred in the early 1900s (P. Speet, pers. com.). Since the 1950s fire occurrence has been minimal and irregular in comparison to fires in other reserves of the Cumberland Plain. Recollections of local residents indicate that some areas, such as the shores of Longneck Lagoon and woodlands between Old Pitt Town Road and Avondale Road, may not have burnt during the past 50 years.

The nature of the vegetation within Pitt Town Nature Reserve and its distance from woodland mean that there is little likelihood of wildfire occurring within the reserve. There has not been a recorded wildfire in the vicinity of the reserve in the past 90 years, although periodic burning has been undertaken for weed control.

The National Parks and Wildlife Service has as its primary aims in fire management:

- to reduce the risk of bushfire damage to life and property both within and immediately adjacent to areas where the Service has a statutory responsibility;
- to effectively manage bushfire for the protection and conservation of the natural, cultural and recreational features of Service areas; and
- to co-operate and work with other organisations in fire management planning and implementation within the area.

Scheyville National Park and Pitt Town Nature Reserve lie within the area of the Hawkesbury Rural Fire Service District. Under the Rural Fires Act 1997, the Service submits fuel management proposals to the Hawkesbury Bush Fire Management Committee and assists in the preparation of risk management plans and operations plans for the District. Risk management plans are made available for public comment.

In addition, the Service is a fire authority and is responsible for controlling fires in the national park and nature reserve. This includes the control and suppression of fires

and the implementation of fuel management programs to protect life and property from fires and to achieve biodiversity. The Service works with the Rural Fire Service in suppression operations, and may assist with the control and suppression of fires near the national park and nature reserve. Fire management strategies for Scheyville National Park are briefly outlined in the NPWS North Metropolitan District Fire Management Plan and will be covered in more detail in a specific fire management plan for Scheyville National Park.

Policies and actions

Preventing Wildfire

- * Fire in Scheyville National Park and Pitt Town Nature Reserve will be managed in accordance with this plan of management and reserve fire management plans to be prepared by the National Parks and Wildlife Service.
- * A fire management plan for Scheyville National Park will be prepared by December 2000.
- * The Service will assist in the preparation of risk management plans and operations plans for the Hawkesbury Rural Fire Service District.
- * All or part of the national park and nature reserve may be closed to the public when a total fire ban has been declared, or when weather conditions and fuel loads are such as to create potential fire control and safety problems.
- * The Service will seek to improve the level of community understanding of the role and management of fire within the national park and nature reserve, and the importance of fire prevention measures outside Service areas.
- * Fire danger signs will be erected on the national park and fire regulations will be publicised.

Fuel Reduction Activities

- * Records of all fires will be kept and used for fire management planning.
- * The Service will encourage fuel reduction activities off-park as an alternative to fuel reduction on the national park and nature reserve.
- * Slashing of grass rather than prescribed burning may be undertaken on the national park and nature reserve to reduce the risk of fire, however broad scale slashing will not be undertaken.
- * No burning will be undertaken on Pitt Town Nature Reserve for fuel reduction purposes.
- * Planned fuel reduction burning activities may be undertaken on Scheyville National Park to reduce the risk of high intensity fire close to property (consistent

with the criteria for determining fire hazard and associated fuel reduction zones) and to protect areas where there are fire sensitive soils, communities, habitats or species. Fuel reduction burning will not be undertaken close to Longneck Lagoon, Llewellyn Creek or Longneck Creek.

- * Prescribed burning may also be undertaken on the national park and nature reserve to:
 - assist in the control of wildfires at strategic locations;
 - assist in the control of introduced plants; and
 - promote growth of native plant communities.
- * No large area burning will be undertaken in Scheyville National Park without detailed research into the fire ecology of Cumberland Plain vegetation.
- * All prescribed fires will include pre-fire and post-fire control and/or monitoring of native and introduced plant and animal species.

Wildfire Suppression

- * All wildfires will be managed and controlled as far as possible within the park or reserve.
- * Preference will be given to fire suppression methods which involve least disturbance to the park environment.
- * Use of chemical retardants will be avoided as far as possible.
- * Temporary management trails and fire breaks established during fire events will be rehabilitated as soon as possible after the fire.
- * Fire suppression and other fire management activities will be undertaken on a co-operative basis between the Service and Rural Fire Service.

Research

- * Research into the appropriate fire regimes to conserve Cumberland Plain vegetation communities and threatened and uncommon plant species found on the national park will be encouraged.

4.2 USE OF SCHEYVILLE NATIONAL PARK AND PITT TOWN NATURE RESERVE

Scheyville National Park and Pitt Town Nature Reserve will be managed to ensure that their use, whether by the general public, special interest groups, Service managers or other authorities, is appropriate and conforms with the management objectives and strategy of this plan.

The major categories of use that may be appropriate within Service areas are:

- * promotion of natural and cultural heritage conservation;
- * environmental education;
- * appropriate recreation and enjoyment;
- * scientific research; and
- * management operations by the Service and other authorities.

The extent to which these categories of use are appropriate to Scheyville National Park and Pitt Town Nature Reserve are indicated in the following sections of the plan.

4.2.1 Promotion, Education and Interpretation

Promoting public awareness of the Service's conservation responsibilities, the values of the area and the recreational opportunities available is a major aspect of management of parks and reserves. It assists in the protection of natural and cultural heritage and increases the understanding, enjoyment and satisfaction of visitors.

Scheyville National Park

The local National Parks and Wildlife Service office is located within the historic masonry buildings in Scheyville National Park. The office provides information on the National Parks and Wildlife Service, national parks and nature reserves within the State, and a limited range of items for sale. An information shelter has recently been erected near the office which provides information on parks and reserves within the local area. The historic buildings and structures on the park and their associations with early farming experiments, immigration to Australia and the military provide outstanding opportunities for interpretation.

The natural areas of Scheyville National Park also provide opportunities for interpretation. There is an established pattern of visits to the park by educational institutions and community groups, particularly to Longneck Lagoon since the early 1970s. Whilst some interpretation signage presently exists around Longneck Lagoon, no other on-site interpretation is provided within the park. Guided tours and talks by permanent staff and by "Hawkesbury Tracks" volunteers are occasionally run in the park and reserve. In addition, some brochures and maps are presently available on Scheyville National Park but need upgrading.

The NSW Department of Education and Training operates the Longneck Lagoon Field Studies Centre, which is located on the park and accessed via a dirt road off Whitmore Road. The field studies centre, which was opened in 1978, has two full time teachers employed by the Department of Education and caters for students from Kindergarten to Year 12. It is also regularly used by students from the University of Western Sydney and occasionally by other tertiary institutions and community organisations. Up to 10,000 students visit the centre annually. The field studies centre consists of a demountable classroom which is used as an office, a building containing a classroom and kitchen, storage sheds, a nursery, an emergency helipad and a complex of walking tracks which includes a wooden boardwalk out into the lagoon. Composting toilets have recently been constructed near the classroom. Activities undertaken by the centre include classes in environmental education with the emphasis on wetland ecosystems and interactions between human society and the environment, bushwalking, cycling, canoeing, ropes courses and camping.

To date, access to the Longneck Lagoon area has been available only to educational groups and with the permission of the field studies centre. It is proposed that the public be able to use this area for self-guided walks and passive activities such as bird watching, particularly on weekends when independent activities will not conflict with the field studies centre (see section 4.2.2 for policies relating to recreational use of the national park which will also apply to this area of the park).

Pitt Town Nature Reserve

The primary purposes of nature reserves are the conservation of wildlife and natural environments, and environmental education (including scientific research) into these resources. Pitt Town Nature Reserve will be promoted as an area for conservation, education and research. No recreational facilities will be provided and the area will not be promoted for recreation.

Policies and actions

- * Understanding and appreciation of the natural and cultural features of Scheyville National Park and Pitt Town Nature Reserve will be promoted.
- * Visitor information will be provided through on-site interpretation and information signs, guided walks and brochures.
- * The following themes will be emphasised in promoting Scheyville National Park:
 - the importance of the park in conserving ecosystems such as Cumberland Plain woodland, Castlereagh scribbly gum woodland, shale/gravel transitional forests and wetlands;
 - the long and changing history of use of the national park both before and after European settlement;
 - the value of the park as a site for environmental education, especially the wetlands, rare plants and the changes wrought by people on the landscape; and
 - appropriate public recreation and use.

- * The following themes will be emphasised in promoting and interpreting Pitt Town Nature Reserve:
 - the importance of the reserve as habitat for waterbirds and as an important staging area for migratory birds protected under international treaties; and
 - public use of the reserve for bird watching.
- * Interpretative signs will be erected at the Church Street entrance to Pitt Town Nature Reserve.
- * Interpretative signs will be erected at selected historic sites and near Longneck Lagoon within Scheyville National Park.
- * A new information brochure will be developed for Scheyville National Park.
- * A brochure on the wetlands of the Hawkesbury will be developed. It will include Pitt Town and Longneck Lagoons, the lagoons in Cattai National Park and other wetlands not part of the national park system.
- * Longneck Lagoon will be available for the public to use for nature walks and quiet activities such as bird watching provided that such activities do not conflict with programs run by the field studies centre. Vehicular access to this section of the park will require approval from the Field Studies Centre or the Service.
- * Directional signs will be erected at selected locations on the walking tracks around the lagoon.
- * The bridges around the lagoon which form part of the walking track system will be maintained.
- * The Service will review the value of retaining the boardwalk near the field studies centre.
- * A licence agreement will be developed between the National Parks and Wildlife Service and Department of Education for the continued use and management of the Longneck Lagoon Field Studies Centre. This will permit:
 - Camping in an approved area near the Longneck Lagoon Field Studies Centre classroom by groups of up to 60 field studies centre attendees;
 - No fires without special permission of the Area Manager; and
 - Specific activities run as part of the official program by the field studies centre subject to monitoring of impacts.The agreement will also cover responsibilities for maintenance of the field studies centre facilities.

4.2.2 Recreation Opportunities in Scheyville National Park.

(This section of the plan only deals with Scheyville National Park as use of Pitt Town Nature Reserve for recreational purposes is not consistent with its designation as a nature reserve.)

Except for the Longneck Lagoon area, which has been used for a number of years for education activities, Scheyville National Park does not have a long history of public use. Until the end of its use for National Service training, public use of most of the area east of Schofields Road and Old Pitt Town Road was prohibited. Apart from the area managed by the Longneck Lagoon Trust, use of the remainder of the area (and later use of the army area) was largely unregulated and included activities such as trail bike riding, horse riding, show jumping, shooting and dog tracking. The proposal in the early 1990s to develop the area for housing would have seen an end to most of these uses and restrictions on other activities.

The National Parks and Wildlife Service aims to manage recreation within the context of an areas' conservation significance, and consideration of available recreational opportunities elsewhere in the local region. The conservation significance of Scheyville National Park has already been detailed in section 4.1. In a regional context, Scheyville is located close to other parks and lands which provide a range of recreation opportunities, such as Cattai National Park which provides formal picnic facilities for day visitors and camping sites. Such opportunities available in other nearby parks and private lands have been considered when determining appropriate opportunities to be provided in Scheyville National Park.

Access to the Park

Scheyville National Park is surrounded and divided by a large number of public roads. There is also an internal park road to the historic buildings and park office.

These roads provide many places where people can park their vehicles and access the park on foot. Many points of interest within the park can be reached by a short walk from these roads. The roads however are also sources of rubbish and vehicles have been driven into the bush down informal trails off these roads. Fencing is gradually being improved along park boundaries, with entry points to park trails secured with locked gates. Gates which permit access by pedestrians, horses and bicycles will be constructed at selected access points (see map, centre pages).

Picnicking and Camping

With the promotion of Scheyville National Park, family visits and picnics have become increasingly popular, particularly in the vicinity of the park office. Two small picnic shelters have been recently erected near the park office. Due to the importance of the vegetation within Scheyville National Park and the risk of fires escaping into the bush and grassland areas, wood and charcoal barbecues/fires will not be permitted. Gas or similar fuel barbecues may however be used in the picnic shelters or on hard surfaces in the park away from vegetation.

Picnicking is permitted elsewhere in Scheyville National Park, including in the area around Longneck Lagoon. No facilities will be provided in these areas and no fires will be permitted.

Developed picnic and camping facilities, including electric and wood barbecues, are provided at nearby Cattai National Park and at a number of private parks along the Hawkesbury River. Less developed camping facilities are available in nearby Blue Mountains, Dharug and Marramorra National Parks. It is considered these sites provide adequate camping opportunities to meet current demand within the local area. Consequently, with the exception of educational groups given permission to camp at Longneck Lagoon (see section 4.2.1), camping will be prohibited within Scheyville National Park.

Walking

Walking is generally undertaken around Longneck Lagoon and in the bushland areas of the park, although some walking may be undertaken to reach specific historic features in the grassed areas. As previously mentioned (section 4.2.1) there is a complex of walking tracks around Longneck Lagoon which will be available to the public. A track will also be provided from the office to the historic structures on Dormitory Hill. Elsewhere in the park walkers will be encouraged to use the management trail system (see map, centre pages for the track and trail system proposed for the park).

Horse Use

Horse riding has been undertaken within the Scheyville area both before and since park gazettal. Whilst many horses are ridden from neighbouring properties, others bring their horses by horse float suggesting some level of use by non-local horse riders. Certain areas of the park have been used more regularly than other areas by horses. The open woodland areas within the area bounded by Scheyville Road, Old Pitt Town Road and Schofield Road have been the most popular areas.

Parts of Scheyville National Park contain fragile vegetation and soils which can be easily damaged by horses' hooves. Damage is greatest on steeper slopes, on sandy alluvial soils, along creek lines and when soil moisture is high. There is also the potential for horses to damage sites of Aboriginal and European cultural value and for there to be conflicts between horses and other recreational users of the park such as walkers and cyclists.

Many horse riders have expressed a wish to be able to ride in the area between Scheyville Road and Pitt Town-Dural Road. Some have also expressed the wish to be able to ride from their homes without riding on roads. Not all these demands can or should be met within the national park due to the need for the Service to meet its statutory requirements to protect Aboriginal and historic sites, threatened plants and animals, natural features and catchments. Nor is it the role of a national park to provide for riding or walking from home. The roads around the park are generally quiet and have verges which allow horses to be ridden off the road. In addition, a system of trails which may be used by horses will be provided in those areas of the park currently most used for horse activities where this will not impact on natural and

cultural values (see map, centre pages). All trails available for horses will also be available for walking and cycling. Parking for horse floats will be provided at two locations; at the junction of Schofield and Old Pitt Town Road; and on Scheyville Road near the junction with Midson Road.

An area to the south of Scheyville Road has also been used for showjumping. The show jumping club does not have a current licence to use the park and an alternative site off the park has been found for the club. The showjumping area has been extended close to the edge of Longneck Creek and some erosion has occurred along the creek. Use of this area for show jumping has also stopped revegetation and increased erosion.

Cycling

Riding of bicycles is undertaken in some sections of the park but is not currently a major recreational activity. Cycling will be permitted on management trails and roads within the park but not on walking tracks (with the exception of the walking tracks around Longneck Lagoon which may be used for rides by the field studies centre, see section 4.2.1). Management trails available for cycling will also be available for walking and may be shared with horses (see map, centre pages).

Canoeing

Canoeing is occasionally undertaken on Longneck Lagoon by the field studies centre as well as others. Canoeing may have a detrimental impact on surface vegetation and birds reliant on this vegetation. Canoeists will be required to obtain consent before canoeing on Longneck Lagoon, and the levels of use and impacts will be monitored. Canoeing may be prohibited on the lagoon if research indicates that the impacts may be unacceptable.

Fishing

Fishing was occasionally permitted on the northern and western edge of Longneck Lagoon in the past. There were however problems with fishing lines being left behind which have injured native birds, as well as the lighting of fires and leaving of litter. NSW Fisheries will be approached to formally prohibit fishing in the lagoon and to advise on means of removing introduced fish and making the lagoon more viable for native fish.

Shooting

Pistol shooting is undertaken on a range on the northern side of Scheyville Road. The club does not have a current licence to occupy the park and an alternative site off the park has been found for the club. The carrying or discharge of guns in a national park is prohibited without specific permission, which has not been granted to the club or its members. Pistol shooting also requires a large section of the park to be closed to other recreational uses and the noise from the shooting can scare horses and annoy other users far beyond its fenced boundaries. The area occupied by the club is also in poor condition and there is a lot of rubbish on the site.

Policies and actions

- * All visitors will be encouraged to minimise their impact on the park and on other visitors to the park.
- * Regular surveys of park visitors will be undertaken to provide an on-going understanding of the activities and perceptions of visitors.
- * Walking will be permitted on the designated track/trail system (see map, centre pages) and off tracks and trails in grassland areas.
- * Camping will not be permitted in the national park except for educational groups as provided in section 4.2.1.
- * Horses will be permitted on the horse trails shown on the park map (centre pages). Horses will not be permitted off trails or on trails which have not been designated and marked for horse use.
- * A code/guidelines for horse use in the park will be developed.
- * Gates which permit access by horses will be constructed at the entrances to horse trails.
- * Bridges/culverts will be constructed where horse trails cross creeks to prevent horses eroding the creek edges and small sections of some trails may be re-aligned to avoid swampy areas.
- * Trails will be realigned and may be fenced where necessary to minimise impacts on creek lines, bird breeding areas, threatened species, endangered ecological communities and other values.
- * Cycling will be permitted on management trails, including those used for horse riding (see map, centre pages). Cycling will not be permitted on walking tracks within the park (except around Longneck Lagoon for organised field studies activities, see section 4.2.1).
- * Signs will be erected showing trails authorised for use by horses and bicycles and informing users to have care for other users on these trails.
- * Canoeists will be required to obtain consent before canoeing on Longneck Lagoon. If monitoring indicates that canoeing is impacting on use of the lagoon by birds, this activity will be prohibited.
- * NSW Fisheries will be approached to prohibit fishing in Longneck Lagoon and to advise on management of the fish in the lagoon.
- * The show jumping club and pistol club will be required to vacate the areas they currently use by December 2000. Following their relocation the remaining structures will be removed and the sites revegetated.

- * Pending its relocation, the show jumping club will be required to erect a fence to prevent horses eroding the edge of Longneck Creek.
- * Pending its relocation, the pistol club will be required to clean up the area it is using and remove all rubbish from the site.
- * Wood or charcoal barbecues will not be permitted in the park. Gas or liquid fuel barbecues may be used in accordance with fire regulations.
- * Commercial and organised groups (except for educational groups associated with the field studies centre and approved Hawkesbury Tracks activities) will be required to obtain a consent or licence from the Service before using the park.
- * The impacts of all recreational activities on the park and other users will be monitored and activities controlled where necessary so as to minimise conflicts between users, protect visitor safety and welfare, minimise nuisance to neighbours and other visitors, and protect the natural and cultural heritage values of the park. This may involve a prohibition on certain activities or other controls during periods such as wet weather, high fire danger or bird breeding seasons.

4.2.3 Research

Research into the natural resources of the national park and nature reserve, their maintenance requirements and the impacts of human activity are essential for the development of appropriate management practices. As the Service has limited resources for research, a prospectus which identifies priority research topics will be prepared as the basis for the involvement of scientific organisations in research in the park and reserve.

The relatively undisturbed state of the remnant Cumberland Plain woodland and open forest at Scheyville and the ecology of Longneck Lagoon provide a variety of research opportunities. The park is currently being used for scientific research, with long term studies being undertaken to study avifauna and frog populations, however further research into Cumberland Plain communities and their management requirements would assist park management.

A number of research areas have been previously identified as priorities in this plan of management. These include research into: the impacts of activities within the catchments of Pitt Town Lagoon and Longneck Lagoon on the water quality of the lagoons; the habitat values of the Pitt Town Lagoon islands; changes in the vegetation patterns and species composition; into management requirements of threatened and uncommon plant species and communities; fire regimes and impacts; and into recreation activities and visitor perceptions. A number of other priority areas for research have also been identified below.

Policies and actions

- * The use of Scheyville National Park and Pitt Town Nature Reserve for non-destructive research which is of assistance in managing the national park and nature reserve will be encouraged.
- * Priority will be given to research into and monitoring of:
 - the distribution and management requirements of threatened plant and animal species and communities;
 - water quality and impacts;
 - the habitat values of the Pitt Town Lagoon islands;
 - fire ecology;
 - bush regeneration and wetland rehabilitation programs;
 - the impacts and control of introduced plants and animals;
 - historic heritage;
 - visitor activities and attitudes; and
 - recreational use impacts.
- * All research will be subject to Service policy and procedures for the granting of permits, conduct of research and the production of results.
- * The erection of any field apparatus or structure will not be permitted without the written consent of the Service.
- * A prospectus will be prepared as a guide to preferred research projects in the national park and nature reserve, and circulated to relevant tertiary institutions.

4.2.4 Management Operations

Management operations refer to the operational activities of the NSW National Parks and Wildlife Service and others within Scheyville National Park and Pitt Town Nature Reserve.

An office and workshop facilities are located in Scheyville National Park. There are also two houses along the entrance road to the national park and a number of ex-army houses at Long Tan Place within the park which provide accommodation for Service staff. These houses, the workshop, park office and the visitor facilities near the office are serviced by a small sewage plant and a water tank on the national park.

Pitt Town Nature Reserve is fenced along all boundaries. It has only one entrance, off Church Street in Pitt Town. From this entrance, a grassed management trail leads down to the lagoon. The trail is gated to prevent unauthorised motor vehicle use and horse riding within the reserve. The trail will be maintained as a grassed trail and used for management purposes only. The gate will continue to be locked.

Scheyville National Park is being progressively fenced along all boundaries, including the backs of properties which abut the park. A system of management trails (shown on the map, centre pages) will be retained but unnecessary tracks and trails will be closed and revegetated. Vehicular use of management tracks will be restricted to approved management, research and educational purposes.

Two roads which adjoin the park, part of Old Stock Route Road and Schofield Road, are little used as public thoroughfares except during flood times but provide access for illegal activities such as rubbish dumping. The gating of these roads to prevent use, except during floods when the gates will be opened to provide a flood-free access route, will be investigated. In addition, Old Stock Route Road is not constructed on its gazetted alignment but wanders in and out of the reserve. It cannot be relocated totally outside the park without significant impacts on bushland areas. If it cannot be closed during non-flood periods, parts of the road may be realigned and the edge of the road through the park will be fenced to prevent rubbish dumping and illegal access from the road into the park.

Scheyville National Park contains an easement for the Kemps Creek Eraring Transmission Line and easements for water mains. The Sydney-Newcastle Oil and Gas Pipeline also traverses the park. Agreements will be formalised with AGL, the operators of the water mains and Transgrid in regard to the maintenance of these structures where they cross the park.

As a result of its use for military exercises, a number of areas of Scheyville National Park contained unexploded ordinance when the park was declared. These areas are being surveyed and all unexploded ordinance cleared by the army. When this is completed the "keep out" signs will be removed.

The Pitt Town and District Sports Club has an area of land adjoining the park on Old Pitt Town Road. Before declaration of Scheyville National Park, the sports club constructed an oval, its own sewerage disposal area, a dam and parking area on the adjoining Crown Land which is now part of the national park. They currently have no lease or agreement over this land.

Policies and actions

- * The office and workshop, a number of residences, the sewage plant and the water tank on Scheyville National Park will be maintained to service the park.
- * The fencing of the boundaries of Scheyville National Park will be completed.
- * Vehicular use of management trails will be restricted to approved management, research and educational purposes.
- * The closure of the unformed section of Old Stock Route Road and of Schofield Road during non-flood periods will be investigated. If this is not possible, the edge of Old Stock Route Road will be fenced to prevent rubbish dumping and vehicles leaving the road.
- * The "keep out" signs will be removed once the old ordinance areas have been declared safe by the army.
- * Management agreements will be developed with appropriate authorities to guide management of utilities which cross the national park.

- * The Pitt Town and District Sports Club will be granted a licence over part of the currently cleared area provided that they undertake revegetation works and ensure that weeds and runoff do not enter the rest of the park. The licence will only cover the previously disturbed areas and will include provisions relating to weed control, stabilisation of fill, control of soil erosion, rehabilitation of bushland, maintenance of water quality, and controls on seepage from the sewage works.

- * Any lands added to the national park or nature reserve will be managed in accordance with the objectives, policies and actions in this plan of management. If part of Old Stock Route Road or Schofield Road are added to the national park they will be available for emergency and management access, and for use by horses and bicycles.

5. PLAN IMPLEMENTATION

This plan of management is part of the system of management developed by the National Parks and Wildlife Service. The system includes the National Parks and Wildlife Act, the Service's Corporate Plan, associated strategies and management policies. It also includes directorate and regional operational planning.

The orderly implementation of this plan of management will be undertaken within the annual programs of the National Parks and Wildlife Service. Priorities will be determined during the development of these programs and will be subject to regional priorities, the availability of funding and staff to any specific requirements of the Director-General or the Minister.

Regional programs are subject to on-going review within which works and any other activities carried out in Scheyville National Park and Pitt Town Nature Reserve will be evaluated in relation to the objectives laid down in this plan.

The environmental impact of all development proposals will be assessed in accordance with established environmental assessment procedures.

In accordance with Section 81 of the National Parks and Wildlife Act 1974 this plan shall be carried out and given effect to and no operations shall be undertaken in relation to Scheyville National Park and Pitt Town Nature Reserve unless those operations are in accordance with the plan of management. If after adequate investigation, operations not included in this plan are found to be justified, the plan may be amended in accordance with Section 75 of the Act.

As a guide to the implementation of this plan, relative priorities for identified activities are summarised on the following pages. The following criteria have been used to allocate priorities:

High Priority: programs that need to be done in the immediate to near future on the basis that to not undertake these works will result in unacceptable degradation of the resource and/or greatly increased costs associated with rehabilitation at a later date. Also included as high priority are programs which are given a high priority for legal or public safety reasons.

Medium Priority: programs which are important but can be deferred without unacceptable loss of natural and/or cultural heritage values.

Low Priority: programs which will be undertaken only after high and moderate priority programs have been completed or which can be undertaken by other means such as volunteers, grant, concession operation, sponsorship or similar.

HIGH PRIORITY ACTIVITIES	PLAN REFERENCE
Rehabilitate eroded trails and those across/along watercourses.	4.1.1
Plant and fence along creek lines where necessary.	4.1.2
Prepare vegetation map for Scheyville National Park.	4.1.3
Prepare and implement bush regeneration plan for Scheyville.	4.1.3
Prepare and implement revegetation plan for Pitt Town Nature Reserve.	4.1.3
Establish community bush regeneration groups	4.1.3
Stabilise historic structures where necessary.	4.1.6
Undertake priority weed and feral animal control.	4.1.7
Prepare fire management plan.	4.1.8
Erect fire danger signs.	4.1.8
Assist in preparation of risk management and operations plans.	4.1.8
Develop licence agreement with field studies centre.	4.2.1
Assess trails for any necessary works.	4.2.2
Erect signs showing trails authorised for horses and bicycles.	4.2.2
Build bridges where horse trails cross creeks	4.2.2
Construct horse gates and signs on horse trails.	4.2.2
Develop and implement recreation use monitoring program.	4.2.2
Prepare prospectus for research projects.	4.2.3
Complete boundary fencing.	4.2.4
Investigate closure of part of Old Stock Route Road and Schofield Road or fence edge of Old Stock Route Road.	4.2.4
License the Pitt Town and District Sports Club.	4.2.4

MEDIUM PRIORITY	PLAN REFERENCE
Plant in salt scalded areas around Longneck Lagoon.	4.1.2
Armour breaches in old farm dams where necessary.	4.1.2
Monitor threats to plant communities.	4.1.3
Encourage research into vegetation and its management.	4.1.3
Monitor threats to native animal communities.	4.1.4
Encourage research into native animals.	4.1.4
Include Aboriginal heritage in park information.	4.1.5
Investigate uses for historic buildings.	4.1.6
Prepare landscape plan identifying historic plants to be retained.	4.1.6
Construct history trail.	4.1.6
Encourage research into history of Scheyville.	4.1.6
Provide community information on introduced species.	4.1.7
Prepare weed management plans.	4.1.7
Prepare feral animal control program.	4.1.7
Discuss with Fisheries removing carp from Longneck Lagoon.	4.1.7
Provide information to the community on fire issues.	4.1.8
Encourage research into fire management.	4.1.8
Erect interpretative signs at Church St entrance to Pitt Town NR.	4.2.1
Erect interpretation at historic sites and near Longneck Lagoon.	4.2.1
Develop code/guidelines for horse use.	4.2.2

LOW PRIORITY**PLAN REFERENCE**

Provide community information on introduced species.	4.1.7
Develop new information brochure for Scheyville NP.	4.2.1
Develop wetlands brochure.	4.2.1
Assess cost/benefit of retaining boardwalk around Longneck Lagoon	4.2.1
Erect directional signs around the Longneck Lagoon.	4.2.1
Approach Fisheries re fishing in Longneck Lagoon.	4.2.2
Repair/revegetate show jumping and pistol club areas.	4.2.2
Assess habitat values of the Pitt Town Lagoon islands.	4.2.3
Remove 'Keep Out' signs from ordinance areas.	4.2.4
Develop management agreements for utilities.	4.2.4

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