

PLAN OF MANAGEMENT

PART B

SECTION FIFTEEN



KINGSTON COMMON RESERVE



2003

AS APPROVED BY THE NORFOLK ISLAND LEGISLATIVE ASSEMBLY ON 21 MAY 2003



SECTION 15: TABLE OF CONTENTS

15.1	INTRODUCTION	1
15.1.1	<i>Previous Plans</i>	1
15.1.2	<i>Boundaries</i>	1
15.1.3	<i>Register of the National Estate</i>	1
15.1.4	<i>Kingston and Arthur's Vale Historic Area (KAVHA)</i>	2
15.1.5	<i>IUCN Category</i>	2
15.2	CONSERVATION SIGNIFICANCE.....	2
15.3	DESCRIPTION	3
15.3.1	<i>Geology and Landform</i>	3
15.3.2	<i>Vegetation</i>	4
15.3.2.1	Significant Species.....	5
15.3.2.2	Weeds	5
15.3.3	<i>Fauna</i>	6
15.3.3.1	Invertebrates	6
15.3.3.1.1	Army worm	6
15.3.3.1.2	Land Snails.....	6
15.3.3.1.3	Freshwater Shrimp	6
15.3.3.1.4	Land Crab	6
15.3.3.2	Vertebrates.....	6
15.3.3.2.1	Fish.....	6
15.3.3.2.2	Birds	6
15.3.4	<i>Cultural Heritage</i>	7
15.4	ISSUES.....	10
15.4.1	<i>Public Use</i>	10
15.4.2	<i>Access and Facilities</i>	11
15.4.3	<i>Heritage Conservation</i>	12
15.4.3.1	Monuments and Memorials	13
15.4.4	<i>Habitat Rehabilitation and Development</i>	13
15.4.5	<i>Breeding Seabird Habitat</i>	13
15.4.6	<i>Wetland habitat</i>	14
15.4.7	<i>Pest Species</i>	14
15.4.7.1	Weeds	14
15.4.7.2	Feral Birds.....	15
15.4.8	<i>Erosion</i>	15
15.4.9	<i>Water Quality</i>	15
15.4.10	<i>Stock</i>	16
15.5	MANAGEMENT OBJECTIVES.....	17
15.5.1	<i>Cultural Heritage Management</i>	17
15.5.2	<i>Natural Heritage Management</i>	17
15.5.3	<i>Pest Species Management</i>	17
15.5.4	<i>Recreation Management</i>	18
15.5.5	<i>Education and Interpretation</i>	18
15.6	MANAGEMENT STRATEGIES AND ACTIONS	19
15.6.1	<i>Cultural Heritage Management</i>	19
15.6.1.1	New Structures.....	19
15.6.1.2	Excavations.....	19
15.6.1.3	Commemorative Plantings.....	20
15.6.1.4	Monuments and Memorials	20
15.6.2	<i>Natural Heritage Management</i>	20
15.6.2.1	Habitat Rehabilitation.....	20
15.6.2.2	Maintenance of Drainage Channels and Wetland.....	20
15.6.2.3	Erosion.....	21
15.6.3	<i>Pest Species Management</i>	21
15.6.3.1	Weed Control.....	21
15.6.3.2	Bird Control.....	21
15.6.3.3	Fungus Control.....	21
15.6.4	<i>Recreation Management</i>	21
15.6.4.1	Picnic and BBQ Facilities.....	21

15.6.4.2	Public Toilets	21
15.6.4.3	Walking Tracks	22
15.6.4.4	Vehicles.....	22
15.6.5	<i>Education and Interpretation</i>	22
15.6.5.1	Interpretation Strategy.....	22
15.6.5.2	Signs.....	22
15.6.5.3	School Visits	22
15.6.5.4	Walking Tours.....	22
15.6.5.5	Community Involvement.....	22
15.6.6	<i>Stock Management</i>	22
15.6.7	<i>Spoil Stockpile</i>	23
15.6.8	<i>Forestry</i>	23
15.6.9	<i>Water</i>	23
15.7	RESEARCH AND MONITORING	23
15.8	CONTROLLED ACTIVITIES.....	24
15.8.1	<i>Camping</i>	24
15.8.2	<i>Vehicles</i>	24

Table of Figures

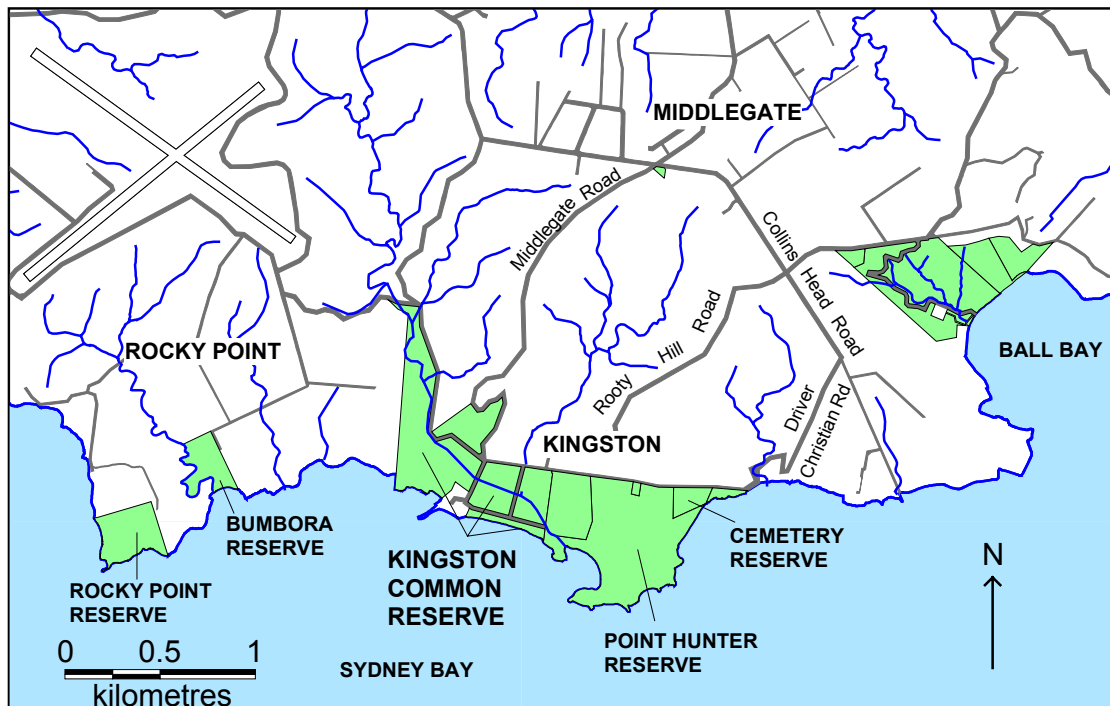
Map 1: Location of Kingston Common Reserve	1
Map 2: Landform and features of Kingston Common Reserve.....	3

Section 15: KINGSTON COMMON RESERVE PLAN OF MANAGEMENT PART B

15.1 Introduction

This Part B Plan of Management applies to Kingston Common Reserve.

Kingston Common Reserve is located within the Kingston and Arthur's Vale Historic Area on the southern coast of Norfolk Island and has an area of 29.57 hectares (Map 1). The reserve contains remnants of First Settlement buildings and significant structures from the Second convict Settlement, including the ruins of the watermill, hexagonal gaol and prisoners compound. Most of the reserve is still used as grazing common. Most of the foreshore of Slaughter Bay, one of the Island's most popular beaches, is in the reserve.



Map 1: Location of Kingston Common Reserve

Kingston Common Reserve was proclaimed a public reserve under the *Commons and Public Reserves Act 1936* for pasturage and other purposes on 17 October 1940.

15.1.1 Previous Plans

This is the first plan of management for Kingston Common Reserve.

15.1.2 Boundaries

Mill Road (constructed during the second settlement) between Pier Street, just north of civil hospital and Country Road is to be incorporated into Kingston Common Reserve.

15.1.3 Register of the National Estate

Kingston Common Reserve was listed on the Register of the National Estate on 21 October 1980.

15.1.4 Kingston and Arthur's Vale Historic Area (KAVHA)

The Kingston and Arthur's Vale Historic Area was established in 1980 when it was entered in the Register of the National Estate. The KAVHA was officially established by agreement between the governments of Norfolk Island and Commonwealth of Australia in 1989¹. The agreement established a board to coordinate funding and recommend management policies to ensure the conservation and restoration of the heritage fabric in the Kingston area. The KAVHA Board has played an invaluable role in conserving Kingston as a living monument.

The Kingston and Arthur's Vale Historic Area Conservation Management Plan (CMP), agreed to by the KAVHA Board and the Legislative Assembly of Norfolk Island in 1988, is the guiding document for heritage preservation, conservation, and management of Kingston Common Reserve.

Adoption of any part of the CMP into these Plans of Management shall be in accordance with section 16 of the *Public Reserves Act 1997*, but shall in each case be subject to public consultation in accordance with section 11 of the Act.

The CMP (1988) contains descriptions of the heritage fabric in KAVHA. The *Landscape Management and Conservation Plan*² provides detailed descriptions of the landscape and scenery of the reserve and provides some guidance on the conservation and management of Kingston Common Reserve.

Where there is any inconsistency between the intent of this plan of management and the intent of the approved KHAVVA CMP, the intent of the approved KAVHA CMP shall prevail.

15.1.5 IUCN Category

Kingston Common Reserve does not fit any IUCN Category³.

15.2 Conservation Significance⁴

Kingston Common Reserve is one of Norfolk Island's most important historic sites. The ruins of the watermill, hexagonal gaol and prisoners compound are important relics of the Second Settlement. Construction of the channel that drains Watermill Creek and Town Creek into Emily Bay commenced in 1789 and is the oldest remaining example of such works in Australia. The Slaughter Bay foreshore contains evidence of Second Settlement quarrying activity, remnants of road pavements, seawalls and other structures as well as intact sea walls.

Freshwater wetland habitat has developed along the lower stretches of the drainage channel and adjacent Common, providing shelter for small numbers of migratory waders and breeding opportunity for swampens. This habitat is uncommon on the Island.

Norfolk Island Pines planted along Pier Street recognise the sacrifice in war of Norfolk Island men. The pines along Country Road were planted in 1974 to commemorate Jemima Robinson's one hundred years (September 1870 – July 1971).

¹ Memorandum of Understanding between Norfolk Island and Commonwealth governments: 1989, revised 1994.

² Tropman and Tropman, *Landscape Management and Conservation Plan*, 1994.

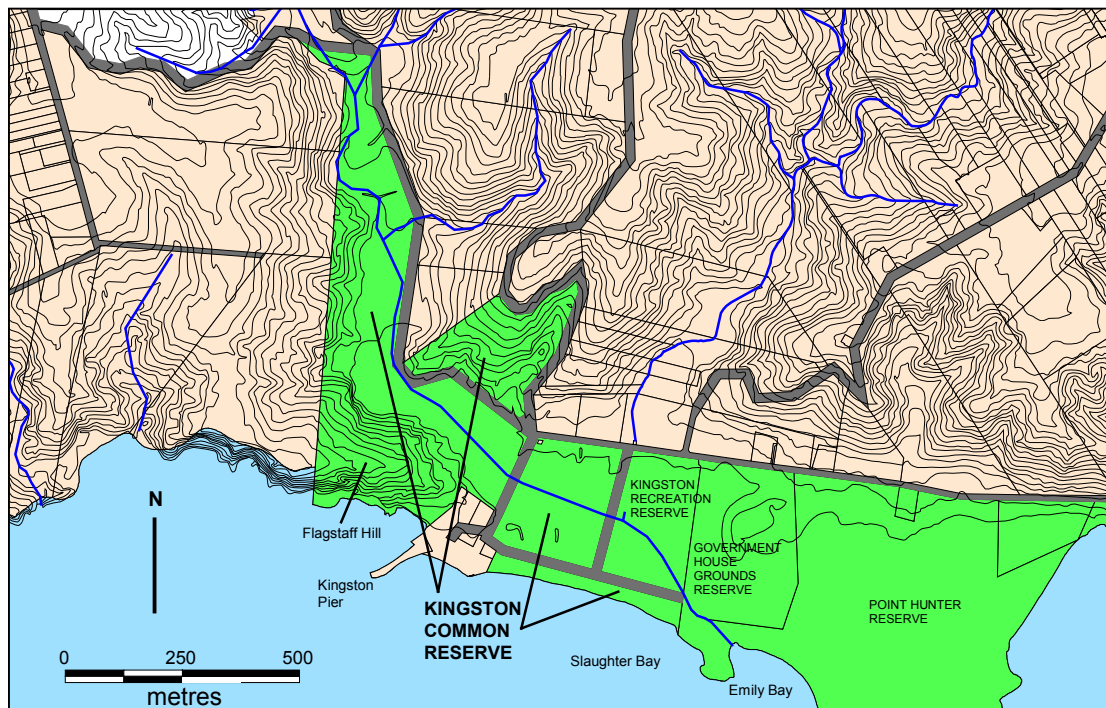
³ International Union for the Conservation of Nature.

⁴ A Statement of Significance may be found in the CMP and the RNE Place Report.

15.3 Description

15.3.1 Geology and Landform

The significant feature of the reserve is the relatively broad flat valley of Watermill Creek⁵. Watermill Dam is about 20m above sea level with surrounding steep hillsides rising to the plateau 65m or so above the valley floor. Watermill and Town Creeks have carved the deep valleys into the southern part of the Island's deeply weathered volcanic plateau. The catchments of Watermill and Town creeks together comprise approximately 450ha, the second largest catchment on Norfolk Island after the Cascade Creek catchment.



Map 2: Landform and features of Kingston Common Reserve

The coastline at Kingston has advanced and retreated with each ice age. At the height of each ice age, sea level was significantly lower than present: as much as 109m (almost 360ft) during the last ice age. It appears that during periods of significantly lower sea level (such as during the last ice age that ended about 15,000 years ago) the valleys of both Watermill Creek and Town Creek were eroded to some depth below their current level.

As sea levels rose after the last ice age advancing coastal sand dunes prevented the Watermill and Town Creek catchments from draining directly into the sea. An extensive coastal swamp or swamps formed behind these advancing dunes, as evidenced by the peaty layer containing large Norfolk Island pine logs, branches and other plant material beneath both Cemetery Beach and Slaughter Bay beach⁶. By about 6,000 years ago, some of that coastal swamp had been overrun by the advancing sand dunes that now form the reefs and rocky coastal aeolianitic outcrops at Kingston.

⁵ King named the upper part of this valley, from the vicinity of Flagstaff Hill to Watermill Dam "Arthur's Vale" after Captain Arthur Phillip RN, Commander of the First Fleet and first Governor of the Colony of New South Wales.

⁶ Two of the logs have been dated: 6,870 ± 230 years BP and 4,400 ± 90 years BP: in Rich, P., G van Tets, K. Orth, C. Meredith and P. Davidson. 1983. *Prehistory of the Norfolk Island Biota*. In "A Review of Norfolk Island Birds: Past and Present" R. Schodde *et al.* Australian National Parks and Wildlife Service Special Publication No.8, 1983.

The swamp was heavily vegetated when Lieutenant Phillip Gidley King arrived in 1788. In periods of high rainfall it is likely that the swamp that covered much of what is now generally referred to as 'Kingston Common' would have become a small lake. In 1789 King ordered that a drain be constructed to enable Watermill and Town Creeks to flow into the western end of Emily Bay, making much of the Commons arable land⁷.

15.3.2 Vegetation

The original native vegetation that would have covered the swamp is not well documented. On 27 April 1788 King discovered "...a great quantity of plantane trees⁸ which grow close to the stream of Fresh Water which runs through the Valley which is in this part of it dry & not swampy as it is opposite the hill on which the Settlement is, & below it...". That month, some of the timber on Flagstaff Hill was cleared, as was the 'thick wood' surrounding the settlement itself.

It is likely that the wetter parts of the swamp were vegetated with sedges and rushes, with fringing Melky Tree, Tree Fern, Birdcatcher, Coastal Coprosma, Norfolk Island Hibiscus and perhaps Mountain Rush. White Oak and Norfolk Island Pines do not thrive in swampy conditions and do not survive extended inundation. It is likely that these species were restricted to the higher parts of the coastal dunes and outcrops, the knoll and the foothills to the north, along with native hardwoods such as Ironwood, Maple and Beech. The dunes may have been vegetated with Native Flax and Moo-oo, especially close to the edge of the swamp, and by native coastal herbaceous plants such as Mile-a-Minute, Coastal Native Spinach, Pigface and Strand Morning Glory.

It appears that most of the original native vegetation along the foreshore, in the former swamp and on the surrounding low land within the now Kingston Common Reserve was cleared during the First Settlement. The forested hillsides were also largely cleared of large pines and other trees. Most of Flagstaff Hill⁹ was cleared early in the First Settlement: a 'View of Sydney on Norfolk Island' (1801 – 04)¹⁰ shows stumps and a couple of trees on the lower eastern slopes of the hill and drawings around the end of the Second Settlement show treeless slopes, with some erosion. The seaward side would have been naturally eroded to some extent but was probably fairly well vegetated with Norfolk Island Pines, White Oaks, Native Flax and Moo-oo and other hardy coastal species.

In the First and Second Settlements stock grazed the deforested hillsides and lower slopes and gardens and crops (especially maize) were planted on the flat reclaimed swampland. After the arrival of the Pitcairners, most of the valley was turned over to stock, with smaller gardens close to occupied cottages.

The vegetation within the reserve now consists of kikuyu pasture; rows of Norfolk Island Pines that have been planted along Country Road, Pier Street and Quality Row; small areas of Norfolk Island Pines planted on the hillsides (particularly Flagstaff Hill and near Middlegate Road below Panorama Court); regenerating White Oaks and other native species on Flagstaff Hill; and a small number of scattered mature White Oaks on the hillsides. A few self-sown Native Flax have become established on the elevated foreshore north of the pier, near King's landing place¹¹. A stand of Pohutukawa planted along the lower slope of Flagstaff Hill between the foreshore and the Lions Club house¹² is also well established. Scattered Banksia and one or two eucalypts occur in the pines on the north-eastern slopes of Flagstaff Hill.

⁷ *The Swamp Creek and Serpentine Area Conservation Study and Interpretive Design*. Report prepared for Australian Construction Services on behalf of the KAVHA Management Board.

⁸ Banana.

⁹ Originally named "Mt George" by King.

¹⁰ Kingston and Arthur's Vale Historic Area Landscape Management and Conservation Plan Volume 1. 1994. p29.

¹¹ Lieutenant Phillip Gidley King RN and his party of 23 convicts and marines landed at a small beach at the western extremity of Slaughter Bay, immediately to the west of the Kingston Pier on 6 March 1788.

¹² Site of the first government house built by King.

Today, the seaward side of Flagstaff Hill is severely eroded and is a stark testament to the effects of deforestation and over-grazing on the Island's steep, deeply weathered hillsides. The eastern end of Flagstaff hill was planted with Norfolk Island Pines. Eucalypts planted at about the same time to arrest erosion on the landward side of Flagstaff Hill were removed between 1995 and 2001 by the KAVHA Restoration Team, allowing rapid regeneration of self-sown White Oaks and other native species that had established under the gums. The KAVHA Restoration Team has augmented these by planting Norfolk Island Pine.

Ten pines were planted along the eastern side of Pier Street to commemorate those Norfolk Island men who lost their lives on active service during WWII. Two of those trees, close to the southern side of Watermill Creek are in very poor condition, probably as a result of waterlogging from prolonged periods of high water levels in Watermill Creek channel.

A Moreton Bay Fig was planted on the western side of Arthurs Vale by the KAVHA Restoration Team in 1970 to celebrate Toofy Christian's 21st birthday. In 1974, one hundred pines were planted along Country Road to commemorate Aunt Jemima Robinson's 100 years of life¹³.

Drain Flags, the tall native River Club Rush¹⁴ and Taro are the dominant emergent aquatic plants along the Watermill Creek channel. Water Hyacinth covers much of the remaining water surface and the shallow ponds that form on the Common adjacent to Watermill Creek after periods of rain. Oxygen Weed, Water Hyacinth, Taro, River Club Rush and Drain Flags are the dominant species in Watermill Dam.

The narrow dune along the Slaughter Bay foreshore supports a variety of strand species, including Mile-a-Minute, Pigface, Strand Morning Glory, the possibly native rush *Juncus continuus* and introduced Marram Grass, Buffalo Grass and Sweet Alyssum.

15.3.2.1 Significant Species

There are no significant plant species in the reserve.

15.3.2.2 Weeds

The most of the reserve is free of woody weeds. However, there are some Banksia, Lantana and Queensland Umbrella Tree amongst the pines on Flagstaff Hill and a short section of Watermill Creek immediately downstream from the Watermill Dam spillway is heavily infested with Wild Tobacco and Hawaiian Holly. There is a large clump of Bamboo growing along the left bank of Watermill Creek adjacent to the spillway. Small numbers of thistles, Hawaiian Holly, Wild Tobacco, Cranky and Poison Bush occur occasionally in the Kikuyu pasture and the banks of Watermill Creek channel.

A small patch of Aloe Vera is spreading on the sandy site of the Second Settlement Lime Kiln Police Hut at the eastern end of Slaughter Bay.

Water Hyacinth¹⁵ grows densely on the surface of Watermill Dam, drainage channels and on the ponded areas adjacent to Watermill Creek. Oxygen Weed is thriving in Watermill Dam.

¹³ Jemima Louise Robinson (né Quintal) was born on 13 September 1870 and died in July 1971. The one hundred pines were planted in 1974 as a community project during the Bicentenary year of Captain Cook's discovery of Norfolk Island in October 1774. (Mr Tom Lloyd AM, Mr Ken Nobbs, personal communication. 28 June 2002).

¹⁴ River Club Rush *Schoenoplectus validus* is an important plant for weaving and is also considered useful for the biological treatment of waste water. (Metcalf, L., 1998. *The Cultivation of New Zealand Grasses*. Godwit. p80).

¹⁵ Water Hyacinth is thought to have been brought to Norfolk Island by Dr Metcalfe in the early 1900's (Arthur Evans, personal communication). At that time it was a popular ornamental plant, although there was some effort to publicise the dangers of spreading this South American import. Water Hyacinth was declared a noxious weed on Norfolk Island on 5 July 1988.

15.3.3 Fauna

15.3.3.1 Invertebrates

15.3.3.1.1 Army worm

The insect that has the most obvious effect on the reserve is the introduced Army Worm. The Army Worm is a Noctuid moth of the genus *Spodoptera*, species of which are some of the most destructive agricultural pests in the world. The name Army Worm is a reference to the moth caterpillar which emerges in vast numbers, consuming swathes of crops or pasture in its path. Swarms of Army Worm emerge in the pastures of the reserve during late summer and autumn, especially after rain. The swarms leave little of the Kikuyu for grazing stock, which have to be moved to pasture that has not been invaded by the Army Worm.

15.3.3.1.2 Land Snails

Norfolk Island has a diverse land snail fauna, with a number of endemic species¹⁶. The range of many species has declined with the clearing of native forest, predation by introduced rats and perhaps competition with introduced snails. Many species have become extinct since 1788, but there is also evidence in the fossil layer at Kingston of prehistoric extinctions¹⁷.

Different land snails have very specific habitat requirements. They are therefore excellent indicators of changes in the environment and a valuable tool for palaeontology and archaeology. Varman found “many specimens of shells from a range of indigenous snail species” in a “rich loamy calcareous sandy soil” underlying early First Settlement construction deposits. The diversity of the land snail fauna at Kingston has declined significantly since 1788. In 1997, Varman found 9 species of land snail at Kingston. One un-named species was listed as “a very rare live population at Kingston only confined to a rocky outcrop”. Whether this or other rare land snail species occur in the reserve is not known.

15.3.3.1.3 Freshwater Shrimp

A small endemic freshwater shrimp *Paratya norfolcensis* occurs in Town Creek at the ‘Officers Bath’, Quality Row and probably in the other streams and channels at Kingston. Whether this shrimp occurs in the Watermill Creek wetland and channel in the reserve is not known.

15.3.3.1.4 Land Crab

The Little Nipper Crab occurred in suitable habitat across the island. There have not been recent records of this crab in the reserve.

15.3.3.2 Vertebrates

15.3.3.2.1 Fish

Both the Short-finned and Long-finned eel occur in Watermill Creek and Watermill Dam in the reserve.

15.3.3.2.2 Birds

The original native forest has been replaced by open grassland which favours introduced species such as the Mallard, Feral Fowl, Domestic Goose, Australian Kestrel and Common Starling. However, the wetland along the channel and adjacent pasture, especially where it is subject to inundation, provide habitat for a variety of native birds, some of which are likely to have been uncommon prior to European settlement, when these habitats did not exist on Norfolk Island.

¹⁶ Dr Robert Varman has listed a total of about 79 species of endemic or native land snails on Norfolk and Phillip islands, including species found only in prehistoric fossil deposits: Varman R.V.J.P. *Norfolk Island Snail List*. www.geocities.com/Paris/LeftBank/6559/scc38.htm

¹⁷ Varman, R.V.J.P., (undated), Conchological Study of Norfolk Island Terrestrial Mollusca from Fossiliferous and Live Populations. Unedited draft posted on the Internet at www.geocities.com/Paris/LeftBank/6559/scc38.htm

Tarler Bird commonly feed on aquatic vegetation and the short grass close to the wetland. Between September and May a few migratory waders (especially Pacific Golden Plover, Bar-tailed Godwit and one or two Greenshank¹⁸) may be found feeding around the edges of flooded pasture. Up to 14 Cattle Egret have been recorded in the reserve¹⁹ and a single South Island Pied Oystercatcher was observed feeding on the Common on a number of occasions in September and October 2001²⁰.

Crimson Rosella, Sacred Kingfisher (Nuffka), Grey-breasted Silvereye and the Grey Warbler occur regularly in the reserve.

15.3.4 Cultural Heritage

The bananas found by King along the stream running through Arthur's Vale were clear evidence of previous Polynesian visits or habitation. Stone tools found in various parts of the Island also provided evidence that Polynesian peoples at least regularly visited the island. The discovery of the remains of a Polynesian settlement under the dunes at the western end of Emily Bay in 1997 confirmed that the Island was occupied for about 700 years from perhaps as early as 750AD²¹. However, by 1788 there was no evidence of the Polynesian village at Emily Bay.

After the arrival of King and his party in 1788, buildings were established on the slope from the landing area (now the Kingston Pier) and on the low ridge of sand dunes and calcarenite outcrops along the foreshore to the eastern end of Slaughter Bay and Chimney Hill. In April 1788, a flagstaff was erected on Mt George (later Flagstaff Hill) to signal ships and in May a road was cut to Cascade. In October that year a track was cut to Anson Bay.

In 1789, a channel was dug to drain the swamp to Emily Bay and the land turned to agriculture to support the fledgling colony. A channel was also cut through Arthur's Vale, which was cleared in 1788-9 and agricultural plots laid out, the remains of which are still visible today. A number of cottages were built in Arthur's Vale and convicts were allotted plots of ground to grow vegetables. Much of the food required to support the colony was grown in Arthur's Vale, however problems were encountered with parrots that had to be driven off the grain with sticks, and rats.

In 1791, a gaol was built near the foreshore towards the western end of Slaughter Bay, and in 1792 a 60ft square clearing was cut on Mt George and a signal house erected. A dam and overshot mill was constructed in 1795 in Arthur's Vale, near the site of the Second Settlement dam spillway and in 1796 a large garden area was set aside for the Governor in Arthur's Vale. In 1800 Major Joseph Foveaux had the timber gaol repaired and work commenced on a 74ft by 27ft stone gaol. Foveaux had a lime kiln constructed against the western side of the Chimney Hill ridge at the eastern end of Slaughter Bay in 1802 to produce lime for mortar²². Wooden pipes were constructed in 1804 to convey fresh water to the township, presumably from a weir in Arthur's Vale, if not the Mill Dam which was almost 1km away.

¹⁸ Peter Davidson, personal observations.

¹⁹ 15 June 1994: Margaret Christian, personal observation; 15 July 1994: Peter Davidson, personal observation; 18 September 1994: Angela Guymer, personal observation.

²⁰ 21 September 2001: Darren Buffett and Peter Davidson, personal observation; 1 - 4 October 2002: Peter Davidson, personal observation.

²¹ Anderson, A., (undated), *Prehistoric Human Colonisation of Norfolk Island*. First Interim Report to Australian Heritage Commission. Unpublished report, Division of Archaeology and Natural History, Research School of Pacific Studies, Australian National University.

²² A small section of this lime kiln's stone flue remains on the western face of the Chimney Hill ridge at the eastern end of Slaughter Bay beach. Lime was produced by burning limestone (in this case calcarenite) to convert calcium carbonate CaCO₃ to carbon dioxide CO₂ and lime CaO.

The First Settlement buildings were destroyed when the colony was abandoned in 1814. The livestock was also removed or destroyed, but dogs were left to “get ravenous and eat any of the pigs that were left”: Lieutenant Thomas Crane RN.

In 1825, the Second Settlement was established initially at Kingston and the roads to Cascade and Ball Bay were re-cut. During the decade that Norfolk Island had been unoccupied, the channel into Emily Bay became blocked and the Common again became swampy. In 1829, the channel that had been cut in 1790 to drain the swamp around the northern end of Chimney Hill to Emily Bay was re-opened. The swampy ground was converted to prisoners gardens and in 1832 the garrison was moved into newly completed barracks on Quality Row^{23,24}. Gardens and agricultural plots were again planted in Arthur’s Vale. By 1829 most of the low land around the settlement was under cultivation and the road system had been extended to connect out-lying areas of cultivation with the settlement.

On 8 May 1834, flooding caused part of the drain to Emily Bay to collapse. In 1835, the Commandant, Major Joseph Anderson, had a new section of channel constructed through a tunnel driven under Chimney Hill and the old channel to the north of the hill was closed. Quarrying at Chimney Hill ceased and new bridges were constructed on Bligh Street and on Government House drive from Slaughter Bay. The bridge on Government House drive included a sluice gate for regulating the level of water in the drain and landscaped channels upstream.

Construction of the Second Settlement Watermill Dam commenced in 1828. The mill produced flour for the settlement, however from the beginning there were problems with the machinery and significant leakage from the dam itself. The mill was operated from 1859 to 1863, but was in ruins by the late 1890’s. The Watermill complex is an important element of the Second Settlement fabric that remains today.

Other Second Settlement structures within the reserve that are of particular heritage significance are the New Gaol and the Prisoners Compound. In 1836, parts of the rocky foreshore ridge between the Civil Hospital and the Lumber Yard (Bounty Street) were levelled and fill transported from the foot of the hills to the north of Quality Row was used to extend the site. By the end of 1837, much of the foundation of the hexagonal gaol had been laid. The New Gaol was completed in 1847. Extensively quarried for stone in the early twentieth century, much of the internal structures of the gaol remain as visible foundations²⁵. The adjacent Prisoners Barracks²⁶ remain as foundations and the compound’s walls. The Second Settlement Protestant Chapel within the compound’s walls has survived relatively intact and today houses the Norfolk Island Museums’ Maritime Museum²⁷.

From 1856, the Pitcairner families resided in the Georgian houses along Military Row and other buildings in Kingston. One Pitcairner family resided at Kingston until 1930²⁸. Buildings at Kingston were also used to billet troops during WWII. The Pitcairner families worked and played in the Kingston area, attended school in the New Military Barracks and worshipped in All Saints Church²⁹.

In May 1936 one of the biggest floods recorded on Norfolk inundated the Common, damaged bridges and other structures and caused landslips. In the following years, a new channel was dug from just upstream of Bligh Street to the eastern end of Emily Bay.

²³ The “Old Military Barracks”: now the Norfolk Island Legislative Assembly building and court.

²⁴ Quality Row is shown as ‘Military Road’ on the *Plan of the Settlement, Norfolk Island 1848*.

²⁵ New Gaol: “Probably the single most important structure in the Kingston and Arthur’s Vale area in terms of fundamental historic significance.” *Kingston and Arthur’s Vale Historic Area Management Plan*. April 1980. p120.

²⁶ Locally referred to as the “Prisoners Compound”, which is the term used elsewhere in this Plan of Management.

²⁷ The Maritime Museum displays and interprets artefacts from the wreck of HMS Sirius on the reef on 19 March 1790.

²⁸ The 74 years of continuous residential use of Kingston by Pitcairner families is significantly longer than the first two convict settlements, each of which spanned 26 years.

²⁹ Formerly the Commissariat Store.

Many of the Island's homes constructed during the late 1800's and early 1900's incorporated stone from Second Settlement structures at Kingston, especially the New Gaol and Prisoners Compound. This practice was encouraged by the Commonwealth and the Administrator was still selling rights to remove stone from buildings and ruins at Kingston in the late 1960's.



15.4 Issues

15.4.1 Public Use

Most of the reserve remains public Common and continues to be grazed by cattle under pasturage licences issued by the Administration of Norfolk Island. Most of the steeper hillsides than can still be grazed have been fenced to enable grazing pressure to be managed.

Kingston is the Norfolk Island community's main recreation area, with swimming and snorkelling at Emily and Slaughter Bays; windsurfing, sailing and jet skiing; fishing from the Pier itself, or by boats launched at the Pier; picnicking and barbecuing; and community gatherings. Many bodyboarders and surfers park their cars and motor bikes along the foreshore opposite the New Gaol.

The Prisoners Compound provides a relatively sheltered picnic and barbecue venue, with public toilets and lighting. The Compound is one of the most popular picnic locations for groups of local people. Major community gatherings, such as the annual Bounty Day lunch, and other community events such as the celebration of the Year 2000, the visit by the Governor-General Sir William Deane and the closing festival of the South Pacific Mini Games are held in the Compound. A large marquee has been erected in the Compound for some of these events.

The Common north of the New Gaol and Prisoners Compound, between Watermill Creek channel and Quality Row is occasionally used as an overflow car park during major community events.

Other public activities in the reserve include feeding Mallard ducks and Feral Fowl at Watermill Dam and Domestic Geese on the Common; horse riding; walking (and walking dogs) and collecting manure for gardens. Arthur's Vale was used as a golf practice range during the South Pacific Mini Games. The Lime Kiln is occasionally used by the Norfolk Island Volunteer Rescue Squad for initial rock climbing training.

A standpipe at Watermill Dam enables water to be carted for domestic purposes. This water supply is also used by the Administration of Norfolk Island for public works (mainly road construction and maintenance). The area immediately to the south-west of Watermill Dam has been used for some years to stockpile clean fill from de-silting the dam and minor works outside the reserve.

Flagstaff Hill provides excellent views of Kingston and Arthur's Vale, although few take the moderately steep but relatively easy walk up from Lions Club/Civil Hospital area.

The Maritime Museum on the northern side of the Prisoners Compound is one of four museums managed by the Norfolk Island Museums. It has excellent displays of HMS Sirius artefacts and is the starting point for the Museum's guided tours of Kingston. Commercial tour operators bring many visitors to the reserve and provide guided tours and picnics. One operator provides an evening sound and light show depicting the convict era. Many visitors spend time at Kingston walking around the Second Settlement ruins, relaxing and, if a ship is in, watching lighterage operations.

The wetland has become an important bird watching area for locals and visitors, as well as a valuable field study resource for science and geography students at the Norfolk Island Central School. Students have been involved in a number of projects that have provided important management information, including water quality monitoring and 'Streamwatch' monitoring.

15.4.2 Access and Facilities

Country Road, Middlegate Road³⁰, Rooty Hill Road³¹ and Quality Row provide vehicular access to the reserve, with Pier Street, Bounty Street and Bay Street providing vehicle access to the Pier, Slaughter and Emily bays.

Mill Road, which runs for approximately 300m from Pier Street near the Civil Hospital along the western side of Arthur's Vale, is a Second Settlement road along the line of a First Settlement route. This road has not been used by vehicles since the early 1900's, but its level, well grassed surface makes it an ideal walking and horse riding trail. Another disused 'road' was formed along the northern side of the New Gaol and the Prisoners Compound, during the construction of these structures. It is not known whether this road, which has been named Pitcairn Street, was ever used for vehicular traffic

An access track across the reserve to Portion 91a (adjacent to the western boundary of the reserve, west of Flagstaff Hill) was "probably formed in the early 1900's and was in existence by the 1920's"³². This was unusable in wet weather and the section of track across Arthur's Vale to Country Road would become particularly boggy. Water running down the track caused channelling and some erosion. In 2001, the section of track across Arthur's Vale was raised and in 2002 concrete drive strips were constructed from the foot of the hillside to the western boundary of the reserve. Timber retaining walls have also been constructed along the track between Arthur's Vale and the western boundary of the reserve. The KAVHA Restoration Team has also planted pines on the hillside to reduce the track's visual impact.

There are no vehicle barriers to prevent vehicles from driving into the Prisoners Compound, the Slaughter Bay foreshore between Bay Street and the sea wall, the Watermill Dam area or the Common in general. Few vehicles are driven onto the Common, except where there are clear tracks. However, an informal vehicle track that runs generally south-east to Country Road from the western end of the Watermill Dam wall has formed since about 1993, when this route started to be regularly used by a 4WD tour operator. Although still mainly covered with grass, this track is becoming more worn. In recent years the grass slopes of the knoll locally known as 'Neutral' on the western side of Arthur's Vale near the access to Portion 91a have been regularly torn up by vehicles being driven up the hillside. This generally occurs at night during wet weather, the challenge apparently being to demonstrate how far one can drive up the steep slope.

The grassed area between the Slaughter Bay foreshore between Bay Street and the sea wall is heavily trafficked by motor vehicles and has become badly worn and rutted. This area is occasionally wet by sea spray and high waves, with little vegetative cover in some areas close to the sea wall. The foundations of Second Settlement overseers quarters are exposed here and can be subject to vehicle damage.

Grassed areas adjacent to Bay Street and in the Prisoners Compound are regularly damaged by persons doing 'wheelies' and 'donuts' in motor vehicles or on motor bikes. This activity makes the ground rough and unsightly. Although the grass surface can recover, this activity appears to be occurring more frequently, with the grass more often damaged than not.

³⁰ Also locally referred to as "Store Road".

³¹ Referred to as "House Road" by some families.

³² *Kingston and Arthur's Vale Historic Area Management Plan*. April 1980. p144.

There are two barbecues in the Prisoners Compound and another two adjacent to the eastern wall of the 1846 Blacksmith Shop³³, at the western boundary of the reserve on the Slaughter Bay foreshore. There is a small public toilet in the north-eastern corner of the Prisoners Compound, adjacent to the western wall of the Maritime Museum.

Increased use, together with increased wear and tear on the reserve, may result in demands to define vehicle parking areas³⁴. Minor vandalism to picnic area facilities occurs occasionally, as does the theft of picnic tables.

Almost all of the reserve is readily accessible by foot, without the need for formal walking tracks. A walking track up the eastern slope of Flagstaff Hill provides access to the site of the flagstaff, overlooking the Pier, and the top of the hill near the western boundary of the reserve. There are excellent views of the Pier, reef, and Kingston and Arthur's Vale from this track, which is in moderate to poor condition and is little used.

The picnic areas and structures in the reserve are maintained by the KAVHA Restoration Team.

15.4.3 Heritage Conservation

The stonework of the 1802 lime kiln on the face of the Chimney Hill ridge at the eastern end of Slaughter Bay and the field boundaries that are visible in Arthur's Vale as low ridges are the most significant First Settlement structural elements remaining in the reserve.

The New Gaol, Prisoners Compound and Watermill Dam are some of the most important Second Settlement structures on Norfolk Island. All are ruins³⁵ that have been rendered to restore them to their original finish and to protect their stonework from further weathering.

Other important Second Settlement structures include the largely intact stone 1840's cottages in Arthur's Vale, the Mill Road retaining wall³⁶, the foundations of various cottages scattered throughout the Common and the Lime Kiln Police Hut, the sea wall and other Second Settlement structures along the foreshore of Slaughter Bay.

None of the known important heritage structures in the reserve have trees close to them that may adversely affect their integrity. However, woody weeds frequently grow on or in the ruins in Arthur's Vale, requiring regular removal and control. The 1840's cottage on the western side of Arthur's Vale, close to Flagstaff Hill, has at times been used by the KAVHA Team as a lunchroom and by some members of the community as a partying place.

One of the most important cultural heritage features of the reserve is the open landscape of the Common, (in particular Arthurs' Vale) and the adjacent hillsides. This landscape was created during the First and Second Settlements and has remained largely unchanged. Inevitably, there are fewer and fewer of the original forest trees that were not cleared left. However, two hundred years of grazing has damaged some hillsides³⁷, warranting tree planting, such as on Flagstaff Hill.

³³ Now used as the KAVHA Restoration Team works depot.

³⁴ A low timber barrier was erected during 2000 to exclude vehicles from the picnic area on the western side of the Blacksmith's shop (locally known as "Munna's"). This picnic area is now well grassed and there has been widespread public support for the barrier.

³⁵ Except for the former Protestant Chapel (now the Maritime Museum) in the north-eastern corner of the Prisoners Compound.

³⁶ The stone retaining walls along Pier Street and the Pier Street bridge itself are within the Pier Street road reserve and therefore not within Kingston Common Reserve.

³⁷ Clifton, G., 1993. *Land Degradation Study and Management Plan*. Kingston and Arthur's Vale Historic Area. NSW Department of Conservation and Land Management (unpublished consultant report)

The Pier Street and Bounty Street bridges are within the road reserves and not within Kingston Common Reserve. However, it is important to note in this Plan that the management of the Watermill Creek channel and associated wetland may have an effect on these important Second Settlement structures. This issue is discussed section 15.4.6 below.

15.4.3.1 Monuments and Memorials

Kingston is steeped in cultural history and heritage, both past and present. The convict era buildings and ruins are a monument to their skill and a memorial to their hardships. The conservation and interpretation of these structures and the landscape setting of the convict settlement is further recognition and appreciation of those people and times. Even so, there is a continuing desire on the part of descendants to erect memorials of various kinds to their forebears. There is also a general desire to recognise particular events (such as the wreck of the Sirius) in an official or semi-official manner.

The heritage and personal significance of Kingston and the people who have toiled and lived here encompasses much more than the convict era settlements between 1788 and 1856, important though they are. The recently discovered Polynesian settlement of the island, the arrival of the Pitcairners and the lives and activities of Norfolk Islanders over the past one hundred and fifty years are all worthy of celebration and recognition.

A number of special memorials in the form of timber seats, brass plaques and tree plantings have been placed in reserves at Kingston during the past twenty years. The potential demand for more is great. Each request to erect a memorial or plaque or plant a tree has been considered on an *ad hoc* basis, without the benefit of an overall strategy or plan.

It is now getting to the stage where the number of seats, plaques, trees and other memorials or monuments are in places starting to detract from the landscape and setting of the site.

The most appropriate way to commemorate people and events in the reserve is through interpretation: in the museums, by walking tours, through documents and on site signs that have been developed as part of an integrated interpretation strategy. It is important that the community, including private individuals, historical interest groups, corporations and benefactors, contribute to and participate in the development of the interpretation strategy and material.

The number and position of seats and indeed planting of trees should be determined by the need and the setting rather than by the demand for memorials. A possible short-term solution to this dilemma could be to allow a number of small plaques commemorating different people and events to be attached to an existing seat (for instance). However, those who originally sought or paid for a particular seat to commemorate a specific individual do not often support this option.

15.4.4 Habitat Rehabilitation and Development

The formal/man-made landscape of the reserve is appropriate to its heritage values and use. However, native habitat rehabilitation and development is appropriate on all of Flagstaff Hill, on the other hillsides that have been planted with Norfolk Island Pines (including the pines near Middlegate Road) and on the hillsides along the western side of Arthur's Vale that are to be planted with pines and other trees to protect slopes.

15.4.5 Breeding Seabird Habitat

There are Ghostbird burrows on the less eroded parts of the seaward side of Flagstaff Hill, no other parts of the reserve are suitable for breeding seabirds.

15.4.6 Wetland habitat

There is concern that some of the Second Settlement stone bridges and channel walls in the Kingston area (particularly the Bounty Street bridge) may be adversely affected by high water levels resulting from placing weirs to create a wetland.

Both Bounty Street bridge and Pier Street bridge³⁸ have been built on reclaimed swamp. While the channel that was dug through the former swamp is relatively deep, the water table would rarely have been below the footings of the bridges since they were constructed in the 1830's. Even when the channel was regularly cleaned out, the Common was periodically inundated. The channel(s) have been dammed or blocked a number of times during the past 170 years, raising the water level, particularly in the vicinity of Bligh and Bounty Streets.

Given the nature of the material on which they were constructed, it is likely that the bridges have been sinking since they were built. It is possible that the rate at which the Bounty Street bridge is sinking may have increased during the past few decades, but there are no reliable survey data that can be used to verify this hypothesis.

Raising the level of water in the Watermill Creek channel has created more permanent wetland habitat along the channels and on nearby low-lying areas. This wetland is unique on Norfolk Island and is important for native wetland species such as the Tarler Bird and for migratory waders.

Although these wetland areas largely disappear during extended dry periods (El Niño years), the raised water levels may be increasing the rate at which the Bounty Street bridge and other Second Settlement structures are sinking. Immersion also slowly dissolves the calcarenite stonework. Ways in which the water levels can be lowered at important Second Settlement structures, while retaining significant areas of wetland are being investigated.

Occasionally, dogs that roam from nearby residences harass and attack waterfowl and wading birds, although these instances are not common.

15.4.7 Pest Species

15.4.7.1 Weeds

Weeds are not a significant problem in the reserve, provided they are controlled periodically. The patch of woody weeds downstream from Watermill Dam is a source of weed seed and the nearby clump of Bamboo is invading and obscuring the spillway.

The patch of Aloe Vera on the Police Hut site at the eastern end of Slaughter Bay presently consists mainly of young plants that could be removed by hand. This patch of weed will expand and become more difficult to eradicate if not removed soon.

Water Hyacinth is a declared noxious weed, however herbicides which can be used for control damage or kill other aquatic organisms and biological controls have had limited success. There is no practical method that would eradicate this plant. Water Hyacinth grows rapidly, extracting nutrients from the water and helps improve water quality by slowing water flow. These nutrients would be removed from the aquatic ecosystem if Water Hyacinth was regularly removed. Water Hyacinth could make a mulch that would be useful in restoring eroded slopes, such as Flagstaff Hill. Regular removal of Water Hyacinth would also increase habitat diversity for aquatic invertebrates. Care would need to be taken to ensure that Water Hyacinth was removed from the surface of the water, without disturbing the banks and bottom of the channel.

³⁸ Constructed in 1835 during swamp 'improvement'.

15.4.7.2 Feral Birds

The number of Feral Fowl (chickens), Domestic Geese and Feral Pigeons in the reserve has increased over recent years. The number of Feral Fowl on Norfolk Island and in the Commons and reserves used to be controlled by dogs, shooting and taking them and their eggs for food.

The Domestic Geese in the reserve originated as a small flock that belonged to a neighbouring landowner. The number of geese was kept to half a dozen or so by collecting the goose eggs laid on the Common. The eggs have not been collected since the owner moved to another property and the number of geese has increased to about twenty. Some members of the community deliberately feed the fowl and geese, as do many visitors to the island.

Feral Pigeons roost on the cliffs of Nepean Island, flying to Norfolk at dawn each morning to feed. The number of Feral Pigeons on the Island and in the reserve has steadily increased in recent years.

Many visitors and some locals consider these introduced feral birds an attractive addition to the Kingston scene. Unfortunately, these birds compete for food and space with native species such as the Tarler bird and some migratory waders. They also foul the playing field in Kingston Recreation Reserve and other grassed areas, with the risk of infecting people (especially children) with *Salmonella* and other pathogens that the birds can carry.

Increasing numbers of the introduced Mallard duck are frequenting foreshore picnic areas and the playing field. These birds can also carry pathogens such as *Salmonella*. Mallard directly compete and interbreed with the native Pacific Black Duck, which is now probably extinct on Norfolk. The Mallard also threatens the survival of the Pacific Black Duck on other Pacific islands.

15.4.8 Erosion

The 1993 Land Degradation Study and Management Plan³⁹ identified two landslip areas in the reserve on the hillsides along the western side of Arthur's Vale and a small slip in the pines near Middlegate Road. That study also identified three areas of major terracettes (two on the hillsides near the southern end of Country Road) and one of minor terracettes in the reserve. The hillside in Portions 78a and 78b adjacent to the western boundary of the reserve near Watermill Dam was identified as a large area of minor terracettes.

The seaward slopes of Flagstaff Hill are the most serious erosion problem in the reserve. These slopes, which would have originally been vegetated with Native Flax, Norfolk Island Pine, White Oak and other native species was probably at least partially cleared and was heavily grazed by goats and other stock during the First and Second Settlements. This face of Flagstaff Hill now resembles the eroded slopes of Phillip Island and is clearly actively eroding. Similar cliff slopes immediately west of the reserve are relatively well vegetated with native species.

15.4.9 Water Quality

The wetland that has developed along the Watermill Creek channel and on nearby low-lying areas plays a significant role in maintaining a diverse marine environment in Emily and Slaughter Bays.

Watermill Dam traps a significant proportion of the sediment carried from the upper areas of the Watermill Creek catchment. However, the wetlands along the lower reaches of Watermill Creek are the only sediment trap downstream from Watermill Dam and for the Town Creek Catchment and run-off from Quality Row. High levels of sediment flowing into Emily Bay can have a significant adverse effect on the corals and other marine life in the Bay and on the reef.

³⁹ Clifton, G., 1993. *Land Degradation Study and Management Plan*. Kingston and Arthur's Vale Historic Area. NSW Department of Conservation and Land Management (unpublished consultant report)

Wetland vegetation, particularly Drain Flags, remove significant amounts of dissolved nutrients that would otherwise be transported into Emily Bay, where they would promote algal growth, again to the detriment of the corals. Stock access to the channel and wetlands increases stream turbidity and nutrient loads.

The wetland also has public health benefits by retaining Watermill Creek waters that have been contaminated by stock, enabling pathogens to be destroyed by biological processes and exposure to sunlight before being discharged into Norfolk's main swimming beach.

However, high water levels in the Watermill Creek channel and the Common may have an adverse effect on the conservation of Second Settlement structures such as the Bounty Street bridge (see 15.4.6 above).

The Watermill Creek channel was regularly cleared of weed and sediment by hand until about 20 years ago when a contractor was engaged each year to dig out the drain with an excavator. The rationale for mechanical weed and sediment removal was to improve water flow and to control Water Hyacinth. Regularly cleaning the channel maximised freshwater flow into Emily Bay, without removal of sediment, nutrients and pathogens, but did not effectively control Water Hyacinth or other weeds.

Without active and appropriate management of the channel and wetland, sediment deposition will slowly raise the level of the wetland, turning it into dry land. Sediment will also block in the channel itself, especially at places where high sediment loads are transported into slowly flowing sections, such as at the discharge of the Officers Bath/Town Creek underground culvert and downstream from Bounty Street bridge.

15.4.10 Stock

Grazing stock on the Common is an important feature of the reserve. Grazing has occurred on this land since the arrival of King's party in 1788 and has been an important part of the Island's economy and culture.

The number of cattle is monitored and regulated by the Stock Inspector to ensure hillsides and other areas are not over grazed. Stock numbers are reduced and stock is moved when there is insufficient feed as a result of dry weather or Army Worm infestation. The hillsides, especially on the northern side of Country Road, have been fenced to facilitate stock management.

Direct access by cattle to the Watermill Creek channel and wetlands increases stream turbidity and nutrient loads⁴⁰. Stock can also damage heritage structures and public recreation areas.

Cattle grids on Bounty Street and Pier Street exclude stock from the New Gaol, Prisoners Compound and the Slaughter Bay foreshore.

⁴⁰ *Kingston and Arthurs Vale Historic Area Water Quality Management Plan*. February 1997 Report to Works Australia on behalf of the KAVHA Management Board, Peter Davidson Pty Ltd, Norfolk Island.

15.5 Management Objectives

Vision: To conserve and promote the cultural and natural heritage values of the reserve and ensure continued use of the reserve for the enjoyment of current and future generations of Norfolk Islanders and visitors.

15.5.1 Cultural Heritage Management

Aim: To conserve the cultural heritage fabric of the reserve, including its essential landscape elements, and provide for the continuing use of Kingston Common Reserve for public recreation.

Objectives:

- Maintain and conserve the cultural heritage fabric of the reserve, including the remains of the New Gaol, Prisoners Compound, Watermill Dam and mill, sea walls, cottages, footings, chimneys, road pavements and other structures.
- Maintain and conserve the drainage channels through the reserve and associated bridges, walls and other structures.
- Protect archaeological deposits and remains.
- Preserve the essential landscape elements of the reserve.
- Provide for continued public use of the reserve for community events and recreation.

15.5.2 Natural Heritage Management

Aim: To conserve native habitat and species diversity in the reserve to the extent compatible with preserving the landscape of the reserve and its use for public recreation.

Objectives:

- Minimise the adverse impacts on water quality and the wetland ecosystem that may be associated with drainage maintenance or public use.
- Maintain and protect wetland habitat.
- Develop native forest habitat on Flagstaff Hill and the hillsides on the western side of Arthur's Vale.
- Protect foreshores and fore dunes.
- Protect breeding seabirds and their habitat.
- Protect fossil deposits and remains.

15.5.3 Pest Species Management

Aim: To reduce the impacts of pest species in the reserve.

Objectives:

- Control invasive introduced weeds in the reserve.
- Control feral birds in the reserve.

15.5.4 Recreation Management

Aim: To provide for appropriate recreational and commercial use.

Objectives:

- Provide and maintain appropriate picnic facilities.
- Provide for continued use for community events and recreation.
- Manage impacts associated with public use of the reserve.

15.5.5 Education and Interpretation

Aim: To promote knowledge and understanding of Norfolk Island's cultural and natural history and issues related to conserving and managing Kingston Common Reserve.

Objectives:

- Define and develop interpretation/education resource material specific to the reserve.
 - Encourage appropriate scientific and educational activities in the reserve.
-
-

15.6 Management Strategies and Actions

15.6.1 Cultural Heritage Management

The reserve's major cultural attributes are:

- continuing use of the Prisoners Compound and other areas of the reserve for community events;
- continuing use of the reserve for recreation;
- the fabric of First and Second Settlement structures, in particular the New Gaol, Prisoners Compound, Watermill Dam, the largely intact stone 1840's cottages in Arthur's Vale, the Mill Road retaining wall, the foundations of various cottages scattered throughout the Common, the sea wall, and other Second Settlement structures along the foreshore of Slaughter Bay;
- the First Settlement field boundaries in Arthur's Vale;
- the Watermill Creek drainage channels;
- the cultural landscape setting of Arthur's Vale and the Common;
- commemorative tree plantings, particularly along Country Road and Pier Street;
- continuing use of the Common for grazing stock; and
- archaeological deposits and remains, including evidence of quarrying along the Slaughter Bay foreshore.

Activities that are likely to adversely affect any of these cultural attributes to a significant extent, other than in a manner or for a purpose envisaged in this Plan, will not be permitted.

The fabric of First and Second Settlement structures in the reserve, in particular the New Gaol, Prisoners Compound, Watermill Dam, the largely intact stone 1840's cottages in Arthur's Vale, the Mill Road retaining wall, the foundations of various cottages scattered throughout the Common the sea wall, and other Second Settlement structures along the foreshore of Slaughter Bay will be maintained, restored and conserved in accordance with appropriate conservation techniques, under the supervision of the KAVHA Conservation Services Coordinator and the KAVHA Project Manager.

15.6.1.1 New Structures

No new buildings or other permanent structures are permitted in the reserve. However, temporary structures may be permitted provided the erection and use of such structures is not likely to significantly detract from the heritage values of the reserve or permanently harm the heritage values of the site or the reserve as a whole.

The temporary erection of marquees and tents within the Prisoners Compound may be permitted by the Conservator of Public Reserves, provided to do so is in the public interest and that the enjoyment and use of the Prisoners Compound and other parts of the reserve by the public is not interfered with.

15.6.1.2 Excavations

No new buildings or other permanent structures are permitted in the reserve, however minor works, such as laying electricity or communications cables that require new excavations may be required from time to time.

An archaeological sensitivity plan will be developed that will provide guidance for managing excavations. No excavation will be permitted without consideration of the likely archaeological

impact. Where appropriate, archaeological investigations will precede excavation. All excavations will be carried out under the supervision of the Project Manager (KAVHA) and or the Conservator of Public Reserves.

15.6.1.3 Commemorative Plantings

The Norfolk Island Pines that have been planted adjacent to Pier Street and Country Road to commemorate people and events that are important to the community will be retained.

However, it may not be possible to save trees that have been planted close to the Watermill Creek channel, or low-lying parts of the Common, and are suffering from waterlogging.

15.6.1.4 Monuments and Memorials

An interpretation strategy that encompasses the celebration and recognition of individuals and events shall be developed with the involvement of the community.

Existing monuments and memorials will remain, but may at some time in the future be replaced by documentation or other interpretation material.

No further monuments or memorials will be permitted in the reserve, unless they are specifically provided for in the interpretation strategy.

15.6.2 Natural Heritage Management

15.6.2.1 Habitat Rehabilitation

The original native habitats within the reserve have been significantly altered. The resulting landscape has great cultural heritage significance and will be conserved. However, the development of native habitat is appropriate on Flagstaff Hill, parts of the hillsides along the western side of Arthur's Vale and in the planted pines near Middlegate Road.

The wetland that has been created along Watermill Creek and low-lying areas of the Common provide an important relic habitat for aquatic flora and fauna that is virtually non-existent elsewhere on the island. The wetland is also important for improving the quality of surface waters that flow into Emily Bay.

15.6.2.2 Maintenance of Drainage Channels and Wetland

The wetland habitat in the reserve will be conserved. The wetlands and drainage channels require careful management to maximise water quality and habitat benefits while conserving heritage structures.

Annual mechanical cleaning out of the drainage channel is not an appropriate management strategy. However, regular mechanical removal of Drain Flaps and deposited sediment as well as strategic channel maintenance is appropriate.

Different locations, configurations and heights of barriers will be trialed and the effects on wetland and channel water levels monitored.

Sediment that has built up in the channel to the extent that endangers heritage structures will be removed.

Options for maintaining the wetland as well as lowering water levels at important heritage structures such as Bounty Street bridge will be examined. These options may include excavating sediments

adjacent to the channel to support wetland and achieve lower water levels in the channel. Options for stabilising heritage structures such as Bounty Street bridge will also need to be investigated.

15.6.2.3 Erosion

Eroded hillsides in the reserve, including the seaward slopes of Flagstaff Hill, will be stabilised and planted with appropriate native species in a manner compatible with the landscape values of the site.

It may be appropriate to utilise clean soil from de-silting Watermill Dam and from other works to re-shape eroded areas. Water Hyacinth and other aquatic vegetation and silt removed from drainage channels, Watermill Dam and wetland may also be useful in restoring eroded slopes.

15.6.3 Pest Species Management

15.6.3.1 Weed Control

The long-term weed control strategy in the reserve will be based on:

- basal bark and cut stump herbicide application;
- removing young weeds by hand;
- mulching or weed matting in some areas;
- appropriate use of herbicides and minimum disturbance control techniques;
- mowing and other horticultural/landscape techniques.

Herbicides will not be used if contamination of aquatic ecosystems is likely.

The Aloe Vera infestation at the eastern end of Slaughter Bay will be removed by hand to minimise the impact on Second Settlement structures and on the dune.

15.6.3.2 Bird Control

Shooting, live trapping and if necessary approved control chemicals will be used to control feral fowl, geese, and ducks in the reserve.

15.6.3.3 Fungus Control

The incidence and effect of *Phellinus noxius* in the reserve will be monitored. Disturbance and damage to tree butts and roots will be minimised.

15.6.4 Recreation Management

Public recreation is appropriate throughout the reserve.

15.6.4.1 Picnic and BBQ Facilities

Picnic and barbecue facilities will be provided and maintained in Prisoners Compound and on the foreshore of Slaughter Bay on the eastern side of the Blacksmith's shop.

15.6.4.2 Public Toilets

The small public toilet in the north-east corner of the Prisoners Compound is supplemented by public toilets across Bounty Street in Kingston Recreation Reserve. It is not intended to provide any additional public toilet facilities in the Kingston Common Reserve.

15.6.4.3 Walking Tracks

There is no need to provide formal walking tracks in the reserve in addition to the Flagstaff Hill track. This track will be reconstructed to improve access.

15.6.4.4 Vehicles

Present arrangements for vehicles in Kingston Common Reserve are generally appropriate and adequate. However, barriers will be erected to prevent vehicle damage to the slopes of 'Neutral' on the western side of Arthur's Vale and at the Watermill.

15.6.5 Education and Interpretation

Kingston Common Reserve contains cultural heritage features of national significance. It also contains important geological formations and wetland habitat.

15.6.5.1 Interpretation Strategy

An Interpretation Strategy and interpretive material for Kingston Common Reserve will be developed as resources become available. The principal interpretation and education themes in the reserve will be:

- cultural heritage; and
- conservation, land management and the environment.

Community involvement in the development and delivery of the Interpretation Strategy is encouraged.

15.6.5.2 Signs

Interpretive signs will be designed and erected in appropriate locations and in accordance with the interpretation strategy.

Interpretive and warning signs relating to the inshore marine environment adjacent to the reserve will be erected in appropriate locations in the reserve and in accordance with the interpretation strategy.

15.6.5.3 School Visits

School visits that are designed to provide an understanding of Norfolk's natural and cultural heritage and aimed to encourage students to participate in heritage and environmental protection, research and rehabilitation will be encouraged.

15.6.5.4 Walking Tours

The Norfolk Island Museums and the Norfolk Island Parks and Forestry Service will encourage and where possible assist with appropriate walking tours that are designed to provide visitors with an understanding of Norfolk's natural and cultural heritage.

15.6.5.5 Community Involvement

Community involvement in the development and implementation of management programs in Kingston Common Reserve will be encouraged in association with the Norfolk Island Museum, Historic Society and the KAVHA Management Board and Restoration Team.

15.6.6 Stock Management

Cattle will be excluded from:

- Flagstaff Hill and the hillsides along the western side of Arthur's Vale that are planted with trees or need erosion control work and tree planting;
 - the tree plantings near Middlegate Road;
-
-

- the heritage structures and Slaughter Bay foreshore east of the existing Bounty Street and Pier Street cattle grids; and
- the Watermill Creek channel and adjacent wetland.

15.6.7 Spoil Stockpile

Clean spoil may be temporarily stockpiled near Watermill Dam with the approval of the KAVHA Project Manager, and the Conservator of Public Reserves. This stock of clean spoil will be available in the first instance for conservation and restoration work in public reserves.

A grassed bund will be constructed around the lower sides of the stockpile area to intercept runoff and delineate the boundaries of the stockpile.

Waste material such as concrete and any form of rubbish may not be deposited or stockpiled in the reserve.

15.6.8 Forestry

Forestry is not an appropriate activity in the reserve.

15.6.9 Water

Water may be carted from the standpipe at Watermill Dam for domestic purposes. This water supply may also be used by the Administration of Norfolk Island for public works (mainly road construction and maintenance).

15.7 Research and Monitoring

A strategy for conducting research and for monitoring the effectiveness of management programs in the reserve will be developed in conjunction with the KAVHA Management Board.

15.8 Controlled Activities

This Section shall be read in conjunction with Section 11 of the Plan of Management (Part A) and the *Public Reserves Act 1997*.

Section 11 of the Plan of Management (Part A):

- approves specific controlled activities, with respect to all public reserves;
- provides general guidelines in respect of granting approvals and permits for controlled activities, with respect to all public reserves;
- specifies activities⁴¹ in accordance with section 47(2) of the *Public Reserves Act 1997* that shall not be undertaken in any public reserve without a permit; and
- provides general guidelines in respect of granting permits for activities specified in accordance with section 47(2) of the Act.

This section of the Plan of Management (Part B) specifies controlled activities in accordance with Section 47 of the *Public Reserves Act 1997* in relation to the use of Kingston Common Reserve.

15.8.1 Camping

Camping shall not be permitted in Kingston Common Reserve.

15.8.2 Vehicles

Private and commercial motor vehicles other than plant and equipment may be driven on and temporarily parked in the following locations:

- between Bay Street and the Slaughter Bay sea wall;
- in the Prisoners Compound;
- on the flat car parking area adjacent to Quality Row opposite the New Military Barracks and
- on the flat area adjacent to at Watermill Dam.

Vehicles, plant and equipment that are necessary for the maintenance of the reserve may be driven and temporarily left on the reserve only with the permission of the Project Manager (KAVHA Restoration Team) or the Conservator of Public Reserves.

⁴¹ The activities specified are additional to the Controlled Activities prescribed in Part V of the *Public Reserves Act 1997*.