

**Sutherland Shire**  
COUNCIL



# **PLAN OF MANAGEMENT**

## **NATURAL AREAS**

## **NORTH WEST ARM CATCHMENT**

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## **1. INTRODUCTION**

### **1.1 Background**

Plans of Management are required to be prepared by all Councils in New South Wales for public land classified as 'community' under the Local Government Act 1993.

The land management provisions in the Local Government Act enable Councils to move towards more positive land management practices with definite objectives. Plans of Management identify objectives and performance targets, means of achievement and assessment criteria, all of which will become accountable to the community. The Plans allow Council to effectively co-ordinate present and future use of public land within local government area.

A Plan of Management is not the only document that governs the use and management of community land. Under the Act, community land is required to be used and managed in accordance with the following:-

- The Plan of Management applying to the land; and
- Any law which permits the use of land for a specific purpose, or otherwise regulates the use of the land. (This includes the Environmental Planning and Assessment Act and planning instruments made under the Act. A Plan of Management should not be inconsistent with any environmental planning instrument applying to that land).

### **1.2 Purpose of the Plan**

Community land must be used and managed in accordance with a Plan of Management. Until a Plan of Management for community land is approved and adopted by Council, the nature and use of the land must not be changed.

A Plan of Management enables management to proceed in an efficient manner; helps reconcile competing interests; identifies priorities for the allocation of the available resources and facilitates public understanding. Periodic revision of a plan also enables changing social, economic and ecological conditions and new knowledge relevant to land management to be taken into account as they arise.

This Plan of Management is intended to provide detailed management, planning and design proposals and to provide a sufficient level of management information and guidance to Council officers in the day to day management of the subject community land. The Plan of Management aims to be a useful resource for Council and an informative document to the public. It will provide an on-going source of data and information for informed management decision making.

The purpose of a Plan of Management for Natural Areas is to achieve a balance between the environmental, social and economic factors influencing the management of natural areas within the context of ecologically sustainable development. This plan of management provides a framework for all stakeholders so that a consistent approach to the management of the land can be achieved.

### **1.3 General Description**

Under Section 36(4) of the Local Government Amendment (Community Land Management) Act 1998, all 'community' land must be categorised as one or more of the following:

A Natural Area (NA)

A Sportsground (SG)

A Park (PK)

An Area of Cultural Significance (CS)

General Community Use (GC)

Under Section 36(5) of the Act, land that is to be categorised as a Natural Area is to be further categorised as one or more of the following:-

Bushland (BU);

Wetland (WE);

Escarpment (ES);

Watercourse (WA);

Foreshore (FO); and/or

A category prescribed by the Regulations.

These categories have been defined by Sections 10 – 19 of the Local Government (General) Amendment (Community Land Management) Regulation 1999 (attached as Appendix A).

Council has prepared Generic Plans of Management for Sportsgrounds, Parks and General Community Use Areas and is in the process of preparing Site Specific Plans of Management for Natural Areas and Areas of Cultural Significance and other sites where appropriate.

The following Natural Areas Plan of Management applies to land classified 'community' within the North West Arm Catchment Area, being land at Grays Point and Gynea Bay which has been categorised as 'Natural Area'. Site plans have been attached throughout the plan which shows the boundaries of the North West Arm Catchment Area and the sites to which this plan applies. A further site plan of the entire catchment has been attached as Appendix B to this Plan.

### **1.4 Categorisation of Sites**

The Local Government (General) Regulations 1999 provides guidelines for the categorisation of sites and is attached as Appendix A to this Plan.

Having regard to the guidelines, the sites to which this Plan applies have been categorised accordingly and are outlined in Part B, under "Categorisation of Site" specifically.

## 1.5 Core Objectives

### 1.5.1 Natural Areas

Section 36E of the Local Government Act 1993 states that:

“The core objectives for management of community land categorised as a natural area are:

- (a) to conserve biodiversity and maintain ecosystem function in respect of the land, or the feature or habitat in respect of which the land is categorised as a natural area and
- (b) to maintain the land, or that feature or habitat, in its natural state or setting, and
- (c) to provide for the restoration and regeneration of the land, and
- (d) to provide for community use of and access to the land in such a manner as will minimise and mitigate any disturbance caused by human intrusion, and
- (e) to assist in and facilitate the implementation of any provisions restricting the use and management of the land that are set out in a recovery plan or threat abatement plan prepared under the **Threatened Species Conservation Act 1995** or the **Fisheries Management Act 1994**.”

### 1.5.2 Bushland

Section 36J of the Local Government Act 1993 states that:

“The core objectives for management of community land categorised as bushland are:

- (a) to ensure the ongoing ecological viability of the land by protecting the ecological biodiversity and habitat values of the land, the flora and fauna (including invertebrates, fungi and micro-organisms) of the land and other ecological values of the land, and
- (b) to protect the aesthetic, heritage, recreational, educational and scientific values of the land, and
- (c) to promote the management of the land in a manner that protects and enhances the values and quality of the land and facilitates public enjoyment of the land, and to implement measures directed to minimising or mitigating any disturbance caused by human intrusion, and
- (d) to restore degraded bushland, and
- (e) to protect existing landforms such as natural drainage lines, watercourses and foreshores, and
- (f) to retain bushland in parcels of a size and configuration that will enable the existing plant and animal communities to survive in the long term, and
- (g) to protect bushland as a natural stabiliser of the soil surface.”

### **1.5.3 Wetland**

Section 36K of the Local Government Act 1993 states that:

“The core objectives for management of community land categorised as wetland are:

- (a) to protect the biodiversity and ecological values of wetlands, with particular reference to their hydrological environment (including water quality and water flow), and to the flora, fauna and habitat values of the wetlands, and
- (b) to restore and regenerate degraded wetlands, and
- (c) to facilitate community education in relation to wetlands, and the community use of wetlands, without compromising the ecological values of wetlands.”

### **1.5.4 Escarpment**

Section 36L of the Local Government Act 1993 states that:

“The core objectives for management of community land categorised as an escarpment are:

- (a) to protect any important geological, geomorphological or scenic features of the escarpment, and
- (b) to facilitate safe community use and enjoyment of the escarpment.”

### **1.5.5 Watercourse**

Section 36M of the Local Government Act states that:

“The core objectives for management of community land categorised as a watercourse are:

- (a) to manage watercourses so as to protect the biodiversity and ecological values of the instream environment, particularly in relation to water quality and water flows, and
- (b) to manage watercourses so as to protect the riparian environment, particularly in relation to riparian vegetation and habitats and bank stability, and
- (c) to restore degraded watercourses, and
- (d) to promote community education, and community access to and use of the watercourse, without compromising the other core objectives of the category.”

### **1.5.5 Foreshore**

Section 36N of the Local Government Act states that:

“The core objectives for management of community land categorised as foreshore are:

- (a) to maintain the foreshore as a transition area between the aquatic and the terrestrial environment, and to protect and enhance all functions associated with the foreshore’s role as a transition area, and

- (b) to facilitate the ecological sustainable use of the foreshore, and to mitigate impact on the foreshore by community use.”

Council has identified further objectives as outlined in Part A Section 2 – Natural Area Management Strategies.

## **1.6 Activities Expressly Authorised by this Plan**

Subject to compliance with the Local Government Act 1993 and the core objectives for the community land, the following activities are expressly authorised:

- i. Lease, sub-lease, license, or hire the site for any purpose with the consent of Council where community use and access to the site is only to take place in a manner that will minimise and mitigate any disturbance caused by such disturbance.
- ii. That all necessary Fire Control exercises by Council or its agents be authorised, eg, implementation of hazard reduction strategies, construction of fire trails, firebreaks, etc, and the management of fire regimes and fuel.
- iii. Construction and dedication of public roads.
- iv. Construction of buildings and facilities as approved by Council where such buildings or facilities can be shown to assist the core objectives of the management of the site.

This Plan also details the leases, licences and other estates expressly authorised by this Plan. These are outlined in the site specific details within Part B “Subject Areas” under sub-sections “Granting of Leases, Licences and Other Estates”.

## **2. NATURAL AREA MANAGEMENT STRATEGIES**

### **2.1 Section 36(3) Requirements**

Section 36(3) of the Local Government Act 1993 states that:

A plan of management for community land must identify the following:

- a) the category of the land
- b) the objectives and performance targets of the plan with respect to the land
- c) the means by which the council proposes to achieve the plan's objectives and performance targets
- d) the manner in which the council proposes to assess its performance with respect to the plan's objectives and performance targets, and may require the prior approval of the council to the carrying out of any specified activity on the land

This plan will meet the core objectives through the implementation of management strategies as outlined in the following table "2.3 – Management Strategies".

Each of these issues is accompanied by one or more objective(s) and performance target(s), a means of achieving the objective(s) and a manner in which the objective(s) will be assessed.

### **2.2 Risk and Priority Analysis**

There are also a number of specific objectives for each reserve to which this Plan applies. This is outlined in Part 3 Specific Sites "Management Objectives". The actioning of these site specific objectives will depend on the availability of funds, community involvement and the priority levels given to each site. A Risk Priority Analysis will be carried out by Council which assesses the ecological and cultural significance of each site and the level of risk threatening those values to determine the priority given. This analysis is based on the Biodiversity Assessment Sheets of each site which are annexed to the PoM.



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### 2.3 Management Strategies

<b>Management Issues</b>	<b>Objectives &amp; Performance Targets</b>	<b>Means of Achievement</b>	<b>Manner of Assessment</b>
Access:	<p>Provide appropriate pedestrian access.</p> <p>Minimise the creation of excessive tracks that cause erosion and fragmentation of vegetation.</p> <p>Prevent unauthorised access eg. vehicles.</p>	<p>Identify authorised track system</p> <p>Maintain existing tracks to a safe standard.</p> <p>Maintain tracks to reduce erosion.</p> <p>Terminate and revegetate inappropriate tracks.</p> <p>Enforcement of regulations.</p>	<p>Produce map of authorised tracks.</p> <p>Response to Customer Requests for track maintenance.</p> <p>Visually assess track condition.</p> <p>Successful revegetation of unauthorised tracks.</p> <p>Monitor Customer Requests for unauthorised access.</p>
Activities:	<p>Ensure existing or proposed activities in the reserve do not compromise the site's ecological and heritage values.</p> <p>Discourage littering</p> <p>Discourage vehicles</p> <p>Control vandalism and antisocial behaviour.</p>	<p>Assess requests for activities in the reserve for potential impacts.</p> <p>Enforce existing regulations prohibiting littering, vehicle access etc.</p> <p>Activities identified as causing an impact to ecological or heritage values prohibit through regulatory signage.</p>	<p>Monitor ecological and heritage values through regular biodiversity assessment process.</p> <p>Monitor number of complaints regarding inappropriate behaviour or breaches of regulations.</p>
Drainage:	<p>Protect natural drainage flows through the reserve.</p> <p>Reduce impacts of concentrated stormwater from surrounding catchment.</p>	<p>Do not permit altering of natural hydrology.</p> <p>Ensure no new stormwater outlets enter the reserve.</p> <p>Mitigate existing stormwater impacts through the use of gross pollutant traps, artificial wetlands or vegetated swales.</p>	<p>No alteration to existing drainage patterns.</p> <p>No increase in stormwater entering the reserve.</p> <p>Projects undertaken to control existing stormwater impacts.</p>

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<b>Management Issues</b>	<b>Objectives &amp; Performance Targets</b>	<b>Means of Achievement</b>	<b>Manner of Assessment</b>
Fauna:	<p>Discourage access to domestic animals.</p> <p>Protect fauna and native animal habitat.</p> <p>Reduce impacts of feral animals.</p>	<p>Signage that limits access to domestic pets</p> <p>Create buffer zones around existing habitat through regeneration of exposed areas.</p> <p>Maintain exiting habitat including dead trees, hollow logs and litter layer.</p> <p>Develop strategies to control feral animals.</p>	<p>Enforcement of on leash provisions for companion animals</p> <p>Monitor biodiversity through regular surveys.</p> <p>Increase in area for habitat.</p> <p>No removal of hollow limbs, dead trees.</p> <p>Implementation of trapping or culling of feral animals including deer.</p>
Human Heritage:	<p>Protect Aboriginal sites</p> <p>Protect European sites</p>	<p>Do not allow activities that potentially disturb existing sites.</p> <p>Ensure heritage issues are identified when assessing any proposal for the site.</p> <p>Register any new sites discovered.</p>	<p>Monitor sites through visual assessment.</p>
Landform:	<p>Conserve geological features including quartzite columns and dyke.</p> <p>Conserve sandstone escarpment.</p> <p>Protect scenic quality of site.</p>	<p>Ensure activities or land use, do not adversely impact on geological features, escarpments or scenic quality of the reserve.</p>	<p>Monitor features through visual assessment.</p>
Vegetation:	<p>Protect indigenous vegetation</p> <p>Reduce weeds.</p>	<p>Encourage Bushcare and community involvement.</p> <p>Control noxious and environmental weeds.</p>	<p>Number of active volunteers in the Bushcare group.</p> <p>Allocation of Council resources for bush regeneration and weed control.</p> <p>Number of successful grants for bush</p>

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<b>Management Issues</b>	<b>Objectives &amp; Performance Targets</b>	<b>Means of Achievement</b>	<b>Manner of Assessment</b>
		Seek grants for bush regeneration. Maintain diversity of species. Implement appropriate fire regime.	regeneration. Monitor biodiversity through regular surveys. Fire interval is between 8-20 years.

### 3. LEASES, LICENCES AND OTHER ESTATES

#### 3.1 Legislative Requirements

The Local Government Act 1993 states the following requirements in relation to the granting of leases, licences, and other estates in respect of a natural area:

- 1) A lease, licence or other estate must not be granted, in respect of community land categorised as a natural area:
  - a) to authorise the erection or use of a building or structure that is not a building or structure of a kind prescribed by the regulations, or
  - b) to authorise the erection or use of a building or structure that is not for a purpose prescribed by the regulations.
- 2) A lease, licence or other instrument granting any other estate is void to the extent that its provisions are inconsistent with this section.
- 3) In this section, **erection** of a building or structure includes rebuilding or replacement of a building or structure.
- 4) The following buildings and structures are prescribed for the purposes of subsection 1)a):
  - a) walkways,
  - b) pathways,
  - c) bridges,
  - d) causeways,
  - e) observation platforms,
  - f) signs.
- 5) The following purposes are prescribed for the purposes of subsection 1)b):
  - a) information kiosks,
  - b) refreshment kiosks (but not restaurants),
  - c) work sheds or storage sheds required in connection with the maintenance of the land,
  - d) toilets or restrooms.

The Local Government (General) Regulation 2005 allows for the following exemptions in relation to leases, licences and other estates:

- None noted

#### 4. SPECIFIC SITES

The nominated sites may comprise the habitat of endangered species or may be a declared a critical habitat, habitat for threatened species or subject to a threat abatement plan, provide a corridor for native fauna or natural features such as geological, geomorphologic, scenic quality or features of built, cultural or heritage significance. The following sites fulfil those criteria:

- 4.1 **Grays Point Reserve** (*Menippus fugitivus* beetle)
- 4.2 **Grays Point Community Centre**, (Sutherland Shire Littoral Rainforest)
- 4.3 **Swallow Rock Reserve** (Sutherland Shire Littoral Rainforest)
- 4.4 **96 Grays Point Road Reserve** (scenic escarpments, part of wildlife corridor)
- 4.5 **Marina Crescent & Bill Clowes Reserve** (part of wildlife corridor)
- 4.6 **Mildera Place Reserve** (significant rock outcrop, part of wildlife corridor)
- 4.7 **Kyogle Place Reserve** (Natural water course, part of wildlife corridor)

## **4.1 Grays Point Reserve**

### 4.1.1. Property Description and Ownership

Grays Point Reserve is located at the southern end of Grays Point Road, Grays Point and comprises the following parcels:

Lot 1 DP6037

Lot 2 DP6037

Lot 3 DP6037

Lot 4 DP6037

a portion of unmade road, being the southern extension of Grays Point Road

The property is owned by Sutherland Shire Council and has a total area of 0.81 hectares.

The site also consists of:

Lot 1 DP602360, being a pumping station owned by Sydney Water.

### 4.1.2. Site Description

Grays Point Reserve is situated at the end of Grays Point Peninsular, on the northern shore of the Hacking River and forming part of Mansion Bay. To the south, across the river, lies the Royal National Park and a residential area, zoned 2(e2) is situated to the north-west of the reserve. Historically, the site was a popular spot to cross the Hacking River to reach Gundamaian and the Royal National Park.

The site was compulsorily acquired in February 1961 from private owners under the Cumberland County Council Open Space Scheme through Cumberland County Council Contribution. Following acquisition of the site, the derelict shacks, which had been present on the site, were demolished.

Below the Mean High Water Mark are extensive sand flats and mangroves that are not part of Grays Point Reserve and therefore does not form part of this Plan of Management. The protection of this area is a joint responsibility of State and Local Government.

The topography of the central section of the reserve is relatively flat with a gentle gradient of 4% towards the east. Around the perimeter of the reserve the topography is steep with sections of sandstone escarpments, ledges and small caves.

Grays Point Reserve is currently zoned 6(a) – Public Recreation under the Sutherland Shire Local Environment Plan 2000.

### 4.1.3. Categorisation of Site

The site has been categorised as a Natural Area and Area of Cultural Significance under Section 36(4) of the Local Government Amendment (Community Land Management) Act 1998. The reserve contains features that require it to be further categorised as bushland, foreshore and escarpment under Section 36(5) of the Act.

#### 4.1.4. Vegetation

The vegetation of Grays Point Reserve is classified as Sutherland Shire Littoral Rainforest. The plant community has an open canopy with a projected foliage cover of 30 – 50% and an average height of 15 metres.

There is a medium diversity of plant species with a total of 63 recorded on the site. The dominant tree species include Native Celtis *Celtis paniculata*, Tuckeroo *Cupaniopsis anacardioides*, Ribbonwood *Euroschinus falcata*, Port Jackson Fig *Ficus rubiginosa* and Swamp She-Oak *Casuarina glauca*. The mid stratum is not well developed but is characterised by vines including Water Vine and Kangaroo Grape *Cissus species*, and the shrubs Hairy Clerodendron *Clerodendron tomentosum*, Native Olive *Notelaea longifolia* and Muttonwood *Rapanea variabilis*. Native grasses and herbaceous plants including Kangaroo Grass *Themeda australis*, Warrigal Cabbage *Tetragonia tetragonoides* and Spiny Mat Rush *Lomandra longifolia* dominate the lowest stratum.. Six of the species found on the reserve are listed as being locally significant on the Council database.

There are extensive mangrove and limited saltmarsh communities dominated by the Grey Mangrove *Avicennia marina var. australasica* contiguous to the reserve. This land does not form part of Grays Point Reserve and therefore is not covered by this Plan of Management.

A small area of the site contains grass that is mown by Council staff. The vegetation is likely to have been cleared when the sewer pipeline was laid through the reserve.

Details of all species present on this site can be found in the Biodiversity Assessment Sheets attached to this Plan as Appendix C.

#### 4.1.5. Fauna

Grays Point Reserve provides extensive habitat opportunities for native fauna. The vegetation is of an average structure providing roosting, nesting and foraging potential for a variety of birds and mammals. In particular, the rainforest canopy trees provide specialised fruit for bats and rainforest bird species. There are limited tree hollows for habitation, although exposed rock outcrops provide habitat potential for reptiles.

The reserve forms part of an extensive habitat corridor linking it with vegetation along the remainder of the Hacking River. The corridor extends along foreshore on private property and public reserves on the northern bank and the Royal National Park to the south. Grays Point Reserve also serves as an important link for fauna between other small isolated pockets of Sutherland Shire Littoral Rainforest found in Marina Cres Reserve and Coopernook Road Reserve in Gympie Bay.

Potential for fresh water dependent species is limited, as there is no permanent fresh water in the reserve. There are extensive estuary/mangrove and mudflat habitats surrounding the reserve which create an ecotone where different communities overlap. This increases the habitat significance of Grays Point Reserve as some species may extend their habitat into the reserve.

#### 4.1.6. Threatened Species

The Sutherland Shire Littoral Rainforest community has been recognised as an Endangered Ecological Community under the Threatened Species Conservation Act 1995 and is scheduled to be covered by a Recovery Plan prepared by the National

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Parks and Wildlife Service of New South Wales in conjunction with Sutherland Shire Council.

The Grays Point population of a small green beetle (*Menippus fugitivus*) has been listed as an endangered population on Part 2 of Schedule 1 of the Threatened Species Conservation Act, 1995. The beetle is light green and approximately 4mm in length. It is the only known population of the beetle on mainland New South Wales and feeds exclusively on Native Celtis, *Celtis paniculata*, a rare rainforest tree, which is found on the site. After feeding on leaves of the Native Celtis, the larva drop to the ground and pupate during winter in the soil beneath the tree.

The beetle is of conservation significance because it is the only record of this insect for mainland New South Wales. The population is considered threatened due to its limited size and restricted distribution. As the beetle pupates in the soil beneath the tree, compaction of the soil by pedestrians and feral deer further threatens the beetle population.

### 4.1.7. Exotic Flora and Fauna

There are extensive areas of moderate to severe weed infestation associated with increased nutrients, introduced plants, dumping and stormwater influence. However, this level of weed infestation generally responds well to bush regeneration techniques. This is evident on the site as areas attended to by the local Bushcare Group have a weed density of 25% whilst poorly managed areas have a weed density of 50-75%. Pink Lantana, *Lantana camara* is prevalent in the mid-storey while Blackberry, *Rubus fruticosus*, is occasionally found on the reserve. Environmental weeds that dominate the lowest stratum include Fishbone Fern *Nephrolepis cordifolia*, Asparagus Fern *Protasparagus aethiopicus* and Kikuyu Grass *Pennisetum clandestinum*.

Feral Rusa Deer, *Cervus timorensis*, regularly frequent the site, using the caves in the reserve for shelter. Deer cause significant damage to the vegetation through antler rubbing, trampling and browsing on native plants. Rehabilitation of the reserve is being further hampered through the deer extending their range into areas cleared of weeds and damaging recruitment seedlings.

### 4.1.8. Foreshore

Grays Point Reserve is bounded by approximately 310 lineal metres of foreshore. Grays Point Reserve is within a Foreshore Scenic Protection Area as described in the Sutherland Shire Local Environment Plan 2000. The foreshore is a visible feature of the reserve's landscape when viewed from the river.

### 4.1.9. Escarpments and Geological Features

Triassic Hawkesbury Sandstone is the dominant geological stratum and has influenced the soil, vegetation, fauna and landscape character of the site. A significant feature of the reserve is the exposed sandstone escarpment located close to the perimeter of the reserve. Small caves, overhangs and ledges are characteristic components of the reserve. The caves show evidence of human occupation and use. This is detailed further in Section 2.4 – Cultural Significance.

The sandstone escarpment also produces several vantage points with scenic views of the Hacking River, the Royal National Park and the expanses of mangroves. The lookout at the southern-most tip is a significant feature of the reserve.



#### 4.1.10. Aboriginal Heritage

The Dharawal Aboriginal people are known to have occupied this area. Nearby excavations at Curracurrang (12000 b.p) and Gynea Bay (2670 b.p) attest to the antiquity of Aboriginal occupation in the region. There are extensive shell middens and charcoal deposits in Grays Point Reserve, up to 1 metre deep in parts. These are the remains of countless meals consumed by the Dharawal Aboriginal people. The midden is particularly concentrated here at Grays Point because of the extensive tidal flats that support the main species of molluscs consumed. The shell middens continue along vast stretches of the Hacking River foreshore.

There is also a faint white hand stencil in an occupation cave within the reserve.

Grays Point Reserve is listed on the New South Wales Aboriginal Heritage Information Management System maintained by the New South Wales National Parks and Wildlife Service. All Aboriginal sites and artefacts are protected under the National Parks and Wildlife Act 1974 under which it is illegal to damage or remove artefacts significant to Aboriginal Heritage.

#### 4.1.11. European/Historic Heritage

Prior to acquisition of the site in 1961, the site was utilised by private owners who lived in the dwellings located on the site. These derelict buildings were demolished following Council's acquisition of the site however, some of the sandstone footings remain.

There is also evidence of utilisation of one of the caves as a dwelling by Europeans. The walls have been whitewashed with the inscription "Moorlands 1931" engraved above the entrance to the cave.

#### 4.1.12. Current Uses

Grays Point Reserve is primarily used for passive recreation with users coming from within and beyond the Sutherland Shire. It is currently used for the following activities:

- Access over the site to the mudflats and the Hacking River for fishing and swimming.
- Access to the rock outcrops on the site for fishing.
- Access over the site to the mudflats by dog-owners using the area for unauthorised 'off-leash' use.
- Access over the site by Sydney Water to the pumping station for maintenance.
- Access over the site by local residents who have boats moored in Mansion Bay.
- Utilisation of the site as a picnic area and scenic point of interest.
- Utilisation of the caves and carpark for social activities by youths.
- Utilisation of the reserve due to its ecological and aboriginal significance.

There is a sealed carpark, including a vehicle turning area, able to accommodate 8-10 vehicles at the western end of the reserve. Rubbish bins are also provided at the carpark and are emptied weekly.

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Sydney Water occupies an area of approximately 120 square meters within the reserve. A sewage pumping station is located on this site which is situated towards the northern boundary of the reserve.

A stormwater pipe, which drains the southern end of Grays Point Road, runs underground to an outlet on the northern side of the reserve.

Two informal tracks exist on the site. The first leads from the carpark and is used to access the mudflats and the Hacking River. The second leads to the northern boundary of the reserve where residents have moored dinghies on the mudflats.

#### 4.1.13. Community Involvement

The site has an active Volunteer Bushcare Group, which meets monthly to assist in the regeneration and management of the reserve. The group was formed in 1997 and aims to *“restore and maintain the existing native plant community in order to protect and preserve the bushland for its intrinsic ecological values and value to the community as a recreational and scientific resource”*.

Extensive weed control, revegetation and regeneration through the Bushcare Program have assisted in the rehabilitation of the site. The local community has also benefited by the presence of the Volunteer Bushcare Group with an increase in environmental and heritage awareness and education.

A Bushcare Site Action Plan has not been developed for the site. However, staff and volunteers are encouraged to produce a Site Action Plan that will be consistent with this Plan of Management.

#### 4.1.14. Environmental Impacts

Following is a summary of the most evident environmental impacts affecting Grays Point Reserve.

- Threat to the natural regeneration of the indigenous vegetation by weed invasion.
- Threat to pupating *Menippus fugitivus* beetles by pedestrians and deer compacting soil beneath host trees.
- Erosion of the pedestrian access track which adversely impacts on the Aboriginal midden.
- Erosion caused by stormwater run-off from the car park and stormwater drain.
- Erosion of steep areas by feral deer accessing the site.
- Damage to caves with significant Aboriginal and historic value by fire and graffiti.
- Damage to indigenous vegetation by feral deer through browsing, trampling and antler rubbing.
- Contribution to weed invasion through dumping of rubbish/garden waste which is a source of weed propagules and unwanted nutrients.
- Reduction of aesthetic value of the site due to weed invasion.
- Domestic animals such as dogs and cats leaving faeces and deterring native fauna.

#### 4.1.15. Permitted Use of Land & Facilities

Grays Point Reserve will only be permitted to be used for purposes as considered appropriate by Council, are consistent with its zoning under the prevailing Land Use Instrument, and meet with the management objectives for Natural Areas generally and Grays Point Reserve specifically. As such, the following purposes are permissible under this Plan of Management:

- Passive Recreation
- Voluntary Bushcare Group

Natural Areas - Plan of Management – North West Arm - **Grays Point Reserve**

4.1.16. Site Specific Management Objectives

<b>Management Issue</b>	<b>Objective</b>	<b>Means of Achievement</b>	<b>Assessment of Outcomes</b>
To protect and conserve the site for its biodiversity, ecological and heritage values and value to the community as a recreational, educational and scientific resource.	Protect Bushland & the Sutherland Shire Littoral Rainforest	Remove weeds and non-indigenous plants and encourage natural regeneration processes. Minimise further loss or damage to indigenous species. Plant indigenous species where necessary. Minimise adverse impacts of recreational use in the reserve. Reduce the impacts of stormwater run-off onto the reserve. Support and encourage community involvement through the Voluntary Bushcare Program.	
	Protect Indigenous Fauna including <i>Menippus Fugitivus</i>	Maintain and enhance the host tree population of the Native Celtis. Minimise soil disturbance where <i>Menippus fugitivus</i> pupate. Educate the community on the importance of protecting biodiversity. Liase with the National Parks and Wildlife Service to reduce numbers of feral deer in the reserve. Restrict dogs in the reserve. Continue to collect data on local indigenous flora species.	
	Protect Sites of	Reduce detrimental impacts to sites of Aboriginal and	

Natural Areas - Plan of Management – North West Arm - **Grays Point Reserve**

<b>Management Issue</b>	<b>Objective</b>	<b>Means of Achievement</b>	<b>Assessment of Outcomes</b>
	Cultural Significance.	European historical significance. Educate the community regarding the value of Aboriginal and European historic sites	
	Protect Escarpments and Geological Features	Maintain vegetation around escarpments. Limit access to, and the use of, escarpments to defined areas. Promote the use of the prominent outlook site whilst minimising environmental impacts and maintaining its natural integrity. Prohibit the use of escarpments for abseiling/rock climbing purposes.	
	Protect Foreshores	Maintain the scenic quality of the reserve and foreshore when viewed from the waterway or other vantage points. Reduce stormwater run-off entering the Hacking River. Reduce littering, including fishing materials, from within the reserve.	
	Protect Wetlands	Educate the community on the value of wetlands. Minimise the impact of activities in the reserve on the adjacent wetlands.	
To facilitate drainage for the surrounding properties in accordance with	To minimise impact on the environment of existing drainage easements.	Granting of Easements to drain water that do not impinge on natural areas. Prevent erosion and changes to soil conditions and water quality.	Registration of Easements to Drain Water. Inspection of easements and surrounds for damage to

Natural Areas - Plan of Management – North West Arm - *Grays Point Reserve*

<b>Management Issue</b>	<b>Objective</b>	<b>Means of Achievement</b>	<b>Assessment of Outcomes</b>
Section 47a of the Local Government Amendment (Community Land Management) Act 1998.	To minimise the financial burden on ratepayers in the provision and maintenance of natural areas.		environment. Monitoring of site for erosion and changes in soil conditions and water quality.

4.1.17. Permitted Further Development of Land

A proposal to construct a raised timber boardwalk from the carpark to the foreshore is being considered. The aim of the project is to reduce the detrimental impacts of pedestrians and deer over the site whilst improving foreshore accessibility. The project also provides an opportunity to promote community education, awareness and involvement in the conservation and heritage values of the reserve. The project is considered to be consistent with the objectives of this Plan of Management.

4.1.18. Scale & Intensity of Permitted Use or Development

It is intended that any proposed developments shall not compromise the site's biodiversity, or ecological or heritage values.

4.1.19. Granting of Leases and Licences

No Leases or Licences have been granted over this site.

4.1.20. Granting of Other Estates

In order to facilitate surrounding development, Council has traditionally made its land available for drainage purposes. In this respect Council has incorporated this in the Management Strategies

## **4.2 Grays Point Community Centre**

### **4.2.1 Property Description**

The Grays Point Community Centre site is located at 116 – 118 Grays Point Road, Grays Point and comprises the following parcels:

Pt Lot 12 DP238332

Pt Lot 52 DP548124

Pt Lot 2 DP553633

Lot 2 DP544124

Lot 82 DP548877

Lot 3 DP509656

The site is owned by Sutherland Shire Council and has a total area of 0.64 hectares.

### **4.2.2 Site Description**

The Grays Point Community Centre site is situated at the corner of Grays Point Road and Inglewood Road. It contains the Grays Point Community Centre, the Grays Point Bush Fire Brigade Station and the Grays Point Kindergarten.

The individual lots were acquired over a 6 year period between 1966 and 1972. Lot 12 DP238332 (originally Lots 1 & 2 DP21080) and Lots 3 & 4 DP21080 were purchased from the Department of Education for community purposes. Lot 52 DP548124, Lot 2 DP553633, Lot 2 DP544124, Lot 3 DP509656 and Lot 82 DP548877 were acquired from private owners to be included in the site.

The topography of the site varies from relatively flat to moderately sloping with an overall gradient of 9% dropping towards the north-east. The site is bounded to the north by Grays Point Road, to the west by Inglewood Road, and to the east and south by residential properties.

The Grays Point Community Centre site is zoned 5(a) – Special Uses and 3(b) – Neighbourhood Business under the Sutherland Shire Local Environment Plan 2000.

### **4.2.3 Categorisation of Site**

The site has been categorised as General Community Use and Natural Area under section 36(4) of the Local Government Amendment (Community Land Management) Act 1998. The site has features that require the area categorised as Natural Area it to be further categorised as bushland under section 36(5) of the Act. The areas and associated buildings categorised as 'General Community Use' are covered by the generic Plan of Management for General Community Use Areas. This Plan applies to that area categorised as 'natural area'.



#### 4.2.4 Vegetation

The vegetation of the Grays Point Community Centre site is classified as Sydney Sandstone Gully Forest. The plant community has an open canopy with a projected foliage cover of 30-50% and an average height of 25-30 metres.

There is a very low diversity of plant species on the site with only seven (7) species recorded. The dominant tree species include Grey Gum *Eucalyptus punctata*, Sydney Peppermint *Eucalyptus piperita*, Smooth-Barked Apple *Angophora costata* and Turpentine *Syncarpia glomulifera*. The mid stratum has been cleared, while the lower stratum is dominated by Spiny Mat Rush *Lomandra longifolia*, Bracken, *Pteridium esculentum* and the False Bracken Fern, *Calochlaena dubia*.

Records from 1996 indicate that there has been a loss of 17 species on this site due to clearing and mowing.

Details of all species present on this site can be found in the Biodiversity Assessment Sheets attached to this Plan as Appendix C.

#### 4.2.5 Fauna

The Grays Point Community Centre site provides few habitat opportunities for native fauna. The vegetation is of a simple structure, which limits the site for roosting, nesting and foraging potential. There are only occasional rock outcrops and few tree hollows providing limited habitat for birds, mammals and reptiles. The site is part of a fragmented vegetation corridor linking extensive areas of vegetation closer to the foreshore with vegetation on private properties.

#### 4.2.6 Exotic Flora and Fauna

The only noxious weed recorded on the site is Lantana *Lantana camara*, which is present at a low density. Approximately 75% of the site has been cleared of understorey plants and the total average content of weeds is 40%. The dominant weed species are Veldt Grass *Ehrharta erecta*, Fishbone Fern *Nephrolepis cordifolia*, Wandering Jew *Tradescantia albiflora* and Asparagus Fern *Protasparagus aethiopicus*. A full list of exotic flora species is attached in the Biodiversity Assessment Sheets.

There is evidence of feral Rusa Deer utilising the site. Browsing and trampling by deer is likely to contribute to soil compaction, spreading of weeds and damage to native vegetation. The proximity of the site to residential areas increases the potential impacts to native fauna from domestic animals such as cats and dogs.

#### 4.2.7 Foreshore

The Grays Point Community Centre site does not contain any foreshore areas however, it forms part of the Foreshore Scenic Protection Area under the Sutherland Shire Local Environment Plan 2000.

#### 4.2.8 Escarpments and Geological Features

Triassic Hawkesbury Sandstone is the dominant geological stratum present and has influenced the soil, vegetation, fauna and landscape character of the site. The Grays Point Community Centre site contains a small sandstone escarpment in the southern portion. This geological feature is of low significance as it does not provide significant habitat potential or aesthetic qualities.

#### 4.2.9 Current Uses

The Grays Point Community Centre site is primarily used for the community centre, kindergarten and bush fire brigade station situated on the site.

The area categorised as natural area is used for the following activities:

- Informal pedestrian thoroughfare by neighbouring residents.
- Passive recreation.

#### 4.2.10 Community Involvement

The natural area of the site is adjacent to a focal point of community activities and is important to the community. However, there is no community involvement on this site with regards to the natural area and no Volunteer Bushcare Group exists for this site.

#### 4.2.11 Environmental Impacts

Following is a summary of the most evident environmental impacts affecting the Grays Point Community Centre Reserve:

- Threat to the natural regeneration of indigenous vegetation through weed invasion.
- Creation of soil conditions which promote weed growth through stormwater run-off from the surrounding areas.
- Reduction of species diversity through clearing and under-scrubbing of the lowest stratum. This also limits the regeneration potential of indigenous vegetation.

#### 4.2.12 Permitted Use of Land & Facilities

Grays Point Community Centre Reserve will be permitted to be used for purposes as considered appropriate by Council, are consistent with its zoning under SLEP 2000 and meet with the management objectives for Natural Areas and General Community Use Areas generally and for the Grays Point Community Centre site specifically. As such, the following purposes are permissible under this Plan of Management:

##### General Community Use Area

- Use of the Community Centre and Kindergarten as authorised by the Plan of Management for General Community Use Areas

##### Natural Area

- Passive Recreation - Voluntary Bushcare Group

#### 4.2.13 Management Objectives

The aim of this Plan of Management is:

*“To protect and conserve the site for its biodiversity, ecological and heritage values and value to the community as a recreational, educational and scientific resource.”*

Further to the generic issues and management objectives for natural areas outlined in Part A, Section 2 of this Plan, the following site specific objectives apply to this site:

##### Protect Bushland

- Remove excess weeds and non-indigenous plants and encourage natural regeneration processes.
- Minimise further loss or damage to indigenous species.
- Plant indigenous species where necessary.
- Minimise adverse impacts of recreational use in the reserve.
- Reduce the impacts of stormwater run-off onto the reserve.
- Support and encourage community involvement through the Voluntary Bushcare Program.

##### Protect Indigenous Fauna Species

- Educate the community on the importance of protecting biodiversity.
- Liaise with the National Parks and Wildlife Service to reduce numbers of feral deer in the reserve.
- Restrict dogs in the reserve.
- Continue to collect data on local indigenous flora species.

##### Protect Escarpments and Geological Features

- Maintain vegetation around escarpments.
- Limit access to and use of escarpments to defined areas.
- Promote the use of the prominent outlook site whilst minimising impact and maintaining its natural integrity.
- Prohibit the use of escarpments for abseiling/rock climbing purposes.

#### 4.2.14 Permitted Further Development of Land

At this stage, no further development is intended for the site. Any additional development would require the preparation and lodgement of a Development Application for consideration by Council and the community.

#### 4.2.15 Scale & Intensity of Permitted Use or Development

It is intended that any proposed developments shall not compromise the site's biodiversity or ecological values.

#### 4.2.16 Granting of Leases and Licences

A lease exists for the Grays Point Kindergarten, which has been expressly authorised by the Plan of Management for General Community Use Areas. No Leases or Licences have been granted over the portion of the site which has been categorised 'natural area'.

#### 4.2.17 Granting of Other Estates

In order to facilitate surrounding development, Council has traditionally made its land available for drainage purposes. In this respect Council has set the following objectives, means of achievement and manner of assessment.

##### **Intended Use/Target Strategy/Objective**

- To facilitate drainage for surrounding properties in accordance with Section 47a of the Local Government Amendment (Community Land Management) Act 1998.
- To minimise impact on the environment of existing drainage easements.
- To minimise the financial burden on ratepayers in the provision and maintenance of natural areas.

##### **Means of Achievement**

- Granting of Easements to drain water that do not impinge on natural areas.
- Prevent erosion and changes to soil conditions and water quality.

##### **Manner of Assessment**

- Registration of Easements to Drain Water.
- Inspection of easements and surrounds for damage to environment.
- Monitoring of site for erosion and changes in soil conditions and water quality.

### 4.3 Swallow Rock Reserve

#### 4.3.1 Property Description

Swallow Rock Reserve is located at the western end of Swallow Rock Drive. The reserve comprises mostly of Crown Reserve with the portion owned by Sutherland Shire Council comprising the following parcels:

- Lot 20 DP238806 (located to the east of the reserve)
- Lot 34 DP627493 (located to the west of the reserve)
- Lot 134 DP749755 (adjoins lot 34)

The reserve also comprises a large crown reserve with the following details:

- Pt Lot 1164 DP752064 (Crown Reserve with Council as Trust Manager by Government Gazette No.27 of 10 March 1972)

Swallow Rock Reserve has a total area of 8.2 hectares with the Council owned portion being 0.06 hectares (632 square metres). This Plan of Management applies to that section of land being owned by Sutherland Shire Council.

#### 4.3.2 Site Description

Swallow Rock Reserve is situated on Swallow Rock Road, Grays Point on the northern shore of the Hacking River west of Grays Point Reserve. The Council owned portions of Swallow Rock Reserve are non-contiguous however both areas are adjacent to an area of Crown Reserve being the majority of Swallow Rock Reserve. The Council owned portions are bound to the south by the Crown Reserve and the to the north, east and west by residential areas.

The sites were dedicated as public reserves by the respective deposited plans. Deposited Plan (DP) 238806 was registered in November 1969, DP 627493 was registered in July 1982 and DP 749755 was registered in September 1987.

The topography of both sites are steep, with south-facing slopes which fall to the flat area, being the section of Crown Reserve.

The council owned sites at Swallow Rock Reserve are currently zoned 2(e2) – Residential, 5(a) – Special Uses and 6(a) – Public Recreation under the Sutherland Shire Local Environment Plan 2000.

#### 4.3.3 Categorisation of Site

The sites have been categorised as Natural Areas under Section 36(4) of the Local Government Amendment (Community Land Management) Act 1998. The reserve contains features that require it to be further categorised as bushland and foreshore under Section 36(5) of the Act.

#### 4.3.4 Vegetation

The vegetation of Swallow Rock Reserve is classified as Sydney Sandstone Gully Forest. The canopy of the plant community has an average projected cover of 50% and an average height of 20 metres.

There is moderate diversity of plants on site NA434 with a total of 42 recorded for the site. Site NA429 is more degraded and contains fewer species. The dominant tree species of the sites include Smooth-Barked Apple *Angophora costata*, Swamp She Oak *Casuarina glauca*, and Sydney Peppermint *Eucalyptus piperita*. The mid stratum is well developed and dominated by shrubs and vines including the Bush Pea *Pultenaea daphnoides*, Mock Olive *Notelaea longifolia*, NSW Christmas Bush *Ceratopetalum gummiferum*, Paperbark Tea Tree *Leptospermum trinervium* and Native Sarsaparilla *Smilax glycyphylla*. Shrubs, native grasses and herbaceous plants which dominate the lowest stratum include the Plum Pine *Podocarpus spinulosus*, Hairy Pittosporum *Pittosporum revolutum*, Sword Sedge *Lepidosperma laterale*, Old Man's Whiskers *Caustis flexuosa*, Nodding Greenhood Orchids *Pterostylis nutans* and the Pouched Coral Fern *Gleichenia dicarpa*.

No regionally significant plants are recorded for the site. Details of all species present on this site can be found in the Biodiversity Assessment Sheets attached to this Plan as Appendix C.

#### 4.3.5 Fauna

The site provides extensive habitat opportunities for native fauna. The vegetation is of a very complex structure providing significant roosting, nesting and foraging potential with tree hollows being common. The site contains minor sandstone outcrops providing limited habitat potential for reptiles.

The quality of the site as a whole, including the area of Crown Reserve, for habitat is high though the size of the reserve limits its potential. The sites form part of an extensive habitat corridor linking it with vegetation along the remainder of the Hacking River foreshore on private property and public reserves on the northern bank of the river.

Potential for fresh water dependent species is limited, as there is no permanent freshwater in the reserve.

#### 4.3.6 Exotic Flora and Fauna

Weeds on Site NA429 are common with Crofton Weed *Ageratina adenophora*, Veldt Grass *Ehrharta erecta* and mixed herbaceous plants. Several garden specimens have also been planted including Oleander *Nerium oleander* and Cocos Palms *Syagrus romanzoffiana*. The total average weed coverage is 80%. A small area of the noxious weed Blackberry *Rubus fruticosus* is also present.

Site NA434 is relatively undisturbed with few weeds present. The total average weed cover is estimated to be less than 5%. Species present include Cassia *Senna pendula* var. *glabrata*, Small Leaf Privet *Ligustrum sinense* and Veldt Grass *Ehrharta erecta*.

There is evidence of feral Rusa Deer utilising the site. Browsing and trampling by deer is a serious contribution to soil compaction, spreading of weeds and damage to native vegetation. An extensive network of tracks has been formed across the site by the deer.

The proximity of the sites to residential areas increases the potential impacts to native fauna from domestic animals such as cats and dogs.

#### 4.3.7 Water Features

While there are no water features within the reserve, the Hacking River is adjacent to the Crown Reserve, being the major proportion of Swallow Rock Reserve. Activities in the reserve could effect the waterway and need to be considered.

#### 4.3.8 Foreshore

Swallow Rock Reserve is within a Foreshore Scenic Protection Area as described in the Sutherland Shire Local Environment Plan 2000. Vegetation on the subject sites contributes to the scenic character of the foreshore in the area.

#### 4.3.9 Escarpments and Geological Features

Triassic Hawkesbury Sandstone is the dominant geological stratum present and influences the soil, vegetation, fauna and landscape character of the sites. The Council owned portions of Swallow Rock Reserve contain only small sandstone outcrops. These geological features are of low significance, as they do not provide important habitat or aesthetic qualities in the area.

#### 4.3.10 Aboriginal Heritage

To date, no evidence has been found of Aboriginal Heritage on the portions of land owned by Council.

#### 4.3.11 European/Historic Heritage

To date, no evidence has been found of significant European Heritage on these sites.

#### 4.3.12 Current Uses

Swallow Rock Reserve is primarily used for the following purposes:

- Passive recreation
- Informal thoroughfare by adjacent residents.

The Council owned portions of the reserve are in such a position that they are rarely accessed by the community.

#### 4.3.13 Community Involvement

At present, there is no organised community involvement for this site.

#### 4.3.14 Environmental Impacts

Following is a summary of the most evident environmental impacts affecting Swallow Rock Reserve:

## Natural Areas - Plan of Management – North West Arm - **Swallow Rock Reserve**

- Threats to the natural regeneration of the indigenous vegetation through weed invasion.
- Planting of exotic species which threatens the natural regeneration of the indigenous species.
- Damage to indigenous vegetation by feral deer through feeding and antler rubbing.
- Erosion of steep areas through feral deer traversing the sites.
- Alteration of soil conditions through stormwater run-off from roads and adjacent residential areas.
- Alteration of soil conditions through dumping of fill following road construction.

### 4.3.15 Permitted Use of Land, Building & Improvements

The Council owned areas of Swallow Rock Reserve will only be permitted to be used for purposes as considered appropriate by Council, are consistent with its zoning under SLEP 2000, and meet with the management objectives for Natural Areas generally and Swallow Rock Reserve specifically. As such, the following purposes are permissible under this Plan of Management:

- Passive Recreation
- Voluntary Bushcare Group

### 4.3.16 4.7 Management Objectives

The aim of this Plan of Management is:

*“To protect and conserve the site for its biodiversity, ecological and heritage values and value to the community as a recreational, educational and scientific resource.”*

Further to the generic issues and management objectives for natural areas outlined in Part A, Section 2 of this Plan, the following site specific objectives apply to this site:

#### Protect Bushland

- Remove excess weeds and non-indigenous plants and encourage natural regeneration processes.
- Minimise further loss or damage to indigenous species.
- Plant indigenous species where necessary.
- Minimise adverse impacts of recreational use in the reserve.
- Reduce the impacts of stormwater run-off onto the reserve.
- Support and encourage community involvement.

#### Protect Indigenous Fauna Species

- Educate the community on the importance of protecting biodiversity.
- Liaise with the National Parks and Wildlife Service to reduce numbers of feral deer in the reserve.



## Natural Areas - Plan of Management – North West Arm - **Swallow Rock Reserve**

- Restrict dogs in the reserve.
- Continue to collect data on local indigenous flora species.

### Protect Escarpments and Geological Features

- Maintain vegetation around escarpments.
- Limit access to and use of escarpments to defined areas.
- Promote the use of the prominent outlook site whilst minimising impact and maintaining its natural integrity.
- Prohibit the use of escarpments for abseiling/rock climbing purposes.

#### 4.3.17 Permitted Further Development of Land

At this stage, no further development is intended for the site. Any additional development would require the preparation and lodgement of a Development Application for consideration by Council and the community.

#### 4.3.18 Scale & Intensity of Permitted Use or Development

It is intended that any proposed developments shall not compromise the site's biodiversity, ecological or heritage values.

#### 4.3.19 Granting of Leases and Licences

No Leases or Licences have been granted over this site.

#### 4.3.20 Granting of Other Estates

In order to facilitate surrounding development, Council has traditionally made its land available for drainage purposes. In this respect Council has set the following objectives, means of achievement and manner of assessment.

#### **Intended Use/Target Strategy/Objective**

- To facilitate drainage for surrounding properties in accordance with the Local Government Amendment (Community Land Management) Act 1998.
- To minimise impact on the environment of existing drainage easements.
- To minimise the financial burden on ratepayers in the provision and maintenance of natural areas.

#### **Means of Achievement**

- Granting of Easements to drain water that do not impinge on natural areas.
- Prevent erosion and changes to soil conditions and water quality.

**Manner of Assessment**

- Registration of Easements to Drain Water.
- Inspection of easements and surrounds for damage to environment.
- Monitoring of site for erosion and changes in soil conditions and water quality.

#### **4.4 96 Grays Point Road**

##### 4.4.1 Property Description

The site at 96 Grays Point Road is located on Grays Point Road and comprises the following parcel:

- Lot 5 DP12160

The property is owned by Sutherland Shire Council and has a total area of 919 square metres.

##### 4.4.2 5.1.2 Site Description

The natural area at 96 Grays Point Road is located near the corner of Grays Point Road and Cormorant Street. The site is bounded by residential properties and the Hacking River.

The site was reserved by the Cumberland County Council Planning Scheme for Parks and Recreation purposes. Accordingly, the Cumberland County Council purchased the property from the previous owner. Ownership was then transferred to Sutherland Shire Council by Deed of Trust in September 1961.

The site is very steep with an escarpment towards the south of the block, which overlooks the Hacking River and Swallow Rock Reserve.

The natural area at 96 Grays Point Road Street is currently zoned 6(a) – Public Recreation under the Sutherland Shire Local Environment Plan 2000.

##### 4.4.3 Categorisation of Site

The site has been categorised as a Natural Area under Section 36(4) of the Local Government Amendment (Community Land Management) Act 1998. The site contains features that require it to be further categorised as Bushland, Foreshore and Escarpment under Section 36(5) of the Act.

##### 4.4.4 Vegetation

The vegetation of the Natural Area at 96 Grays Point Road is classified as Sydney Sandstone Gully Forest. The plant community has a canopy with a projected foliage cover of less than 10% and an average height of 25 metres.

There is a low diversity of indigenous plant species present on the site with a total of 15 recorded. The dominant tree species recorded include Hickory *Acacia implexa*, Turpentine *Syncarpia glomulifera* and Smooth-barked Apple *Angophora costata*. The mid stratum is characterised by shrubs and vines including Black She Oak *Allocasuarina littoralis*, Sweet pittosporum *Pittosporum undulatum* and Sarsaparilla *Smilax glycyphylla*. The lowest stratum is represented by grasses and herbaceous plants including Bracken *Pteridium esculentum*, Blady Grass *Imperata cylindrica* and False Bracken *Calochlaena dubia*.

Details of all species present on this site can be found in the Biodiversity Assessment Sheets attached to this Plan as Appendix C.

#### 4.4.5 Fauna

96 Grays Point Road has limited fauna habitat potential. The vegetation has a simple structure, which limits the site for foraging and nesting opportunities. There is an absence of hollow trees, minor rock outcrops and a reduced litter layer substrate for fauna habitat. No indigenous fauna data has been collected for this site.

#### 4.4.6 Threatened Species

There are no threatened or regionally significant flora or fauna species for this site.

#### 4.4.7 Exotic Flora and Fauna

The total average weed cover for this site is estimated at 75%. Two noxious weeds are present with Lantana *Lantana camara*, being very common and Blackberry *Rubus fruticosus* found occasionally. Environmental weeds that are common are Fishbone Fern *Nephrolepis cordifolia*, Asparagus Fern *Protasparagus aethiopicus* and Sweet Pittosporum *Pittosporum undulatum*.

Feral Rusa Deer use the reserve frequently, causing damage to the vegetation through trampling, antler rubbing and browsing. Deer hooves compact the soil and erode the site.

The proximity of the site to residential areas increases the potential impacts to native fauna from domestic animals such as cats and dogs.

#### 4.4.8 Foreshore

Whilst the site is not physically bounded by a foreshore area, it is adjacent to the Hacking River and is therefore within a Foreshore Scenic Protection Area as described in the Sutherland Shire Local Environment Plan 2000.

#### 4.4.9 Escarpments and Geological Features

Triassic Hawkesbury Sandstone is the dominant geological stratum present and has influenced the soil, vegetation, fauna and landscape character of the site. Due to the topography of the site, there are some rock outcrops and escarpments on the site, however, these are limited.

#### 4.4.10 Aboriginal Heritage

To date, no evidence has been found of Aboriginal Heritage on this site.

#### 4.4.11 Current Uses

96 Grays Point Road is currently used for the following purposes:

- Passive Recreation
- Informal thoroughfare by adjacent residents

## Natural Areas - Plan of Management – North West Arm – **96 Grays Point Road**

### 4.4.12 Community Involvement

At present, there is no organised community involvement for this site.

### 4.4.13 Environmental Impacts

Following is a summary of the most evident environmental impacts affecting the sites at 96 Grays Point Road:

- Dumping of rubbish and garden waste producing weed propagules, unwanted nutrients and reducing the aesthetic value of the site.
- Previous clearing of the site reducing the number of indigenous species.
- Erosion of the site due to stormwater run-off from the road and adjacent residential area.
- Erosion of the site through feral deer trampling the site and feeding on the vegetation.

### 4.4.14 Permitted Use of Land & Facilities

The site at 96 Grays Point Road, will only be permitted to be used for purposes as considered appropriate by Council, are consistent with its zoning under SLEP 2000, and meet with the management objectives for Natural Areas generally and 96 Grays Point Road specifically. As such, the following purposes are permissible under this Plan of Management:

- Passive Recreation
- Volunteer Bushcare Group

### 4.4.15 Management Objectives

The aim of this Plan of Management is:

*“To protect and conserve the site for its biodiversity, ecological and heritage values and value to the community as a recreational, educational and scientific resource.”*

In order to reduce impacts to the site and further to the generic issues and management objectives for natural areas outlined in Part A, Section 2 of this Plan, the following site specific objectives apply to this site:

#### Protect Bushland

- Remove excess weeds and non-indigenous plants and encourage natural regeneration processes.
- Minimise further loss or damage to indigenous species.
- Plant indigenous species where necessary.
- Minimise adverse impacts of recreational use in the reserve.
- Reduce the impacts of stormwater run-off onto the reserve.
- Support and encourage community involvement through the Voluntary Bushcare Group.

Protect Indigenous Fauna

- Maintain and enhance the host tree population of the Native Celtis tree.
- Minimise soil disturbance where Menippus Fugitivus pupate.
- Educate the community on the importance of protecting biodiversity.
- Liaise with the National Parks and Wildlife Service to reduce numbers of feral deer in the reserve.
- Restrict dogs in the reserve.
- Continue to collect data on local indigenous flora species.

4.4.16 Permitted Further Development of Land

At this stage, no further development is intended for the site. Any additional development would require the preparation and lodgement of a Development Application for consideration by Council and the community.

4.4.17 Scale & Intensity of Permitted Use or Development

It is intended that any proposed developments shall not compromise the site's biodiversity, ecological or heritage values.

4.4.18 Granting of Leases and Licences

No Leases or Licences have been granted over this site.

4.4.19 Granting of Other Estates

In order to facilitate surrounding development, Council has traditionally made its land available for drainage purposes. In this respect Council has set the following objectives, means of achievement and manner of assessment.

- To facilitate drainage for surrounding properties in accordance with Section 47a of the Local Government Amendment (Community Land Management) Act 1998.
- To minimise impact on the environment of existing drainage easements.
- To minimise the financial burden on ratepayers in the provision and maintenance of natural areas.

**Means of Achievement**

- Granting of Easements to drain water that do not impinge on natural areas.
- Prevent erosion and changes to soil conditions and water quality.

**Manner of Assessment**

- Registration of Easements to Drain Water.
- Inspection of easements and surrounds for damage to environment.
- Monitoring of site for erosion and changes in soil conditions and water quality.

## Natural Areas - Plan of Management – North West Arm – **Marina Crescent & Bill Clowes Reserve**

### **4.5. Marina Crescent & Bill Clowes Reserve**

#### 4.5.1 Property Description

Marina Crescent Reserve is located at Marina Crescent, Gymea Bay, and is attached to Bill Clowes Reserve through the acquisition of a property between Marina Crescent and Bill Clowes Reserves. The two reserves combined comprise the following parcels:

- Lot 37 DP215533
- Lot 11 DP717290
- Lot 2 DP706014
- Lot 3 DP706014
- Lot 8 DP202216
- Lot 10 DP202216
- Lot 11 DP 202216

The site also includes a portion of unmade road reserve being the western extension of Ellesmere Road.

The land is in the possession of Sutherland Shire Council and has an area of 2.11 hectares.

#### 4.5.2 Site Description

Marina Crescent and Bill Clowes Reserves are situated in a natural gully surrounded by residential areas in Gymea Bay. Marina Crescent and Nulgarra Avenue form part of the western boundary of the site. Uloola Place intersects the reserve with access also available from Naranganah Avenue, Gymea Bay. The reserve extends to the Hacking River on the northern shore of North West Arm.

There is an unnamed creek running through the reserve and a sandstone escarpment bisecting the reserve. The topography of the site varies with a flat area to the north of the escarpment and steeper sections below. Grades vary from 10 – 45% with an average gradient of 25%.

Lot 37 DP215533 and Lot 10 DP202216 were created as Public Garden and Recreation Space by the relevant Deposited Plans. Lot 11 DP717290, Lot 3 DP706014 was created as Public Reserve by the relevant Deposited Plans. Lot 8 DP202216 was purchased from private owners for Public Recreation purposes. The most recent acquisition was Lot 2 DP706014 during 2000 which was purchased for Open Space purposes.

Marina Crescent and Bill Clowes Reserves are currently zoned 6(a) – Public Recreation under the Sutherland Shire Local Environment Plan 2000.

#### 4.5.3 Categorisation of Site

The site has been categorised as Park and Natural Area under Section 36(4) of the Local Government Amendment (Community Land Management) Act 1998. The site contains features that require it to be further categorised as Bushland, Watercourse, Foreshore and Escarpment under Section 36(5) of the Act. The area categorised as 'Park' is covered by the generic Plan of Management for Parks. This Plan applies to that area categorised as 'natural area'.

## Natural Areas - Plan of Management – North West Arm – **Marina Crescent & Bill Clowes Reserve**

### 4.5.4 Vegetation

The vegetation in Marina Crescent and Bill Clowes Reserves can be divided into two communities. The sheltered lower elevations of the gully adjacent to the creek are classified as Sutherland Shire Littoral Rainforest while the higher and more exposed areas contain Sydney Sandstone Gully Forest. The site has an extremely high diversity of plant species with a total of 121 recorded.

The Sutherland Shire Littoral Rainforest community has a closed canopy with a projected foliage cover of 75-100% and a canopy height of 20-25 metres. The dominant tree species include Crab Apple *Schizomeria ovata*, Lilly Pilly *Acmena smithii*, Ribbonwood *Euroschinus falcata*, and Sydney Red Gum *Angophora costata*. The mid stratum is characterised by shrubs and vines including NSW Christmas Bush *Ceratopetalum gummiferum*, Hairy Clerodendron *Clerodendrum tomentosum*, Mutton Wood *Rapanea variabilis* and the Water Vine *Cissus hypoglauca*. The lowest stratum is dense and dominated by ferns and herbaceous plants including Gristle *Blechnum cartilagineum*, Maidenhair Fern *Adiantum aethiopicum* and the Grass *Poa affinis*.

The Sydney Sandstone Gully Forest community has an open canopy with a projected foliage cover of 30-50% and a canopy height of 15-20 meters. The dominant tree species are Sydney Peppermint *Eucalyptus piperita*, Sydney Red Gum *Angophora costata*, and Grey Gum *Eucalyptus punctata*. The mid stratum is diverse and characterised by shrubs and vines including Black She-Oak *Allocasuarina littoralis*, Bush Pea *Pultenaea daphnoides*, Paperbark Tea Tree *Leptospermum trinervium*, Plum Pine *Podocarpus spinulosus* and False Sarsaparilla *Hardenbergia violacea*. The lowest stratum is characterised by a variety of species including Spiny Mat Rush *Lomandra longifolia*, Kangaroo Grass *Themeda australis*, False Bracken *Calochlaena dubia*, Superb Greenhood Orchids *Pterostylis grandiflora* and Germander Raspwort *Gonocarpus teucroides*.

Details of all species present on the site can be found in the Biodiversity Assessment Sheets attached to this Plan as Appendix C.

### 4.5.5 Fauna

There is a diverse range of fauna habitats at Marina Crescent & Bill Clowes Reserves. The variety of plant species and the complex vegetation structure provides suitable protection and ideal opportunities for nesting and foraging for birds, mammals, reptiles, amphibians and invertebrates. Tree hollows are common and there is an extensive well-developed litter layer of fallen branches and organic material creating a productive substrate. The presence of a significant sandstone escarpment also creates important habitat sites for reptiles. The creek ensures the presence of a permanent source of fresh water that influences the site's potential for habitat.

Twenty-eight bird species including the Sooty Owl *Tyto tenebricosa*, Satin Bower Bird *Ptilonorhynchus violceus*, Green Catbird *Ailuredus crassirostris* and the White-headed Pigeon *Columba leucomela* normally associated with rainforest communities have been recorded for the site. Reptiles recorded include the Eastern Water Dragon *Physignanthus lesuerii*, Black-bellied Swamp Snake *Hemiaspis signata* and the Red-bellied Black Snake *Pseudechis porphyriacus*. Two common frogs were recorded for the site, the Common Eastern Froglet *Crinia signifera* and the Brown Striped Frog *Limnodynastes peronii*.

Marina Crescent Reserve also serves as an important link for fauna between other small isolated pockets of Sutherland Shire Littoral Rainforest found in Grays Point Reserve in Grays Point and Cooperbrook Road Reserve in Gymea Bay.



## Natural Areas - Plan of Management – North West Arm – **Marina Crescent & Bill Clowes Reserve**

### 4.5.6 Threatened Species

The Sutherland Shire Littoral Rainforest community has been listed as an Endangered Ecological Community under Part 3, Schedule 1 of the Threatened Species Conservation Act 1995. Under the provisions of the Threatened Species Conservation Act, the NSW National Parks and Wildlife Service will prepare a recovery plan for Sutherland Shire Littoral Rainforest in conjunction with Sutherland Shire Council.

Four plant species are considered locally significant. Significant rainforest trees are Crabbapple *Schizomeria ovata*, Ribbonwood *Euroschinus falcata* and Corkwood *Endiandra sieberi*. The Red-fruited Saw Sedge *Gahnia aspera* is a locally significant sedge present on the site.

### 4.5.7 Exotic Flora and Fauna

The total average weed cover for the site is estimated at 20%. Four noxious weeds have been recorded for the site. Lantana *Lantana camara*, Blackberry *Rubus fruticosus*, St Johns Wort *Hypericum perforatum* and Pampas Grass *Cortaderia selloana* occur occasionally on the site. Environmental weeds are well represented by trees, shrubs, vines and herbs. More common species include Coral Trees, *Erythrina x sykesii*, Wandering Jew *Tradescantia albiflora*, Madeira Vine *Anredera cordifolia* and other mixed herbaceous weeds.

### 4.5.8 Water Features

There is an unnamed permanent creek that flows through the reserve and into the North West Arm of the Hacking River. The creek is piped from Uloola Place for approximately 45 metres and then flows in a natural state to the lower 50 metres, which was piped by Sydney Water when the sewer line was constructed.

### 4.5.9 Foreshore

The reserve has foreshore boundary with the North West Arm of the Hacking River with the total foreshore area being approximately 23 lineal metres. The site is also located within a Foreshore Scenic Protection Area as defined by the Sutherland Shire Local Environment Plan 2000.

### 4.5.10 Escarpments and Geological Features

Triassic Hawkesbury Sandstone is the dominant geological stratum present and has influenced the soil, vegetation, fauna and landscape character of the site. A significant feature of the reserve is the sandstone escarpment, 2-3 metres high, which forms a natural boundary from near the creek across to the eastern border, dissecting the reserve. Small caves, overhangs and ledges are characteristic components of this feature. The top of the escarpment provides a good vantage point for views over the valley and to the Hacking River.

## Natural Areas - Plan of Management – North West Arm – **Marina Crescent & Bill Clowes Reserve**

### 4.5.11 Aboriginal Heritage

An archaeological survey was carried out in 1994 by Koettig Archaeological Services over Lot 2 DP706014 as a requirement for a proposed Development Application, prior to Council's acquisition of the site.

All aboriginal sites and artefacts are protected under the National Parks and Wildlife Act 1974 and it is illegal to damage or remove Aboriginal artefacts.

### 4.5.12 European/Historic Heritage

To date, no evidence of early European history has been recorded for this site.

### 4.5.13 Current Uses

Marina Crescent & Bill Clowes Reserve is primarily used for the following purposes:

- Passive Recreation such as bushwalking.
- Access to the foreshore for swimming and fishing.
- Access to the foreshore for the launching of canoes.
- Use of the site by the local Volunteer Bushcare Group.
- Utilisation of the site for dog exercising.
- Utilisation of the site for environmental education.
- Intermittent access over the main track by Sydney Water to Pipeline Inspection Manhole.

There is an informal network of tracks in existence on both sites. The main track leads from the top of the reserve at Marina Crescent down to the foreshore. Sydney Water utilises this track infrequently to access the sewer pipelines by 4 wheel drive vehicle. The track is steep and causing serious erosion in its current state. Other pedestrian tracks provide informal access to the site from Ellesmere Road, Naranganah Avenue and Uloomla Place.

Several stormwater pipes discharge water into the site from surrounding residential areas.

### 4.5.14 Community Involvement

The site has an active Volunteer Bushcare Group, which meets monthly to assist in the regeneration and management of the reserve. The group was formed in 1994 and aims to *"restore and maintain the existing native plant community in order to protect and preserve the bushland for its intrinsic ecological values and value to the community as a recreational and scientific resource."* The Volunteer Bushcare Group originally commenced work in the lower portion being Marina Cres Reserve. With the acquisition of Lot 2 DP706014, the group will be extending their actions into Bill Clowes Reserve.

Extensive weed control, revegetation and regeneration through the Bushcare Program have assisted in the rehabilitation of the site. The local community has also benefited by the presence of the Bushcare Group with an increase in environmental and heritage awareness and education.

## Natural Areas - Plan of Management – North West Arm – **Marina Crescent & Bill Clowes Reserve**

A Bushcare Site Action Plan has not been developed for the site however staff and volunteers are encouraged to produce a Site Action Plan that will be consistent with this Plan of Management.

### 4.5.15 Environmental Impacts

The following is a summary of the most evident environmental impacts affecting Marina Crescent Reserve:

- Threat to the natural regeneration of indigenous vegetation through weed invasion.
- Serious erosion of the steep access track which is used to access the Sydney Water Pipeline Manhole.
- Damage to site caused by the construction of the sewer line.
- Erosion of area surrounding the sewer outlet.
- Dumping of rubbish and garden waste.

### 4.5.16 Permitted Use of Land & Facilities

Marina Crescent & Bill Clowes Reserve will only be permitted to be used for purposes considered appropriate by Council, are consistent with its zoning under SLEP 2000, and meet with the objectives for Natural Areas and Parks generally and Marina Crescent & Bill Clowes Reserve specifically. As such, the following purposes are permissible under this Plan of Management:

Park:

- Use of the Park area as permitted under the Plan of Management for Parks.

Natural Area:

- Passive Recreation
- Volunteer Bushcare Group
- Access by Sydney Water to the Pipeline Inspection Manhole.

### 4.5.17 Management Objectives

The aim of this Plan of Management is:

*“To protect and conserve the site for its biodiversity, ecological and heritage values and value to the community as a recreational, educational and scientific resource.”*

In order to reduce the impact of further to the generic issues and management objectives for natural areas outlined in Part A, Section 2 of this Plan, the following site specific objectives apply to this site.

#### Protect Bushland & the Sutherland Shire Littoral Rainforest

- Remove excess weeds and non-indigenous plants and encourage natural regeneration processes.
- Minimise further loss or damage to indigenous species.
- Plant indigenous species where necessary.

## Natural Areas - Plan of Management – North West Arm – **Marina Crescent & Bill Clowes Reserve**

- Minimise adverse impacts of recreational use in the reserve.
- Reduce the impacts of stormwater run-off onto the reserve.
- Improve access tracks to reduce erosion and provide safe access for pedestrians and Sydney Water.
- Support and encourage community involvement through the Volunteer Bushcare Group.

### Protect Indigenous Fauna Species

- Educate the community on the importance of protecting biodiversity.
- Educate the community on the effect of domestic pets on native fauna.
- Restrict dogs in the reserve.
- Continue to collect data on local indigenous flora species.

### Protect sites of Cultural Significance

- Reduce the impacts on sites of Aboriginal and European historical significance.
- Educate the community regarding the value of Aboriginal and European historic sites.

### Protect Escarpments and Geological Features

- Maintain vegetation around escarpments.
- Limit access to and use of escarpments to defined areas.
- Promote the use of the prominent outlook site whilst minimising impact and maintaining its natural integrity.
- Prohibit the use of escarpments for abseiling/rock climbing purposes.

### Protect Foreshores

- Maintain the scenic quality of the reserve and foreshore when viewed from the waterway or other vantage points.
- Reduce stormwater run-off entering the Hacking River.
- Reduce littering, including fishing materials, from within the reserve.

### Protect Watercourses

- Maintain quality of creek flow.
- Minimise further degradation of creek.

#### 4.5.18 Permitted Further Development of Land

A proposal to construct a raised timber boardwalk from the carpark to the foreshore is being considered. The aim of the project is to reduce the detrimental impacts of pedestrians and

## Natural Areas - Plan of Management – North West Arm – **Marina Crescent & Bill Clowes Reserve**

deer over the site whilst improving foreshore accessibility. The project also provides and opportunity to promote community education, awareness and involvement in the conservation and heritage values of the reserve. The project is considered to be consistent with the objectives of this Plan of Management.

### 4.5.19 Scale & Intensity of Permitted Use or Development

It is intended that any proposed developments shall not compromise the site's biodiversity, ecological or heritage values.

### 4.5.20 Granting of Leases and Licences

No Leases or Licences have been granted over this site.

### 4.5.21 Granting of Other Estates

In order to facilitate surrounding development, Council has traditionally made its land available for drainage purposes. In this respect Council has set the following objectives, means of achievement and manner of assessment.

#### **Intended Use/Target Strategy/Objective**

- To facilitate drainage for the surrounding properties in accordance with Section 47a of the Local Government Amendment (Community Land Management) Act 1998.
- To minimise impact on the environment of existing drainage easements.
- To minimise the financial burden on ratepayers in the provision and maintenance of natural areas.

#### **Means of Achievement**

- Granting of Easements to drain water that do not impinge on natural areas.
- Prevent erosion and changes to soil conditions and water quality.

#### **Manner of Assessment**

- Registration of Easements to Drain Water.
- Inspection of easements and surrounds for damage to environment.
- Monitoring of site for erosion and changes in soil conditions and water quality.

## 4.6 Bildera Place Reserve

### 4.6.1 Property Description

Bildera Place is located off Peninsular Road, Grays Point. Bildera Place Reserve is located on the northern side of the road and comprises of the following property:

- Lot 13 DP243638

The property is owned by Sutherland Shire Council and has an approximate area of 343 square meters.

### 4.6.2 Site Description

Bildera Place is located off Peninsular Road, Grays Point. The reserve is located on the northern side of Bildera Place and bounded to the east, north and south by residential areas. The reserve is smaller than the average house lot in the area. It is predominantly in a natural state with some remnant vegetation present that has been partially cleared.

Bildera Place Reserve was created as a Public Reserve by Deposited Plan (DP) 243638.

The reserve is generally flat with a gentle slope towards the northern corner of the site. There is a slight embankment parallel to Bildera Place, which was most likely created with the construction of the road.

The site is currently zoned 6 (a) – Public Recreation under the Sutherland Shire Local Environment Plan 2000.

### 4.6.3 Categorisation of Site

The site has been categorised as a Natural Area under Section 36(4) of the Local Government Amendment (Community Land Management) Act 1998. The site contains features that require it to be further categorised as Bushland under Section 36(5) of the Act.

### 4.6.4 Vegetation

The vegetation is classified as Sydney Sandstone Gully Forest with a projected foliage cover of 10-30% and a canopy height of 15-20 metres. This community is considered very common in the Sutherland Shire.

There is a low diversity of plants with only 18 species recorded for the site. The dominant tree species include Sydney Red Gum *Angophora costata*, Hickory *Acacia implexa*, Grey Gum *Eucalyptus punctata* and the Red Bloodwood *Eucalyptus gummifera*. The mid stratum has largely been cleared but species still present include Blueberry Ash *Elaeocarpus reticulatus*, Black She-Oak *Allocasuarina littoralis* and Sweet Pittosporum *Pittosporum undulatum*. The lowest stratum contains several small shrubs, grasses and herbaceous plants including several Mat Rushes *Lomandra multiflora*, *Lomandra gracilis* and *Lomandra glauca*. Grasses represented are Wallaby Grass *Danthonia sp.*, Kangaroo Grass *Themeda australis* and Wiry Panic Grass *Entolasia stricta*.

Details of all species present on this site can be found on the Biodiversity Assessment Sheets attached to this Plan as Appendix C.

#### 4.6.5 Fauna

The site's vegetation has limited potential for native fauna habitat. The structure of the vegetation is simple with limited resources for foraging, protection and nesting. There is an absence of hollow logs and the litter layer is not well developed. The site is isolated from areas of significant vegetation reducing its function as a corridor. Watercourse habitats are absent and there is only minor rock outcrops for reptile habitat.

No data on indigenous fauna has been collected for the site.

#### 4.6.6 Threatened Species

No threatened or locally significant flora or fauna species have been recorded for this site.

#### 4.6.7 Exotic Flora and Fauna

Weeds are well represented in the reserve with a total average weed cover of 75%. Common species include Mother of Millions *Bryophyllum delagoensis*, Asparagus Fern *Nephrolepis cordifolia*, Small Leaf Privet *Ligustrum sinense* and Veldt Grass *Ehrharta erecta*. No noxious weeds have been recorded on the site. A list of the recorded weed species for the site is attached in the Biodiversity Assessment Sheets.

There is evidence of feral Rusa Deer utilising the site. Browsing and trampling by deer is likely to be contributing to soil compaction, spreading of weeds and damage to native vegetation. The proximity of the site to residential areas increases the potential impacts to native fauna from domestic cats and dogs.

#### 4.6.8 Foreshore

Whilst the site does not contain any foreshore areas it lies within the Foreshore Scenic Protection Area as defined by the Sutherland Shire Local Environment Plan 2000.

#### 4.6.9 Escarpments and Geological Features

Triassic Hawkesbury Sandstone is the dominant geological stratum present and has influenced the soil, vegetation, fauna and landscape character of the site. The site contains a minor rock feature being a small sandstone outcrop located adjacent to Bildera Place road reserve. As it provides limited habitat potential, this feature is of extremely low significance.

#### 4.6.10 Aboriginal Heritage

To date, no evidence has been found of Aboriginal Heritage on this site.

#### 4.6.11 European/Historic Heritage

To date, no evidence has been found of European Heritage on this site.

#### 4.6.12 Current Uses

Bildera Place Reserve is primarily used for the following purposes:

- Passive Recreation.

#### 4.6.13 Community Involvement

At present, there is no organised community involvement for this site.

#### 4.6.14 Environmental Impacts

The following is a summary of the most evident environmental impacts affecting Bildera Place Reserve:

- Threats to the natural regeneration of indigenous vegetation due to weed invasion.
- Reduction of species diversity on site caused by clearing.
- Dumping of rubbish and garden waste introducing weed propagules and unwanted soil conditions.
- Reduction in the capability for natural indigenous flora regeneration through introduction of exotic species.
- Continued mowing of the site, removing the native understorey.
- Damage to indigenous vegetation through feral deer browsing and trampling.

#### 4.6.15 Permitted Use of Land & Facilities

The site will only be permitted to be used for purposes as considered appropriate by Council, are consistent with its zoning under SLEP 2000, and meet with the objectives for Natural Areas generally and Bildera Place Reserve specifically. As such, the site is permitted to be used for the following purposes:

- Passive Recreation
- Volunteer Bushcare Group

#### 4.6.16 Site Specific Management Objectives

The aim of this Plan of Management is:

*“To protect and conserve the site for its biodiversity, ecological and heritage values and value to the community as a recreational, educational and scientific resource.”*

In order to reduce the impact to the site and further to the generic issues and management objectives for natural areas outlined in Part A, Section 2 of this Plan, the following site specific objectives apply to this site.

##### Protect Bushland

- Remove excess weeds and non-indigenous plants and encourage natural regeneration processes.



## Natural Areas - Plan of Management – North West Arm – *Bildera Place Reserve*

- Minimise further loss or damage to indigenous species.
- Plant indigenous species where necessary.
- Minimise adverse impacts of recreational use in the reserve.
- Reduce the impacts of stormwater run-off onto the reserve.
- Support and encourage community involvement through the Voluntary Bushcare Group.

### Protect Indigenous Fauna Species

- Maintain and enhance the host tree population of the Native Celtis tree.
- Minimise soil disturbance where Menippus Fugitivus pupate.
- Educate the community on the importance of protecting biodiversity.
- Liaise with the National Parks and Wildlife Service to reduce numbers of feral deer in the reserve.
- Restrict dogs in the reserve.
- Continue to collect data on local indigenous flora species.

### 4.6.17 Permitted Further Development of Land

At this stage, no further development is intended for the site. Any development would require the preparation and lodgement of a Development Application for consideration by Council and the community.

### 4.6.18 Scale & Intensity of Permitted Use or Development

It is intended that any proposed developments shall not compromise the site's biodiversity, ecological or heritage values.

### 4.6.19 Granting of Leases and Licences

No Leases or Licences have been granted over this site.

### 4.6.20 Granting of Other Estates

In order to facilitate surrounding development, Council has traditionally made its land available for drainage purposes. In this respect Council has set the following objectives, means of achievement and manner of assessment.

#### **Intended Use/Target Strategy/Objective**

- To facilitate drainage for the surrounding properties in accordance with Section 47a of the Local Government Amendment (Community Land Management) Act 1998.
- To minimise impact on the environment of existing drainage easements.
- To minimise the financial burden on ratepayers in the provision and maintenance of natural areas.

**Means of Achievement**

- Granting of Easements to drain water that do not impinge on natural areas.
- Prevent erosion and changes to soil conditions and water quality.

**Manner of Assessment**

- Registration of Easements to Drain Water.
- Inspection of easements and surrounds for damage to environment.
- Monitoring of site for erosion and changes in soil conditions and water quality.

## 4.7 Kyogle Place

### 4.7.1 Property Description

The site at Kyogle Place is located at the corner of North West Arm Road and Kyogle Place, Grays Point and comprises the following parcel:

- Lot 1 DP25333

The property is owned by Sutherland Shire Council and has an area of 0.12 hectares.

### 4.7.2 Site Description

The site is bordered by the intersection of Kyogle Place and North West Arm Road, Grays Point and is surrounded by residential area, zoned 2(e2). The lot follows a natural creek line entering the reserve from under North West Arm Road and flows behind houses in Kyogle Place.

The site was acquired by Sutherland Shire Council from a private owner in 1952 for the purposes of a public reserve.

The site is in a small gully and is predominantly in a natural state. 90 metres of an unnamed creek forms the south-eastern border of the site, draining into the North West Arm of the Hacking River. The topography of the site is relatively steep with an overall drop in elevation of 18 metres and an average gradient of 25%.

This site is zoned 2(e2) – Residential under the Sutherland Shire Local Environment Plan 2000.

### 4.7.3 Categorisation of Site

The site has been categorised as a Natural Area under Section 36(4) of the Local Government Amendment (Community Land Management) Act 1998. The site contains features that require it to be further categorised as Bushland, Foreshore, Watercourse and Escarpment under Section 36(5) of the Act.

### 4.7.4 Vegetation

The vegetation of the site is classified as Sutherland Shire Gully Forest and has a projected canopy cover of 75-100% and a canopy height of 15- 20m. This plant community is considered very common in the Sutherland Shire.

The diversity of plant species is moderately low with a total of 20 species recorded for the site. The dominant canopy species are Sydney Peppermint *Eucalyptus piperita*, Sydney Red Gum *Angophora costata* and Grey Gum *Eucalyptus punctata*. The mid stratum is dense with a variety of shrubs and vines present including Sweet Pittosporum *Pittosporum undulatum*, Narrow-leaf Geebung *Persoonia linearis* NSW Christmas Bush *Ceratopetalum gummiferum* and Sarsaparilla *Smilax glycyphylla*. The lowest stratum contains small shrubs, ferns, grasses and a mix of herbaceous plants including Spiny Matt Rush *Lomandra longifolia*, Sword Rush *Lepidosperma laterale*, Umbrella fern *Sticherus flabellatus*, False Bracken *Calochlaena dubia* and the conifer, Plum Pine *Podocarpus spinulosus*.

Details of all species present on this site can be found in the Biodiversity Assessment Sheets attached to this Plan as Appendix C.

#### 4.7.5 Fauna

There is some potential for native fauna habitat on the Kyogle Place site despite it being only small and surrounded by residential development. The structure of the vegetation is complex with a variety of resources for foraging, protection and nesting. There are several trees with hollow logs and the litter layer is well developed. Watercourse habitats are present and there are minor rock outcrops for reptile habitat. The site is isolated from other areas of significant vegetation though it functions as part of a fragmented corridor connecting bushland on private properties.

A variety of birds, mammals, reptiles, amphibians and invertebrates are likely to utilise the site, though no indigenous fauna has been recorded.

#### 4.7.6 Threatened Species

No threatened or locally significant flora or fauna species exist for this site.

#### 4.7.7 Exotic Flora and Fauna

Weeds are a serious problem of the site with a total average weed cover of 30%. The presence of weeds is influenced by stormwater, increased soil nutrients and disturbance, dumping of garden waste and are spread from residential areas by birds. *Lantana camara* is a common noxious weed in the understorey vegetation. Common environmental weed species include Weeping Willow *Salix babylonica*, Crofton Weed *Ageratina adenophora*, Asparagus Fern *Protasparagus aethiopicus* and Cassia *Senna pendula* var. *glabrata*. A list of weed species recorded for the site is attached in the Biodiversity Assessment Sheets.

Feral Rusa Deer frequently use the site causing damage to the vegetation through browsing, trampling and antler rubbing. Deer hooves compact the soil, creating an erosion problem and weeds are likely to be spread through their faeces.

Due to the proximity of the site to residential areas it is likely that indigenous fauna are being impacted upon by domestic animals such as cats and dogs.

#### 4.7.8 Water Features

There is an intermittent creek at the eastern side of the site being a tributary to the North West Arm of the Hacking River. A minor waterfall feature associated with the creek can also be found.

#### 4.7.9 Foreshore

Whilst the site does not contain any foreshore boundary, it is close to both the Hacking River and North West Arm. Accordingly, the Sutherland Shire Local Environment Plan 2000 places it within a Foreshore Scenic Protection Area.

#### 4.7.10 Escarpments and Geological Features

Triassic Hawkesbury Sandstone is the dominant geological stratum present and has influenced the soil, vegetation, fauna and landscape character of the site. A minor sandstone outcrop is associated with the small waterfall feature on the site.

#### 4.7.11 Aboriginal Heritage

To date, no evidence has been found of Aboriginal Heritage on this site.

#### 4.7.12 European/Historic Heritage

To date, no evidence has been found of European Heritage on this site.

#### 4.7.13 Current Uses

Kyogle Place natural area is primarily used for the following purposes:

- Passive Recreation
- Informal thoroughfare used by local residents.

#### 4.7.14 Community Involvement

The site has an active Volunteer Bushcare Group, which meets monthly to assist in the regeneration and management of the reserve. The group was formed in 2002 and aims to *“restore and maintain the existing native plant community in order to protect and preserve the bushland for its intrinsic ecological values and value to the community as a recreational and scientific resource.*

A Bushcare Site Action Plan has not been developed for the site. However, staff and volunteers are encouraged to produce a Site Action Plan that will be consistent with this Plan of Management.

#### 4.7.15 8.5.3 Environmental Impacts

The following is a list of the most evident environmental impacts affecting the natural area at Kyogle Place:

- Dumping of rubbish and garden waste introducing weed propagules and developing unwanted soil conditions.
- Absence of fire, reducing the site’s ability to regenerate which contributes to a loss of biodiversity on the site.
- Feral deer trampling and browsing on the vegetation.

## Natural Areas - Plan of Management – North West Arm – ***Kyogle Place***

- Stormwater run-off contributing to unwanted soil conditions.
- Fill from the construction of the road and adjacent properties contributing to unwanted soil conditions.

### 4.7.16 Permitted Use of Land & Facilities

The natural area at Kyogle Place will only be permitted to be used for purposes as considered appropriate by Council, are consistent with its zoning under SLEP 2000, and meet with the objectives for Natural Areas generally and Kyogle Place specifically. As such, the following purposes are permissible under this Plan of Management:

- Passive Recreation.
- Volunteer Bushcare Group.

### 4.7.17 Site Specific Management Objectives

The aim of this Plan of Management is:

*“To protect and conserve the site for its biodiversity, ecological and heritage values and value to the community as a recreational, educational and scientific resource.”*

In order to reduce the impact of further to the generic issues and management objectives for natural areas outlined in Part A, Section 2 of this Plan, the following site specific objectives apply to this site.

#### Protect Bushland

- Remove excess weeds and non-indigenous plants and encourage natural regeneration processes.
- Minimise further loss or damage to indigenous species.
- Plant indigenous species where necessary.
- Minimise adverse impacts of recreational use in the reserve.
- Reduce the impacts of stormwater run-off onto the reserve.
- Support and encourage community involvement through the Voluntary Bushcare Group.

#### Protect Indigenous Fauna Species

- Maintain and enhance the indigenous tree population.
- Educate the community on the importance of protecting biodiversity.
- Liaise with the National Parks and Wildlife Service to reduce numbers of feral deer in the reserve.
- Restrict dogs in the reserve.
- Continue to collect data on local indigenous flora species.

## Natural Areas - Plan of Management – North West Arm – *Kyogle Place*

### Protect Escarpments and Geological Features

- Maintain vegetation around escarpments.
- Limit access to an use of escarpments to defined areas.
- Promote the use of the prominent outlook site whilst minimising impact and maintaining its natural integrity.

### Protect Watercourses

- Maintain quality of creek flow.
- Minimise further degradation of creek.
- Minimise degradation of waterfall feature.

#### 4.7.18 Permitted Further Development of Land

At this stage, no development is intended for the site. Any development would require the preparation and lodgement of a Development Application for consideration by Council and the community.

#### 4.7.19 Scale & Intensity of Permitted Use or Development

It is intended that any proposed developments shall not compromise the site's biodiversity, ecological or heritage values.

#### 4.7.20 Granting of Leases and Licences

No Leases or Licences have been granted over this site.

#### 4.7.21 Granting of Other Estates

In order to facilitate surrounding development, Council has traditionally made its land available for drainage purposes. In this respect Council has set the following objectives, means of achievement and manner of assessment.

#### **Intended Use/Target Strategy/Objective**

- To facilitate drainage for surrounding properties in accordance with Section 47a of the Local Government Amendment (Community Land Management) Act 1998.
- To minimise impact on the environment of existing drainage easements.
- To minimise the financial burden on ratepayers in the provision and maintenance of natural areas.

#### **Means of Achievement**

- Granting of Easements to drain water that do not impinge on natural areas.
- Prevent erosion and changes to soil conditions and water quality.

#### **Manner of Assessment**

- Registration of Easements to Drain Water.
- Inspection of easements and surrounds for damage to environment.
- Monitoring of site for erosion and changes in soil conditions and water quality.

## **5. FUTURE MANAGEMENT**

This Plan of Management establishes basic management objectives to be used as a guide for the future management, planning and design of sites within the North West Arm Catchment Area.

Future management of the Sites must balance recognition of the social, natural and cultural heritage of the Shire and be also responsive to changing contemporary needs. Management and planning proposals for the Sites must retain sufficient flexibility through plans of management to take advantage of new opportunities as they arise.

This Plan of Management has been concerned with the following objectives: -

- a) to conserve biodiversity and maintain ecosystem function in respect of the land, or the feature or habitat in respect of which the land is categorised as a natural area, and
- b) to maintain the land, or that feature or habitat, in its natural state and settings, and
- c) to provide for the restoration and regeneration of the land, and
- d) to provide for community use of and access to the land in such a manner as will minimise and mitigate any disturbance caused by human intrusion, and
- e) to assist in and facilitate the implementation of any provisions restricting the use and management of the land that are set out in the recovery plan or threat abatement plan prepared under the Threatened Species Conservation Act 1995 or the Fisheries Management Act 1994.

Optimum performance of all management issues in this Plan of Management will depend on the monitoring of the strategies and the versatility of Council's future management practices.

The plan, therefore, provides a framework to develop a balanced response to future pressures. However, as management issues may change over time, Plans of Management should be subject to regular review. This is to ensure its objectives and strategies remain relevant and consistent with community expectations.