

Castlehaven Reserve Actions

Priorities will be given to programs for long term benefit to the reserves. Natural assets at greatest risk will be given priority to avert irreversible deterioration. All measures cannot be implemented simultaneously as resources may not be available or it may not be appropriate.

Castlehaven Reserve Actions

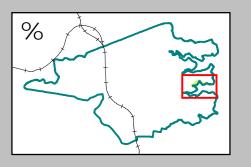
- 1. Council bush regeneration contractors to carry out secondary weeding encouraging regeneration of native flora.
- 2. Bushcare group to continue management of site in accordance with the Bushcare Action Plans.
- 3. Continued contractor secondary weeding and monitoring of drainage lines and flow paths to maintain access and reduce erosion.
- 4. Council bush regeneration contractor to carry out maintenance weeding.
- 5. Post-fire maintenance to be carried out by Council's Bush Regeneration staff.
- 6. Contractor mower to maintain lawn areas behind 7-9 The Scarp.
- 7. Council bush regeneration contractors to continue to work along creekline and encourage re-emergence of Coastal Enriched Sandstone Moist Forest species.
- 8. Contractors to continue restoration of vegetation around stormwater outlet and monitor any further subsidence.
- 9. Council bush regeneration contractors to continue maintenance weeding between stormwater lines and along track.

- 10. Council bush regeneration contractors to remove woody, vine and herbaceous weeds while also carrying out secondary weeding. Carry out work from areas of high resilience to low resilience particularly along sewer lines.
- 11. Kayak storage to monitored and managed.
- 12. Minimize impact of access tracks to waterfront from individual residences.
- 13. Monitor encroachments at The Scarp, The Barricade and Linden Way and refer priorities to Compliance Section.

Haven Amphitheatre (inset)

- 14. Develop Amphitheatre operation systems to minimise site impacts in accordance with its listing as a heritage item and its land use zoning of E2-Environmental Protection in Willoughby Local Environmental Plan 2012. Ensure that the new POM for the Haven Amphitheatre recognises the principles of this RAP, and conserves the natural and cultural values of this part of the Reserve.
- 15. Repair and improve access when required for future performance area in keeping with existing Griffin heritage and bushland aesthetic.
- 16. Contractors to continue weed maintenance and encourage native plant regeneration.
- 17. Temporary safety fencing to be installed adjacent to former stage.
- 18. Contractors to plant native species as required to stabilize the verge bank. Exotic species to be replaced over time with local species.





Plan details

Status: FINAL
Prepared by: N. Yu
Drawn by: N. Prasad
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Approximate Scale: 1:2000 (main map)

1:1000 (inset)

Legend

16 Property number

Action plan activity

Stormwater node

Approximate fire hydrant location

5m contours

Stormwater network - Underground *

Stormwater network Overground / Unknown *

Council access track

Property boundary

Reserve / bushland

Bush Regeneration Contractors

Council Staff Regeneration Site

- * The accuracy of this data is not guaranteed and must be verified prior to use.
- ** Data as at 14-07-2007. Please check with Dial Before You Dig prior to any earth works.
- *** No responsibility is taken for the accuracy of this data.

 Please check with Energy Australia, Dial Before You Dig
 or any other relevant authorities prior to undertaking any work

References

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Castlehaven Reserve Action Plan

Reserve Profile

slopes down, sometimes steeply, from the rear of residential environment. properties in Castlecrag to the foreshore of Sailors Bay. Reserve In 1943 Marion Mahony Griffin gifted the title deeds of geology is dominated by Hawkesbury Sandstone with rocky Castlehaven Reserve to Willoughby Council for public use. outcrops existing throughout the reserve. It has large patches of Smaller lots at the eastern end were acquired in the late 20th 2014 as priority objectives: bushland in good condition. Areas of weed are found along century. Traces of a cottage and boatsheds remain. Three 5.3b: To create and or maintain conditions in which creek and stormwater drainage lines and residential boundaries adjoining the boatsheds that still exist are privately leased from NSW Roads and drainage lines are protected from increased erosion and/or reserve. An area below the junction of The Scarp and The Maritime Services. Barricade has been used as an open-air theatre called the Haven Marion Mahony Griffin established the Haven Valley Scenic 5.4b: To maintain the integrity of bushland reserves through the Amphitheatre.

PLANT COMMUNITY: Coastal Sandstone Foreshores Forest (S_DSF06) is the most well-established plant community in Castlehaven Reserve. It is an open forest with a moist shrub layer and a ground cover of ferns, rushes and grasses. The flora of this of the reserve as a natural open-air theatre. After falling into manufactured structures where natural habitat has been depleted. community has a maritime influence given its exposure to prevailing harbour breezes. There are stands of Smooth-barked wooden stage built by the Castlecrag community. In 1976 a regeneration and restoration principles and which increase Apple (Angophora costata) with some Coast Banksia (Banksia committee was appointed by Council to run the open-air theatre. In bushland resilience to further weed infestation. integrifolia). Sydney Peppermint (Eucalyptus piperita) and Blackbutt (Eucalyptus pilularis) are found in more protected locations within the reserve. Small trees and shrubs include Sweet Pittosporum (Pittosporum undulatum): Cheese Tree (Glochidion ferdinandi) and Blueberry Ash (Elaeocarpus reticulatus). Coastal Enriched Sandstone Moist Forest (S WSF02) is located in the west part of Castlehaven Reserve and the mid-northern boundary. This plant community is a tall open eucalypt forest with a distinctive mesic shrub and small tree layer. The canopy is largely dominated by Sydney Peppermint (*E. piperita*) and other various overhangs and rock lined creeks. Freshwater and dense canopy areas with techniques that encourage regeneration. eucalypts. Rainforest trees such as Coachwood (Ceratopetalum apetalum) and Blueberry Ash (E. reticulatus) are common.

HABITAT: The reserve contains a range of habitats including Coachwood forests and fern-lined gullies to sclerophyll vegetation which support a diversity of woodland and forest birds. Steep terrain to the foreshore provides protected habitat pockets that are connected along the reserve creating an effective corridor. There Reserve Impacts are several rocky freshwater creeks with ponds that lead to

Nine stormwater outlets drain onto the reserve, six feeding into

f. Phytophthora cinnamomi (a root rot pathogen) is listed as a key areas along the foreshore support algal and marine invertebrate boulders and increased erosion during heavy rainfall. Three communities.

Statement of Significance

Castlehaven Reserve has bushland as defined in State Overflowing sewer lines within the reserve intermittingly increase appropriate action. Environmental Planning Policy No 19, and is protected under State nutrient levels in water and soils. This encourages exotic plant h. Monitor wildlife habitat and supplement where necessary. WLEP 2012. Most of Castlehaven Reserve, including the tracks to the foreshore from individual residences are some of the k. Bushfire management will be achieved through implementation which comprises both the Castlecrag and Haven Estates.

ABORIGINAL CULTURAL SIGNIFICANCE: Prior to European settlement and habitat. the area was inhabited by the Camaraigal clan of the Guringai nation. Evidence of Aboriginal occupation is found in caves and Encroachments: 17, 19, 23, 41, 43 The Scarp, 7 The Barricade, 38 middens located along the foreshore reserve. These areas will not Linden Way. be promoted to the public to protect them from disturbance.

the Sailor's Bay group of reserves that form a continuous corridor encroachments and clearing of nearby vegetation may have more along the southern foreshore of Castlecrag. Some locally significant impact. Predation by foxes, rats and companion animals o. Formal tracks to be maintained and unwanted tracks to be significant wildlife that may be found in Castlehaven Reserve also pose a serious threat to native wildlife in the reserve. includes the Superb Lyrebird, Swamp Wallaby and the threatened Powerful Owl.

HISTORIC CULTURAL SIGNIFICANCE: The Castlecrag and Haven Estates (from which Castlehaven Reserve derives its name) were

environment by architects Walter Burley Griffin and his wife Marion track from the west end at Sailors Bay Park to Beverley Blacklock Native Plant List for Castlehaven Reserve

bushland (2.9 ha) on the southern side of the Castlecrag pathways, drainage reserves and road islands were an integral watercraft racks has reduced impacts to bushland while providing peninsular. It adjoins Sailors Bay Park and Retreat Reserve in the part of the design of the estates. A key component of the Griffin more suitable storage. The track and sandstone steps in and west and extends east to Beverley Blacklock Reserve. The land vision was the reservation of foreshore land to preserve its natural around the amphitheatre have been upgraded.

Theatre in the early 1930s. Community performances in the gully reduction of encroachments and other boundary impacts. used natural features as the stage and rough stone seats were 6.2f: To preserve and increase ecological links across the LGA built in terrace formation to compliment surrounding natural and regionally to assist the movement of fauna. bushland. The 1943 Deed of Trust permitted continued use of part 6.2g. Maintain natural habitat formations and supplement with disrepair in the early 1970s, the seating was restored and a 6.3b. To implement weed control programs which are based on 1992 the stage was removed and development approval issued for 7.1g. To manage fire such that the fire regime and implementation a replacement stage.

HABITAT SIGNIFICANCE: Castlehaven Reserve is part of the wildlife corridor created by the continuous bushland reserve system running along much of Willoughby's Middle Harbour foreshore. It provides an important wildlife corridor for both terrestrial and **Bushland Management – General Principles for all Reserves** arboreal species and permanent habitat for some species, a. Bushland regeneration is a long term process requiring staged support species such as the Eastern Water Dragon, Golden- b. If possible, weed refuse and natural debris composted on-site. areas near the foreshore where human access is restricted used with local provenance species. provide habitat for many species including the Water Rat, Fishing d. Standing dead trees and forest litter (including logs/branches) to Bat, Swamp Wallaby, Echidna and Lace Monitor.

existing creek lines with occasional dislodgment of sandstone drainage lines flow directly overland, causing some degradation of native vegetation.

and Commonwealth Legislation. All areas discussed in this species to grow that then compete with native vegetation. A i. Monitor feral animal activity and implement appropriate Reserve Action Plan are zoned E2 Environmental Conservation in maintenance track runs along the line of the sewer and is also management actions where necessary. the Willoughby Local Environment Plan (WLEP) 2012. The Haven used by locals. Dumping of rubbish and garden waste, garden Amphitheatre is listed as an item of local heritage significance in escapes, clearing for views, encroachments including access Wildlife Watch Program. edge individual owners use the reserve to permanently store Bushfire Risk Management Plan. dinghies, kayaks and canoes causing degradation of vegetation I. Species diversity will be maintained by an ecological burn

Wildlife Habitat Issues

NATURAL HERITAGE SIGNIFICANCE: Castlehaven Reserve is part of As this reserve is narrow and steep incursions through

Achievements

Extensive bush regeneration and noxious weed control have improved the quality and diversity of the bushland.

residential estates designed to be unified with the natural Armouring of several creek beds in the Reserve has helped reduce erosion during heavy rain events. The maintenance access

Castlehaven Reserve is a linear foreshore reserve of natural Mahony Griffin in the 1920s. The open space system of reserves, Reserve has been upgraded to improve safety. The installation of

Bushland Management Goals - Castlehaven Reserve

This bushland Reserve Action Plan has identified the following management aims from the Urban Bushland Plan of Management

sedimentation due to urban impacts.

of the burn is beneficial to flora and fauna diversity and habitat. 10.1b: To ensure that leases and licences for activities undertaken in, or adjoining, or impacting on, bushland areas are compatible

with the sustainable management of bushland.

particularly mammals, reptiles and bird species like the Powerful weed removal to ensure establishment of native plant Owl. Steep slopes meeting the foreshore contain rocky outcrops, communities. Work will proceed from good bush to degraded

crowned Snake. Buff-banded Rail, and many invertebrate species c. If natural regeneration is deemed inadequate, supplementary important to insectivores including the Superb Lyrebird. Lower plantings to mimic local plant communities and landscapes will be

be kept for wildlife habitat unless deemed a risk to safety.

e. Monitor, maintain and enhance vegetation connectivity for

threatening process in NSW. Bushland workers are to use hygiene protocols to minimise risk.

g. Report and record all reserve encroachments. Monitor for tree vandalism and/or removal and report to Council Compliance for

Encourage the community to report wildlife sightings via the

Amphitheatre, lies within the Griffin Heritage Conservation area reserve impacts from adjoining properties. Along the foreshore of a strategic hazard reduction program consistent with the

program in a mosaic pattern.

m. Monitor and protect Aboriginal cultural heritage sites. Bushland staff to notify Aboriginal Heritage Office prior to a burn to identify sites and implement protection measures.

n. Preserve natural features for educational purposes and continue to inform the community of bushland issues through on-site activities and signage. Maintain appropriate signage.

closed to prevent damage to habitat and to impede access of feral animals, unless used for access by bushland workers.

p. Establish photo points to monitor work and review annually.

q. Protection of habitat is required for flora and fauna species found in reserves listed under State and Commonwealth legislation as threatened species.

r. The collection of rubbish from bushland is carried out by council contractors and bushland field staff as required.

NATIVE PLANT LIST FOR CASTLEHAVEN RESERVE SELAGINELI ACEAE Leucopogon amplexicaulis Selaginella uliginosa FORK FERNS Leucopogon lanceolatus Leucopogon microphyllus Lissanthe strigosa Monotoca scoparia Psilotum nudum CONIFERS Sprengelia incarnata CUPRESSACEAE Styphelia longifolia Styphelia tubiflora Callitris rhomboidea PODOCARPACEAE Woollsia pungens Podocarpus spinulosus Acrotriche divaricate DROSERACEAE ΑΠΙΔΝΤΔΟΕΔΕ Drosera spathulata Drosera auriculata ASPLENIACEAE ELAFOCARPACEAE BLECHNACEAE Blechnum ambiguun ERICACEAE Blechnum cartilagineum STYPHELIOIDEAE Epacris longiflora CYATHEACEAE Enacris micronhylla Cyathea australis . Epacris pulchella Cyathea cooperi FUPHORBIACEAE DAVALLIACEAE Breynia oblongifolia Davallia pyxidata Glochidion ferdinand DENNSTAEDTIACEAE Micrantheum ericoides Histiopteris incisa Omalanthus populifolius Hypolepis alandulifera Poranthera microphylla Hypolepis muelleri Ricinocarpos pinifolius FABACEAE FABOIDEAE Pteridium esculentun DICKSONIACEAE Aotus ericoides Calochlaena dubia Bossiaea ensata GLEICHENIACEAE Bossiaea heterophylla Gleichenia dicarpa Rossiaea obcordata Gleichenia microphylla Bossiaea scolopendria Gleichenia rupestris Dillwynia floribunda Sticherus flahellatus Dillwynia retorta HYMENOPHYLLACEAE Gompholobium latifolium Hvmenophvllum Hardenbergia violacea cupressiforme Hovea linearis Kennedia rubicunda LINDSAFACEAE Mirbelia rubiifolia Lindsaea microphylla Phyllota phylicoides POLYPODIACEAE Platylobium formosun Pvrrosia rupestris Pultenaea danhnoides PTERIDACEAE Pultenaea elliptica Cheilanthes sieberi Pultenaea flexilis SCHIZAFACEAE Pultenaea polifolia Schizaea bifida Pultenaea stipularis Schizaea dichotoma FABACEAE-MIMOSOIDEAE DICOTS Acacia linifolia ACANTHACEAE Acacia longifolia Acacia Iongissima variabile Acacia myrtifolia ACANTHACEAE Acacia suaveolens Avicennia marina Acacia terminalis APIACEAE Acacia ulicifolia Actinotus helianthi GOODENIACEAE Actinotus minor Dampiera stricta Platysace lanceolata . Goodenia bellidifolia Platysace linearifolia Goodenia heterophylla Platysace stephenson. Goodenia stelligera Xanthosia pilosa Scaevola ramosissim Xanthosia tridentata Gonocarpus micranthus APOCYNACEAE HALORAGACEAE Parsonsia stramine Gonocarpus teucrioides LAMIACEAE ARALIACEAE Astrotricha floccosa Hemigenia pupurea Astrotricha Iongifolia Plectranthus parvifolius Prostanthera denticulata ASCLEPIADACEAE LAURACEAE Marsdenia suaveoleni Endriandra seibei ASTERACEAE OBELIACEAE Lagenifera stinitata Lobelia dentata Ozothamnus Pratia purpurascens diosmifolium Logania albiflora Sigesbeckia orientalis MELIACEAE Pandorea pandorana Synoum glandulosum CAMPANULACEAE Stephania iaponica Wahlenbergia gracilis MORACEAE CASSYTHACEAE Ficus rubiginosa Cassytha glabella MYRSINACEAE Cassytha pubescens Myrsine (Rapanea CASUARINACEAE variahilis Allocasuarina distyla MYRTACEAE Allocasuarina littoralis Acmena smithii Casuarina glauca Angophora costata Angophora hispida Calvstegia marginata . tromyrtus tenuifolia Backhousia myrtifolia CUNONIACEAE Baeckea diosmifolia Bauera rubioides Baeckea imbricata Callicoma serratifolia Callistemon linearis

Callicoma serratifolia

. Ceratopetalum

DILLENIACEAE

Hibbertia dentata

Hibbertia linearis

Hibbertia empetrifolia

Ceratopetalum apetalur

Calytrix tetragona

Corvmbia gummifera

Eucalyptus botryoides

Eucalyptus haemast

Eucalyptus piperita

Eucalyptus obstans

Eucalyptus punctata Eucalyptus sieber Kunzea capitata arachnoides L. polygalifolium Leptospermum squarrosur Lentospermum trinervium Tristaniopsis collina Tristanionsis laurina OLACACEAE Olax stricta Notelaea longifolia Notelaea venosa PITTOSPORACEAE Billardiera scandens Pittosporum revolutum Pittosporum undulatum POLYGAL ACEAE Comesperma ericinum PRIMILI ACEAE Samolus repens PROTEACEAE Banksia ericifolia Banksia integrifolia Banksia marginata Banksia oblongifolia Banksia serrata Banksia spinulosa Grevillea buxifolia Grevillea linearifolia Grevillea sericea Grevillea speciosa Hakea dactyloides Hakea gibbosa Hakea propinqua Hakea sericea Hakea teretifolia Isopogon anethifolius Lambertia formosa Lomatia myricoides l omatia silaifolia Persoonia lanceolata Persoonia levis Persoonia linearis Persoonia pinifolia Petrophile pulchella Telopea speciosissima Xylomelum pyriforme RANUNCUI ACEAE RHAMNACEAE Pomaderris intermedia Pomaderris lanigera Pomaderris spp. RUBIACEAE Morinda jasminoides Opercularia aspera Pomax umbellata RUTACEAE Boronia ledifolia Boronia pinnata Boronia serrulata Correa reflexa Crowea saligna Phebalium dentatum Phebalium squamulosu Philotheca salsolifolia Zieria laevigata Zieria pilosa SANTAL ACEAE Leptomeria acida SAPINDACEAE Dodona a triquetra STACKHOUSIACEAE Stackhousia vimine STERCULIACEAE Rulingia dasvphylla STYLIDIACEAE Stylidium productum Stylidium graminifolium Stylidium lineare THYMELIACEAE TREMANDRACEAE Tetratheca ericifolia VERBENACEAE Chloanthes stoechadis Clerodendrum tomentos VIOLACEAE Hybanthus vernonii VIOLACEAE Viola hederacea VITACEAE MONOCOTS ANTHERICACEAE Caesia parviflora var vittata Thysanotus tubero BLANDFORDIACEAE

COLCHICACEAE COMMELINACEAE Commelina cyanea CYPERACEAE Caustis flexuosa Caustis pentandra Cvathochaeta diandra Gahnia clarkei Gahnia erythrocarpa Gahnia spp. Ficinia nodosa Lepidosperma filiforme Lepidosperma flexuosur Ptilanthelium deustum Schoenus imberbis Schoenus melanostachys Schoenus paludosus IRIDACEAE Patersonia glabrata Patersonia sericea Patersonia sp. aff. fragilis JUNCACEAE Juneus continuus Juncus kraussii Juncus planifolius LUZURIAGACEAE Eustrephus latifoliu PHORMIACEAE Dianella caerulea vai caerulea Dianella caerulea vai producta UVULARIACEAE Schelhammera undulata LOMANDRACEAE Lomandra brevis Lomandra filiformi Lomandra glauca Lomandra gracilis Lomandra longifolia Lomandra obliqua ORCHIDACEAE Acianthus fornicatus Caladenia carnea Calochilus campestris Calochilus paludosus Corvbas aconitiflorus Cryptostylis subulata Dendrobium linguiform Dendrobium speciosum Dipodium punctatum Dipodium variegatum Liparis reflexa Pterostylis grandiflora Pterostylis longifolia Pterostylis nutans Pterostylis pedunculata Rimacola elliptica Spiranthes sinensis Thelymitra ixioides Thelymitra pauciflora PHILESIACEAE Geitonoplesium Philydrum lanuginosum POACEAE Anisopogon avenaceus Aristida vagans Cymbopogon refractus Danthonia tenuior Echinopogon caespitosus Fntolasia marginata Entolasia stricta Eragrostis trachycarpa Imperata cylindrica Microlaena stipoides Oplismenus imbecillis Panicum simile Phragmites australis Themeda australis RESTIONACEAE Empodisma minus Lepyrodia scariosa Restio complanatus Restio dimorphus Restio tetraphyllus SMII ACACEAE Smilax australis Smilax glyciphylla XANTHORRHOEACEAE Xanthorrhoea arborea XYRIDACEAE Xvris aracilis

Xyris operculata