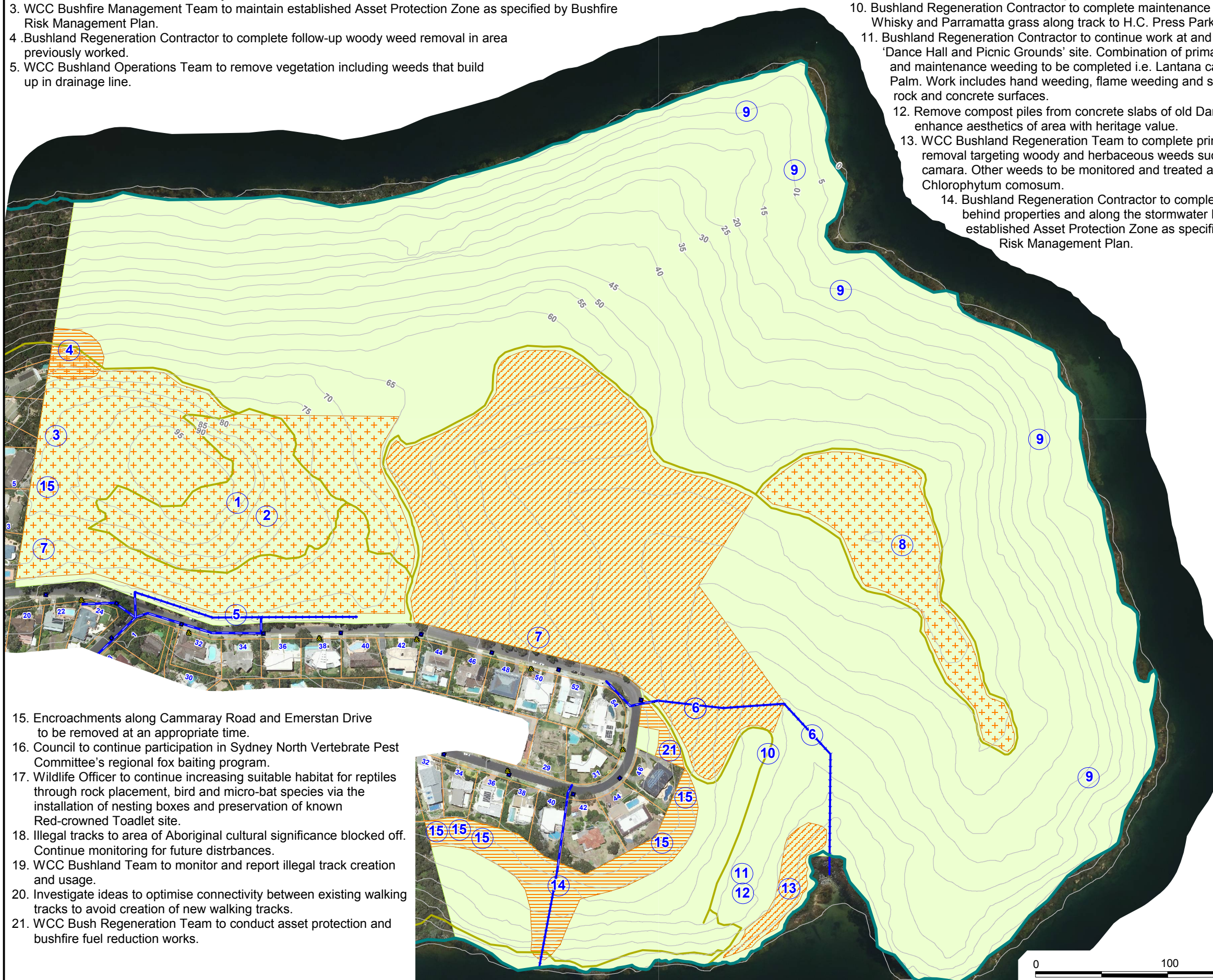


## Explosives and HC Press Reserve Actions

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

1. This action and work areas may be subject to change in accordance with Council's updated Bushfire Risk Management Plan.
2. WCC Bushland Regeneration Team to selectively target invasive *Allocasuarina littoralis* to encourage the establishment of *Allocasuarina distyla*.
3. WCC Bushfire Management Team to maintain established Asset Protection Zone as specified by Bushfire Risk Management Plan.
4. Bushland Regeneration Contractor to complete follow-up woody weed removal in area previously worked.
5. WCC Bushland Operations Team to remove vegetation including weeds that build up in drainage line.

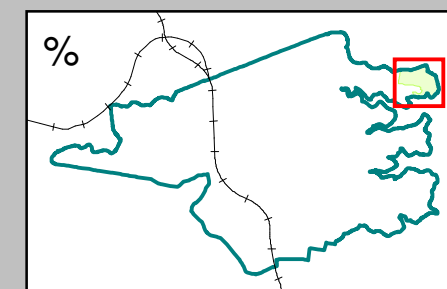
6. WWC Bush Regeneration Team to continue maintenance works along stormwater line, removing weeds and silt, working towards the creekline.
7. Non-indigenous Blue Gum trees along Cammaray Road to be removed as they are not typical of this plant community. Logs to be retained onsite as habitat for wildlife. Logs do not pose a fire risk.
8. This action and work areas may be subject to change in accordance with Council's updated Bushfire Risk Management Plan.
9. WCC Bushland Regeneration Team to control isolated weed outbreaks i.e. *Olea europaea* subsp. *cuspidata* and *Strelitzia nicolai*. Complete annual sweeps throughout the entire reserve.
10. Bushland Regeneration Contractor to complete maintenance weeding of Whisky and Parramatta grass along track to H.C. Press Park.
11. Bushland Regeneration Contractor to continue work at and around the old 'Dance Hall and Picnic Grounds' site. Combination of primary, secondary and maintenance weeding to be completed i.e. *Lantana camara*, Phoenix Palm. Work includes hand weeding, flame weeding and soil removal from rock and concrete surfaces.
12. Remove compost piles from concrete slabs of old Dance Hall to enhance aesthetics of area with heritage value.
13. WCC Bushland Regeneration Team to complete primary weed removal targeting woody and herbaceous weeds such as *Lantana camara*. Other weeds to be monitored and treated as required i.e. *Chlorophytum comosum*.
14. Bushland Regeneration Contractor to complete weed removal behind properties and along the stormwater line and maintain established Asset Protection Zone as specified by Bushfire Risk Management Plan.



15. Encroachments along Cammaray Road and Emerstan Drive to be removed at an appropriate time.
16. Council to continue participation in Sydney North Vertebrate Pest Committee's regional fox baiting program.
17. Wildlife Officer to continue increasing suitable habitat for reptiles through rock placement, bird and micro-bat species via the installation of nesting boxes and preservation of known Red-crowned Toadlet site.
18. Illegal tracks to area of Aboriginal cultural significance blocked off. Continue monitoring for future disturbances.
19. WCC Bushland Team to monitor and report illegal track creation and usage.
20. Investigate ideas to optimise connectivity between existing walking tracks to avoid creation of new walking tracks.
21. WCC Bush Regeneration Team to conduct asset protection and bushfire fuel reduction works.



## RESERVE ACTION PLAN EXPLOSIVES & HC PRESS RESERVES



### Plan details

Status: Final  
Prepared by: N. Yu  
Drawn by: N. Prasad  
Date printed: 05/07/2022  
Approximate Scale: 1:3000

### Legend

- 16 Property number
- 12 Action plan activity
- Stormwater node
- Approximate fire hydrant location
- Power pole
- 5m contours
- Stormwater network - Underground \*
- Stormwater network - Overground / Unknown \*
- Bush track / Unpaved path \*
- WCC LGA boundary
- Property boundary
- Reserve / bushland
- Council bush regeneration contractors
- Council staff regeneration site
- Proposed prescribed burn area

\* The accuracy of this data is not guaranteed and must be verified prior to use.

The information contained herein has been provided in good faith. Effort has been made to ensure it's accuracy and completeness.

Willoughby City Council does not take any responsibility for errors or omissions nor any loss or damage that may result from the use of this information.

### References

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# Explosives Reserve & H.C. Press Park Reserve Action Plan

## Reserve Profile

Explosives Reserve and H.C. Press Park comprise of a largely intact 35 hectare area of bushland located in Castle Cove, within the Middle Harbour catchment. The western border adjoins H.D. Robb Reserve and six residential properties. H.C. Press' northern border consists of residential properties along Emerstan Drive and the western border adjoins North Arm Reserve. Both reserves are located on Middle Harbour. Access to Explosives Reserve is opposite 42 Cammaray Road and at the end of Bampi Place. H.C. Press' is opposite 54 Cammaray Road along a bitumen road, which becomes a track and continues through to North Arm Reserve.

PLANT COMMUNITY: The Explosives/H.C. Press bushland consists of three vegetation communities: consisting of Coastal Sandstone Gully Forest [S\_DSF09], Hornsby Enriched Sandstone Exposed Woodland [S\_DSF10] and Coastal Enriched Sandstone Moist Forest [S\_WSF02]. The western portion and center of Explosives Reserve, and the central portion of H.C Press Park, contains [S\_DSF10]. South of Explosives Reserve contains a small area of [S\_WSF02]. The remaining vegetation consists of [S\_DSF09].

HABITAT: Heath vegetation provides a dense protective understorey, which is a haven for small birds and reptiles. The great diversity of small flowering plants offers a wide range of food sources for nectar and pollen eating insects, including moths, butterflies and bees. Naturally vegetated ridgetops are also significant as part of annual breeding and migration processes for a number of butterfly species.

Woodland areas allow terrestrial wildlife connective cover to find safe foraging and breeding sites. Arboreal animals have connective canopies to give them suitable protection and nesting sites. Many birds use these areas to nest in and the diversity of plants also offers a wide range of food for honeyeaters and the insects on which our insectivorous species depend.

Gully forest vegetation provides corridors for the safe passage of many wildlife species including birds, bats and marsupials. The habitat they provide is also very diverse and complex.

The reserves also contain drainage areas and rocky foreshores which are high value habitat.

## Statement of Significance

The fundamental objective of the Reserve Action Plan is to conserve the significant heritage values of the Reserve. Explosives Reserve and H.C. Press Park are classified as bushland as defined in State Environmental Planning Policy No 19 (\*Vol 1, 1.4), and is protected under State and Commonwealth Legislation (\*Vol 1, 1.5.2). It is zoned E2 Environmental Conservation in the Willoughby Local Environment Plan 2012.

ABORIGINAL CULTURAL SIGNIFICANCE: The Camaraygal clan nation originally occupied the area. Explosives Reserve contains a significant number of sites with an archaeological survey discovering many shelters, middens and art.

NATURAL HERITAGE SIGNIFICANCE: Explosives & H.C. Press are a valuable link in the chain of vegetation that extends from H.D. Robb Reserve to the north, North Arm Reserve and around to the Castlecrag Northern Escarpment to the south, and across Bantry Bay from Garrigal National Park. These reserves contain some of the largest and most intact areas of continuous and complex wildlife habitat in the Willoughby LGA. The vulnerable and protected Red-crowned Toadlet exists in small communities in drainage areas of the reserve. Swamp Wallaby and Long-nosed Bandicoot were first recorded in these reserves before they re- populated others in Willoughby around 2002. There are other large terrestrial mammals as well as a large number of woodland bird species occurring in the reserves. The threatened Powerful Owl is known to roost in woodland and forest areas. The reserves contain some of the last successful breeding sites for the White-bellied Sea Eagle in the Sydney Harbour area.

HISTORIC CULTURAL SIGNIFICANCE: A quarry operated in the north-western section of the reserve at the end of the 19th century, when an adjoining section to the east was already set aside for recreational use. About a third of the area now known as Explosives Reserve was part of the Bantry Bay explosives complex. The section on the eastern side of the reserve was dedicated as an explosives magazine in 1908.

H.C. Press was a privately owned and operated picnic ground from 1912 to 1966. Originally known as the Palmer Pleasure Grounds, it included a dance hall, pavilions and a running track. Council acquired the land in 1968 and all the structures were demolished by 1973. The remains of H.C. Press picnic ground and baths is heritage listed under the Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005.

Part of Explosives was used as a motor cross track until the mid-1980s. Since then, Council has actively regenerated bushland.

A 'hermit cave' and chiselled European graffiti from the beginning of the 20th century exist with Explosives Reserve.

## Reserve Impacts

The greatest threat to the biodiversity of Explosives/H.C. Press is the infrequency of fire. Large areas have become a monoculture of *Allocasuarina littoralis*, a result of a fire regime that has benefited this aggressive species. Council's Bushfire Management Team has helped to correct this imbalance and return these areas to a more species-rich natural state.

The picnic grounds ruins have left a legacy of a variety of garden weeds and rubble. This small area is the most densely weedy in the reserve. The Bush Regeneration Team has made great progress in this area but on-going work is required.

Stormwater run-off from Cammaray Road into Explosives Reserve has been a source of weeds for many years and a focus of work in the past. The area has improved but still needs regular maintenance. Stormwater lines behind 42 Emerstan Drive and at the end of Cammaray Road are continually plagued by weed outbreaks.

Property boundaries are another source of weed infestation. Contractors are to continue weed control behind properties along Emerstan Drive and Bampi Place. This is to also ensure Asset Protection Zones for fire are clear.

Vandalism of trees most likely by property owners on Emerstan Drive for water views is an issue and requires regular monitoring.

2020 saw an increase use of the Explosives Reserve, which consequently saw increased usage of illegal tracks being used and constructed.

ENCROACHMENTS: Cammaray Road and Emerstan Drive. Issues range from clearing for views, lawns and fire buffers.

## Wildlife Habitat Issues

Due to human disturbance such as clearing, bush-rock and wood removal and altered fire regimes, some essential habitat elements such as hollow-bearing trees, bush-rock fields and altered vegetation are limited.

Predation of wildlife by foxes, domestic cats and black rat are significant issues for existing and future wildlife populations, particularly small reptiles, mammals and birds.

Maintaining the integrity of the vegetation requires a burn program consistent with biodiversity thresholds that will affect the habitat value of the reserve. A planned program will minimise short term negative effects to wildlife biodiversity that will be out- weighed by the increased habitat value over the long term.

## Achievements

Post-fire weeding by Willoughby City Council's (WCC) Bush Regeneration Team has assisted the natural regeneration within the bushland area burnt in 2012.

Interpretive signage at entrances of the Explosives Reserve and H.C Press Park that highlight natural features and history of each have been installed.

## Bushland Management Goals – Explosives Reserve

This bushland reserve action plan has identified the following management aims from the Urban Bushland Plan of Management 2014 as priority objectives:

5.3b: To create and or maintain conditions in which creek and drainage lines are protected from increased erosion and/or sedimentation due to urban impacts.

5.4b: To maintain the integrity of bushland reserves through the reduction of encroachments and other boundary impacts.

6.2f: To preserve and increase ecological links across the LGA and regionally to assist the movement of fauna.

6.2g: Maintain natural habitat formations and supplement with manufactured structures where natural habitat has been depleted.

6.3b: To implement weed control programs which are based on regeneration and restoration principles and which increase bushland resilience to further weed infestation.

7.1g: To manage fire such that the fire regime and implementation 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.

## General Principles and Actions – All Bushland Reserves

- Bushland regeneration is a long term process requiring staged weed removal to ensure establishment of native plant communities. Work will proceed from good bush to degraded areas with techniques that encourage regeneration.
- If possible, weed refuse and natural debris composted on-site.
- If natural regeneration is deemed inadequate, supplementary plantings to mimic local plant communities and landscapes will be used with local provenance species.
- Standing dead trees and forest litter (including logs/branches) to be kept for wildlife habitat unless deemed a risk to safety.
- Monitor, maintain and enhance vegetation connectivity for wildlife habitat within the reserve and reserve networks.
- Phytophthora cinnamomi* (a root rot pathogen) is listed as a key threatening process in NSW. Bushland workers are to use hygiene protocols to minimise risk.
- Report and record all reserve encroachments. Monitor for tree vandalism and/or removal and report to the Safe City Unit for appropriate action.
- Monitor wildlife habitat and supplement where necessary.
- Monitor feral animal activity and implement appropriate management actions where necessary.
- Encourage the community to report wildlife sightings via the Wildlife Watch Program.
- Bushfire management will be achieved through implementation of a strategic hazard reduction program consistent with the Bushfire Risk Management Plan.
- Species diversity will be maintained by an ecological burn program in a mosaic pattern.
- 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.
- Preserve natural features for educational purposes and continue to inform the community of bushland issues through onsite activities and signage. Maintain appropriate signage.
- Formal tracks to be maintained and unwanted tracks to be closed to prevent damage to habitat and to impede access of feral animals, unless used for access by bushland workers.
- Establish photo points to monitor work and review annually.
- Protection of habitat is required for flora and fauna species found in reserves listed under State and Commonwealth legislation as threatened species.
- The collection of rubbish from bushland is carried out by Council contractors and bushland field staff as required.

## Native Animal List for Explosives Reserve and H.C Press Park

Explosives Reserve and H.C Press Park provides habitat for a number native animals. A list of these species can be found at:

<https://www.willoughby.nsw.gov.au/files/sharedassets/public/ecm/willoughby-council-website/publications-reports-master-plans-strategies-action-plans/publications-reports-master-plans-strategies-action-plans/1-native-fauna-of-bantry-bay-sugarloaf-bay-catchments.pdf>

## Native Plant List for Explosives Reserve

<b>FERNs</b>	<i>Woolisia pungens</i>	<i>Hakea gibbosa</i>
BLECHNACEAE	EUPHORBACEAE	<i>Hakea propinqua</i>
<i>Blechnum cartilagineum</i>	<i>Homalanthus populifolius</i>	<i>Hakea sericea</i>
CYATHEACEAE	FABACEAE-FABOIDEAE	<i>Hakea teretifolia</i>
<i>Cyathea cooperi</i>	<i>Aotus ericoides</i>	<i>Iso Pogon anethifolius</i>
DENNSTAEIDIACEAE	<i>Bossiaea scolopendria</i>	<i>Lambertia formosa</i>
<i>Histiopteris incisa</i>	<i>Dillwynia retorta</i>	<i>Lomatia silaifolia</i>
<i>Pteridium esculentum</i>	<i>Gompholobium glabratum</i>	<i>Persoonia lanceolata</i>
DICKSONIACEAE	<i>Mirbelia rubifolia</i>	<i>Persoonia levis</i>
<i>Calochlaena dubia</i>	<i>Pultenaea daphnoides</i>	<i>Persoonia pinifolia</i>
GLEICHENACEAE	<i>Pultenaea tuberculata</i>	<i>Petrophile pulchella</i>
<i>Gleichenia dicarpa</i>	<i>Pultenaea ferruginea</i>	RANUNCULACEAE
<i>Gleichenia rupestris</i>	<i>Pultenaea stipularis</i>	<i>Clematis aristata</i>
<i>Sticherus flabellatus</i>	FABACEAE-MIMOSOIDEAE	RHAMNACEAE
LINDSAEACEAE	<i>Acacia ulicifolia</i>	<i>Pomaderris lanigera</i>
<i>Lindsaea linearis</i>	<i>Acacia linifolia</i>	RUBIACEAE
<i>Lindsaea microphylla</i>	<i>Acacia longifolia var. longifolia</i>	<i>Opercularia aspera</i>
LYCOPODIACEAE	<i>Acacia suaveolens</i>	<i>Pomax umbellata</i>
<i>Lycopodiella lateralis</i>	<i>Acacia terminalis</i>	RUTACEAE
PSILOACEAE	GOODENIACEAE	<i>Boronia ledifolia</i>
<i>Psilotum nudum</i>	<i>Dampiera stricta</i>	<i>Crowea saligna</i>
PTERIDACEAE	<i>Goodenia heterophylla</i>	<i>Nematolepis squamea subsp. squamea</i>
<i>Adiantum aethiopicum</i>	<i>Selliera radicans</i>	<i>Zieria pilosa</i>
<i>Cheilanthes sieberi</i>	HALORAGACEAE	SAPINDACEAE
SELAGINELLACEAE	<i>Gonocarpus teucrioides</i>	<i>Dodonaea triquetra</i>
<i>Selaginella uliginosa</i>	HYPERICACEAE	STYLIDIACEAE
<b>DICOTS</b>	<i>Hypericum gramineum</i>	<i>Stylidium productum</i>
ACANTHACEAE	LAMIACEAE	<i>Stylidium lineare</i>
<i>Avicennia marina</i>	<i>Hemigenia purpurea</i>	THYMELIACEAE
	LOBELIACEAE	<i>Pimelea linifolia subsp. linifolia</i>
APIACEAE	<i>Lobelia purpurascens</i>	VIOLACEAE
<i>Actinotus helianthi</i>	LOGANIACEAE	<i>Hybanthus vemonii</i>
<i>Actinotus minor</i>	<i>Mitrasacme polymorpha</i>	<i>Viola hederacea</i>
<i>Platysace lanceolata</i>	MALVACEAE	<b>MONOCOTS</b>
<i>Platysace linearifolia</i>	<i>Lasiopetalum ferrugineum var. ferrugineum</i>	ASPHODELACEAE
<i>Xanthosia pilosa</i>	<i>Lasiopetalum rufum</i>	<i>Caesia parviflora</i>
<i>Xanthosia tridentata</i>	MENISPERMACEAE	<i>Dianella caerulea</i>
ARILACEAE	<i>Stephania japonica</i>	<i>Dianella revoluta</i>
<i>Hydrocotyle sibthorpioides</i>	MORACEAE	ASPARAGACEAE
<i>Polyscias sambucifolia</i>	<i>Ficus rubiginosa</i>	<i>Lomandra glauca</i>
ASTERACEAE	PLANTAGINACEAE	<i>Lomandra gracilis</i>
<i>Senecio diascidides</i>	<i>Veronica calycina</i>	<i>Lomandra longifolia</i>
<i>Senecio hispidulus</i>	PHLLANTHACEAE	BLANDFORDIACEAE
<i>Olearia microphylla</i>	<i>Glochidion ferdinandi</i>	<i>Blandfordia nobilis</i>
BIGNONIACEAE	<i>Phyllanthus hirtellus</i>	CYPERACEAE
<i>Pandorea pandorana</i>	PICRODENDRACEAE	<i>Caustis flexuosa</i>
LAURACEAE	<i>Micranthemum ericoides</i>	<i>Caustis pentandra</i>
<i>Cassytha glabella</i>	PRIMULACEAE	<i>Fimbristylis dichotoma</i>
<i>Cassytha pubescens</i>	<i>Myrsine variabilis</i>	<i>Lepidosperma laterale</i>
CASUARINACEAE	MYRTACEAE	<i>Schoenus melanostachys</i>
<i>Allocasuarina distyla</i>	<i>Angophora bakeri</i>	<i>Anthelepis paludosa</i>
<i>Allocasuarina littoralis</i>	<i>Angophora costata subsp. costata</i>	<i>Chaetospora turbinata</i>
<i>Casuarina glauca</i>	<i>Angophora hispida</i>	IRIDACEAE
CONVOLVULACEAE	<i>Austromyrtus tenuifolia</i>	<i>Patersonia glabrata</i>
<i>Dichondra repens</i>	<i>Corymbia gummifera</i>	<i>Patersonia sericea</i>
CUNONIACEAE	<i>Eucalyptus racemosa</i>	JUNCACEAE
<i>Bauera rubioides</i>	<i>Eucalyptus piperita</i>	<i>Juncus kraussii</i>
<i>Callicoma serratifolia</i>	<i>Eucalyptus punctata</i>	<i>Juncus pallidus</i>
<i>Ceratopetalum apetalum</i>	<i>Eucalyptus sieberi</i>	JUNCAGINACEAE
<i>Ceratopetalum gummiferum</i>	<i>Eucalyptus scias</i>	<i>Triglochin striata</i>
<i>Schizomeria ovata</i>	<i>Kunzea ambigua</i>	LUZURIAGACEAE
DILLENIACEAE	<i>Kunzea capitata</i>	<i>Eustrephus latifolius</i>
<i>Hibbertia fasciculata</i>	<i>Leptospermum arachnoides</i>	ORCHIDACEAE
<i>Hibbertia aspera</i>	<i>Leptospermum squarrosom</i>	<i>Acianthus exsertus</i>
<i>Hibbertia linearis</i>	<i>Leptospermum trinervium</i>	<i>Acianthus fornicatus</i>
<i>Hibbertia nitida</i>	OLEACEAE	<i>Caladenia camea</i>
DROSERACEAE	<i>Notelaea longifolia</i>	<i>Caladenia catenata</i>
<i>Drosera spathulata</i>	<i>Notelaea venosa</i>	<i>Cryptostylis erecta</i>
<i>Drosera auriculata</i>	PITTOPOPOACEAE	<i>Corybas sp.</i>
<i>Drosera peltata</i>	<i>Billardiera scandens</i>	<i>Dendrobium linguiforme</i>
ELAEOCARPACEAE	<i>Bursaria spinosa</i>	<i>Dendrobium speciosum</i>
<i>Elaeocarpus reticulatus</i>	<i>Pittosporum revolutum</i>	<i>Dipodium punctatum</i>
<i>Tetralthea ericifolia</i>	<i>Pittosporum undulatum</i>	POACEAE
ERICACEAE-EPACRIDOIDEAE	PROTEACEAE	<i>Anisopogon avenaceus</i>
<i>Epacris longiflora</i>	<i>Banksia ericifolia</i>	<i>Aristida vagans</i>
<i>Epacris microphylla</i>	<i>Banksia integrifolia</i>	<i>Entolasia marginata</i>
<i>Epacris obtusifolia</i>	<i>Banksia oblongifolia</i>	<i>Eragrostis trachycarpa</i>
<i>Epacris pulchella</i>	<i>Banksia robur</i>	<i>Hemarthria uncinata var. uncinata</i>
<i>Epacris reclinata</i>	<i>Banksia serrata</i>	<i>Imperata cylindrica</i>
<i>Leucopogon amplexicaulis</i>	<i>Banksia spinulosa</i>	<i>Microlaena stipoides var. stipoides</i>
<i>Leucopogon ericoides</i>	<i>Conospermum longifolium</i>	<i>Oplismenus imbecillis</i>
<i>Leucopogon microphyllus</i>	<i>Grevillea buxifolia</i>	<i>Paspalidium aversum</i>
<i>Leucopogon setiger</i>	<i>Grevillea linearifolia</i>	<i>Panicum effusum</i>
<i>Monotoca scoparia</i>	<i>Grevillea sericea</i>	<i>Poa affinis</i>
<i>Styphelia longifolia</i>	<i>Grevillea speciosa</i>	<i>Themeda triandra</i>
<i>Styphelia tubiflora</i>	<i>Hakea dactyloides</i>	