

21 December 2016

Director, Environment and Building Policy  
NSW Department of Planning and Environment  
GPO Box 39  
SYDNEY NSW 2001

Dear Sir/Madam;

**Re: Submission – Draft Coastal Management SEPP**

I am writing in response to the public exhibition of the Department's draft Coastal Management State Environmental Planning Policy (SEPP), accompanying maps and draft section 117 Ministerial direction.

On 26 February 2016 Council wrote to the Office of Environment and Heritage (OEH) in response to exhibition of the NSW coastal reforms. The submission noted that, as maps had at that time not been released for public comment, it was unclear whether new coastal management areas (CMAs) would apply to Mosman - however if they were to apply there needed to be consistency with controls currently applying under State and local policy. A copy of that submission is attached for your information.

With the release of the draft Coastal Management SEPP and maps, it is now evident that the coastal zone is to be extended into Sydney Harbour, and that three of the four CMAs that make up the new coastal zone will apply to land in Mosman as follows:

Coastal Management Area (CMA)	Land Affected in Mosman
Coastal Wetlands and Littoral Rainforests Area	Pockets of littoral rainforest within national parks at Middle Head, Clifton Gardens and Taylors Bay
Coastal Environment Area	All land within 100 metres of the harbour. Affects around 570 residential zoned lots, in addition to public land and business uses at The Spit.
Coastal Use Area	

Having reviewed the exhibition material, the following comments are made:

1. With the introduction of the draft Coastal Management SEPP applying to land in Mosman, the future of the SREP Sydney Harbour Catchment 2005 is unclear.
2. Complying development may be permitted on land within the Coastal Environment and Coastal Use CMAs without regard to the draft Coastal Management SEPP, undermining the aims of the draft SEPP and objects of the *Coastal Management Act 2016*.
3. There are additional Littoral Rainforests in Mosman not identified on the Coastal Wetlands and Littoral Rainforests CMA Map.
4. Guidelines should be issued by the Department to provide guidance for the assessment of matters that a consent authority must be satisfied of before granting consent to proposed development within a CMA.
5. The implications for councils that do not have a Coastal Management Program or Coastal Zone Management Plan in place are onerous.

The details of these comments are outlined below.

**1. With the introduction of the draft Coastal Management SEPP applying to land in Mosman, the future of the SREP Sydney Harbour Catchment 2005 is unclear.**

*Sydney Regional Environmental Plan (SREP) (Sydney Harbour Catchment) 2005* and its associated *Sydney Harbour Foreshores and Waterways Area Development Control Plan (DCP)* have applied to land in Mosman since coming into effect in September 2005. The SREP aims include ensuring the catchment, foreshores and waterways of Sydney Harbour are recognised, protected, enhanced and maintained as an outstanding natural asset for existing and future generations. The SREP and DCP include provisions relating to biodiversity, ecology, environment protection, public access and use, scenic quality and view sharing. Both continue to apply in Mosman.

Until now, Mosman has been excluded from the 'coastal zone' (this has applied to the open coast of NSW under the *Coastal Protection Act 1979*). With the extension of the coastal zone into Sydney Harbour, the draft Coastal Management SEPP will apply new regulations for coastal development in Mosman. Both the SREP and draft SEPP cover similar planning matters, although there are some notable differences:

- The SREP Wetlands Protection Area Map identifies wetlands along almost the entirety of Mosman's boundary to the harbour, however the draft SEPP does not identify any wetlands in Mosman.
- The SREP DCP includes very detailed analysis of the foreshore landscape and design guidelines for development, yet the matters for consideration in draft SEPP do not go into this level of detail.
- The SREP identifies a foreshores and waterways area which extends approximately 1 to 2 blocks from the waterline, whilst the draft SEPP CMAs extend 100m from the waterline. Some Mosman properties are identified in both areas, some only in one.

It is understood that the Department is reviewing the SREP and DCP, however the Department's intention for the policies is unknown. Council has advised the Department of its views regarding the SREP at the *Sydney Harbour Planning Framework Workshop for Local Government* held on 10 February 2016, and on 15 May 2015 in response to correspondence from the Department seeking advice on the policy. This advice was that:

- Recognition and protection of the natural and visual environment of Sydney Harbour and its foreshores is vital. The harbour including surrounding land is significant to the State and nation.
- The SREP and its associated DCP are regularly considered in development assessment in Mosman, and have been over the past 11 years. The DCP is a valuable document which clearly sets out detailed information of landscape character types along the harbour coastline and design guidelines for water-based, land/water interface and land-based developments.
- The SREP and DCP should be retained. It is vital that, having regard to the hierarchy of planning policies in NSW, recognition and protection of Sydney Harbour and its foreshores come from the State (or Federal) level. Provisions in council LEPs can support this.

Concern is now raised that it may be the Department's intention to revoke the SREP and DCP with the introduction of the draft Coastal Management SEPP. This would result in the loss of detailed guidelines for development, which may have a detrimental impact on the visual amenity of the harbour.

## **2. Complying development may be permitted on land within Coastal Environment and Coastal Use CMAs without regard to the draft Coastal Management SEPP, undermining the aims of the draft SEPP and objects of the *Coastal Management Act 2016*.**

SEPP (Exempt and Complying Development Codes) 2008 (the Codes SEPP) applies to land in Mosman. Currently, land on Mosman's significant foreshore slopes is identified as being within a scenic protection area (SPA) and excluded from Part 3 General Housing Code of the Codes SEPP. However this is a temporary exclusion until 30 November 2018. Council continues to seek a permanent exclusion of the SPA from Part 3 of the Codes SEPP.

Concern is raised that, if the exclusion is lifted, land within Mosman's SPA – which includes land in the Coastal Environment and Coastal Use CMAs of the draft Coastal Management SEPP – could be developed as complying development with new dwelling houses, or low-rise medium density housing if the draft changes to the Codes SEPP on exhibition during late 2016 are adopted.

It does not appear that there is any exclusion of land within Coastal Environment and Coastal Use CMAs from the Codes SEPP, nor any requirement under either policy to consider the provisions of the draft Coastal Management SEPP if such land is to be developed as complying development. For example, within the CMA:

- Stringent requirements are applied under clauses 14, 15 and 16 of the draft SEPP for a consent authority to be satisfied that proposed development meets certain environmental, geomorphological, hydrological, heritage, and design thresholds before granting consent, if a development application is lodged for the works, no matter the scale of the proposed works
- Yet, on that same land, development to the scale of new two-storey dwelling houses and rows of medium density housing could be approved as complying development by a private certifier with no requirement to consider the impact of development within the coastal zone.

This is a significant contradiction between the State policies and undermines the aim of the draft SEPP and objects of the *Coastal Management Act 2016*, namely, to “promote an integrated and co-ordinated approach to land use planning in the coastal zone” and “manag[e] development in the coastal zone and protect the environmental assets of the coast”.

Land within the Coastal Environment and Coastal Use CMAs should be excluded, at the very least, from Part 3 General Housing Code of the Codes SEPP and draft Medium Density Housing Code.

## **3. There are additional Littoral Rainforests in Mosman not identified on the Coastal Wetlands and Littoral Rainforests CMA Map.**

The draft Coastal Management SEPP identifies four distinct areas of littoral rainforest in Mosman – all within national parks - forming the Coastal Wetlands and Littoral Rainforests CMA.

Mosman contains approximately 143 hectares of bushland, with around 39 hectares of this managed by Council. In December 2015, Council engaged Ecosure Pty Ltd to prepare an assessment of the biodiversity value and condition of bushland managed by Council. The assessment found areas of Coastal Escarpment Littoral Rainforest in Lawry Plunkett and Rosherville Reserves. The assessment also found Coastal Headland Littoral Thicket in Sirius Park West and Parriwi Point Reserves.

The draft SEPP maps should be amended to include the areas of Littoral Rainforest identified in the *Mosman Flora and Fauna Assessment* (June 2016). Littoral Thicket should also be identified in CMA mapping if it meets the Department's criteria. Relevant pages from the assessment are attached for your information. GIS spatial data for these areas can be provided if needed.

**4. Guidelines should be issued by the Department to provide guidance for the assessment of matters that a consent authority must be satisfied of before granting consent to proposed development within a CMA.**

The draft Coastal Management SEPP includes provisions in clauses 11 to 16 that require a consent authority to be satisfied that proposed development meets certain environmental, geomorphological, hydrological, heritage and design thresholds before granting consent.

However, no guidance is provided as to the Department's expectations of:

- What information should be submitted by an applicant with a development application to address these matters, i.e. standard of professional reports, qualifications of person preparing report etc
- How matters are to be assessed by a consent authority e.g. What constitutes an 'adverse impact' or 'significant impact'?; What design measures should be in place to ensure proposed development minimises 'wind funnelling'?; Is the standard for 'minimises overshadowing' the same or different to solar access planning controls in a council's DCP?; How is the 'biophysical, hydrological and ecological integrity' of littoral rainforests to be measured?

Guidelines may have been established to consider such matters under SEPP 14 (Coastal Wetlands), SEPP 26 (Littoral Rainforests) or SEPP 71 (Coastal Protection) – which are to be merged into the new draft Coastal Management SEPP – however SEPPs 14, 26 and 71 do not currently apply in Mosman, and as such, Council is not aware of the Department's expectations in respect of the assessment of these policies. Capacity building of council's professional engineers, environmental officers and planners may be required to meet requirements, however this is unclear.

Guidelines should be issued by the Department to provide guidance to Council for the assessment of matters that it must be satisfied of before granting consent to proposed development on around 570 residential zoned lots along Mosman's foreshore, in addition business uses at The Spit and public land, identified as being within a CMA.

**5. The implications for councils that do not have a Coastal Management Program or Coastal Zone Management Plan in place are onerous.**

SEPP (Infrastructure) 2007 applies to land in Mosman and allows certain works to be carried out by or on behalf of a public authority without consent. Currently, Part 3, Division 25 of the Infrastructure SEPP allows Council to undertake 'waterway or foreshore management activities' (defined as including coastal protection works) on any land without consent. This includes activities or works to reduce the impact of coastal hazards such as seawalls, revetments, groynes and beach nourishment.

The draft Coastal Management SEPP proposes to amend the Infrastructure SEPP and introduce new provisions to limit coastal protection works that may be carried out by or on behalf of a public authority without consent. Under clauses 21 and 22:

- Beach nourishment, temporary placement of sandbags, routine maintenance and repair of existing coastal protection works, or works identified in a coastal management plan (CMP) (or coastal zone management plan (CZMP)) may be allowed without consent;
- For all other works, development consent is required, with the function of granting consent to be exercised by the relevant joint regional planning panel (JRPP) (or Sydney Planning Panel which operates in the Greater Sydney Region?).

At present, Mosman does not have CZMP (or CMP) in place. The development of Mosman's CZMP was ongoing during the 2013-14 financial year, however its completion has been delayed pending the NSW Government's coastal reforms. As such, under the reforms, coastal protection works which traditionally have been carried out in Mosman without consent (other than minor works listed above) would require development consent to be granted by the Sydney North Planning Panel until a CMP is prepared under the *Coastal Management Act 2016* and adopted.

It is estimated it would be a period of at least two years to prepare, consult, finalise and adopt a CMP for Mosman meeting the requirements of the new Act and manual – this may be further delayed with council amalgamations. This is onerous on the councils in this position, such as Mosman.

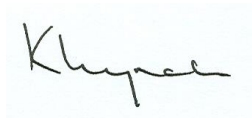
For example –

- Council is currently proposing to undertake coastal protection works on the eastern side of The Spit to mitigate erosion. Plans for a new seawall have been developed over the past 9 months in consultation with the Roads and Maritime Services, Crown Lands, Department of Primary Industries and other State authorities, local businesses and residents, and the community. Currently, these works can be undertaken without consent.
- However, under the draft Coastal Management SEPP, development consent would be required necessitating lodgement of a development application. With this comes the requirement for more detailed reports, plans and other documentation in support of the application; an external planning consultant to be engaged assess the application under section 79C of the *Environmental Planning and Assessment Act 1979*; and submission of an assessment report to the Sydney North Planning Panel – adding cost and time to this process.
- As the seawall can be constructed now without consent – and would likely be able to be constructed in the future without consent under an adopted CMP – the changes proposed under the draft Coastal Management SEPP are onerous.

Clause 21(2) of the draft Coastal Management SEPP should be amended to provide an adequate period of time for councils to prepare a CMP under the *Coastal Management Act 2016* identifying coastal protection works that may be able to be carried out by a public authority without development consent.

Thank you for the opportunity to comment on this proposal. Please do not hesitate to contact me on 9978 4058 or [k.lynch@mosman.nsw.gov.au](mailto:k.lynch@mosman.nsw.gov.au) if you would like to discuss these issues further.

Yours sincerely



Kelly Lynch  
SENIOR STRATEGIC PLANNER

Attachments:

1. Council letter to OEH dated 26 February 2016
2. Extracts from *Mosman Flora and Fauna Assessment* (June 2016)

## Attachment 1



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26 February 2016

Office of Environment and Heritage  
PO Box A290  
SYDNEY SOUTH NSW 1232

Dear Sir/Madam

**Re: Submission - NSW Coastal Management Reforms**

I refer to the Office of Environment and Heritage's call for submissions on the NSW coastal reforms, which was released for public comment in November 2015.

Mosman Council (Mosman) has an interest in the NSW coastal reforms given Mosman's location within Sydney and Middle Harbours. Occupying some 8.7 square kilometres, Mosman features numerous stunning bays and beaches, with foreshore areas comprising a mix of natural bushland, parkland, residential development and maritime business uses. Key issues relating to coastal hazards, community uses and coastal ecosystem health in Mosman include:

- sea level rise leading to coastal inundation in low lying areas and beach recession;
- maintenance of heritage items along the foreshore;
- risk to areas of development along the foreshore, with a variety of private foreshore structures e.g. seawalls, swimming pools, boatsheds, jetties and moorings;
- impacts on important ecological habits (wetlands/seagrass);
- potential cliff instability;
- high amenity value and community use of the foreshore;
- accessible pedestrian access routes;
- water quality at Balmoral and Edwards Beaches;
- potential for erosion at Balmoral South and Edwards Beaches and seawall integrity;
- erosion and inundation at The Spit East;
- maintenance of the dune at Chinamans Beach;
- overtopping of Balmoral seawall;
- amenity and water quality issues associated with stormwater outfalls; and
- acid sulfate soil areas.

The development of Mosman's Coastal Zone Management Plan (CZMP) addressing these key issues was ongoing during the 2013-14 financial year, however completion of the CZMP has been delayed pending the NSW Government's coastal reforms.

Proud to be Mosman  
Protecting our Heritage  
Planning our Future  
Involving our Community

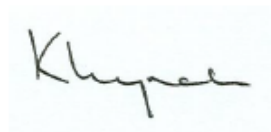
Mosman is a member of the Sydney Coastal Councils Group (SCCG) established in 1989 to promote the sustainable management of Sydney's urban coastal environment. The SCCG will be making a detailed submission in respect of the NSW coastal reforms on behalf of Mosman and other member councils.

In addition to the detailed SCCG submission, the following points are made:

- The effect of the NSW coastal reforms on Mosman is unknown as maps showing affected land within the four new coastal management areas have not been released. Currently land in Mosman is excluded from the coastal zone as defined under the *Coastal Protection Act 1979*.
- The proposed new Coastal Management SEPP (to be released for public comment later in 2016) will specify development controls that will apply to development within each of the four coastal management areas, replacing existing SEPPs relating to coastal areas. As noted above it is unclear whether the new coastal management areas will apply in Mosman, however if applicable,
  - there needs to be consistency with controls currently applying to Mosman's harbour foreshore areas under the *Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005* (SREP 2005) and associated *Sydney Harbour Foreshore and Waterways Area Development Control Plan 2005* (DCP 2005). I note that the SREP 2005 and DCP 2005 are currently under review by the NSW Department of Planning and Environment;
  - there needs to be consistency with controls in Mosman Local Environmental Plan 2012 in respect of acid sulfate soils (clause 6.1), natural watercourses (clause 6.2), foreshore building line (clause 6.3) and scenic protection (clause 6.4);
  - there needs to be consistency with the current exclusion of land within Mosman's scenic protection area from complying development under the General Housing Code of SEPP (Exempt and Complying Development Codes) 2008 (the Codes SEPP). Whilst this is currently a temporary exclusion (until 30 November 2018), Council is seeking to have this exemption made permanent.

Should you have any enquiries, please contact me on 9978 4058 or [k.lynch@mosman.nsw.gov.au](mailto:k.lynch@mosman.nsw.gov.au).

Yours sincerely



Kelly Lynch  
SENIOR STRATEGIC PLANNER



## Attachment 2

Extracts from the *Mosman Flora and Fauna Assessment* (June 2016) prepared by Ecosure Pty Ltd identifying areas of Coastal Escarpment Littoral Rainforest and Coastal Headland Littoral Tickett in Mosman.

### 4.2.1.2 Littoral Rainforest in the NSW North Coast, Sydney Basin and South East Corner Bioregions

This TEC is also a component of Littoral Rainforest and Coastal Vine Thickets of Eastern Australia, a Critically Endangered Ecological Community under the EPBC Act. It includes two communities mapped by OEH (2013) in the Sydney metropolitan area:

- Coastal Escarpment Littoral Rainforest (S\_RF07)
- Coastal Headland Littoral Thicket (S\_RF08).

Coastal Escarpment Littoral Rainforest occurs on protected escarpment slopes and gullies, generally on soils containing some clay. Common species in the open to closed canopy include *Acmena smithii* (lily pilly), *Livistona australis* (cabbage tree palm), *Pittosporum undulatum* (sweet pittosporum), *Synoum glandulosum* (scentless rosewood) and *Glochidion ferdinandi* (cheese tree). Emergent trees may include *Angophora costata* (Sydney red gum) and *Syncarpia glomulifera* (turpentine). The ground-storey is generally dominated by ferns.

Vegetation in the north-eastern arm of Lawry Plunkett Reserve bushland reserve contains a number of species characteristic of rainforest communities, including *Acmena smithii*, *Alectryon tomentosus*, *Hymenosporum flavum*, *Synoum glandulosum* ssp *glandulosum* and *Syzygium paniculatum* (Table 14). The community occurs on a moderately sloping sandstone escarpment facing north-east towards Balmoral Beach and has an area of approximately 0.12 ha (see Volume 2 for details).

Table 14 Flora species recorded in Coastal Escarpment Littoral Rainforest at Lawry Plunkett Reserve

Family	Scientific name	Common name	Status
Fabaceae - Mimosoideae	<i>Acacia implexa</i>	hickory wattle	
Myrtaceae	<i>Acmena smithii</i>	lily pilly	
Sapindaceae	<i>Alectryon tomentosus</i>	hairy bird's eye	
Basellaceae	<i>Anredera cordifolia</i>	madeira vine	N4
Aspleniaceae	<i>Asplenium australasicum</i>	birds nest fern	
Euphorbiaceae	<i>Breynia oblongifolia</i>	coffee bush	
Dicksoniaceae	<i>Calochlaena dubia</i>	soft bracken	
Vitaceae	<i>Cissus antarctica</i>	kangaroo vine	
Verbenaceae	<i>Clerodendrum tomentosum</i>	hairy clerodendrum	
Commelinaceae	<i>Commelina cyanea</i>	scurvy weed	
Asteraceae	<i>Conyza</i> sp	fleabane	*
Cyatheaceae	<i>Cyathea cooperi</i>	straw treefern	





Family	Scientific name	Common name	Status
Poaceae	<i>Cymbopogon refractus</i>	barbed wire grass	
Phormiaceae	<i>Dianella caerulea</i>	blue flax-lily	
Poaceae	<i>Ehrharta erecta</i>	panic veldtgrass	*
Chenopodiaceae	<i>Einadia trigonos</i> ssp <i>trigonos</i>	fishweed	
Myrtaceae	<i>Eucalyptus robusta</i>	swamp mahogany	
Luzuriagaceae	<i>Eustrephus latifolius</i>	wombat berry	
Moraceae	<i>Ficus rubiginosa</i>	Port Jackson fig	
Geraniaceae	<i>Geranium homeanum</i>	native geranium	
Euphorbiaceae	<i>Glochidion ferdinandi</i> var <i>ferdinandi</i>	cheese tree	
Euphorbiaceae	<i>Homalanthus populifolius</i>	bleeding heart	
Pittosporaceae	<i>Hymenosporum flavum</i>	native frangipani	
Juncaceae	<i>Juncus usitatus</i>	common rush	
Lomandraceae	<i>Lomandra longifolia</i>	spiny-headed mat-rush	
Myrtaceae	<i>Melaleuca styphelioides</i>	prickly-leaved tea tree	
Poaceae	<i>Microlaena stipoides</i> var <i>stipoides</i>	weeping grass	
Myrsinaceae	<i>Myrsine variabilis</i>		
Oleaceae	<i>Notelaea longifolia</i>	large mock-olive	
Poaceae	<i>Oplismenus aemulus</i>	oplismenus	
Adiantaceae	<i>Pellaea falcata</i>	sickle fern	
Pittosporaceae	<i>Pittosporum undulatum</i>	sweet pittosporum	
Araliaceae	<i>Polyscias sambucifolia</i>	elderberry panax	
Dennstaedtiaceae	<i>Pteridium esculentum</i>	common bracken	
Pteridaceae	<i>Pteris tremula</i>	tender brake	
Asteraceae	<i>Sigesbeckia orientalis</i> ssp <i>orientalis</i>		
Solanaceae	<i>Solanum aviculare</i>	kangaroo apple	
Menispermaceae	<i>Stephania japonica</i> var <i>discolor</i>	snake vine	
Myrtaceae	<i>Syncarpia glomulifera</i> ssp <i>glomulifera</i>	turpentine	
Meliaceae	<i>Synoum glandulosum</i> ssp <i>glandulosum</i>	scentless rosewood	
Myrtaceae	<i>Syzygium paniculatum</i>	magenta lilly pilly	E
Commelinaceae	<i>Tradescantia fluminensis</i>	trad	*

Rosherville Reserve occurs on a protected south-east facing escarpment with a moderate to steep slope. The majority of this reserve contains a mixture of rainforest species (Table 15), including *Acmena smithii* (lilly pilly), *Livistona australis* (cabbage tree palm), *Pittosporum undulatum* (sweet pittosporum), *Synoum glandulosum* (scentless rosewood), *Ficus rubiginosa* (Port Jackson fig) and *Glochidion ferdinandi* (cheese tree). The vegetation community has an area of approximately 0.34 ha (see Volume 2 for details).



Table 15 Flora species recorded in Coastal Escarpment Littoral Rainforest at Rosherville Reserve

Family	Scientific name	Common Name	Status
Fabaceae - Mimosoideae	<i>Acacia longifolia</i> ssp <i>longifolia</i>	Sydney golden wattle	
Fabaceae - Mimosoideae	<i>Acacia suaveolens</i>	sweet wattle	
Myrtaceae	<i>Acmena smithii</i>	lilly pilly	
Adiantaceae	<i>Adiantum aethiopicum</i>	common maidenhair	
Asteraceae	<i>Ageratina adenophora</i>	Crofton weed	*
Casuarinaceae	<i>Allocasuarina littoralis</i>	black she-oak	
Myrtaceae	<i>Angophora costata</i>	Sydney red gum	
Basellaceae	<i>Anredera cordifolia</i>	madeira vine	N4
Aspleniaceae	<i>Asplenium australasicum</i>	birds nest fern	
Proteaceae	<i>Banksia integrifolia</i> ssp <i>integrifolia</i>	coast banksia	
Proteaceae	<i>Banksia serrata</i>	old-man banksia	
Asteraceae	<i>Bidens pilosa</i>	cobblers pegs	*
Blechnaceae	<i>Blechnum cartilagineum</i>	gristle fern	
Sterculiaceae	<i>Brachychiton acerifolius</i>	flame tree	
Euphorbiaceae	<i>Breynia oblongifolia</i>	coffee bush	
Cunoniaceae	<i>Callicoma serratifolia</i>	black wattle	
Dicksoniaceae	<i>Calochlaena dubia</i>	soft bracken	
Lauraceae	<i>Cinnamomum camphora</i>	camphor laurel	*
Vitaceae	<i>Cissus hypoglauca</i>	water vine	
Commelinaceae	<i>Commelina cyanea</i>	scurvy weed	
Asteraceae	<i>Conyza</i> sp	fleabane	*
Asteraceae	<i>Crassocephalum crepidioides</i>	thickhead	*
Cyatheaceae	<i>Cyathea cooperi</i>	straw treefern	
Phormiaceae	<i>Dianella caerulea</i>	blue flax-lily	
Convolvulaceae	<i>Dichondra repens</i>	kidney weed	
Blechnaceae	<i>Doodia aspera</i>	prickly rasp fern	
Poaceae	<i>Ehrharta erecta</i>	panic veldtgrass	*
Elaeocarpaceae	<i>Elaeocarpus reticulatus</i>	blueberry ash	
Poaceae	<i>Eleusine indica</i>	crowsfoot grass	*
Poaceae	<i>Entolasia marginata</i>	bordered panic	
Myrtaceae	<i>Eucalyptus botryoides</i>	bangalay	
Luzuriagaceae	<i>Eustrephus latifolius</i>	wombat berry	
Moraceae	<i>Ficus coronata</i>	sandpaper fig	
Moraceae	<i>Ficus rubiginosa</i>	Port Jackson fig	
Geraniaceae	<i>Geranium homeanum</i>	native geranium	
Euphorbiaceae	<i>Glochidion ferdinandi</i> var <i>ferdinandi</i>	cheese tree	
Euphorbiaceae	<i>Homalanthus populifolius</i>	bleeding heart	
Arecaceae	<i>Livistona australis</i>	cabbage fan-palm	
Lomandraceae	<i>Lomandra longifolia</i>	spiny-headed mat-rush	



Family	Scientific name	Common Name	Status
Myrtaceae	<i>Melaleuca styphelioides</i>	prickly-leaved tea tree	
Poaceae	<i>Microlaena stipoides</i> var <i>stipoides</i>	weeping grass	
Davalliaceae	<i>Nephrolepis cordifolia</i>	fishbone fern	ni
Ochnaceae	<i>Ochna serrulata</i>	ochna	N4
Poaceae	<i>Optismenus aemulus</i>	oplismenus	
Poaceae	<i>Optismenus imbecillis</i>		
Urticaceae	<i>Parietaria judaica</i>	asthma weed	*
Pittosporaceae	<i>Pittosporum undulatum</i>	sweet pittosporum	
Podocarpaceae	<i>Podocarpus elatus</i>	plum pine	
Dennstaedtiaceae	<i>Pteridium esculentum</i>	common bracken	
Selaginellaceae	<i>Selaginella uliginosa</i>	swamp selaginella	
Fabaceae - Caesalpinioideae	<i>Senna pendula</i> var <i>glabrata</i>	cassia	N4
Poaceae	<i>Setaria palmifolia</i>	palm grass	*
Malvaceae	<i>Sida rhombifolia</i>	Paddy's lucerne	*
Solanaceae	<i>Solanum mauritianum</i>	wild tobacco bush	*
Solanaceae	<i>Solanum nigrum</i>	black-berry nightshade	*
Asteraceae	<i>Sonchus oleraceus</i>	common sowthistle	*
Menispermaceae	<i>Stephania japonica</i> var <i>discolor</i>	snake vine	
Meliaceae	<i>Synoum glandulosum</i> ssp <i>glandulosum</i>	scentless rosewood	
Myrtaceae	<i>Syzygium luehmannii</i>	small-leaved lilly pilli	ni
Commelinaceae	<i>Tradescantia fluminensis</i>	trad	*
Verbenaceae	<i>Verbena bonariensis</i>	purple top	*
Violaceae	<i>Viola hederacea</i>	native violet	

General status: \* = exotic (not native to Australia); N = noxious weeds as listed on the NSW Noxious Weeds Act 1993 for the Mosman LGA; ni = non - indigenous native species (does not naturally occur at this locality)  
Conservation Status: CE = Critically Endangered under TSC Act; E = Endangered under TSC Act; V = Vulnerable under TSC Act

Coastal Headland Littoral Thicket communities grow on shale-influenced soils that occur on sheltered headlands and scarps that face the ocean. The low dense canopy is sculpted by salt-laden winds and typically contains *Acmena smithii* (lilly pilli), *Elaeodendron australe* var. *australe* (red olive plum), *Guioa semiglaucula* (guioa), *Ficus rubiginosa* (Port Jackson fig) and *Livistona australis* (cabbage tree palm). Vines are often common, and stunted emergent banksias or eucalypts may be present.

The western section of Sirius Park West bushland reserve contains a coastal-facing escarpment with a low open canopy of trees, including *Ficus rubiginosa*, *Acmena smithii* and *Hymenoporus flavum* (Table 16). This community has an approximate area of 0.11 ha (Volume 2 shows a map and details).

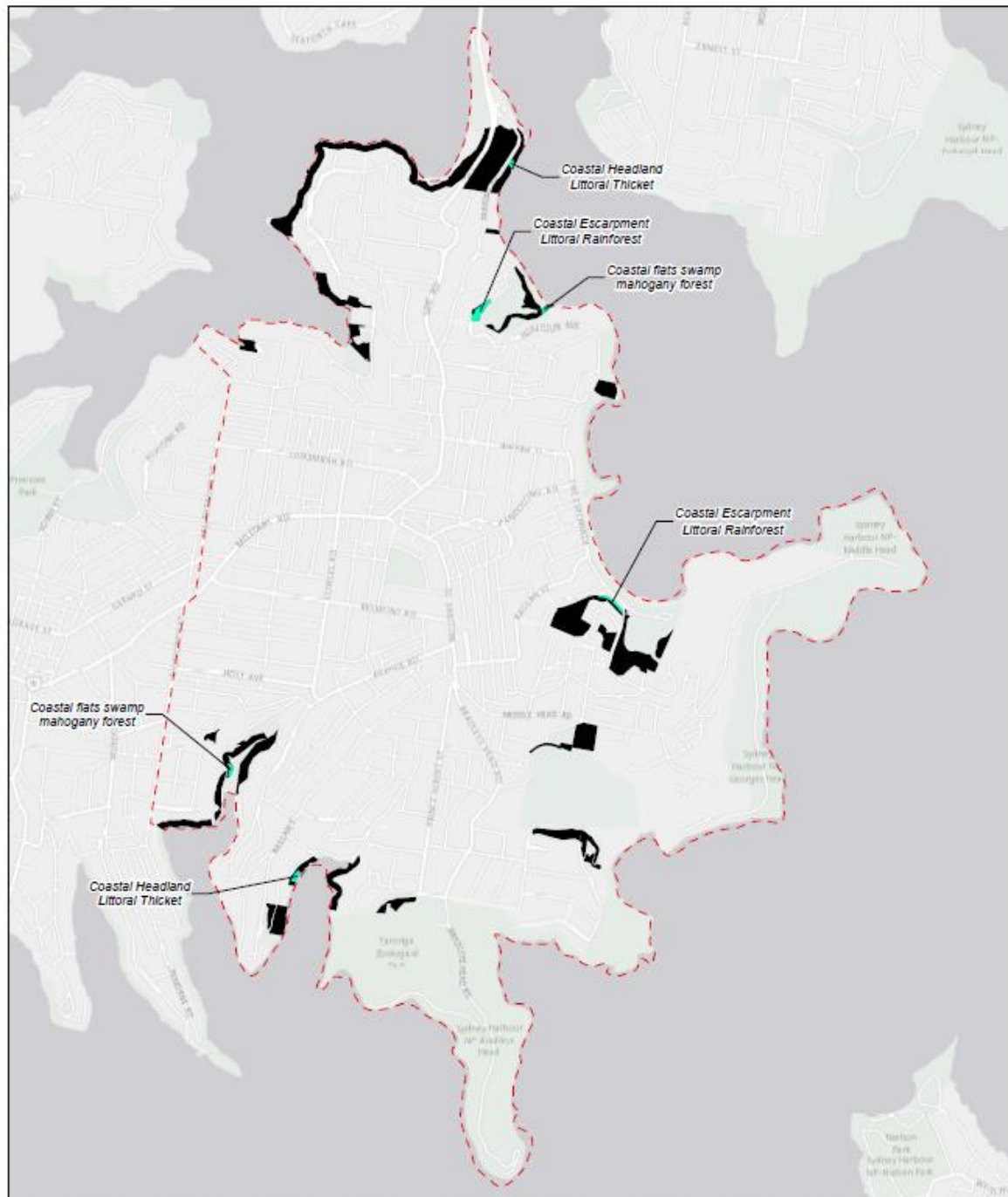


Table 16 Flora species recorded in Coastal Headland Littoral Thicket at Sirius Park West Reserve

Family	Scientific name	Common name	Status
Polygonaceae	<i>Acetosa sagittata</i>	turkey rhubarb	N4
Myrtaceae	<i>Acmena smithii</i>	lily pilly	
Adiantaceae	<i>Adiantum aethiopicum</i>	common maidenhair	
Lauraceae	<i>Cassytha pubescens</i>		
Vitaceae	<i>Cayratia clematidea</i>	native grape	
Commelinaceae	<i>Commelina cyanea</i>	scurvy weed	
Cyatheaceae	<i>Cyathea cooperi</i>	straw treefern	
Phormiaceae	<i>Dianella caerulea</i>	blue flax-lily	
Poaceae	<i>Ehrharta erecta</i>	panic veldtgrass	*
Poaceae	<i>Entolasia marginata</i>	bordered panic	
Moraceae	<i>Ficus rubiginosa</i>	Port Jackson fig	
Geraniaceae	<i>Geranium homeanum</i>	native geranium	
Euphorbiaceae	<i>Glochidion ferdinandi</i> var <i>ferdinandi</i>	cheese tree	
Proteaceae	<i>Hakea sericea</i>	needlebush	
Dilleniaceae	<i>Hibbertia scandens</i>	climbing guinea flower	
Dennstaedtiaceae	<i>Histiopteris incisa</i>	bat's wing fern	
Euphorbiaceae	<i>Homalanthus populifolius</i>	bleeding heart	
Pittosporaceae	<i>Hymenosporum flavum</i>	native frangipani	
Juncaceae	<i>Juncus usitatus</i>	common rush	
Verbenaceae	<i>Lantana camara</i>	lantana	N4
Myrtaceae	<i>Leptospermum polygalifolium</i>	yellow tea-tree	
Lomandraceae	<i>Lomandra longifolia</i>	spiny-headed mat-rush	
Poaceae	<i>Microlaena stipoides</i> var <i>stipoides</i>	weeping grass	
Oleaceae	<i>Notelaea longifolia</i>	large mock-olive	
Poaceae	<i>Oplismenus aemulus</i>	oplismenus	
Urticaceae	<i>Parietaria judaica</i>	asthma weed	*
Pittosporaceae	<i>Pittosporum undulatum</i>	sweet pittosporum	
Araliaceae	<i>Polyscias sambucifolia</i>	elderberry panax	
Dennstaedtiaceae	<i>Pteridium esculentum</i>	common bracken	
Pteridaceae	<i>Pteris tremula</i>	tender brake	
Poaceae	<i>Setaria palmifolia</i>	palm grass	*
Asteraceae	<i>Sigesbeckia orientalis</i> ssp <i>orientalis</i>		
Smilacaceae	<i>Smilax glycyphylla</i>	sweet sarsaparilla	
Commelinaceae	<i>Tradescantia fluminensis</i>	trad	*

General status: \* = exotic (not native to Australia); N = noxious weeds as listed on the NSW Noxious Weeds Act 1993 for the Mosman LGA; ni = non-indigenous native species (does not naturally occur at this locality)  
Conservation Status: CE = Critically Endangered under TSC Act; E = Endangered under TSC Act; V = Vulnerable under TSC Act

Sections of Parriwi Point bushland reserve also contain landforms and species characteristic of Coastal Headland Littoral Thicket. However, this reserve is extremely steep and heavily infested with weeds, so a detailed survey of the vegetation was not possible.

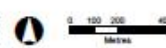


**Figure 2: Threatened Ecological Communities**

Mosman Municipal Council  
Mosman Bushland Audit



Job number: P01267  
Revision: 0  
Author: MTD  
Date: 15/04/2016



GDA 1994 MGA Zone 56  
Projection: Transverse Mercator  
Datum: GDA 1994  
Units: Metre

**Bushland Reserve**  
**Threatened ecological community**





Figure 8.4: Threatened Ecological Communities  
Lawry Plunkett Reserve (BR8)

Mosman Municipal Council  
Mosman Bushland Audit

-  Coastal Escarpment
-  Littoral Rainforest
-  Bushland Reserve boundary



0 10 20 40  
Metres



GDA 1994 MGA Zone 56  
Projection: Transverse Mercator  
Datum: GDA 1994  
Units: Metres

Job number: PM1357  
Revision: DR  
Author: MJD  
Date: 23/03/2016



Data: Copyright Mosman Municipal Council & Ecosure Pty Ltd. 2016. Source: PM1357/2016, 2016





Figure 16.4: Threatened Ecological Communities  
Rosherville Reserve (BR16)

Mosman Municipal Council  
Mosman Bushland Audit

-  Coastal Escarpment  
Littoral Rainforest
-  Bushland Reserve  
boundary



CGA 1994 MGA Zone 56  
Projection: Transverse Mercator  
Datum: CGA 1994  
Units: Meter

Job number: PM1351  
Revision: 01  
Author: MCD  
Date: 23/02/2016





Figure 5.4: Threatened Ecological Communities  
Parriwi Point Reserve (BR5)

Mosman Municipal Council  
Mosman Bushland Audit

-  Coastal Headland  
Littoral Thicket
-  Bushland Reserve  
boundary



0 10 20 40  
Metres



GDA 1994 MGA Zone 56  
Projection: Transverse Mercator  
Datum: GDA 1994  
Units: Metre

Job number: PR1357  
Revision: DR  
Author: MED  
Date: 23/02/2016





Figure 17.4: Threatened Ecological Communities  
Sirius Park West (BR17)

Mosman Municipal Council  
Mosman Bushland Audit

-  Coastal Headland Littoral Thicket
-  Bushland Reserve boundary



GDA 1994 MGA Zone 56  
Projection: Transverse Mercator  
Datum: GDA 1994  
Units: Metre  
Job number: PW1357  
Revision: DR  
Author: MLD  
Date: 23/02/2016