WALLAGA LAKE HEIGHTS LANDCARE GROUP

PLANT SPECIES LIST

REPORT AUTHORED BY JACKIE MILES, CONSULTANT BOTANIST REPORT

FUNDED BY A BEGA VALLEY SHIRE COUNCIL ENVIRONMENTAL GRANT

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THE WALLAGA LAKE HEIGHTS LANDCARE GROUP WORKING AREA IS THE ESTUARY FORESHORE AND RESERVE BELOW LAKE VIEW DRIVE.

Comments

The group has obviously done some good work, as some of the weeds mentioned on the website are no longer in evidence, but vigilance will be needed to remove seedlings or regrowth off cut stumps. The table indicates which species I think should be a priority in future work (those in red). Some weeds are simply too well established to be worth tackling, and some may decrease over time as the site becomes shadier with more plantings and the disturbance caused by woody weed and vine removal subsides.

Plantings should continue to fill in the gaps created by weed removal, and should be of local species appropriate to the site, mostly trees and shrubs. Until the weeds are finally routed, planting of native vines

and groundcovers would be premature and will make weed control more difficult. "Natives" which are not local natives should not be planted in the foreshore reserve, though they could be offered to neighbours for their gardens.

Three species lists have been compiled previously, of species to plant, or species currently present:

- Council list is reasonable, but limited. I would advocate including more rainforest trees in future plantings, since this is the direction the site is heading anyway, with dense Pittosporum growth and numerous Bleeding Heart seedlings and saplings. Deep shade may discourage some of the current weeds. Taking the site in this direction would mean that there may be little point in planting shrubs which prefer full sun such as *Correa alba, Westringia fruticosa*.
- Rebecca Rudd's list: *Phebalium squamulosum* is present just south of Bermagui, but is not a common local plant, and if not easy to propagate then not worth bothering with. *Olearia tomentosa* is a common coastal shrub, but it prefers sunny sites, so unless these can be found (upper slope?) it is not worth planting it lower down. Some of her suggestions do not naturally occur this far south (*Crinum pedunculatum, Cupaniopsis anacardioides, Clerodendrum tomentosum*) so should not be planted. The local Muttonwood is *Myrsine* (formerly *Rapanea*) *howittiana*, and well worth planting.
- Allison Kuiter's list: Acacia falciformis is a local species but not likely to occur naturally in this location. A. implexa is already present and it and Acacia maidenii could be planted. The local endemic, Acacia pedina would be a good thing to add to the site, and it is often seen growing close to the edge of lakes between Bermagui and Tathra (eg Nelsons, Cuttagee).

There are two Casuarinas on the site already, *A. verticillata* and *C. glauca*, so adding *Allocasuarina littoralis* is probably not necessary. *Myoporum insulare* is not the local shrub Boobialla, as it occurs only south from Eden. *M. boninense* should be used. *Pomaderris aspera* is local, but may not be easy to propagate and is more a species of freshwater stream banks not saline areas.

Groundcovers, unless they are very robust like *Lomandra longifolia*, are probably not worth introducing at this stage due to the rampant exotic cover of veldt grass and assorted weedy herbs. Allison's suggested species are good (though it should be *Viola banksii*, which is the species normally sold as *V. hederacea* anyway, and the most common local native geranium is *G. gardneri*, not *G. solanderi*.)

Images of most of the plants in the list below can be found on the Far South Coast Conservation Management Network website: <u>http://www.fsccmn.com/</u>

PLANT SPECIES LIST

Relative abundance is given by a cover abundance scale (modified Braun-Blanquet): 1 1 to a few individuals present, less than 5% cover 2 many individuals present, but still less than 5% cover 3 5 - < 20% cover 4 20 - < 50% cover 5 50 - < 75% cover 6 75 - 100% cover

Cover/abundance scores relate to general abundance over the entire site and if the plant is patchy, then a range is given.

P = obviously planted, ?P = probably planted, N = naturally occurring (only included if both naturally occurring plants and planted ones are present.

*Introduced species are preceded by an asterisk. Significant weeds in need of removal are in red.

Scientific name	Common name	Abu nd ance	Comments
TREES/ SMALL TREES			
Acacia implexa	Lightwood or Hickory	1	Mature plants, also good to plant
Acacia melanoxylon	Blackwood	1 P	Only 1 seen, local native but not highly appropriate so close to the sea.
Acacia pedina or pycnantha		1 P	3 seen recently planted, purchased in Canberra. Could be the local endemic <i>A. pedina</i> , but more likely the inland closely related <i>A.</i> <i>pycnantha</i> . Check with purchaser and if not <i>pedina</i> , replace with that species, which is suitable for the site and has a restricted distribution between Tathra and Bermagui.
Acmena smithii	Lillypilly	1 P & ?P	Some quite large, some recently planted. Suits for more plantings.
Allocasuarina verticillata	Dryland Drooping Sheoak	1	Usually a sea-cliff plant. One big plant at top of bank and some smaller ones close to shore. Could plant more.
Androcalva rossii (Commersonia fraseri)	Brush Kurrajong, Blackfellow's Hemp	1	Only 1 seen, could plant more, attractive in flower, tall shrub or small tree.
Angophora floribunda	Rough-barked Apple	1	One mature, probably naturally occurring, bit too big to plant on this site.
Banksia integrifolia	Coast Banksia	1	One clump near southern end. Could plant more.
Banksia serrata	Saw Banksia	1 ?P	One, possible old planting, less appropriate than Coast Banksia.

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Scientific name	Common name	Abu	Comments]

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*Brachychiton acerifolius	Illawarra Flame Tree	1 P	Native north from Shoalhaven, not appropriate, but too big to remove.
Casuarina glauca	Swamp Oak	0-5	The most likely original veg of the foreshore, usually forms dense single species stands with very little understorey.
Eucalyptus botryoides	Bangalay	1	1 or 2, could be natural or an old planting.
Eucalyptus tereticornis	Forest Red Gum	1	One big, one near-dead, probably natural occurrence, although their usually habitat is inland on granite, not coastal.
<i>Eucalyptus</i> sp.		1 P	Unidentifiable. Old planting
Exocarpos cupressiformis	Native Cherry	1	Large old tree.
Ficus rubiginosa	Port Jackson or Rusty Fig	1 ?P	Quite large but possibly an old planting. Appropriate to the site, but a bit big?
Homalanthus populifolius	Bleeding Heart	2-3	Common native coloniser of canopy gaps in wettish gully situations, short-lived (10-20 years?). Very abundant, and will be a useful pioneer species.
*Lagunaria patersonia	Norfolk Island Hibiscus	1 P	One recently planted, needs removing as this weedy tree spreads readily in wet saline areas.
Melaleuca armillaris	Bracelet Honey Myrtle	0-4	Common foreshore plant on coastal lakes, also probably part of the original foreshore veg.
Myoporum acuminatum	Pointed Boobialla	1, N & P	Some big ones near southern end, plus a lot planted. Very appropriate to the site.
Myrsine (Rapanea) howittiana	Muttonwood		Not present yet, but could be planted to enhance the developing rainforest character of the site. This is the most tolerant of salinity and waterlogging of the rainforest

			trees locally.
Pittosporum undulatum	Sweet Pittosporum	0-5	Invasive native, but reasonably appropriate here (favoured by lack of fire). Backbone of developing littoral rainforest with Bleeding Heart and Boobialla. Don't plant any more, and maybe pull seedlings, and try and increase diversity with other rainforest species.
Synoum glandulosum	Scentless Rosewood		Not present yet, but another local native rainforest tree which could be planted.
Tristaniopsis laurina	Water Gum	1 P	X1, c. 1.5m tall, not very appropriate as it normally occurs on freshwater streams, not saline lakes.

Scientific name	Common name	Abu nd ance	Comments
SHRUBS			
Acacia longifolia ssp. Iongifolia	Sydney Golden Wattle	1	Probably natural, may also be planted. Suitable for planting but short-lived.
Acacia longifolia ssp. sophorae	Coast Wattle	1	On foreshore at southern end. Not suitable for shadier areas.
Acacia ?covenyi	Bendethera Wattle	1 P	Big old plant, possibly this species, not local native but OK to leave.
Breynia oblongifolia	Coffee Bush	2	Bird dispersed, turns up by itself, no need to plant.
Correa alba var. alba	White Correa	1 P	Will do best in sunny sites.
*Cotoneaster glaucophyllus	Cotoneaster	1	
Dodonaea viscosa ssp. angustifolia	Hop Bush	1 P	Not very appropriate, but OK to leave it, local native.
Indigofera australis	Austral Indigo	1 ?P	Local native, if it does well here, more could be planted.

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Melaleuca hypericifolia		1 P	Not naturally present but it does occur in this sort of habitat locally so could plant more.
Melicytus dentatus (Hymenanthera dentata)	Tree Violet	1	Appropriate to the site, but thorny, so inconvenient in an area that needs regular maintenance
Myoporum boninense	Boobialla	1 P	Smaller, blunt-leafed shrub Boobialla, usually on coastal cliffs and dunes, would prefer full sun, OK to plant more.
Notelaea venosa	Veined Mock Olive	1	Common local native of shady sites, could plant this or <i>Notelaea longifolia</i> , if obtainable.
*Ochna serrulata	Mickey Mouse Plant	1	Has been cut, but resprouting in several spots.
Pittosporum revolutum	Large-fruited Pittosporum	1	Smaller shrub, not invasive like Sweet Pittosporum, could plant some.
Rhagodia candolleana	Seaberry Saltbush	1, P & N	Highly appropriate for site, plant more.
*Rhaphiolepis indica	Indian Hawthorn	1	Big plant near large Cotoneaster, potentially weedy (bird dispersed berry fruits), but not a common garden escapee locally.
Rubus parvifolius	Small-leaved Bramble	1	Low trailing prickly plant, not very desirable.
*Rubus ulmifolius	Blackberry	1	
*Senna pendula	Cassia	1	Some seedlings seen, remove.
Sannantha pluriflora (Baeckea virgata)	Tall Baeckea	1 P	Not very appropriate, common on freshwater creek banks.
Solanum aviculare	Kangaroo Apple	1	1-2 young plants, spread by birds, short-lived, good to have but not worth planting.
Viminaria juncea	Golden Shower	2, P & N	One big old plant, many planted. Generally found in wet soils.

Scientific name	Common name	Abu nd ance	Comments
Westringia fruticosa	Coast Rosemary	2, P	Usually on sea cliffs, unlikely to thrive as the site gets shadier. Plant only in sunnier areas.

FERNS			
Doodia aspera	Prickly Rasp Fern		Not seen but reportedly present. Could be transplanted to spread it.
*Nephrolepis cordifolia	Fishbone Fern	0-6	Invasive native fern from Qld and N NSW. Remove if possible and replace with <i>Doodia</i> and <i>Pellaea.</i>
Pellaea falcata	Sickle Fern		Not present but suitable. Similar to Fishbone Fern.
Pteridium esculentum	Bracken	1	Ubiquitous native, but not common here – too shady?
VINES AND TWINERS			
*Anredera cordifolia	Madeira Vine	1	Keep removing
*Araujia sericiflora	Moth Plant	2	Keep removing seedlings
*Asparagus asparagoides	Bridal Creeper	2	Seems to have leaf hopper biocontrol already present (leaves go white). Try to introduce rust fungus as well.
*Billardiera fusiformis or heterophylla	W.A. Bluebell Creeper	1	Very invasive, spread by birds, dig out.
Eustrephus latifolius	Wombat Berry	1	
Hardenbergia violacea	Native Sarsaparilla	1 ?P	Likes sunny sites so not very suitable here.
Hibbertia scandens	Guinea Flower	1 ?P	1 seen, possibly an old planting. Natural southern limit is around Tilba, attractive flowers, could plant more.

*Ipomoea cairica	Mile-a-minute	2	Keep removing
Marsdenia rostrata	Milk Vine	1	
Pandorea pandorana	Wonga Vine	1	
Parsonsia straminea	Common Silkpod	1	Big plant present, likely to self-seed
*Passiflora edulis	Passionfruit	1	Remove when seen.
*Rumex (Acetosa) sagittata	Turkey Rhubarb	2	Keep removing
Stephania japonica	Snake Vine	1	
*Thunbergia alata	Black-eyed Susan	1	Near north end, just one occurrence, remove if possible.
HERBS			
*Agapanthus praecox ssp. orientalis	Agapanthus		Just off working area to north
Apium prostratum	Sea Celery	1	Local saltmarsh species.
*Asparagus aethiopicus (densiflorus)	Asparagus Fern	1	Keep removing
*Aster subulatus	Wild Aster	1	In saline area at south end
*Cakile maritima	American Sea Rocket	1	In saline area at south end
*Canna indica	Canna, Indian Shot	1	Clumps expand over time, but not a major weed.
Carpobrotus glaucescens	Pigface	1	Good soil binder for foreshore, but probably not necessary to plant.
*Cerastium ?glomeratum	Mouse-ear Chickweed	1	

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*Chlorophytum comosum	Spider Plant	1	Large infestation below house with big old Cotoneaster
*Cirsium vulgare	Black or Spear Thistle	1	Easy to dig out before it flowers
Commelina cyanea	Scurvy Weed	1	
Cotula coronopifolia	Water Buttons	1	Opinions vary on native vs introduced. Saltmarsh species, 1-2 seen in wet area of track.

*Crassula multicava	Stonecrop	0-5	Big infestation below house with large Cotoneaster
Dendrobium speciosum	Rock Orchid	1 P	
Dianella caerulea	Blue Flax Lily	1 P?	Locally occurring form is low growing. Tall form (var. <i>producta</i>) may be planted or a garden escapee, but OK to leave it. Future plantings should be local form.
Dianella longifolia	Blue Flax Lily	1 ?P	Less appropriate here than <i>D.</i> <i>caerulea</i> . OK to leave it but plant <i>caerulea</i> in future.
Dichondra repens	Kidney Weed	1	Could try and establish this native groundcover to compete with the weedy grasses. Common local native in shady areas.
*Erigeron (Conyza) bonariensis	Flax-leaf Fleabane	1	Pull in passing to prevent seeding
*Erigeron (Conyza) sumatrensis	Tall Fleabane	1	Pull in passing to prevent seeding
*Euphorbia sp.	Spurge	1	Planted near top of slope behind one house, potentially invasive, might be better to remove if possible.
*Fumaria sp.	Fumitory	1	
Geranium gardneri	Native Geranium	0-4	Generally uncommon on site, but is forming the bulk of the groundcover behind one house with recent re planting below it, presumably proliferating naturally after the disturbance.
Haloragis exalata ssp. exalata	Square Raspwort	1	Listed as vulnerable in NSW and nationally, but not uncommon around some coastal lakes and streams flowing into them. Likes disturbance, comes up in canopy gaps close to the shore. Seed transported in water. Not to be confused with similar looking weed, Purpletop (*Verbena bonariensis).

*Hedychium gardnerianum	Ginger Lily	1	Forms large clumps and seed is bird dispersed. Dig out or get contractor to poison.
*Hydrocotyle bonariensis	Coastal Pennywort	0-2	Common in open area at southern end. Not worth controlling.
*Hypochaeris radicata	Cat's Ear, Flatweed	1	
*Leonotis leonurus	Lion's Tail	1	Just off northern end of site, remove if possible.
*Lilium formosanum	Formosan Lily	1	Very invasive, keep pulling.

Lobelia (Pratia) purpurascens	Whiteroot	1	
*Lysimachia (Anagallis) arvensis	Scarlet Pimpernel	1	Minor weed
Lythrum hyssopifolia		1	
*Medicago sp.	Medics	1	
*Physalis peruviana	Cape Gooseberry	1	Pull when seen
*Plantago lanceolata	Ribbed Plantain	0-2	
* Ranunculus scleratus	Celery Buttercup	1	Highly poisonous. 2-3 seen in wet area of track near northern end.
Rumex brownii	Native Dock	1	
*Rumex ?crispus	Curled Dock	1	
Scaevola aemula	Fanflower	0-3	Native post-disturbance coloniser, presumably temporarily common as a result of woody weed removal.
Senecio hispidulus	Hill Fireweed	1	
*Senecio madagascariensis	Fireweed	1	Keep pulling
Senecio minimus		1	
*Solanum nigrum	Black-berry Nightshade	1	
Solanum nodiflorum	Glossy Nightshade	2	

(americanum)			
*Sonchus asper	Prickly Sow Thistle	1	Pull prior to flowering
Sonchus hydrophilus	Saltmarsh Sowthistle	1	Native, leaves fleshier and less prickly than * <i>S. asper.</i> Leave it.
*Sonchus oleraceus	Sow Thistle	2	Pull prior to flowering
*Taraxacum officinale	Dandelion	1	Uncommon, could chip out
Tetragonia tetragonoides	New Zealand Spinach	1	Suitable for planting
*Tradescantia fluminensis	Wandering Jew, Trad	0-4	Near northern end, very invasive. There is a recently released biocontrol agent. LLS in Bega might know how to get some.
*Verbascum virgatum	Twiggy Mullein	1	
*Verbena bonariensis	Purpletop	0-2	
*Veronica persica	Creeping Speedwell	1	
*Viola odorata	Sweet Violet	1	Only one patch seen, worth removing as highly invasive.
*Watsonia sp.	Watsonia	0-3	Dense stand to north of carpark, could be controlled by mowing.
GRASSES			
?*Bromus catharticus	Prairie Grass	?0-3	
*Cenchrus clandestinus (Pennisetum clandestinum)	Kikuyu		Not much near foreshore, remove if feasible?
?*Dactylis glomerata	Cocksfoot		
*Ehrharta erecta	Panic Veldtgrass	2-6	Dominant grass over most of the site, likes moist shade and proliferates after other weeds are removed. Might decline if the site becomes very shady with additional rainforest tree planting. Impossible to get rid of when as well established as it is here.
*Holcus lanatus	Yorkshire Fog	0-5	Only seen in one area

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Oplismenus imbecillis	Basket Grass	1	
Phragmites australis	Common Reed	1	Sparse in open area, south end
*Poa annua	Winter Grass	1	
<i>Poa</i> sp.	Poa Tussock	1, ?P	
Spinifex sericeus	Hairy Spinifex	1	Sparse in open area, south end
*Sporobolus africanus	Parramatta Grass	1	Coarse tussock of track edges, likes compacted soils, could be chipped out.
*Stenotaphrum secundatum	Buffalo Grass	1	One patch seen, spreads like Kikuyu by runners, hard to get rid of.
Themeda triandra (australis)	Kangaroo Grass	1	To be encouraged, but possibly not worth planting while the bulk of the groundcover is so weedy. Prefers full sun, so definitely not worth planting in shady areas or areas which will become shady when other planted veg matures.
SEDGES/ RUSHES/ GRASS-LIKE PLANTS			
Carex longebrachiata	Bergalia Tussock	1	
?Cyperus lucidus		2 P	Unidentified planted sedge, could be this species, not sure.
Ficinia (Isolepis) nodosa	Knobby Club-rush	0-5	Dominant species at open sunny south end. Not suitable for planting elsewhere. Good on foreshore but not in shady area.
Gahnia melanocarpa	Black-fruited Saw sedge	1	Common local plant of shady gullies, but leaf margins are cutting, so inconvenient in areas needing maintenance. The smaller <i>Gahnia aspera</i> could perhaps be planted instead, if obtainable.

Juncus kraussii	Sea Rush	2	Present in open sunny southern end, good to plant on foreshore if it needs protection, but only right on the water's edge.
Lomandra longifolia	Spiny Mat-rush	2	Keep planting these, good robust tussock that might be able to compete with the Veldt Grass.
Lomandra multiflora	Many-flowered Mat rush	1	Smaller plant, less robust than <i>L. longifolia</i> . Could plant.

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