

communities



Photo: Ian Hutton.

Cloud Forest

***Alyxia squamulosa-Coprosma inopinata* Dwarf Scrub**

Conservation significance

Endemic community. Only location for several endangered, endemic species. Protected within Permanent Park Preserve.

Distribution

Only two ridges in the southern mountains: the Razorback off Mount Gower and the south east ridge off Mount Lidgbird.

Ecology

Main plant species present: *Xylosma parvifolium*, *Metrosideros nervulosa*, *Coprosma inopinata*, *Guioa coriacea*, *Melicope polybotrya*, *Alyxia squamulosa*.

Population data/health

Minimal disturbance due to inaccessibility.

Habitat

Windswept narrow ridges only several metres wide, mainly rocky soil and small cliffs.

Threats

Minimal due to inaccessibility, however these ridges are very narrow, and walkers accessing these areas can trample plant species.

Impact on other species

Unknown.

References

- Green P.S. 1994. *Flora of Australia* Vol. 49 Oceanic Islands 1. AGPS.
- Hutton I. 2001. *Rare plant surveys of Lord Howe Island*. Report prepared for the NSW Scientific Committee, Hurstville.
- Pickard J. 1983. Vegetation of Lord Howe Island. *Cunninghamia* Vol 1 (2) pages 133-266.

Basalt Boulder Beach

Conservation significance

Restricted association. Contains endemic species. Protected within Permanent Park Preserve.

Distribution

Edge of sea at Old Gulch, Far Flats and Boat Harbour.

Ecology

Main plant species present: *Drypetes deplanchei*, *Howea forsteriana*, *Lagunaria patersonia*, *Cassinia tenuifolia*, *Melaleuca howeana*, *Crinum pedunculatum*, *Isolepis nodosus*, *Cannavalia rosea*, *Tylophora biglandulosa*, *Wollastonia biflora*, *Calystegia soldanella*, *Ipomoea cairica*.

Population data/health

Area 7 ha.

Habitat

Bouldery beach of round basalt and coral skeletons, very exposed to salt laden winds.

Threats

Rodents eat seeds and stems of some species.

Impact on other species

Unknown.

Recommended management actions

Continue investigation into feasibility of rat eradication.

References

- Green P.S. 1994. *Flora of Australia* Vol. 49 Oceanic Islands 1. AGPS.
- Hutton I. 2001. *Rare plant surveys of Lord Howe Island*. Report prepared for the NSW Scientific Committee, Hurstville.
- Pickard J. 1983. Vegetation of Lord Howe Island. *Cunninghamia* vol 1 (2) pages 133-266.

Blackbutt (*Cryptocarya gregsonii*) Closed Forest

Conservation significance

Endemic species predominate. Protected within Permanent Park Preserve.

Distribution

Mount Lidgbird, slopes at foot of cliffs and top slopes.

Ecology

Main plant species present: *Cryptocarya gregsonii*, *Dracophyllum fitzgeraldii*, *Melicope polybotrya*, *Hedyscepe canterburyana*, *Symplocus candelabrum*, *Macropiper hooglandii*, *Trophis scandens*, *Carex brunnea*, *Pteris microptera*.

Population data/health

This community occupies an area of approximately 7 ha. Some areas are affected by weed invasion.

Habitat

Moderate to highly exposed slopes. Westerly and easterly aspects on basalt soil.

Threats

Weed invasion, particularly in waterfall areas that are subject to periodic disturbance.

Rodents eat seeds and stems of some plant species in this community.

Impact on other species

Unknown.

References

- Green P.S. 1994. *Flora of Australia* Vol. 49 Oceanic Islands 1. AGPS.
- Pickard J. 1983. Vegetation of Lord Howe Island. *Cunninghamia* Vol 1 (2) pages 133-266.

Big Mountain Palm (*Hedyscepe canterburyana*) Closed Sclerophyll Forest

Conservation significance

Endemic association. Endemic species predominate. Some endangered species occur in this community. Protected within Permanent Park Preserve.

Distribution

High elevations of the southern mountains, generally above 600m.

Ecology

Common plant species in this community include: *Hedyscepe canterburyana*, *Dysoxylum pachyphyllum*, *Dracophyllum fitzgeraldii*, *Negria rhabdothamnoides*, *Pittosporum erioloma*, *Elatostema grande*, *Machaerina insularis*, *Uncinia debilor*, *Cyathea* spp., *Diplazium melanochlamys*, *Grammitis* sp., *Marattia howeanum*, *Polystichum whiteleggei*, *Blechnum* spp., *Asplenium pteridoides*, *Macropiper hooglandii*.

Population data/health

This community occupies approximately 25 ha. It is generally in very good condition. In Big Pocket landslips and washaways have allowed some weeds to invade.

Habitat

Top slopes and benches at high elevations on deep or rocky basalt soil; cloud and mist frequent.

Threats

Rats eat the seeds and stems of *Hedyscepe canterburyana* and other plant species of this community.

Weed invasion has occurred on the slopes of Big Pocket, landslips and washaways have allowed invasion by weed species Crofton Weed and Tobacco Bush.

Impact on other species

This plant association provides some areas for the seabird Providence Petrel to nest. There is some natural interaction whereby birds fertilise the soil, but also shift soil and can undermine trees.

Little Pocket and some areas of Mount Lidgbird south east corner are the major areas for several rare plant species such as *Marattia howeanum* and *Asplenium pteridoides*.

References

- Green P.S. 1994. *Flora of Australia* Vol. 49 Oceanic Islands 1. AGPS.
- Pickard J. 1983. Vegetation of Lord Howe Island. *Cunninghamia* Vol 1 (2) pages 133-266.

Blue Plum (*Chionanthus quadristamineus*) Closed Forest

Conservation significance

Association endemic to Lord Howe Island. Endemic species predominate. Protected within Permanent Park Preserve.

Distribution

Southern mountains only, on lower slopes of both mountains, 100m – 400m altitude.

Ecology

Main plant species *Chionanthus quadristamineus*, *Dracophyllum fitzgeraldii*, *Howea belmoreana*, *Symplocus candelabrum*, *Zygogynum howeana*, *Dysoxylum pachyphyllum*, *Coprosma putida*, *Trophis scandens*, *Cyathea* spp., *Histiopteris incisa*, *Phymatosorus pustulatus*, *Pteris micoptera*.

Population data/health

Community covers about 93ha in area. Minimal disturbance to this association.

Habitat

Moderate slopes on the mountains, rocky basalt soil.

Threats

Some areas with light canopy have infestations of Crofton Weed.

Rodents eat seeds of *Chionanthus quadristamineus* and other species in this community.

Impact on other species

Unknown.

References

- Green P.S. 1994. *Flora of Australia* Vol. 49 Oceanic Islands 1. AGPS.
- Pickard J. 1983. Vegetation of Lord Howe Island. *Cunninghamia* Vol 1 (2) pages 133-266.

***Boehmeria calophleba*-*Macropiper hooglandii* Closed Scrub**

Conservation significance

Endemic plant community. Very restricted plant association. Protected within Permanent Park Preserve.

Distribution

West face of Mount Lidgbird about 530m altitude, above Black Face.

Ecology

Main plant species present: *Boehmeria calophleba*, *Macropiper hooglandii*, *Hedyscepe canterburyana*, *Negria rhabdothamnoides*, *Pittosporum erioloma*, *Elastostema grande*, *Gahnia howeana*, *Machaerina insularis*, *Cyathea* sp., *Pteris microptera*, *Histiopteris incisa*.

Population data/health

Community covers approximately 3 ha in area. Low disturbance.

Habitat

Cliff terraces with damp basalt soil, northerly and westerly aspects, and slopes 10 to 60 degrees.

Threats

Rodents eat seeds and stems of some species.

Impact on other species

This plant association provides some areas for the seabird Providence Petrel to nest. There is some natural interaction whereby birds fertilise the soil, but also shift soil and can undermine trees.

References

- Green P.S. 1994. *Flora of Australia* Vol. 49 Oceanic Islands 1. AGPS.
- Pickard J. 1983. Vegetation of Lord Howe Island. *Cunninghamia* Vol 1 (2) pages 133-266.

Bully Bush (*Cassinia tenuifolia*) Closed Scrub

Conservation significance

Endemic species predominate. Protected within Permanent Park Preserve.

Distribution

Exposed slopes of Mount Eliza, north slopes to Malabar, east cliffs on the side of Transit Hill, Intermediate Hill, World's End, Scab Point, Little Slope, Mt Lidgbird to 500m, landslip areas.

Ecology

Cassinia tenuifolia is the main early coloniser of landslips and some landslips of June 1996 on Intermediate Hill have a dense covering of *Cassinia tenuifolia*.

Main species are *Cassinia tenuifolia*, *Dodonaea viscosa*, *Melaleuca howeana*, *Lagunaria patersonia*, *Muehlenbeckia complexa*, *Tylophora biglandulosa*, *Cyperus lucidus*, *Pimelea congesta*, *Isolepis nodosa*, *Poa poiformis*.

Population data/health

Community covers about 29 ha in area. Low disturbance.

Habitat

Dry exposed slopes, ridges, crests and terraces on cliffs.

Threats

Goats had been causing some disturbance.

Impact on other species

Cassinia tenuifolia is the main early coloniser of landslips and will initially stabilise the landslip, then other tree species develop and eventually outlive and shade out *Cassinia*.

References

- Green P.S. 1994. *Flora of Australia* Vol. 49 Oceanic Islands 1. AGPS.
- Pickard J. 1983. Vegetation of Lord Howe Island. *Cunninghamia* Vol 1 (2) pages 133-266.

Calcarenite and Coral Boulder Beach

Conservation significance

Restricted association. Protected within Permanent Park Preserve.

Distribution

Western end of North Beach, North of Little Island.

Ecology

Main plant species present: *Crinum pedunculatum*, *Isolepis nodosus*, *Vigna marina*, *Cannavalia rosea*, *Tylophora biglandulosa*, *Wollastonia biflora*, *Muehlenbeckia complexa*, *Cyperus lucidus*, *Calystegia soldanella*, *Ipomoea cairica*, *Cassinia tenuifolia*.

Population data/health

Community covers approximately 6 ha in area. Recent arrival of small patch of Kikuyu grass at North Beach otherwise in good condition.

Habitat

Bouldery beach of jagged coral skeletons and calcarenite blocks, very exposed to salt laden winds, occasional splashing by seawater in rare storm events and high tides.

Threats

Weed invasion.

Impact on other species

Unknown.

References

- Green P.S. 1994. *Flora of Australia* Vol. 49 Oceanic Islands 1. AGPS.
- Pickard J. 1983. Vegetation of Lord Howe Island. *Cunninghamia* Vol 1 (2) pages 133-266.

Cliff

Conservation significance

Endemic species predominate. Protected within Permanent Park Preserve.

Distribution

Around coastline and southern mountains.

Ecology

Main plant species present: *Melaleuca howearum*, *Cassinia tenuifolia*, *Carpobrotus glaucescens*, *Poa poiformis*, *Olearia elliptica*, *Westringia viminalis*, *Polystichum moorei*, *Asplenium goudeyi*. Plant species present is very variable depending on the location. On wet faces with waterfalls *Blechnum geniculatum*, *Elatostema grande*, *Machaerina insularis*, *Lobelia anceps*. Larger ledges can have shrubs and stunted tree species similar to surrounding forest.

Population data/health

This community occupies an area of approximately 150 ha. Generally in good condition, apart from some weed invasion by Crofton Weed and Tiger Lily on cliff ledges.

Habitat

Vertical cliff faces with small cracks and ledges of varying sizes, basalt, rarely calcarenite.

Threats

Weed invasion, particularly Crofton Weed and Tiger Lily.

References

- Green P.S. 1994. *Flora of Australia* Vol. 49 Oceanic Islands 1. AGPS.
- Pickard J. 1983. Vegetation of Lord Howe Island. *Cunninghamia* Vol 1 (2) pages 133-266.

Coral Sand Beach and Dune

Conservation significance

Blinkie Beach dune is the only Lord Howe Island habitat for the endangered species *Chamaesyce psammogeton*. North Beach is protected within the Permanent Park Preserve.

Distribution

Margins of the island where low land exists, as compared to cliffs.

Ecology

Main plant species present: *Spinifex hirsutus*, *Cassinia tenuifolia*, *Dodonea viscosa*, *Cakile edentula*, *Crinum pedunculatum*, *Ipomoea pes-caprae*, *Leucopogon parviflorus*, *Wollastonia biflora*, *Vigna marina*, *Cannavalia rosea*, *Isolepis nodosus*, *Muehlenbeckia complexa*, *Chamaesyce psammogeton*, *Calystegia soldanella*, *Ochrosia elliptica*.

Population data/health

Some areas highly disturbed by human activity, infrastructure and introduced weeds.

Habitat

Beach margins, low nutrient soil, exposed to salt laden winds, occasional salt water splashing in storms at high tide.

Threats

Some areas of this community are highly disturbed. Infrastructure such as boat sheds, rubbish tip, access tracks, recreational areas are within this community.

Introduced weed species include Buffalo Grass, Kikuyu Grass and *Euphorbia paralias* are a threat to this community.

Other comments

When the Island airstrip was constructed in 1974, several metres of sand from the top of Blinkie Beach dune were removed to comply with Department of Aviation rules for aircraft landing. The dune was replanted with *Spinifex hirsutus* propagated from seed taken from the island, but grown at Port Macquarie. In the late 1980's this was repeated after 20 years of wind heaping sand back. This may be an ongoing action required.

References

- Green P.S. 1994. *Flora of Australia* Vol. 49 Oceanic Islands 1. AGPS.
- Vegetation of Lord Howe Island J. Pickard. *Cunninghamia* Vol 1 (2) 1983 pages 133-266.

Curly Palm (*Howea belmoreana*) Closed Sclerophyll Forest

Conservation significance

Endemic association. Endemic species predominate. Protected within the Permanent Park Preserve.

Distribution

Generally 5 to 250m altitude, in slopes or gullies of the northern hills and southern mountains.

Ecology

Plant species include *Howea belmoreana*, *Howea forsteriana*, *Drypetes deplanchei*, *Ficus columnaris*, *Zygogynum howeanum*, *Atractocarpus stipularis*, *Flagellaria indica*, *Smilax australis*, *Pteris microptera*, *Histiopteris incisa*.

Population data/health

This community occupies approximately 75 ha in area. It is generally in good health and intact. Some areas in the northern hills have weeds invading.

Habitat

Mid slopes and gullies on basalt soil, often rocky; often scree. Rarely on sandy or calcarenite soil. Occurs on all aspects in low exposure.

Threats

The major threat is that rats eat the seeds and stems of Curly Palm and other species.

In the northern hills the weed Climbing Asparagus is invading the habitat.

Impact on other species

None known.

References

- Green P.S. 1994. *Flora of Australia* Vol. 49 Oceanic Islands 1. AGPS.
- Pickard J. 1983. Vegetation of Lord Howe Island. *Cunninghamia* Vol 1 (2) pages 133-266.

Fitzgeraldii-Mountain Rose (*Dracophyllum fitzgeraldii*–*Metrosideros nervulosa*) Closed Scrub

Conservation significance

Endemic species predominate. Protected within the Permanent Park Preserve.

Distribution

Southern mountains 340-600m, but mainly 380 – 530m.

Ecology

Main plant species - *Dracophyllum fitzgeraldii*, *Metrosideros nervulosa*, *Chionanthus quadristamineus*, *Cryptocarya gregsonii*, *Symplocos candelabrum*, *Hedyscepe canterburyana*, *Carmichaelia exsul*, *Drypetes deplanchei*, *Melicope polybotrya*, *Blechnum howeanum*, *Cyathea* sp., *Pteris microptera*, *Histiopteris incisa*, *Plantago hedleyi*, *Brachyscome segmentosa*, *Olearia ballii*.

Population data/health

This community occupies an area of approximately 45 ha. This community is generally in good condition.

Habitat

The top of forested slopes/base of vertical cliffs of the southern mountains.

Threats

Weed invasion, including Crofton Weed and Cherry Guava.

Rodents eat seeds of some plant species.

Impact on other species

Unknown.

References

Green P.S. 1994. *Flora of Australia* Vol. 49 Oceanic Islands 1. AGPS.

Pickard J. 1983. Vegetation of Lord Howe Island. *Cunninghamia* Vol 1 (2) pp 133-266.

Five-leaf Morning Glory-Pigface (*Ipomoea cairica*–*Carpobrotus glaucescens*) Herbfield

Conservation significance

Restricted association on Lord Howe Island. Protected within the Permanent Park Preserve.

Distribution

North and east slope of Roach Island.

Ecology

The dominant plant species in this community include: *Ipomoea cairica*, *Carpobrotus glaucescens*, *Commelina glaucescens*, *Celtis conferta*, *Lagunaria patersonia*, *Melaleuca howeana*, *Drypetes deplanchei*, *Achyranthes aspera*, *Cyperus lucidus*, *Poa poiformis*, *Sporobolus virginicus*.

Population data/health

This community has not been significantly disturbed.

Habitat

Very exposed steep slopes of offshore islet.

Threats

Ipomoea cairica is not a native of Lord Howe Island. It is currently not considered a significant threat, but its distribution and density should be monitored.

Impact on other species

On Norfolk Island and parts of mainland Australia *Ipomoea cairica* is becoming a pest by climbing over and smothering native vegetation.

Roach Island is an important nesting area for several seabird species, including some that burrow. *Ipomoea cairica* may impact upon nesting seabirds if its growth becomes too vigorous.

References

- Green P.S. 1994. *Flora of Australia* Vol. 49 Oceanic Islands 1. AGPS.
- Pickard J. 1983. Vegetation of Lord Howe Island. *Cunninghamia* Vol 1 (2) pages 133-266.

Forked Tree (*Pandanus forsteri*) Closed Sclerophyll Forest

Conservation significance

Endemic species predominate. Protected within the Permanent Park Preserve.

Distribution

Generally occurs from sea level to around 100m altitude in the southern mountains.

Ecology

Pandanus forsteri predominates. Other plant species include *Howea belmoreana*, *Howea forsteriana*, *Drypetes deplanchei*, *Zygogynum howeanum*, *Atractocarpus stipularis*, *Melicope polybotrya*, *Platycerium bifurcatum*, *Flagellaria indica*, and *Pteris microptera*.

Population data/health

Occupies approximately 19 ha in area. This community is generally in good condition, as the damp, shaded environment inhibits weed invasion.

Habitat

Depressions, valleys and gullies on basalt soil that is often rocky. It is usually in damp, poorly drained areas or in creek beds. Often heavy leaf litter from *Pandanus forsteri*.

Threats

Rats eat the seeds and stems of *Pandanus forsteri* and other species.

Impact on other species

Often the persistent, heavy leaf litter impedes the growth of ground vegetation. *Pandanus forsteri* is a common host tree for the epiphytic fern *Platycerium bifurcatum*, which can grow in clumps in the forks of *Pandanus forsteri* branches. The rare fern *Ophioglossum pendulum* may grow on these clumps.

References

- Green P.S. 1994. *Flora of Australia* Vol. 49 Oceanic Islands 1. AGPS.
- Pickard J. 1983. *Vegetation of Lord Howe Island. Cunninghamia* Vol 1 (2) pages 133-266.

Greybark-Blackbutt (*Drypetes deplanchei*–*Cryptocarya triplinervis*) Closed Forest

Conservation significance

Dominant lowland forest association on Lord Howe Island. This community provides the optimal habitat for the endangered Lord Howe Placostylus and the endangered Lord Howe Woodhen. Some areas of this forest type provide breeding habitat for the Flesh footed Shearwater.

Some parts of this community are protected within Permanent Park Preserve.

Distribution

Lowlands to 400m altitude. Mainly in northern half of Lord Howe Island, but also on ridges of the southern mountains.

Ecology

Species can tolerate drier conditions and moderate exposure to salt laden winds. Common species from this community include *Drypetes deplanchei*, *Cryptocarya triplinervis*, *Howea belmoreana*, *Howea forsteriana*, *Lagunaria patersonia*, *Celtis confertus*, *Olea paniculata*, *Elaeodendron curtispiculum*, *Xylosma maidenii*, *Myoporum insulare*, *Rapanea platystigma*, *Dodonaea viscosa*, *Smilax australis*, *Parsonsia howeana*, *Trophis scandens* ssp. *megacarpa*, *Adiantum hispidulum*, *Phymatosorus pustulatus* ssp. *howensis*, *Asplenium milnei*, *Carex brunnea*, *Commelina cyanea*.

Population data/health

This community occupies approximately 355 ha. This community is dominant in the settlement area and is therefore the community most impacted by human activity.

Habitat

Generally occurs on more exposed areas such as dry sites with thin soil and steep, rocky slopes or calcarenite soil.

Two forms of this community are recognised - where it occurs on basalt, and where it occurs on calcarenite/coral sand.

Threats

Weed invasion including Climbing Asparagus, Ground Asparagus, Bridal Creeper, Cherry

Guava, Sweet Pittosporum, Cotoneaster, Ochna and Kikuyu.

Rodents eat seeds of several tree species in this community.

Affected by windshear on the forest edge from clearing.

References

Green P.S. 1994. *Flora of Australia* Vol. 49 Oceanic Islands 1. AGPS.

Pickard J. 1983. Vegetation of Lord Howe Island. *Cunninghamia* Vol 1 (2) pages 133-266.

Hutton I. & Le Cussan J. 2001. *Outline for a weed control strategy and an Inventory of weeds for Lord Howe Island*. Report for the Lord Howe Island Board.

Greybark-Blackbutt (*Drypetes deplanchei*–*Cryptocarya triplinervis*) Low Closed Forest on Exposed Calcarenite

Conservation significance

Restricted plant association on Lord Howe Island. Protected within the Permanent Park Preserve.

Distribution

Northern hills, 15 to 70m altitude.

Ecology

The species in this community can tolerate very dry soil conditions.

Common species in this community include *Drypetes deplanchei*, *Cryptocarya triplinervis*, *Howea forsteriana*, *Elaeodendron curtispiculum*, *Myoporum insulare*, *Alyxia ruscifolia*, *Pimelea congesta*, *Cassinia tenuifolia*, *Pouteria myrsinoides* ssp. *reticulata*, *Smilax australis*, *Carex brunnea*, *Oplismenus imbecillus*.

Population data/health

The area covered by this community is approximately 2 ha. It is generally in good condition.

Habitat

Generally on exposed calcarenite outcrops with little soil and littered with plates and blocks of calcarenite.

Threats

Weed invasion.

Rodents eat seeds of tree species.

Impact on other species

None known.

References

Green P.S. 1994. *Flora of Australia* Vol. 49 Oceanic Islands 1. AGPS.

Pickard J. 1983. Vegetation of Lord Howe Island. *Cunninghamia* Vol 1 (2) pages 133-266.

Hutton I. & Le Cussan J. 2001. *Outline for a weed control strategy and an Inventory of weeds for Lord Howe Island*. Report for the Lord Howe Island Board.

Greybark-Blackbutt (*Drypetes deplanchei*–*Cryptocarya triplinervis*) Low Closed Forest on Exposed Basalt

Conservation significance

Common on exposed lowland sites.

Distribution

This community occurs from the lowlands to approximately 250m altitude. It grows on exposed dry ridges of the northern hills and low elevation ridges in the mountains.

Ecology

Species can tolerate drier conditions and higher exposure to salt laden winds.

Species commonly found in this community include *Drypetes deplanchei*, *Cryptocarya triplinervis*, *Alyxia ruscifolia*, *Pimelea congesta*, *Leucopogon parviflorus*, *Lagunaria patersonia*, *Elaeodendron curtispiculum*, *Rapanea platystigma*, *Dodonaea viscosa*, *Smilax australis*, *Jasminum didymum*, *Carex brunnea*, *Isolepis nodosus* and *Commelina cyanea*.

Population data/health

The area covered by this community is approximately 62 ha. Some areas in the northern hills and Transit Hill are invaded by weeds.

Habitat

This community occurs from sea level to about 250m. It is generally found on more exposed areas, dry sites with thin soil and steep, rocky slopes exposed to strong salt-laden winds.

Threats

Weed invasion, including Climbing Asparagus, Ground Asparagus, Cherry Guava, Cotoneaster, Ochna.

Rodents eat the seeds of some of the tree species from this community.

References

- Green P.S. 1994. *Flora of Australia* Vol. 49 Oceanic Islands 1. AGPS.
- Pickard J. 1983. Vegetation of Lord Howe Island. *Cunninghamia* Vol 1 (2) pages 133-266.
- Hutton I. & Le Cussan J. 2001. Outline for a weed control strategy and an Inventory of weeds for Lord Howe Island. Report for the Lord Howe Island Board.

Hopbush (*Dodonaea viscosa*) Closed Scrub

Conservation significance

Contains endemic species. Protected within the Permanent Park Preserve.

Distribution

Small patches on exposed ridges of southern mountains.

Ecology

Main plant species present: *Dodonaea viscosa*, *Cassinia tenuifolia*, *Guioa coriacea*, *Howea forsteriana*, *Polyscias cissodendron*, *Smilax australis*, *Carex brunnea*, *Isolepis nodosus*, *Ageratina adenophora*.

Population data/health

This community occupies an area of approximately 9 ha. Some areas are highly disturbed.

Habitat

Mid slopes and summits of ridges, generally north slope on basalt soil.

Threats

Introduced weed species, including Crofton Weed, Cherry Guava, Cotoneaster and Kikuyu.

Impact on other species

Unknown.

References

- Green P.S. 1994. *Flora of Australia* Vol. 49 Oceanic Islands 1. AGPS.
- Pickard J. 1983. Vegetation of Lord Howe Island. *Cunninghamia* Vol 1 (2) pages 133-266.

Hotbark-Fitzgeraldii (*Zygogynum howeanum*–*Dracophyllum fitzgeraldii*) Gnarled Mossy Closed Forest

Conservation significance

Association endemic to Lord Howe Island. Endemic species predominate. Protected within Permanent Park Preserve.

Distribution

Summit of Mount Gower and a small area on the summit of Mount Lidgbird.

Ecology

Cloud forest, where the frequent cloud cap provides high humidity.

Common species in this community include: *Zygogynum howeanum*, *Dracophyllum fitzgeraldii*, *Metrosideros nervulosa*, *Leptospermum polygalifolium*, *Cryptocarya gregsonii*, *Negria rhabdothamnoides*, *Atractocarpus stipularis*, *Corokia carpodetoides*, *Elaeocarpus costatus*, *Symplocos candelabrum*, *Dysoxylum pachyphyllum*, *Olearia mooneyi*, *Elatostema grande*, *Machaerina insularis*, *Gahnia howeana*, *Cyathea* spp, *Grammitis* spp, *Blechnum fullagarii*, *Blechnum contiguum*, *Blechnum howense*, *Hymenophyllum howense*, *Hymenophyllum moorei*. Non-vascular plants such as mosses and liverworts are also very common in this community.

Population data/health

The area covered by this community is approximately 28 ha. It is in very good condition.

Habitat

Undulating mountain summit on deep soil, creek gullies, cliffs and rocky creek beds.

Threats

Rats eat the seeds and leaf stems of the two dominant species, the endemic palms *Hedyscepe canterburyana* and *Lepidorrhachis mooreana*, and also the seeds of other species.

Minor weeds colonise natural clearings.

A reduction in cloud cover, and thus precipitation as a result of climate change is a significant threat to this community.

References

- Green P.S. 1994. *Flora of Australia* Vol. 49 Oceanic Islands 1. AGPS.
- Pickard J. 1983. Vegetation of Lord Howe Island. *Cunninghamia* Vol 1 (2) pages 133-266.
- Hutton I. & Le Cussan J. 2001. *Outline for a weed control strategy and an Inventory of weeds for Lord Howe Island*. Report for the Lord Howe Island Board.

Kentia Palm (*Howea forsteriana*) Closed Sclerophyll Forest

Conservation significance

Endemic association. Endemic species predominate. Some areas are protected within the Permanent Park Preserve.

Distribution

Generally low flat areas from sea level to 120m, but also some areas up to 360m altitude. Little Slope and Big Slope.

Ecology

This community often occurs in dense stands of Kentia Palm. Other scattered plants include: *Cryptocarya triplinervis*, *Drypetes deplanchei*, *Ficus macrophylla* ssp. *columnaris*, *Pandanus forsteri*, *Olea paniculata*, *Coprosma putida*, *Elaeodendron curtipendulum*, *Myoporum insulare*, *Atractocarpus stipularis*, *Flagellaria indica*, *Smilax australis*, *Carex brumnea*, *Oplismenus imbecillus*, *Asplenium milnei*, *Pteris microptera*.

Population data/health

The area covered by this community is approximately 170 ha. It is generally in good condition. Preservation has been enhanced by the commercial value of seeds. Some areas close to the settlement are affected by weed invasion.

Habitat

Major areas occur on sandy or calcarenite soil at low altitudes. However some parts of this community occur on rocky basalt soil higher elevations of the southern mountains.

Threats

The major threat is that rats eat the seeds and stems of *Howea forsteriana* and other species from this community.

Close to the settlement, weed invasion is a significant threat, particularly by Climbing Asparagus, Group Asparagus and Pittosporum, but generally fallen fronds create heavy mulch, which excludes weeds.

Impact on other species

Some areas of this forest type close to the coast provide the major breeding areas for the Flesh footed Shearwater.

Other comments

Two distinctive forms of this community are recognised: *Howea forsteriana* Forest on calcarenite/coral sand, and *Howea forsteriana* Forest on basalt.

References

- Green P.S. 1994. *Flora of Australia* Vol. 49 Oceanic Islands 1. AGPS.
- Pickard J. 1983. Vegetation of Lord Howe Island. *Cunninghamia* vol 1 (2) pages 133-266.

Leafy Flat Sedge (*Cyperus lucidus*) Sedgeland

Conservation significance

Restricted association on Lord Howe Island. Protected within Permanent Park Preserve.

Distribution

Offshore islets (Roach and Muttonbird Islands), a patch on North Head, several small patches on scree and terraces around the southern mountains.

Ecology

Main plant species present: *Cyperus lucidus*, *Commelina cyanea*, *Ipomoea cairica*, *Poa poiformis*, *Phragmites australis*, *Sporobolus virginicus*, *Crinum pedunculatum*.

Population data/health

This community occupies an area of approximately 3 ha. Undisturbed apart from burrowing seabirds on offshore islets.

Habitat

Exposed slopes of offshore islets, headlands and mountain terraces. Basalt soil, boulder screes.

Threats

None known.

Impact on other species

On Roach Island, the stands of *Cyperus lucidus* are a main habitat for the endemic Lord Howe Island cockroach *Panasthesia lata*.

References

- Green P.S. 1994. *Flora of Australia* Vol. 49 Oceanic Islands 1. AGPS.
- Pickard J. 1983. Vegetation of Lord Howe Island. *Cunninghamia* Vol 1 (2) pages 133-266.

Lowland Freshwater Instream

Conservation significance

Very restricted community. Some areas are protected within the Permanent Park Preserve.

Distribution

Lowland parts of the main island.

Ecology

Aquatic, water-dependant community.

Population data/health

Some areas of this community have been disturbed by clearing and trampling.

Habitat

Second order and below streams that occur on calcarenite and coral sands.

Threats

Clearing of this community and adjacent to this community is a significant threat.

Trampling by domestic stock and to a lesser extent, humans, is threatening this community.

Weed invasion impacts on this community.

A reduction in rainfall as a result of climate change is a significant threat to this community.

Impact on other species

Unknown.

References

Pickard J. 1983. Vegetation of Lord Howe Island. *Cunninghamia* Vol 1 (2) pages 133-266.

Lowland Mixed Closed Forest

Conservation significance

Endemic association. Endemic species predominate. Protected within the Permanent Park Preserve.

Distribution

Intermediate Hill and Southern mountains at low to moderate altitudes.

Ecology

Main plant species present: *Syzygium fullagarii*, *Melicope polybotrya*, *Guioa coriacea*, *Hedyscepe canterburyana*, *Olea paniculata*, *Pandanus forsteri*, *Zygogynum howeanum*, *Coprosma putida*, *Psychotria carronis*, *Xylosma maidenii*, *Cassinia tenuifolia*, *Flagellaria indica*, *Trophis scandens*, *Carex brunnea*, *Adiantum hispidulum*, *Pteris microptera*, *Nephrolepis cordifolia*.

Population data/health

This community occupies approximately 192 ha. Some weed invasion occurs in this community, however, it is predominantly in good condition.

Habitat

Mostly occurs in areas of low to moderate exposure on slopes and valleys, in mainly easterly and westerly aspects. Occurs on basalt soils, often rocky.

Threats

Weed invasion, particularly in areas close to the settlement and Mount Lidgbird. Weed species include Ground Asparagus, Cherry Guava, Pittosporum, Cotoneaster and Ochna. Minor weeds escaping from the settlement also pose a threat, and include Silky Oak, Camphor Laurel, Privet and Passionfruit.

Rodents eat seeds and stems of some plant species.

Impact on other species

Unknown.

References

- Green P.S. 1994. *Flora of Australia* Vol. 49 Oceanic Islands 1. AGPS.
- Pickard J. 1983. Vegetation of Lord Howe Island. *Cunninghamia* Vol 1 (2) pages 133-266.

Mangrove (*Aegiceras corniculatum*) Closed Swamp Scrub

Conservation significance

Very restricted community on Lord Howe Island; none protected within the Permanent Park Preserve.

Distribution

At the mouth of three creeks – Soldiers Creek, Old Settlement Creek and Cobby's Corner. Area 2 ha.

Ecology

Main plant species present is *Aegiceras corniculatum*; others include *Lagunaria patersonia*, *Triglochin striatum* and *Sarcocornia quinqueflora*.

Population data/health

Poor condition due to clearing of adjacent forest for grazing.

Habitat

Mouths of creeks which occasionally flush with salt water at extreme high tides.

Threats

Grazing and trampling by cattle and invasion by introduced pasture grasses Kikuyu and Buffalo.

Impact on other species

Mangrove (*Aegiceras corniculatum*) creeks provide habitat for freshwater fauna, including the fish species Spotted Jollytail, the Short-finned Eel and the Long-finned Eel.

References

- Green P.S. 1994. *Flora of Australia* Vol. 49 Oceanic Islands 1. AGPS.
- Pickard J. 1983. Vegetation of Lord Howe Island. *Cunninghamia* Vol 1 (2) pages 133-266.

Mangrove (*Avicennia marina* var *australasica*) Open Swamp Scrub

Conservation significance

Rare plant association on Lord Howe Island. Some areas are protected within the Lord Howe Island Marine Protected Area.

Distribution

Western edge of Hunter Bay, mouth of Old Settlement creek.

Ecology

Main plant species present: *Avicennia marina*.

Population data/health

Total area covered by community approximately 0.6 ha. Very low numbers of individual *Avicennia* plants. J. Pickard recorded 9 plants in 1973; Hunters Bay edge population 9 plants in 2002; Old Settlement Creek population 45 plants in 2002.

Habitat

Western edge of Hunter's Bay. Lagoon edge on mud and shingle deposits between low and high tide marks. Mouth of Old Settlement Creek on basalt-derived mud, periodically immersed in sea water.

Threats

Low numbers of individual plants make this community vulnerable to stochastic (chance) events.

Impact on other species

Unknown.

Other comments

In the past this species was probably more common around the Lagoon. Remnants of an old *Avicennia* forest adjacent to the Island jetty were uncovered when Island trading boats discharged ballast water in the 1980's. Samples of the stumps were carbon dated at 6,100 years before present. At that time sea levels were approximately 2 metres lower and *Avicennia marina* may have been more extensive. In addition, many dead shells of two mangrove snail species are present on Old Settlement, Lagoon and North Beaches, but the snails are no longer extant on Lord Howe Island.

References

- Green P.S. 1994. *Flora of Australia* Vol. 49 Oceanic Islands 1. AGPS.
- Pickard J. 1983. Vegetation of Lord Howe Island. *Cunninghamia* Vol 1 (2) pages 133-266.

Mixed Fern and Herb

Conservation significance

Endemic species predominate. Community very restricted in extent. Protected within the Permanent Park Preserve.

Distribution

Southern mountains at base of cliffs; 80 to 500 metres altitude.

Ecology

This community occupies approximately 7 ha in isolated patches. Ferns and herbs dominate, and include *Elatostema grande*, *Carex brunnea*, *Cyperus lucidus*, *Isolepis nodosa*, *Adiantum hispidulum*, *Histiopteris incisa*, *Cyathea* sp and *Pteris microptera*. Other species include *Dracophyllum fitzgeraldii* and *Hedyscepe canterburyana*.

Population data/health

Usually highly disturbed and from introduced weed species.

Habitat

Top slopes, almost always at the foot of cliffs in sunny, damp places.

Threats

Weed invasion is the major threat in this community, particularly by Crofton Weed.

Rats eat seeds and stems of *Hedyscepe canterburyana*.

Impact on other species

Unknown.

References

- Green P.S. 1994. *Flora of Australia* Vol. 49 Oceanic Islands 1. AGPS.
- Pickard J. 1983. Vegetation of Lord Howe Island. *Cunninghamia* Vol 1 (2) pages 133-266.

***Poa poiformis* Grassland**

Conservation significance

Very restricted plant association. Important habitat for nesting seabirds. Protected within Permanent Park Preserve.

Distribution

Offshore islets, Muttonbird Point and King Point, some cliff ledges north hills and Hell's Gate.

Ecology

The main plant species present include *Poa poiformis*, *Commelina cyanea*, *Isolepis nodosus*, *Cyperus lucidus*, *Ipomoea cairica*, *Cassinia tenuifolia*, *Melaleuca howeana*.

Population data/health

This community occupies approximately 14 ha in area. Most of the locations of this community are disturbed by exotic grass invasion (Kikuyu).

Habitat

Windswept islets and headlands.

Threats

Invasion by the weed Kikuyu is the predominant threat of this community. At Muttonbird Point this plant association has almost disappeared due to invasion by the weed Kikuyu, where only a small strip remains in the centre.

Impact on other species

On offshore islets and at Muttonbird and King Points, seabirds interact with this plant association. Masked boobies and Sooty terns nest on the ground amongst *Poa* tussocks, Wedge-tailed Shearwaters and Little Shearwaters burrow amongst tussocks. At Muttonbird Point the introduced Kikuyu invades Wedgetailed shearwater burrows, and occasionally entangles the bird so it cannot escape.

References

- Green P.S. 1994. *Flora of Australia* Vol. 49 Oceanic Islands 1. AGPS.
- Pickard J. 1983. Vegetation of Lord Howe Island. *Cunninghamia* Vol 1 (2) pages 133-266.

Saltbush (*Atriplex cinerea*) Dwarf Scrub

Conservation significance

Restricted plant association on Lord Howe Island. The Malabar population is protected within the Permanent Park Preserve.

Distribution

Talus slope below Malabar; sand and cliffs at Ned's Beach to Steven's Point and Middle Beach,

Ecology

Main plant species present: *Atriplex cinerea*, *Sporobolus virginicus*.

Population data/health

Low disturbance only. 0.6ha area.

Habitat

Exposed slopes close to the sea, recent coral sand overlaying basalt. Poor soil with minimal development.

Threats

Minor weed incursions at Ned's Beach, where introduced Kikuyu and Buffalo Grass are invading the habitat of this community.

Impact on other species

Unknown.

References

- Green P.S. 1994. *Flora of Australia* Vol. 49 Oceanic Islands 1. AGPS.
- Pickard J. 1983. Vegetation of Lord Howe Island. *Cunninghamia* Vol 1 (2) pages 133-266.

Sallywood (*Lagunaria patersonia*) Closed Swamp Forest

Conservation significance

Endemic association. Listed as an endangered ecological community on the NSW TSC Act. Not protected within the Permanent Park Preserve.

Distribution

The habitat for this community is limited to flat, low lying, poorly drained areas around the settlement (Old Settlement, behind Pinetrees, east end of Mosely Park behind Blinkie Dune, end of the mangrove creek near Cobby's Corner and across the road from the mangrove creek at Soldiers Creek).

Ecology

The dominant plant species present include *Lagunaria patersonia*, *Hibiscus tiliaceus*, *Myoporum insulare*, *Aegiceras corniculatum*, *Cryptocarya triplinervis* and *Celtis conferta* ssp. *amblyphylla*.

Population data/health

There were previously 5 stands of this community. This has been reduced to one stand, near Cobby's Corner, and some remnant trees in other stands.

Habitat

Low lying, poorly drained flat areas, flooded for part of the year.

Threats

Most areas have been cleared for grazing and any remaining Sallywood trees are dead or near dead through exposure to wind.

Impact on other species

Unknown.

References

- Green P.S. 1994. *Flora of Australia* Vol. 49 Oceanic Islands 1. AGPS.
- Pickard J. 1983. Vegetation of Lord Howe Island. *Cunninghamia* Vol 1 (2) pages 133-266.



Photo: Ian Hutton

Sally wood Swamp forest

Scalybark (*Syzygium fullagarii*) Closed Forest

Conservation significance

Association endemic to Lord Howe Island. Endemic species predominate. Most areas are protected within the Permanent Park Preserve.

Distribution

Located from sea level to 500m altitude, mainly on the flanks of Mount Lidgbird and the north slope of Mount Gower and Intermediate Hill. There is a small patch in the northern hills.

Ecology

Main species include *Syzygium fullagarii*, *Chionanthus quadristamineus*, *Guioa coriacea*, *Howea belmoreana*, *Rapanea mccomishii*, *Zygogynum howeana*, *Atractocarpus stipularis*, *Coprosma putida*, *Carex brunnea*, *Pteris microptera*. Floristically most similar to *Chionanthus quadristamineus*.

Population data/health

Occupies approximately 126ha in area. This community is generally in good condition, although some areas are invaded by noxious weeds.

Habitat

Sheltered valleys or slopes with good soil, water and protection from wind, away from the coast on slight to moderate slopes. Stony basalt soil.

Threats

Weed invasion is a threat on Intermediate Hill and the northern side of Mount Lidgbird close to the settlement. Weed species include Ground Asparagus, Cherry Guava, Pittosporum, Cotoneaster and Ochna. Minor weeds escaping from the settlement include Silky Oak, Camphor laurel, Privet, and *Metrosideros excelsa*. Invasion by Kikuyu on pasture edges is also a weed threat.

Rodents eat the seeds of some tree species.

Forest edge "dieback" from clearing of the protective margin of the forest impacts upon this community.

Impact on other species

Unknown.

References

- Green P.S. 1994. *Flora of Australia* Vol. 49 Oceanic Islands 1. AGPS.
- Pickard J. 1983. Vegetation of Lord Howe Island. *Cunninghamia* Vol 1 (2) pages 133-266.
- Hutton I. & Le Cussan J. 2001. *Outline for a weed control strategy and an Inventory of weeds for Lord Howe Island*. Report for the Lord Howe Island Board.

Tea Tree (*Melaleuca howeana*) Closed Scrub

Conservation significance

Endemic association. Endemic species predominate. Protected within the Permanent Park Preserve.

Distribution

Generally occurs close to the coast, between sea level to 150m altitude, and occasionally to 500m.

Some localities of this community include: Old Gulch, New Gulch, bottom of Dawson's Ridge, northern end of Blinkie Beach, Little Slope, Big Slope.

Ecology

The dominant species in this association include *Melaleuca howeana*, *Cassinia tenuifolia*, *Lagunaria patersonia*, *Howea belmoreana*, *Alyxia ruscifolia*, *Wollastonia biflora*, *Muehlenbeckia complexa*, *Cyperus lucidus*, *Isolepis nodosa*, *Asplenium milnei*, *Adiantum hispidulum* and *Commelina cyanea*.

Species in this community can tolerate exposure to extreme wind and salt spray.

Population data/health

The area covered by this community is approximately 42 ha. It has generally been subjected to minor levels of disturbance. Dry periods can result in individual plants dying.

Habitat

Dry exposed slopes close to the sea, terraces on cliffs and ridge crests. Moderate to steep slopes on basalt or calcarenite soils, that are often stony.

Threats

Prior to Goat control, Goats caused some disturbance.

Impact on other species

At the northern end of Blinkie Beach, this community is a breeding location for seabirds such as the Black-winged Petrel and Little Shearwater.

References

- Green P.S. 1994. *Flora of Australia* Vol. 49 Oceanic Islands 1. AGPS.
- Hutton I. 2001. *Rare plant surveys of Lord Howe Island*. Report prepared for the NSW Scientific Committee, Hurstville.
- Pickard J. 1983. *Vegetation of Lord Howe Island. Cunninghamia* Vol 1 (2) pages 133-266.

Upland Freshwater Instream

Conservation significance

Very restricted community. Most areas are protected within the Permanent Park Preserve.

Distribution

Elevated parts of the main island.

Ecology

Aquatic, water-dependant community.

Population data/health

Some areas of this community are affected by weed invasion.

Habitat

Second order and below streams that occur on basalt.

Threats

Weed invasion, particularly by Crofton Weed, impacts on this community.

A reduction in rainfall as a result of climate change is a significant threat to this community.

Impact on other species

Unknown.

References

Pickard J. 1983. Vegetation of Lord Howe Island. *Cunninghamia* Vol 1 (2) pages 133-266.

Waterfall Cliff

Conservation significance

Very restricted habitat. Endemic species predominate. Protected within the Permanent Park Preserve.

Distribution

Vertical cliffs on the north and west faces of Mount Gower, down to around 500m altitude.

Ecology

The main plant species present are *Blechnum geniculatum*, *Blechnum howeanum*, *Machaerina insularis*, and *Elatostema grande*.

Plants on these wet cliff faces are subject to a wide variety of physical conditions from dry periods to heavy rain resulting in torrents of water pouring across them. Strong winds can blow across the faces.

Population data/health

Very restricted habitat.

Habitat

Vertical basalt cliffs generally with at least a trickle of water coming down.

Threats

Introduced weed species, particularly Crofton Weed, can gain a foothold on some of the ledges of these waterfalls.

Climate change may result in a reduction of rainfall and cloud formation, lowering the amount of water available to this water-dependant community.

Impact on other species

Unknown.

References

Green P.S. 1994. *Flora of Australia* Vol. 49 Oceanic Islands 1. AGPS.

Hutton, I 2005. *Rare Plant Surveys of Lord Howe Island* 2. Report prepared for the Biodiversity Conservation Science Section, Dept of Environment and Conservation.

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