CALMScience 3(4): 521–623 (2001)

A flora and vegetation survey of the islands of the Houtman Abrolhos, Western Australia

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ABSTRACT

This paper lists the flora found on 119 islands and islets of the Houtman Abrolhos, and maps the vegetation found on a total of 173 islands and islets. The flora comprises 239 species (144 native species and 95 exotic species) from 68 families. Special vegetation areas discussed include: mangrove communities; *Atriplex cinerea* dwarf shrubland; pavement limestone, dune and consolidated dune vegetation of North, East Wallabi and West Wallabi Islands; East Wallabi's grove of *Eucalyptus oraria*; and North and West Wallabi Islands' extensive salt lake and saltbush flats. The vulnerability of the vegetation to human-made changes is discussed.

INTRODUCTION

Purpose

The purpose of this paper is to document published and unpublished floristic and vegetation data, including plant species lists and vegetation maps, for the islands of the Houtman Abrolhos, and to identify vegetation communities of special conservation interest to aid management planning. The bulk of the data published here for the first time result from the field trips undertaken by Harvey and Alford in 1987, and Harvey and Longman in 1999.

Nomenclature

The Houtman Abrolhos islands were named by Dutch navigator Frederik de Houtman in 1619. It is commonly thought the name Abrolhos comes from the Portuguese expression 'abre olhos', which today means 'open the eyes'. However, the Geographic Names Sub-section of the Department of Land Administration (DOLA)[1] (personal communication) favours another interpretation of the name: in the Portuguese language used in 1619, it is believed the word 'abrolhos' meant 'spiked obstructions', and was applied to outlying coastal dangers.

The formal name for the island group is 'Houtman Abrolhos'. Hence it is correct to use a lower-case initial for 'islands' when this follows the formal name.

Location

The Houtman Abrolhos reef complex is located between latitudes 28°15' S and 29°00' S, and longitudes 113°36' E and 114°03' E along the shelf margin, 60 km from the Western Australian coast. The emergent parts of this coral reef consist of 173 islands and islets, of which 109 are officially named and a further 64 unofficially named (Table 1, p. 541). The islands of the Abrolhos extend 86 km from north to south and are clustered into three groups: the Wallabi Group (including the isolated North Island), the Easter Group and the Pelsaert Group (Fig. 1). Each island group consists of a windward (western) reef, a leeward (eastern) reef, and a lagoon with a central carbonate platform (Collins *et al.* 1997). The groups are separated by channels 40 m deep, Middle Channel and Zeewijk Channel.

Tenure

The Houtman Abrolhos islands are Australian territory and part of the State of Western Australia (WA). The islands themselves are currently vested under the care, control and management of the Minister for Fisheries as "A" Class Reserve No. 20253 for 'conservation of flora and fauna, tourism and for purposes associated with the fishing industry'.

Geology

Descriptions of the geology and geomorphology of some of the islands can be found in Teichert (1946), Fairbridge (1947), Storr (1965) and O'Loughlin (1966, 1969). The islands were geologically mapped by Playford *et al.* (1970), and France (1985) prepared a dissertation on the sedimentology of the Pelsaert Group. More recently, in the 1990s, geological mapping and subsurface investigations have been undertaken (Eisenhauer *et al.* 1993; Collins *et al.* 1993a, 1993b; Zhu *et al.* 1993).

[1] Geographic Names Sub-section, Department of Land Administration (DOLA), 1 Midland Square, Midland, Western Australia 6056

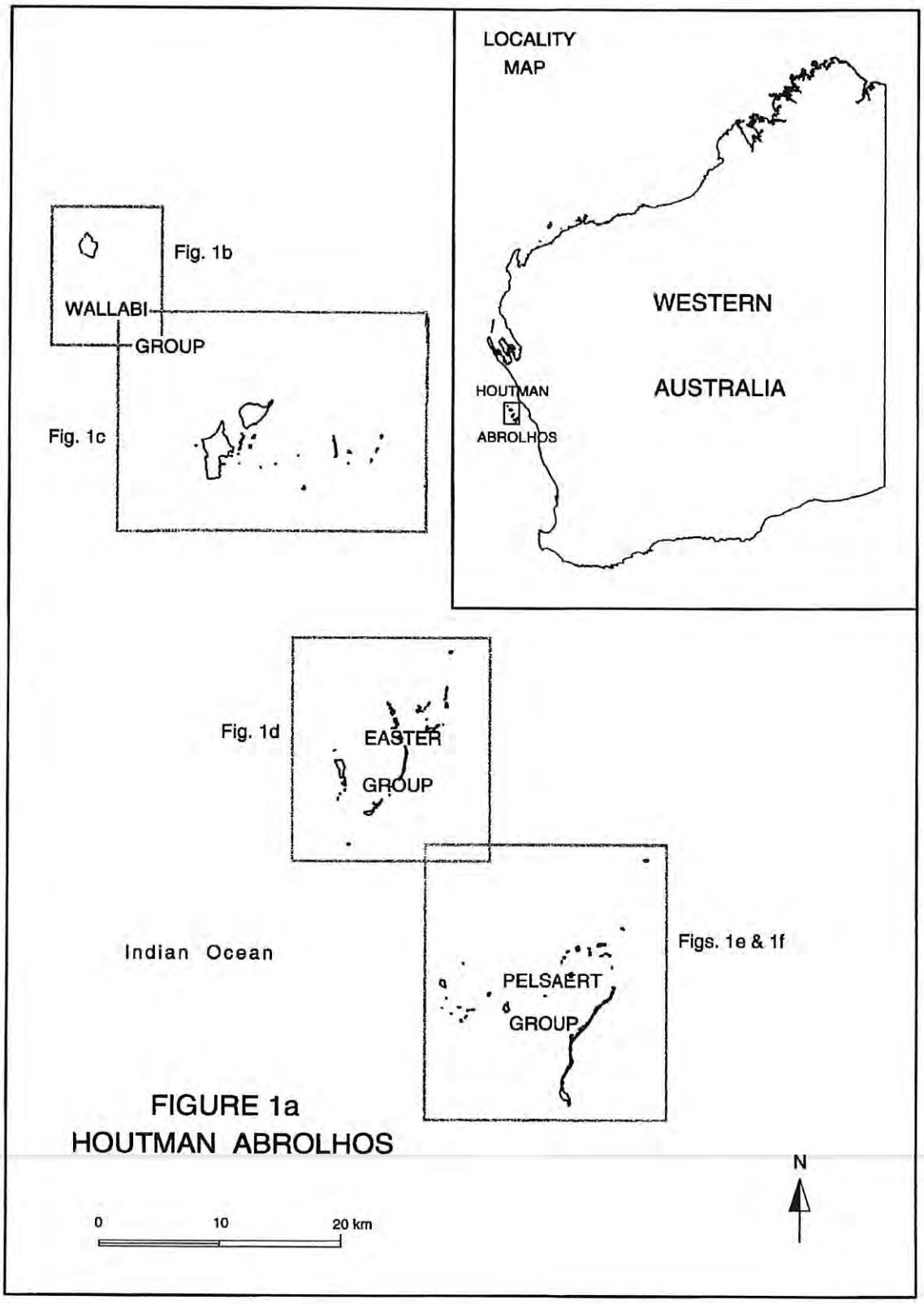

Figure 1. Maps of the islands of the Houtman Abrolhos.
Figure 1a. Map of all three groups of the Houtman Abrolhos. Insert: Location of the Houtman Abrolhos in relation to mainland Western Australia.

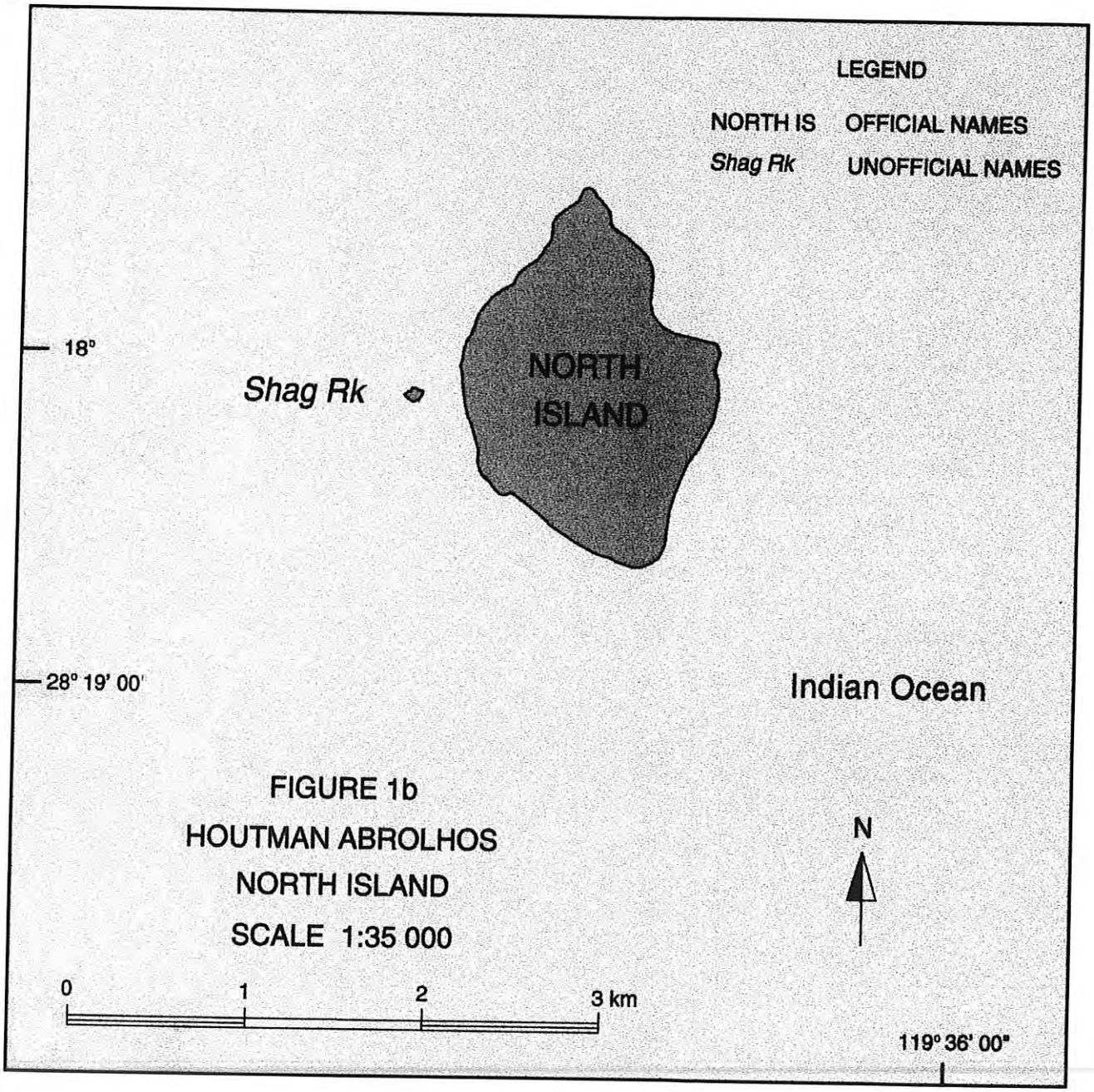

Figure 1b. Map of North Island and "Shag Rock", two islands isolated from the rest of the islands of the Wallabi Group, Houtman Abrolhos.

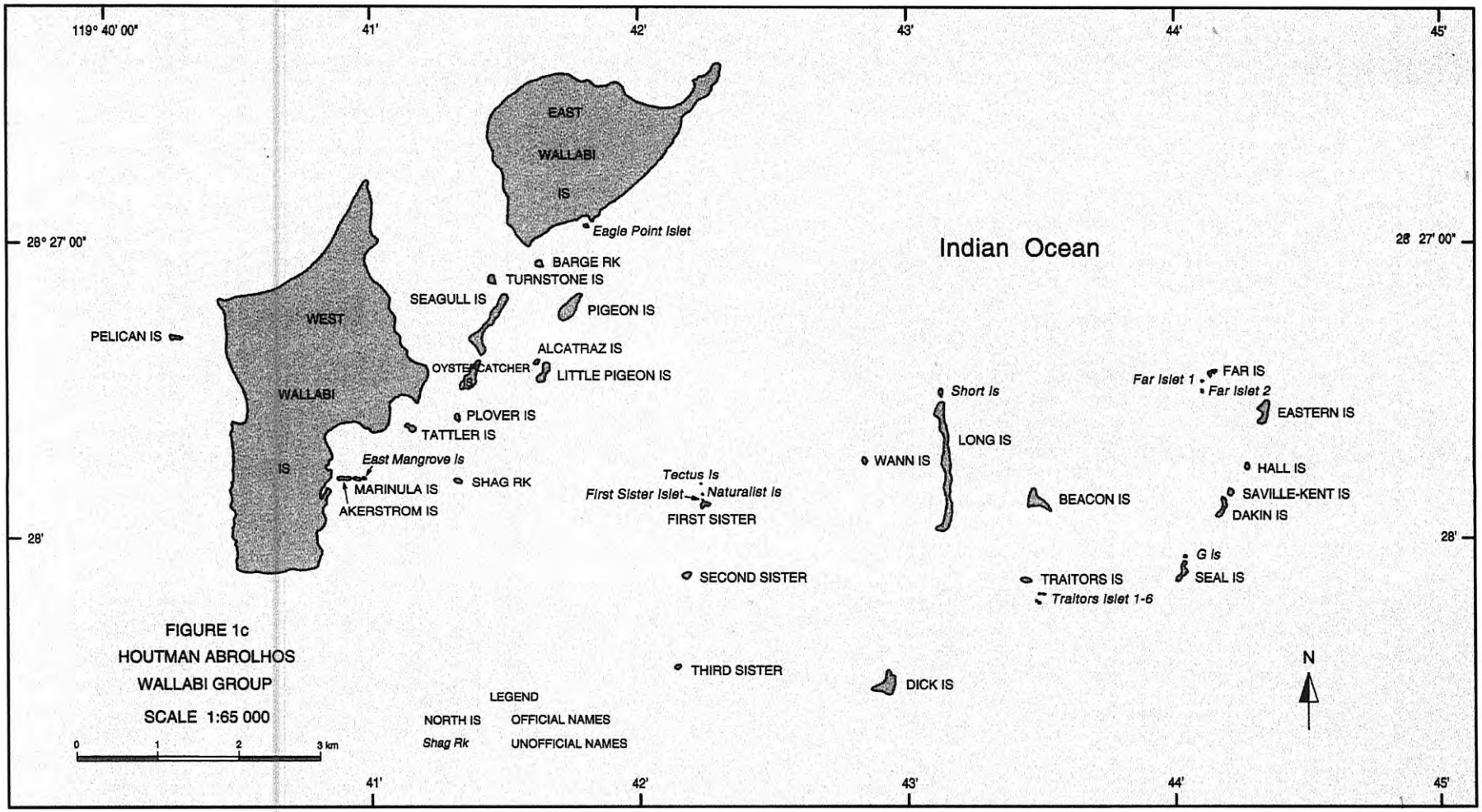

Figure 1c. Map of the Wallabi Group (not including North Island and "Shag Rock"), Houtman Abrolhos.

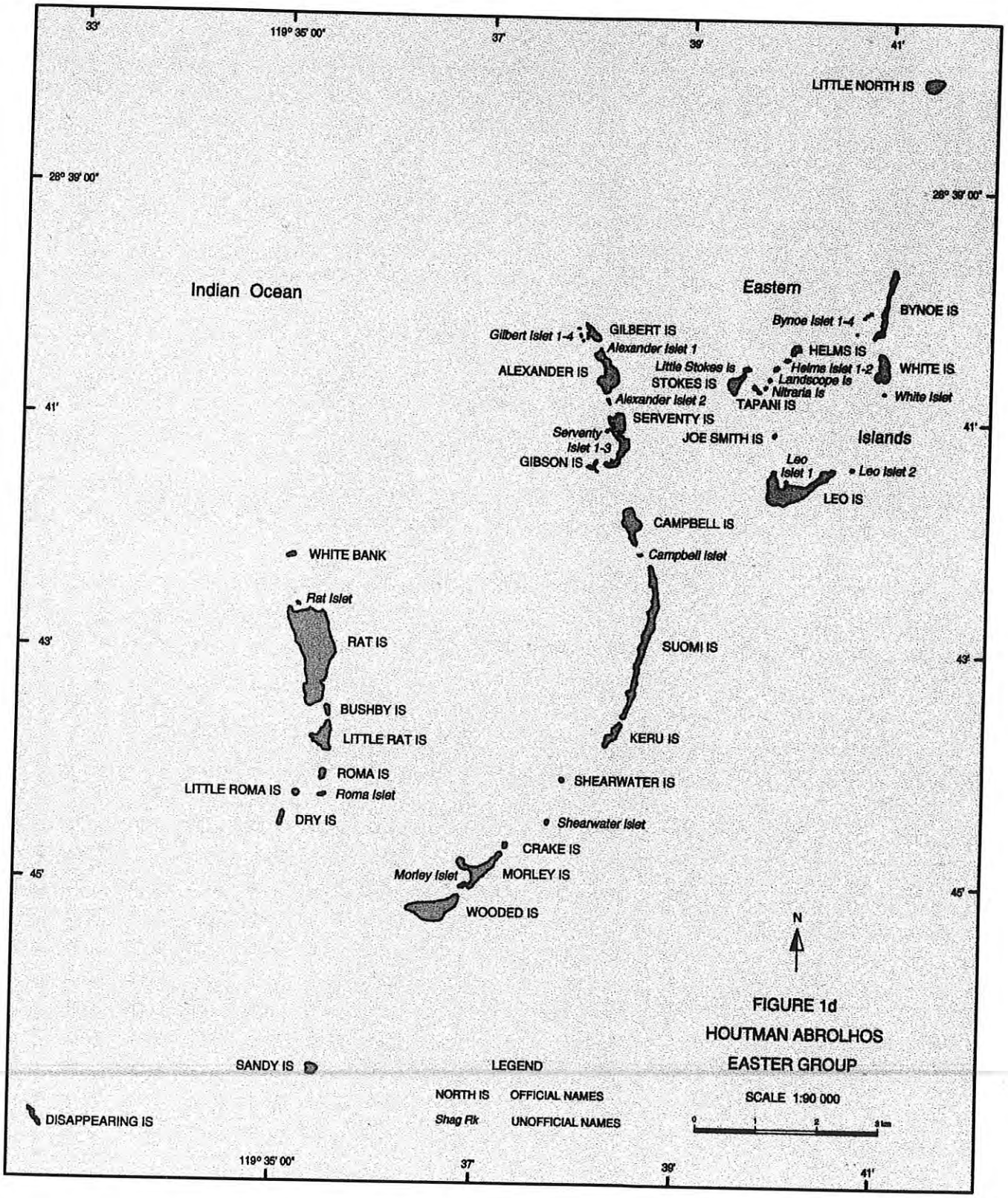

Figure 1d. Map of the Easter Group, Houtman Abrolhos.

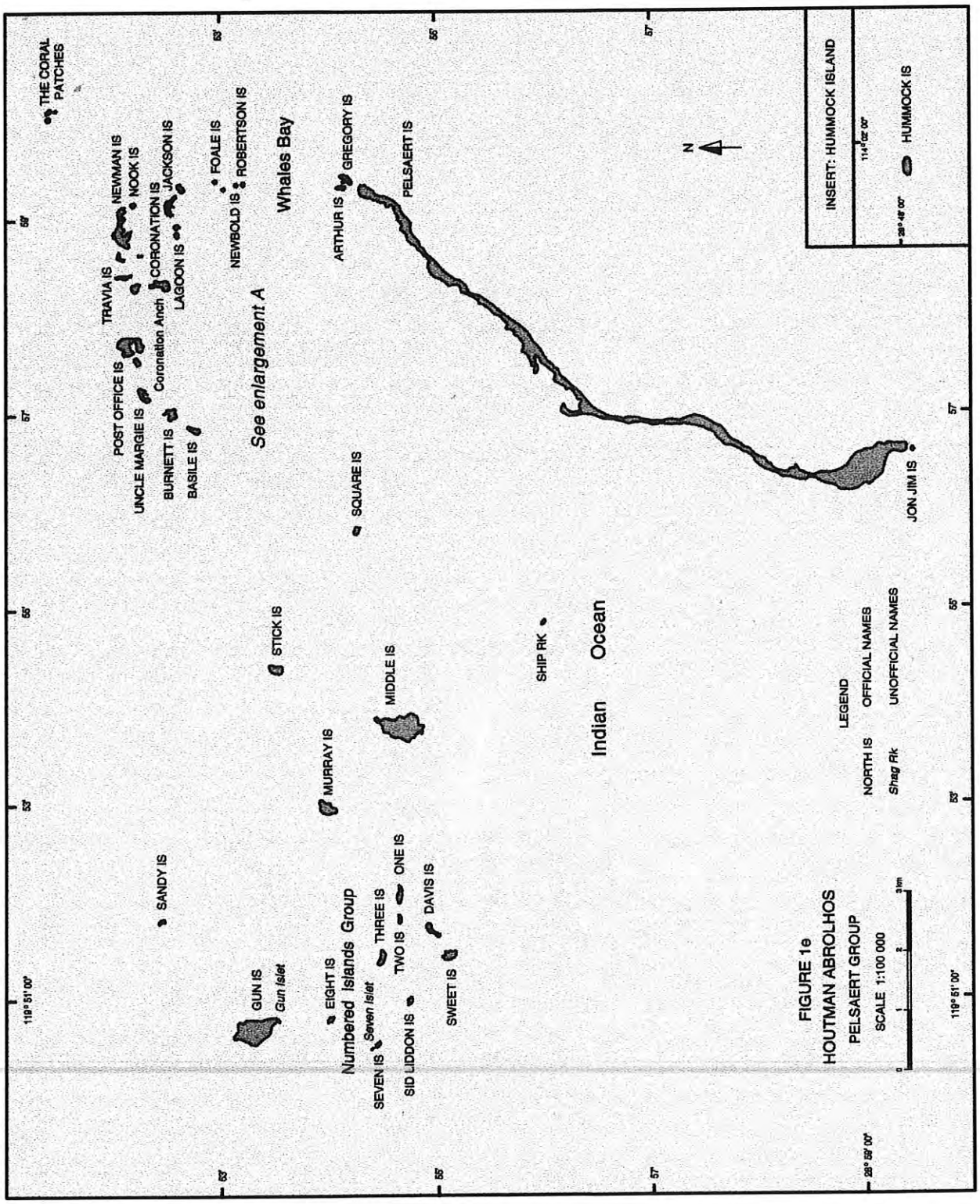

Figure 1e. Map of the Pelsaert Group, Houtman Abrolhos. See Enlargement A (Figure 1f) for more detail. Insert: Hummock Island.

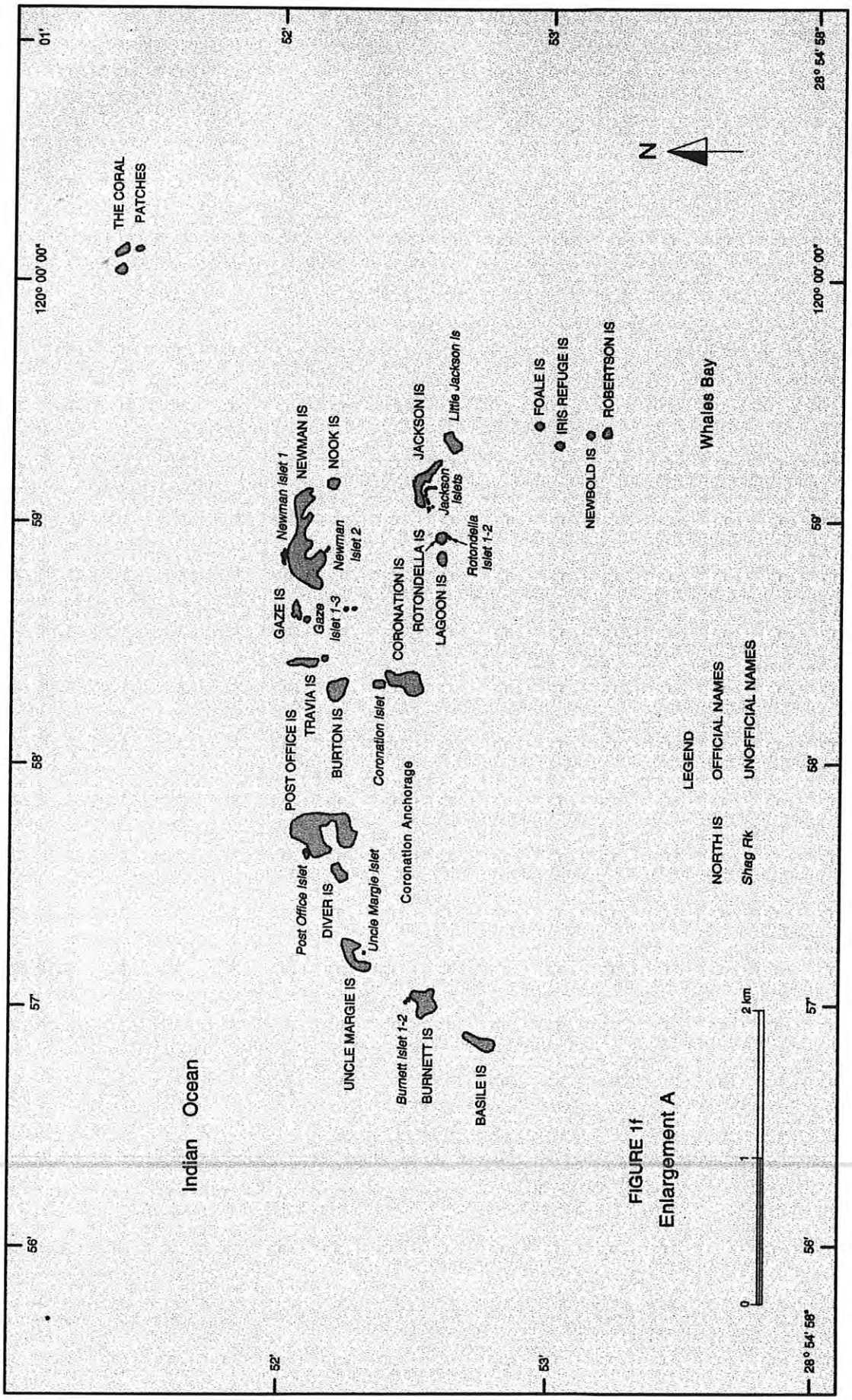

Figure 1f. Enlargement A. More detail of some of the islands of the Pelsaert Group, Houtman Abrolhos.

The geological growth history of the Abrolhos islands and reefs is closely linked to global variations in sea level. Underlying the Abrolhos is a basement of about 900 m of Tertiary and Cretaceous limestone, siltstone and marl. This is overlain by a central platform of Pleistocene reefs laid during the last Interglacial, about 125 000 years ago (Zhu *et al.* 1993), when the sea level was higher than the present level.

About 18 000 years ago, sea levels around Australia were 130 m below present sea level. The sea level rose to 9 m below the present level about 8200 years ago, resulting in the central platforms (North, East and West Wallabi Islands in the Wallabi Group; the Rat Island chain in the Easter Group; Gun, Middle and Murray Islands and the Numbered Islands in the Pelsaert Group) becoming separated from the mainland (Collins *et al.* 1997). The emergent parts of the central platforms formed islands.

Windward and leeward Holocene reefs started to develop around the central platform in each group between 8000 and 10 000 years ago (Collins *et al.* 1993b). The wave-exposed windward reefs consisted mainly of slow-growing coralline algae binding coral rubble and limestone edges together as a solid pavement, whereas fast-growing coral dominated the more protected leeward reefs. The sea level continued to rise, even above its present level, allowing windward and leeward reefs to grow further and a sheet of lagoon sand to develop, derived from sediment transported leeward from the windward reef crest. The sea level dropped to its present level, producing emergent islands, mainly in the central platforms and leeward reefs but not normally in the windward reefs.

Five types of island have been identified at the Abrolhos (France 1985; Collins *et al.* 1997), based on geomorphological features.

1. Æolianite islands consist of a core of reef limestone which has a tabular surface 2 to 3 m above sea level that is overlain by æolianites and unconsolidated dune sands. They are the largest of the Abrolhos islands and are normally a few kilometres across and up to 15 m high. Examples of æolianite islands include East and West Wallabi Islands and North Island.
2. High rock islands are usually about 1 km across and are flat-topped, rocky islands a few metres high. Their coastal morphology is dominated by a well-developed intertidal notch. Their rocky island surfaces, or pavements, are barren or sparsely vegetated depending on the extent to which they have been mined for guano. The central platforms of the Easter and Pelsaert Groups in particular each consist of several high rock islands (e.g. Rat Island, Little Rat Island, Gun Island, Middle Island, Murray Island).
3. Composite islands are often long (up to several kilometres) and narrow (about 0.5 km). They consist of a core of emergent coral reef and cemented, imbricated coral rubble, overlain by elongate coral-shingle ridges that are 1 to 4 m above the present sea level. All islands on the leeward side of the reef in each of the Wallabi, Easter and Pelsaert Groups are of this island type (e.g. the Long Island, Suomi Island and Pelsaert Island chains).
4. Cemented coral-shingle cays are composed of coral shingles, bound and cemented by coralline algae and marine cements. They are similar to composite islands, but are smaller (up to a few tens of metres long) and lack unconsolidated coral-shingle ridges. Examples include the small islets First and Third Sisters, and Gibson Island.
5. Low coral-shingle/sand cays are ovoid to elongate islands of 1–2 m elevation, consisting of coral-shingle ridges and sand. Examples include Hall Island, Stick Island and Easter Group's Sandy Island.

Table 2 (p. 544) lists each island of the Abrolhos and its corresponding island type according to the Collins classification system above. Note, however, that field verification would be necessary to ascertain conclusively the island type for some of the islands, for example, some of the smaller fragments in the Mangrove Group of the Pelsaert group and in the Suomi Island chain.

Hartley Island (former position 28°28'43"S, 113°43'44"E), a sand cay which was located 1.3 km west of First Sister and appears on official maps of the Abrolhos, is no longer above low water mark.

The older, larger æolianite islands with relictual continental surfaces retain a moderately rich vegetation. At the other extreme, the younger low coral-shingle/sand cays have little or no vegetation (Storr *et al.* 1986).

There are over 50 ponds or lagoons on the islands, ranging from small depressions to one that is over 100 m long. Except during major storms, the ponds are separated from the sea, but sea water seeps through the rock shingle into and out of the ponds, thus making the ponds tidal. Some molluscan species absent from the open coast north of Perth are common in the tidal ponds of the Abrolhos islands (Black and Johnson 1997).

Fresh water is found in very limited quantities on the islands.

Size

The islands range in size from West Wallabi (587 ha) down to rocks a few square metres in area. Islands of the Abrolhos generally rise only 3–5 m above the present sea level, but the æolianite islands East and West Wallabi reach elevations of 15 m (Table 1, p. 541).

Climate

The Abrolhos region has a Mediterranean climate, with hot, dry summers and cool, wet winters.

Temperature

The mean air temperature in February ranges from a minimum of 22.2°C to a maximum of 26.5°C; in August it ranges from a minimum of 16.9°C to a maximum of 20.0°C (Bureau of Meterology[2], personal communication).

[2] Bureau of Meteorology, PO Box 1370, West Perth, Western Australia 6872

Rainfall

Rainfall is not recorded at the weather station on the Abrolhos but is estimated to be 500 mm per year (Collins *et al.* 1997).

Wind and Storms

Winds exhibit both seasonal and diurnal patterns and are stronger offshore than on the mainland. The dominant wind direction in summer, winter and spring is SE-SW and in autumn S-SE (Bureau of Meteorology, personal communication). Table 3 shows that in summer 86 per cent of wind speed readings exceed 21 km h^{-1}(11 knots) and 51 per cent exceed 30 km h^{-1} (16 knots).

Storms occur mainly in winter, and tropical cyclones mainly in summer, with an average frequency of one tropical cyclone every 3 years (Steedman 1977). The possibility of wind speeds reaching 165 km h^{-1} occurs once every 50 years, with the possiblity of 176 km h^{-1} winds once every 100 years (Fisheries Western Australia 1998). Calm conditions are rare and occur mainly in winter.

Persistent swell waves with a mean height of 1.2 m impinge on the Abrolhos throughout the year, approaching from the south and west 78 per cent of the time (Steedman 1977). The waves hit hardest on the south-westerly reef margins, forming the high-energy, windward regime of the platforms, whereas significant refracted swell and wind waves impinge on south-east margins, forming medium-energy leeward environments (Collins *et al.* 1996).

TABLE 3

Information derived from the North Island weather station, based on wind speeds recorded 8 times each day (at times 12 a.m., 3 a.m., 6 a.m., 9 a.m., 12 p.m., 3 p.m., 6 p.m., 9 p.m.) between May 1990 and January 1999. Note that Table 3 gives no wind directions.

SEASON	WIND SPEED (km h^{-1})	PERCENTAGE FREQUENCY (%)
SUMMER	calm	1
	1–10	3
	11–20	10
	21–30	35
	>30	51
AUTUMN	calm	1
	1–10	8
	11–20	24
	21–30	41
	>30	26
WINTER	calm	3
	1–10	9
	11–20	26
	21–30	34
	>30	28
SPRING	calm	0
	1–10	4
	11–20	21
	21–30	43
	>30	32

Coral reefs

The Houtman Abrolhos is in the warm temperate zone and has large areas of limestone reef and sand, typical of temperate WA waters. Consequently there are temperate marine plant and animal species present. However, there are also extensive living coral reefs, typical of tropical waters, present on the southern and western sides of each of the three island groups, with broken reefs on the northern margins. The Abrolhos has one of the world's best examples of luxuriant and diverse coral growth at high latitude, and forms the southernmost living coral reef in the Indian Ocean. The coral communities are maintained by the Leeuwin Current, a warm, low-salinity current that flows from near North West Cape down along the continental margin to the west of the Abrolhos reef complex on its way down to Cape Leeuwin and the Great Australian Bight (Cresswell and Golding 1980; Pearce and Cresswell 1985; Cresswell 1991; Pearce 1991). The current is relatively narrow (50–200 km) and shallow (50–200 m). It flows more strongly during the autumn, winter and early spring months (March to September) than in summer. Peak current speeds can exceed 1.5 m s^{-1} (Pearce 1991).

Collins *et al.* (1997) extensively details the coral communities. It is considered that the Houtman Abrolhos reef will prove to be a sensitive indicator of environmental change, as it has developed near the temperature limits for coral growth.

Native Fauna

Birds

Seabird populations of the islands are outstanding in terms of their number and diversity. The Abrolhos is regarded as one of the most important breeding areas for birds in Australia (Fuller and Burbidge 1981; Fuller *et al.* 1994). The breeding birds include some declared rare or priority sea and land species such as the lesser noddy (*Anous tenuirostris melanops*), the Abrolhos painted-button quail (*Turnix varia scintillans*) and the brush bronzewing (*Phaps elegans*). Recent summaries of bird sightings at the islands are in Storr *et al.* (1986) and Fuller *et al.* (1994).

Helms (1902) reported during his 1898 visit 'On the greater number of the level low islands the accumulated droppings of the many birds have formed a valuable guano which now supports a stunted vegetation where the deposit is deep enough to give the plants a foothold.' The effect of large numbers of nesting sea-birds on the vegetation has been documented by Gillham (1960, 1961). Trampling of plants, burrowing among the roots of plants and surface-nesting (leading to a build-up of guano) have over time caused radical changes in the floristic composition of the vegetation on certain islands.

In small concentrations, guano increases the soil fertility and plant growth is improved, stimulated by the additional nitrogen and phosphorus, which are usually deficient in native Western Australian soils; heavy deposition of guano, however, on some islands as deep as 1 m, may cause all plants to be eliminated. Indigenous

plants vary considerably in their tolerance of manuring, and few species are able to tolerate a high concentration of guano. The general tendency is for sclerophylls to become replaced by succulents, shrubs by trailing herbs, perennials by annuals and indigenous plants by aliens. Some of the guano-tolerant native species include *Nitraria billardierei* and *Parietaria debilis*, the succulents *Enchylaena tomentosa* and *Carpobrotus virescens* and the exotics *Mesembryanthemum crystallinum*, *Urtica urens*, *Chenopodium murale*, *Stellaria media* and *Sonchus oleraceus*.

When the vegetation changes sufficiently and is unable to recover during the period when the birds are away between breeding seasons, the area may become unsuitable as a nesting habitat and cause an exodus to another site. Given time, plant regeneration in the original area follows the general course of the degeneration in reverse; however, frequently 'recovery' is incomplete, not progressing to the original state but only to a stage sufficiently similar to satisfy the birds' requirements.

Reptiles

Twenty-six species of reptile have been recorded by the Western Australian Museum on the islands (Storr *et al.* 1983), some species occurring just on one island group and some being endemic to the Abrolhos. The Abrolhos dwarf bearded dragon (*Pogona minor minima*) and the Abrolhos spiny-tailed skink (*Egernia stokesii stokesii*), two species endemic to the islands, are priority fauna species (Priority 4).

The Wallabi Group, particularly East and West Wallabi, has been identified as the richest for reptiles, with twenty-two species representing seven families being recorded from this group. Storr *et al.* (1983) notes that although 'the fauna of the Wallabi Islands is continental in diversity it differs considerably from that of any comparable area in the mainland'.

Mammals

Two species of indigenous land mammal have been recorded on the Abrolhos islands. The Wallabi Group obtains its name from the tammar wallaby (*Macropus eugenii*), which has been recorded on East and West Wallabi Islands and North Island (Abbott and Burbidge 1995). The tammar has been declared rare. Tammars graze on grasses and Chenopods, and are reportedly particularly keen on succulents (Fisheries Western Australia 1998). Storr *et al.* (1986) and Abbott and Burbidge (1995) report that tammars, along with rabbits, were deliberately released on North Island as a source of food for storm-bound fishermen in the 1950s, but neither species persisted for long. The tammar was reintroduced to North Island in 1987 (Abbott and Burbidge 1995) and this introduction is successfully established. The bush rat (*Rattus fuscipes*), has been recorded on East and West Wallabi Islands.

There is a significant population of the Australian sea-lion (*Neophoca cinerea*) at the Abrolhos, however, this mammal was formerly more abundant (Storr 1965). The sea-lions use the mangrove areas as nurseries for their young.

Human Disturbance

The islands' position on the western margin of the continental shelf, the surrounding reefs and the frequent heavy seas make the area dangerous for navigation. There have been more than 20 shipwrecks at the Abrolhos (Western Australian Maritime Museum 1993), of which seven have been declared historic, including the famed Dutch ships Batavia (1629) and Zeewijk (1727). Several wells and limestone structures have been constructed on the islands by shipwreck survivors (Stanbury 1991).

Mining of high-grade guano occurred at the Abrolhos on at least 16 islands (see Table 4, p. 548) between 1847 and 1946 (Stanbury 1993). The list in Table 4 may not be comprehensive because lack of surveillance and the remoteness of the islands made it easy for illegal, unrecorded mining by unlicensed vessels to occur (Stanbury 1982). Some of the islands were mined extensively. Guano mining required the removal of vegetation, loose rocks and soil, and the sweeping of the guano into heaps (Helms 1902); often no attempt was made to recreate the original topography of the island. Exotic plant species were inadvertently introduced, mainly via seeds in chaff fed to horses employed by the guano mining industry, and Helms (1902) reported the establishment of plant species such as, most commonly, *Sonchus oleraceus*, but also *Spergula arvensis* and, very extensively on Rat Island, *Chenopodium murale*. The removal of native vegetation cleared the way for the establishment of the more robust weed species, rather than the return of the indigenous species. Buildings, jetties and tramways were constructed for the use of the industry.

Rabbits, cats, black rats, mice and goats were introduced, either deliberately or inadvertently, to several islands (see Table 4, p. 548). Of these, rabbits and goats have been the most destructive to the vegetation, overgrazing it, removing cover for nesting seabirds and causing erosion. Further, rabbits competed with nesting seabirds for burrow sites. The grazing of animals such as sheep to feed employees and provide bait for fishing ventures is reported to have occurred on North Island and Rat Island in the 1940s (Stanbury 1993). By natural causes or with the help of eradication programs, all feral animals, except for the house-mouse on Rat and North Islands, have been eliminated from the Abrolhos (Burbidge[3], personal communication).

In the period between the world wars the main activity in and around the Abrolhos was deep-sea fishing, involving few people and no residence on the islands. A much more damaging activity was the commercial harvesting of seabird eggs (Storr *et al.* 1986). Since World War II, fishing for the western rock lobster has became a major industry, involving hundreds of people and the building of huts, jetties and other installations, occupied during the season (15 March–30 June). It was reported that in August 1997 there were 140 main camps, 222 secondary camps, 4 schools, 3 clubs, a nursing post, a church, 114 jetties, 238 landings or T-piece sections and 43

[3] Dr A.A. Burbidge, CALMScience Division, Woodvale Research Centre, PO Box 51, Wanneroo, Western Australia 6946

dinghy jetties, distributed over twenty-two of the Abrolhos islands (Fisheries Western Australia 1998). The inhabited islands are listed in Table 4 (p. 548). Along with habitation came the introduction of yet more exotic plant species.

The source of introduction of the weed African boxthorn has not been established, but it is known to be a dangerous trap for wildlife, especially nesting birds. Boxthorn is an intricately branched plant, 0.5–2.5 m (sometimes up to 4 m) high and up to 3 m across, with thorns to 15 cm long on the main stem and smaller spines on the branchlets. During the breeding season, young hatchlings become impaled on the thorns, resulting in death (Geraldton Regional College of TAFE Land Management Group and The Fisheries Department, Geraldton 1997). Boxthorn regenerates by seed (spread within and between islands by birds that have eaten the palatable red berries) and by a sucker-like system of tap roots, competing with native flora for the limited growing medium. The Geraldton Regional College of TAFE and the Fisheries Department undertook a program to eradicate African boxthorn from five of the Numbered Islands in the Pelsaert Group (see Table 5, p. 550) in June 1997, and have reported comprehensively on the program, including costings (Geraldton Regional College of TAFE Land Management Group and The Fisheries Department, Geraldton 1997). Since green boxthorn could not be burnt, they transported cut branches back to Geraldton for disposal, sprayed the remaining stems with glyphosate 360, and burnt dead plant material from previous eradication attempts (this dead material, possessing many persistent thorns, is consequently still considered hazardous).

Airstrips have been built on North, East Wallabi and Rat Islands; these were developed and maintained by rock-lobster fishers to provide transportation to and from the islands and for emergency evacuation. Prince and Hopkins reported on the proposal for an airstrip on North Island (File 131/46 Department of Fisheries and Wildlife 1976), and made reference to current and abandoned airstrips on East Wallabi Island:

> The strip on East Wallabi Island is located within an area occupied by a low shrubland vegetation. A considerable depth of soil also appears to have been present initially. The vegetation of this area appears to be a very poor coloniser of disturbed ground however, and the soil most susceptible to wind erosion. These factors, combined with the operator's needs to periodically regrade the surface available in order to continue operations have resulted in the present strip surface now lying well below the level of the soil surface under the adjacent undisturbed shrubland. The central portion of this strip also appears to have now been incised down to the underlying limestone basement. Evidence from the abandoned W.W.II airstrip adjacent to the present strip, and the now disused East-West cross-strip constructed illegally by the present operators show that natural rehabilitation of this area, if the present operations were discontinued, would be extremely slow. At the same time, the present state of this airstrip (established < 10 years) suggests that its future operational life is limited, and it probably does not now conform to A.L.A. (Australian Landing Areas) standards.

Since this time, each airstrip has been resurfaced at least once to facilitate continued use. Since 1993, care has been taken to ensure the gravel brought across from the mainland for resurfacing is dieback-free (Owens[4], personal communication). Sunflowers germinating from seed brought over with the gravel brought over for the 1999 resurfacing were removed.

The Wallabi, Easter and Pelsaert Groups are also serviced by helicopter during the rock-lobster season and a float plane service to the Abrolhos is now available year-round.

Two fires have been recorded on the Abrolhos islands: a large portion of the eastern dunes on North Island was burnt in October 1935 and then again about 1945 (Storr 1960). The vegetation was slow to recover and large blowouts formed; sand from the blowout also blew north-west, smothering dense vegetation at the northern end of the island. In 1913 Dakin had considered the eastern dunes higher than the western (Dakin 1919), but subsequent to the fires and the resulting blowouts, the elevation of the eastern dunes has been severely reduced. Large sparsely-vegetated blowouts are still visible to this day. No doubt vegetation on other islands has been affected in the past by fire, lit by lightning strikes or by early visitors, but there are no records.

In 1997 the Geraldton Regional College of TAFE started a dune stabilization and revegetation program on the North Island blowout area (Lovegrove[5], personal communication). They noted that the blowouts consist of hard calcrete areas, littered with limestone 'pebbles', that remained after the mobile sand blew away. This soil is not conducive to plant growth. Further, erosion has occurred in the area owing to the driving of tractors from the settlement to the airstrip. They erected nylex windbreak fencing and sowed *Spinifex longifolius* and *Scaevola crassifolia* seeds collected from the island. The TAFE college is planning another trip to North Island to monitor the progress of the 1997 work and to do further revegetation.

Previous workers

Although there is a long list of scientists who have studied the Abrolhos, there has been only limited botanical data published from the islands, and most vegetation data have been recorded as part of bird, mammal or general biological surveys.

Stokes (1846), Commander of H.M.S. *Beagle*, conducted a coastal survey in 1840 and provided one of the earliest descriptions of the Abrolhos islands, drawing attention to the existence of guano on the southern end of

[4] R. Owens, Fisheries Western Australia, 168–170 St George's Terrace, Perth, Western Australia 6000

[5] Ian Lovegrove, formerly of Central West College of TAFE, Geraldton, Western Australia 6530

Pelsaert Island. He was followed by Wickham (1841), and then John Gilbert (1843) who visited Pelsaert, East Wallabi, West Wallabi and other islands in January-March 1843 on behalf of John Gould. Gilbert published an account of his trip in a Perth newspaper, most of which was reprinted by Whittell (1942). Gilbert gave a pre-mining account of the vegetation of Pelsaert Island, reporting little vegetation except for a dense thicket (about 0.6 m high) of samphire, three clumps of mangroves, and dried out specimens of *Malva* sp., *Mesembryanthemum* sp. and grasses, dead owing to the visit being in the hot dry summer.

Ornithologist A.J. Campbell (1890, 1900) visited Rat and Pelsaert Islands in December 1889 and published his observations and some of those of G.K. Beddoes (manager of the Rat Island guano works). Commissioner of Fisheries, Saville-Kent (1897) noted the outstanding biological attributes of the islands. C.P. Conigrave (1916) visited the islands in 1897 followed in 1898 by R. Helms (1902) who briefly described the flora. R. Hall (1902) visited the islands in October 1899, and C.G. Gibson (1908) in November 1907.

Professor W.J. Dakin led the Percy Sladen Trust Expedition to the Abrolhos in 1913 and October–November 1915, producing the first detailed account of the islands and their fauna. Dakin (1919) wrote physical descriptions of the islands and also noted that guano workers had made an appreciable impact on the land flora, introducing many plants from the mainland. W.B. Alexander (1922) described the vertebrate fauna collected and observed on the expedition and also lodged plant specimens at the Western Australian Herbarium from North, East Wallabi and Pelsaert Islands.

Between 1936 and 1954, the islands were visited by P.T. Sandland (1937), V.N. Serventy (1943), D.L. Serventy, G.G. Smith, H.E. Tarr (1949), Ealey (1954), and J. Warham (1956). D.L. Serventy and Smith lodged plants at the Western Australian Herbarium.

The University of Western Australia's Zoology Department visited 8 islands of the Wallabi Group in April, June and September 1959 and April 1960, and North Island in September 1959. The resulting data were documented by G.M. Storr (1960, 1965), and include the first comprehensive vegetation descriptions and plant list for any of the islands of the Abrolhos, as well as vertebrate surveys. During the North Island visit, the researchers were accompanied by English botanist Dr Mary E. Gillham who made a collection of botanical specimens, subsequently identified by Mr R.D. Royce at the Western Australian Herbarium.

During the following decade, Aquinas College conducted five expeditions to the Abrolhos islands. The Wallabi Group was surveyed in August 1964 (O'Loughlin 1965), then again in August 1965 (O'Loughlin 1966). The Pelsaert Group were surveyed on the third visit (August 1966) and fourth visit (January 1968), both being documented by O'Loughlin (1969). On the fifth visit, in August 1970, the Easter and Pelsaert Groups were surveyed (Green 1972). Plant lists for 12 islands were published in these reports.

Between 1960 and 1978, further specimens were deposited at the Western Australian Herbarium by R.D. Royce, E.M. Scrymgeour, A.R. Main, N. Sammy, A.M. Ashby, A.S. George, P.G. Wilson and J.W. Green.

Abbott (1980) compiled a comprehensive species list for 19 islands in the Wallabi and Pelsaert Groups, visited in 1975. He compared species compositions on six of the islands with those from previous botanical surveys.

R. Johnstone visited most of the Abrolhos islands in the years 1977–1983. While primarily undertaking avian surveys, he also collected some botanical specimens and vegetation data, especially from Morley, Wooded and West Wallabi Islands (Johnstone 1992; Johnstone and Coate 1992; Johnstone and Storr 1994). Johnstone has made available to us unpublished data from the other islands.

J. Harvey visited Pelsaert Island in April 1984 and collected botanical specimens and mapped major vegetation communities. A CALM-funded project from 1–7 October 1987 again involved Harvey, along with J. Alford, surveying a further 33 islands in all three groups. The result was the most comprehensive botanical survey done on the Abrolhos.

P. Roberts collected plant information from four islands in the Pelsaert Group in 1988, and lodged several specimens collected from Gun and Middle Islands.

Almost every year since 1977, either or both P.J. Fuller and A.A. Burbidge have undertaken bird surveys on one or more islands of the Abrolhos. A.A. Burbidge, P.J. Fuller and R. Owens (Fuller *et al.* 1994) searched for seabird breeding colonies on 110 islands and islets of the Abrolhos in 1991, 1992 and 1993. In this and in their remaining numerous publications (including Fuller and Burbidge 1981, 1989, 1992), they also made brief references to the vegetation in relation to bird habitat, recorded occurrences of the exotic noxious weed African boxthorn and helped in its eradication from some of the islands.

In February 1999 K. Coate led a CALM *LANDSCOPE* expedition to 18 of the lesser-visited islands of the Abrolhos, collecting botanical specimens which were subsequently identified by G. Keighery (Kenneally *et al.* 1999).

In November 1999, CALM again funded an expedition to field-truth partially completed vegetation maps of the islands; J. Harvey and V. Longman visited 50 islands and islets of the Wallabi and Easter Groups. Following on from Harvey and Longman's trip, J. Blyth and P.J. Fuller visited most of the remainder of the islands of the Easter and Pelsaert Groups, making notes about and photographing the vegetation.

Table 6 (p. 551) identifies scientists who have collected botanical information from the Abrolhos and lists the islands they visited. Note that over the years, the names of some of the islands have changed, and some island names have been incorrectly assigned.

Fishery Information

The seas surrounding the Abrolhos are a principal breeding habitat for western rock lobsters (*Panulirus cygnus*, a species endemic to WA) and they support the most

productive and valuable rock-lobster fishery in Australia. The Abrolhos yield 15 per cent of the total rock-lobster catch from 3 per cent of the fishing ground in Western Australia. Rock lobster from the Abrolhos alone generates an income annually of around A$45 million (Fisheries Western Australia 1998).

Other commercial fisheries include scallops from the sandy bottom areas in the periphery of the island groups, and droplining and handlining for finfish. In 1994, the scallop fishery was worth $3 million, and in 1995 the finfish fishery was worth $1 million (Fisheries Western Australia 1998).

METHODS

On 1–7 October 1987 Harvey and Alford (CALM) exhaustively surveyed the terrestrial vascular plants of 33 islands of the Houtman Abrolhos, including some of the smaller undocumented islands. The spring visit enabled the recording of annual species. One hundred and twenty-seven voucher specimens were lodged at the Western Australian Herbarium. Note that the accepted international abbreviation for the Western Australian Herbarium is PERTH.

On 17–22 November, 1999 Harvey and Longman (CALM) photographed and surveyed vegetation on 44 islands and islets of the Wallabi Group and six of the Easter Group (Bushby Island, Leo Island, "Leo Islet 1", "Little Rat Island", Rat Island and Roma Island). Flora specimens were opportunistically collected, resulting in 155 specimens being deposited at the Western Australian Herbarium. Blyth and Fuller, during the course of their bird survey (23–30 November) took photos and noted vegetation details for 29 further islands and islets of the Easter Group and 39 islands of the Pelsaert Group.

While on the islands, elevation was estimated (Table1, p. 541), landform and soil substrate were recorded (Table 2, p. 544), vegetation was described and any disturbance related to human activity was noted (Table 4, p. 548). Later, island sizes were calculated from aerial photographs (Table 1). Note that in all resulting tables, as well as information derived from the 1987 and 1999 field trips, data from published and other unpublished sources are also included, and referenced.

Maps of the islands (Figs 2–69, pp. 584–623) were derived from colour aerial photographs. The 1:4000 photographs were commissioned by the Fisheries Department and flown by Kevron Aerial Surveys Pty Ltd (Film KC398) on 11 September 1987; the 1:25 000 photographs were commissioned by CALM and flown by Department of Lands and Surveys (Project No. 870079) on 17 September 1987. Island outlines have been developed to be as accurate as is possible from the aerial photographs, but note that there is always a slight inherent inaccuracy in aerial photography.

Vegetation mapping used Harvey and Alford's 1987 results and Harvey and Longman's 1999 results, as well as those of other published and unpublished works. Mapping was based on the classification used by Beard (1981), which employs three characteristics, or diagnostic features: (1) nature and height of the dominant stratum, or of other strata if of diagnostic importance; (2) density of strata referred to in (1) above; and (3) dominant or diagnostic plant species. The classification resulting from the application of the first two diagnostic features can be represented in tabular form (Table 7). Dominant plant species are coded (Table 8, p. 557).

From Figures 8 and 25, it can be seen x_3 on West Wallabi differs from x_1 on East Wallabi by the former also having *Beyeria viscosa*, *Olearia axillaris*, and *Westringia dampieri* on the limestone pavement.

Vegetation information is more complete and/or reliable for some islands than others varying with availability of vegetation information. The accuracy of the vegetation mapping for each island is indicated on Table 9 (p. 558) by the numbers 1–6 (see Table 10, p. 534), with 6 being the most accurate.

RESULTS

The flora list (Table 11, p. 559) reports the results from the Harvey-Alford, the Harvey-Longman survey and from other published and unpublished sources; Table 12 (p. 574) outlines the sources of the data. The flora was found to comprise 239 species from a total of 68 families; this includes 144 native species from 55 families, and 95 introduced species from 29 families. For the purposes of quantifying species, a species is defined here as a taxon, as appearing in Table 11. A further 6 species were recorded from the Abrolhos, but collection location details are insufficient to be able to determine exactly from which island the plants were collected (see Table 13, p. 576). Note that although collections, often opportunistic, of mosses, liverworts, lichens and seagrasses have been made in the past on the Abrolhos, only terrestrial vascular plants are covered in Table 11.

Where possible, taxonomic changes (according to CALM's FloraBase) and corrected identifications have been incorporated, but this has been limited at times owing to the unavailability of voucher specimens. General taxonomic queries for some genera, e.g. *Carpobrotus* spp., are as yet unresolved. Unless collection was made of *Atriplex* and some *Rhagodia* specimens, it was found to be difficult to assign a species name to these chenopods owing to quite involved taxonomy, hence the use of *Atriplex* sp. and *Rhagodia* sp. in Table 11.

Table 14 (p. 578) is a guide to changes and corrections to plant names encountered in the literature during compilation of the species list.

The island on which the most plant species have been recorded is East Wallabi Island with 124 species, followed by another high rock island with extensive limestone pavement and consolidated dunes, West Wallabi, with 97 species (see Table 15, p. 580). Fifty-four plant species have been found on islands in all three groups of the Abrolhos (see Table 16, p. 583).

TABLE 7
The classification scheme used for vegetation mapping in Figures 2–69 (pp. 584–623)

	CANOPY COVER				
Life Form/ Height Class	**d**: Dense canopy. Projective foliage cover >70%	**c**: Mid-dense canopy. Projective foliage cover 30–70%	**i**: Incomplete canopy. Projective foliage cover 10–30%	**r**: Sparse canopy. Projective foliage cover ≤10%	**p**: Very sparse canopy. Projective foliage cover 0%
L: Low trees <10 m tall	Ld: Dense low forest	Lc: Low forest	Li: Low woodland	Lr: Open low woodland	Lp: Sparse low woodland
S: Shrubs >1 m tall	Sd: Dense thicket	Sc: Thicket	Si: Scrub	Sr: Open scrub	Sp: Sparse scrub
Z: Dwarf shrubs <1 m tall	Zd: Dense heath	Zc: Heath	Zi: Dwarf scrub	Zr: Open dwarf scrub	Zp: Sparse dwarf scrub
G: Bunch grasses, sedges	Gd: Dense grassland	Gc: Mid-dense grassland	Gi: Grassland	Gr: Open grassland	Gp: Sparse grassland
F: Forbs	Fd: Dense herbfield	Fc: Mid-dense herbfield	Fi: Herbfield	Fr: Open herbfield	Fp: Sparse herbfield
C: Succulents		Cc: Closed succulent mat	Ci: Succulent mat	Cr: Open succulent mat	Cp: Sparse succulent mat

TABLE 10
Accuracy codes for vegetation mapping of Figures 2–69 (pp. 584–623)

CODE	ACCURACY DESCRIPTION
1	Interpretation of aerial photograph (stereo pairs and/or large scale) only.
2	Interpretation of aerial photograph, limited species lists and limited notes.
3	Interpretation of aerial photographs, species lists and detailed written descriptions.
4	Interpretation of aerial photographs, species lists, written descriptions, mud maps and some photos. No field verification.
5	Interpretation of aerial photographs, species lists, written descriptions, mud maps, some photos. Some field verification.
6	Comprehensive field verification by Harvey and Longman.

The plant species with the widest distribution over the islands of the Abrolhos include *Nitraria billardierei* (found to occur on 106 of the 119 islands for which we have species lists), followed by *Atriplex cinerea* (70 islands), **Mesembryanthemum crystallinum* (88 islands), *Threlkeldia diffusa* (72 islands), *Myoporum insulare* (66 islands), *Carpobrotus virescens* (61 islands), *Senecio lautus* (56 islands), and *Enchylaena tomentosa* and **Sonchus oleraceus* (both 54 islands). On the other hand, species such as *Eucalyptus oraria* and *Acacia didyma* have very restricted distribution, each occurring only on East Wallabi Island.

In 1987 Harvey and Alford recorded 29 species never before recorded on the Abrolhos (Table 17), including 15 natives and 14 exotics. Kevin Coate found a new exotic, **Cerastium glomeratum*, on Three and Eight Islands in February 1999 (Kenneally *et al.* 1999).

Seventeen plant species were newly recorded on the Abrolhos by Harvey and Longman in 1999 (Table 18) and the priority taxon *Lepidium puberulum* was recorded from yet another island (First Sister).

The noxious weed African boxthorn (**Lycium ferocissimum*) has been recorded on 11 islands in the Easter and Pelsaert Groups (see Table 5, p. 550). It has not been recorded from the Wallabi Group.

In general, the areas bordering airstrips were found to be very weedy, and specimens of **Echium plantagineum* (Paterson's curse) were recorded on East Wallabi Island during the 1999 survey.

Among other weeds noted by Harvey and Longman on the islands in 1999 were **Ipomoea cairica* (morning glory) on Little Rat Island, **Euphorbia terracina* (Geraldton carnation weed) on Little Rat and Rat Islands, **Opuntia stricta* (prickly pear) on Rat Island, **Bryophyllum* sp. (mother-of-millions) on Pigeon and Rat Islands, and fields of **Urospermum picroides* on islands such as Long Island.

In most cases, islands which presently or in the past have had settlements have a larger component of weeds in their vegetation than the islands which have had minimal human disturbance (Table 15, p. 580).

TABLE 17

New records found on the Houtman Abrolhos by Harvey and Alford in 1987.

PLANT NAME	OCCURRENCE IN WALLABI (W), EASTER (E) OR PELSAERT (P) GROUPS		
Angianthus tomentosus	W		
* *Bromus japonicus* var. *vestitus*	W		
* *Bromus rubens*			P
* *Centaurium maritimum*	W		
Chthonocephalus tomentellus	W		
Crassula exserta	W	E	
Euphorbia boophtona	W		
Gnaphalium indutum	W	E	
* *Hypochaeris glabra*			P
Lavatera cretica		E	
Lepidium lyratogynum	W	E	
* *Lolium multiflorum*	W		
* *Lolium perenne*	W		P
Opercularia vaginata	W		
* *Parapholis incurva*		E	P
Parietaria cardiostegia	W	E	P
Phyllangium paradoxum	W		
Ptilotus gaudichaudii	W	E	
* *Raphanus sativus*		E	P
Sesuvium portulacastrum		E	
Sida spodochroma	W		
* *Silene gallica*		E	
* *Silene nocturna*		E	
* *Solanum laciniatum*	W		
* *Sonchus tenerrimus*		E	P
* *Tamarix* sp.	W		
Triglochin centrocarpum	W		
Tripterococcus brunonis	W		
* *Ursinia anthemoides*		E	P

TABLE 18

New records found on the Houtman Abrolhos by Harvey and Longman in 1999.

PLANT NAME	OCCURRENCE IN WALLABI (W), EASTER (E) OR PELSAERT (P) GROUPS		
* *Aloe* sp.	W		
Atriplex vesicaria ssp. *vesicaria*	W		
* *Bryophyllum* sp.	W	E	
* *Centaurium erythraea*		E	
* *Chenopodium album*		E	
Dodonaea viscosa	W		
* *Echium plantagineum*	W		
Eremophila deserti	W		
* *Hymenolobus procumbens*	W		
* *Ipomoea cairica*		E	
Isolepis nodosa	W		
* *Orobanche minor*	W		
* *Pennisetum clandestinum*		E	
* *Phleum pratensis*			P
* *Plantago coronopus*		E	
Rhagodia preissii ssp. *obovata*		E	
* *Spergularia diandra*			P

It must be noted that the plant species lists and the vegetation maps for some islands are not necessarily complete but will serve as a base for future surveys.

DISCUSSION

Flora

All native terrestrial flora at the Abrolhos islands is protected under the *Wildlife Conservation Act 1950*. The flora of the Abrolhos is typical of the coastal flora of the adjacent mainland, with the addition of mangrove (*Avicennia marina*) communities and salt lake and saltbush flats.

Table 19 lists the five species of flora found on the islands which are included in CALM's 'priority flora' list (Atkins 1998).

Juncus bufonius is often considered a weed, but the North Island form (Storr, sn.) is thought to be an endemic subspecies. Taxonomic queries for this species have not been fully resolved as yet.

Vegetation communities of special conservation interest

The vegetation of the Abrolhos islands consists of a number of communities which are of special conservation interest. These are:

1. Mangrove community

The 'mangal', or mangrove community *Avicennia marina*, only occurs south of the Abrolhos in WA at Bunbury. It requires a specific environment with a warm climate, protected shores, saltwater and some degree of tidal inundation; in places, mangroves occur in land-locked, yet tidal, lagoons. Mangroves protect the shoreline from storm damage and erosion and the twisted white-barked trees provide an aesthetic highlight in the harsh Abrolhos landscape.

The mangal is highly productive in terms of nutrients and the various life forms which it supports. Decomposing plant debris feed algae and plankton which in turn feed molluscs, crustaceans and fish. The mangrove community in the Abrolhos provides an ideal breeding habitat for fish, the Australian sea-lion and several bird species. The Lesser Noddy nests in mangroves on Wooded, Morley and Pelsaert Islands; the Pied Cormorant and Little Pied Cormorant have been recorded nesting in mangroves on Wooded Island; and Eastern Reef Egret and White-bellied Sea-Eagle nests have been recorded hidden in mangroves (Fuller *et al.* 1994). In 1987, Alford and Harvey observed a sea-lion mother suckling some very young sea-lion cubs in mangal in a protected gully on Serventy Island.

TABLE 19
Priority flora found on the Abrolhos islands. Conservation codes are defined as follows, according to the 1998 Declared Rare and Priority Flora List. Priority 2 – Poorly Known Taxa: taxa which are known from one or a few (generally <5) populations, at least some of which are not believed to be under immediate threat (i.e. not currently endangered). Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey. Priority 3 – Poorly Known Taxa: taxa which are known from several populations (generally >5), and the taxa are not believed to be under immediate threat (i.e. not currently endangered), either due to the number of known populations, or known populations being large, and either widespread or protected. Such taxa are under consideration for declaration as 'rare flora' but are in need of further survey. Priority 4 – Rare Taxa: taxa which are considered to have been adequately surveyed and which, whilst being rare (in Australia), are not currently threatened by any identifiable factors. These taxa require monitoring every 5–10 years.

PRIORITY FLORA	PRIORITY	ISLAND	OTHER POPULATIONS
Acacia didyma	3	East Wallabi Island (W)	Dirk Hartog Island, Tamala Station
Calocephalus aervoides	3	East Wallabi Island (W), West Wallabi Island (W)	Port Gregory, Dorre Island, Balladonia
Chthonocephalus tomentellus	2	West Wallabi Island (W)	Shark Bay, Denham
Galium migrans	3	East Wallabi Island (W)	Eucla, Caiguna, Cape Leeuwin, Margaret River, Cape LeGrand National Park, Eastern States
Lepidium puberulum	4	Alexander Island (E), Bynoe Island (E),Campbell Island (E), Eastern Island (W), First Sister (W), Gilbert Island (E), Keru Island (E), Leo Island (E), Little North Island (E), Morley Island (E), Serventy Island (E), White Island (E)	Rottnest Island, Dorre Island, Boullanger Island, Garden Island, Zuytorp Cliffs, Dirk Hartog Island

The intense chemical and biological activities in mangroves involving living and non-living components of the ecosystem cause them to act as sinks which concentrate pollutants. Threats to the mangal include direct clearing, landfill, oil spills and dumping of rubbish and sewage. The small communities around land-locked lagoons, e.g. on Uncle Margie Island, may become important refuges in the event of an oil spill. Currently the dumping of untreated human sewage sludge from occupied islands directly into the sea is allowed under the *Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter 1972* (Fisheries Western Australia 1998); however, there are concerns that consequent nutrient enrichment could affect the mangal.

The 33 islands of the Abrolhos with mangal are listed in Table 20, and since shacks and jetties built in or near mangal may have an adverse effect on the health of the mangrove, those islands also with occupied buildings are indicated.

Plastic, glass and metal rubbish from boats and nearby inhabited islands (Rat, Little Rat, Bushby and Roma Islands) was found in the mangal by Alford and Harvey in 1987. This could affect the health and reproduction of the mangroves. Similarly, rubbish originating from Pigeon, Little Pigeon and Alcatraz Islands, in the Wallabi Group, could pollute the mangal on adjacent islands (Oystercatcher, Tattler and Akerstrom Islands).

2. Atriplex cinerea *dwarf shrubland*

Atriplex cinerea dwarf shrubland occurs as a pure stand as well as with other species on sandy or shellgrit soils. Where the soil is deep enough under the *Atriplex*, it is suitable for burrowing seabirds (e.g. shearwaters and petrels) to build nests. These breeding areas occur throughout the Abrolhos (Storr *et al.* 1986), the largest colonies being on West Wallabi Island and Pelsaert Island (Fuller *et al.* 1994), and are easily disturbed by humans walking through such areas.

3. Pavement limestone, dunes and consolidated dunes on North Island and East and West Wallabi Islands

Vegetation on East and West Wallabi Islands and on North Island is relict, rich and diverse, but easily disturbed and having a slow rate of regeneration. The sandy beaches and dunes are easily eroded after disturbance, such as fire, owing to their unstable nature and exposure to prevailing winds. For example, Turtle Beach on East Wallabi Island receives the full force of the north-westerly storms. As is

TABLE 20
Islands with mangal. Presence of occupied buildings is also indicated.

ISLAND GROUP	ISLAND WITH MANGAL	PRESENCE OF OCCUPIED BUILDINGS
WALLABI GROUP	Akerstrom Island	
	"East Mangrove Island"	
	Marinula Island	
	Oystercatcher Island	
	Seagull Island	
	Tattler Island	
	Turnstone Island	
	West Wallabi Island	✓
EASTER GROUP	Alexander Island	
	Campbell Island	
	Keru Island	
	Little Rat Island	✓
	"Little Stokes Island"	
	Morley Island	
	Serventy Island	
	Suomi Island	
	Wooded Island	
PELSAERT GROUP	Basile Island	✓
	Burnett Island	✓
	Burton Island	
	Coronation Island	✓
	"Coronation Islet"	
	Diver Island	
	Gaze Island	
	Iris Refuge Island	
	Jackson Island	✓
	"Little Jackson Island"	
	Newman Island	✓
	Pelsaert Island	
	Post Office Island	✓
	Robertson Island	✓
	Travia Island	
	Uncle Margie Island	✓

shown by the slow rate of regeneration on the old airstrips, the consolidated dunes are also a fragile ecosystem. Degraded yet still flora-rich pavement limestone communities occur on the often highly-settled islands adjacent to the Wallabi Islands, e.g. Pigeon Island.

4. Eucalyptus oraria *on East Wallabi Island*

Of particular interest is East Wallabi Island's unusual grove of *Eucalyptus oraria*. There are no eucalypts occurring on any other islands off the coast of WA south of Dirk Hartog Island and west of Albany.

5. Salt lake and saltbush flats on islands such as North and West Wallabi

The salt lake and low saltbush flats on North Island and West Wallabi Island do not occur extensively elsewhere on the Abrolhos islands. Indeed, salt lake communities are rarities on offshore islands in south-western Australia.

The large patch of very old and woody *Halosarcia* shrubs on Leo Island (Fig. 35, p. 603) is unique in the Abrolhos.

Threats to the flora of the Abrolhos islands and conservation recommendations

The main threats to the flora and vegetation of the Abrolhos islands are associated with disturbance, either natural (fire, disease) or, more likely, human activities. Threats include weed infestation, clearing, landfill, fire, trampling by tourists and by fishers when resident on the islands, grazing by feral animals, oil spillage, rubbish and sewage pollution and rises in sea-level.

Exotic plants, chiefly winter annuals, continue to be inadvertently introduced to the islands. Seeds are transported from the mainland in cargo and on shoes of sea and air visitors, and subsequently can be easily spread from one island to another.

Strategies are required for the eradication or control of introduced flora, and to prevent the introduction and spread of any additional species. The weeds, especially ephemerals that dry off in summer, have the potential to become a fire hazard; human occupation of the islands and increased tourist visitation in the summer would increase the risk of fires. Tourist visits should be restricted to daylight hours and access confined to designated tracks, especially on East and West Wallabi Islands, and North and Middle Islands. Gravel for resurfacing the airstrips should be not only *Phytophthora*-free but also seed-free. Airstrips should be monitored regularly to prevent spread of any new weeds, especially Paterson's curse. Fishers and their families should be encouraged not to introduce any new exotic species that has the potential to become a weed; weeds such as **Bryophyllum* (mother of millions) are introduced to the islands as ornamental garden plants but can escape and have the potential to lead to monospecific stands, excluding native species (Longman *et al.* 2000).

Some weeds bear sticky fruit that cause problems when caught in birds' plumage. It is important that ongoing eradication programs for the spiny African boxthorn take place on the islands as reintroduction from the mainland will undoubtedly continually occur.

To minimize disturbance to sensitive flora and fauna, visitors should not enter mangrove, *Atriplex* and Leo Island's *Halosarcia* areas; it would further be advisable to consider restrictions on access to salt lakes and low saltbush flats.

ACKNOWLEDGEMENTS

We are indebted to Ron Johnstone of the Western Australian Museum for vegetation information gleaned from his field diaries, and to Phil Roberts (CALM Geraldton) and Alex George for provision of further previously unpublished vegetation information. Kevin Coate and his band of *LANDSCOPE* expeditioners must be thanked for professionally collecting specimens, taking photos and noting vegetation on 18 islands. Similarly, we

sincerely appreciate the work of Phil Fuller and John Blyth, who noted vegetation information and photographically recorded many of the islands during their 1999 bird survey.

Without the help of yet more people and Departments, this paper would be incomplete. CALM's Neil Gibson and Mike Lyons extracted useful information from the Western Australian Herbarium's database, WAHerb; Andrew Burbidge and Phil Fuller (CALM) provided information on boxthorn and feral animals from their field diaries; the Western Australian Herbarium's FloraBase proved an invaluable tool for taxonomy purposes and Chang-Sha Fang and staff at the Herbarium must be thanked for lodging flora specimens collected; Martin Witt and Steven Webster of Central West College of TAFE and Randall Owens (Fisheries Western Australia) described the revegetation and the boxthorn eradication programs; Ian Lovegrove (formerly of Central West College of TAFE) further explained the North Island revegetation program; Myra Stanbury (Western Australian Maritime Museum) provided historical guano information; June Gronow from DOLA's Geographic Names helped untangle the web of island names; Jeff Murray (DOLA) and Helen Ly (contracted to DOLA) skilfully prepared the large island group maps and provided general mapping information; Karl-Heinz Wyrwoll (Geography Department, University of Western Australia) provided a reference list for geology of the islands, and Lindsay Collins (School of Applied Geology, Curtin University of Technology) and Phillip Playford (Geological Survey, Department of Minerals and Energy) patiently explained the islands' geology; the Bureau of Meteorology provided information specific to the Abrolhos; Brendan Lepschi (Australian National Herbarium, Centre for Plant Biodiversity) contributed clarification of some aspects of the taxonomy; CALM Geraldton kindly loaned us aerial photos; and Fisheries Western Australia's Kim Nardi was a helpful source of information, as well as providing us with a boat (the *Abrolhos Piper*), a skipper, Rod Halloran and crewman, David Wilkins for the 1999 expedition.

Finally a special thanks to Robert Powell and referees Alex George and Tony Robinson for their very helpful comments on the text and scientific content of the paper.

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TABLE 1

Geographical information for the islands of the Houtman Abrolhos.

There are 30 officially-named islands in the Wallabi Group (including North Island), 28 in the Easter Group, and 51 (including the 13 islets of The Coral Patches) in the Pelsaert Group. Table 1 also lists 64 islands with unofficial names (in quotation marks) – 16 in the Wallabi Group, 26 in the Easter Group and 22 in the Pelsaert Group. Latitude and longitude for officially-named islands were provided by DOLA; co-ordinates for unofficially-named islands are from other sources (e.g. maps, GPS in the case of Coate). Island latitude, longitude, AMG E and AMG N are based on Australian Geodetic Datum 1966, and accuracy of latitudes and longitudes is to the nearest 10 seconds. Areas and isolations were calculated from aerial photographs. The isolation of each island is the distance to the nearest of the other islands. Elevations were recorded in the field by Harvey, Alford and Longman, and also are taken from Abbott (1980), Collins *et al.* (1997), DOLA map (Job No. 920291), Kenneally *et al.* (1999) and Stanbury and Brown (1979, 2nd edn 1992). Note that there are two Sandy Islands (one in Easter Group and another in Pelsaert Group), and two islands called Shag Rock in the Wallabi Group (only one is officially named). Gibson Island and "Coronation Islet" are actually each composed of three islets (see Figs 31 and 48, pp. 600, 611), and Tapani and Travia Islands (Figs 32 and 52, pp. 601, 614) are each composed of 2 islets.

ISLAND NAME	LATITUDE (south)	LONGITUDE (east)	AMG E	AMG N	AREA (ha)	MAXIMUM ELEVATION A.S.L. (m)	ISOLATION
WALLABI GROUP							
Akerstrom Island	28°28'31"	113°41'52"	764140	6847140	1.1	2	30 m to Marinula Island
Alcatraz Island	28°27'44"	113°43'19"	766550	6848560	0.1	2	50 m to Little Pigeon Island
Barge Rock	28°27'03"	113°43'18"	766550	6849800	0.2	2	250 m to East Wallabi Island
Beacon Island	28°28'36"	113°47'03"	772600	6846800	3.1	2	770 m to Traitors Island
Dakin Island	28°28'38"	113°48'26"	774850	6846700	0.8	1	50 m to Saville-Kent Island
Dick Island	28°29'52"	113°45'57"	770750	6844500	3.5	2	1.7 km to Long Island
"Eagle Point Islet"	28°27'48"	113°44'39"	767120	6850270	0.1	2	70 m to East Wallabi Island
Eastern Island	28°27'56"	113°48'43"	775350	6847975	2.4	3	600 m to Hall Island
"East Mangrove Island"	28°28'32"	113°42'01"	764400	6847130	0.1	2	30 m to Marinula Island
East Wallabi Island	28°26'24"	113°43'34"	767000	6851000	321	15	70 m to "Eagle Point Islet"
Far Island	28°27'41"	113°48'20"	774750	6848450	0.1	2	100 m to "Far Islet 1"
"Far Islet 1"	28°27'45"	113°48'16"	774630	6848330	0.02	2	90 m to "Far Islet 2"
"Far Islet 2"	28°27'49"	113°46'16"	774630	6848210	0.04	2	90 m to "Far Islet 1"
First Sister	28°28'40"	113°44'34"	768540	6846770	0.5	2	20 m to "First Sister Islet"
"First Sister Islet"	28°28'38"	113°44'33"	768530	6846840	0.01	1	20 m to First Sister
"G Island"	28°28'56"	113°48'13"	774420	6846140	0.1	2	40 m to Seal Island
Hall Island	28°28'19"	113°48'37"	775180	6847275	0.1	1	230 m to Saville-Kent Island
Little Pigeon Island	28°27'50"	113°43'21"	766600	6848350	1.6	3	50 m to Alcatraz Island
Long Island	28°28'21"	113°46'22"	771500	6847300	11	2	70 m to "Short Island"
Marinula Island	28°28'32"	113°41'58"	764310	6847130	0.2	2	30 m to Akerstrom Island
"Naturalist Island"	28°28'36"	113°44'33"	768520	6846910	0.03	2	60 m to "First Sister Islet"
North Island	28°18'10"	113°35'42"	754500	6866500	181	15	18 km to East and West Wallabi Islands
Oystercatcher Island	28°27'49"	113°42'48"	765700	6848400	4.6	2	20 m to Seagull Island
Pelican Island	28°27'37"	113°40'35"	762100	6848875	0.3	3	520 m to West Wallabi Island
Pigeon Island	28°27'19"	113°43'35"	767000	6849300	4.3	3	500 m to Little Pigeon Island
Plover Island	28°28'06"	113°42'44"	765590	6847880	0.3	2	320 m to Oystercatcher Island
Saville-Kent Island	28°27'57"	113°48'28"	774950	6847950	0.4	1	50 m to Dakin Island
Seagull Island	28°27'30"	113°42'53"	765850	6849000	7.7	2	20 m to Oystercatcher Island
Seal Island	28°29'02"	113°48'08"	774350	6845975	0.9	2	40 m to "G Island"
Second Sister	28°29'09"	113°44'26"	768310	6845900	0.1	2	760 m to First Sister
Shag Rock	28°28'33"	113°42'44"	765550	6847075	0.1	3	700 m to Plover Island
"Shag Rock"	28°18'05"	113°35'03"	753430	6866660	0.02	2	230 m to North Island
"Short Island"	28°27'52"	113°46'19"	771430	6848190	0.1	1	70 m to Long Island
Tattler Island	28°28'11"	113°42'23"	765000	6847750	0.7	2	180 m to West Wallabi Island
"Tectus Island"	28°28'31"	113°44'32"	768500	6847050	0.03	2	130 m to "Naturalist Island"
Third Sister	28°29'47"	113°44'24"	768240	6844710	0.2	3	1.1 km to Second Sister
Traitors Island	28°29'07"	113°46'58"	772450	6845850	0.1	2	190 m to "Traitors Islet 4"
"Traitors Islet 1"	28°29'17"	113°47'05"	772620	6845550	0.04	2	4 m to "Traitors Islet 2"
"Traitors Islet 2"	28°29'16"	113°47'04"	772610	6845570	0.01	2	4 m to "Traitors Islet 1"
"Traitors Islet 3"	28°29'16"	113°47'03"	772590	6845580	0.01	2	10 m to "Traitors Islet 2"
"Traitors Islet 4"	28°29'13"	113°47'05"	772630	6845670	0.01	2	10 m to "Traitors Islet 5"
"Traitors Islet 5"	28°29'13"	113°47'07"	772680	6845660	0.04	2	4 m to "Traitors Islet 6"
"Traitors Islet 6"	28°29'13"	113°47'07"	772680	6845650	0.003	2	4 m to "Traitors Islet 5"
Turnstone Island	28°27'10"	113°42'58"	766000	6849600	1.4	2	140 m to Seagull Island
Wann Island	28°28'20"	113°45'46"	770510	6847350	0.1	2	900 m to Long Island
West Wallabi Island	28°28'04"	113°41'13"	763100	6848000	587	15	70 m to Akerstrom Island

TABLE 1(continued)

ISLAND NAME	LATITUDE (south)	LONGITUDE (east)	AMG E	AMG N	AREA (ha)	MAXIMUM ELEVATION A.S.L. (m)	ISOLATION
EASTER GROUP							
Alexander Island	28°40'27"	113°49'45"	776500	6824800	12.2	3	20 m to "Alexander Islet 1"
"Alexander Islet 1"	28°40'15"	113°49'41"	776400	6825170	0.1		20 m to Alexander Island
"Alexander Islet 2"	28°40'42"	113°49'47"	776540	6824340	0.4		90 m to Alexander Island
Bushby Island	28°43'26"	113°47'08"	772100	6819400	0.7	2	60 m to Little Rat Island
Bynoe Island	28°39'55"	113°52'32"	781050	6825700	5.5	2	160 m to "Bynoe Islet 1"
"Bynoe Islet 1"	28°39'51"	113°52'23"	780820	6825810	0.02		30 m to "Bynoe Islet 2"
"Bynoe Islet 2"	28°39'52"	113°52'21"	780760	6825780	0.02		30 m to "Bynoe Islet 1"
"Bynoe Islet 3"	28°39'54"	113°52'19"	780710	6825730	0.01		40 m to "Bynoe Islet 2"
"Bynoe Islet 4"	28°40'02"	113°52'15"	780590	6825470	0.01		260 m to "Bynoe Islet 3"
Campbell Island	28°41'45"	113°50'06"	777000	6822400	9.0	2	150 m to "Campbell Islet"
"Campbell Islet"	28°42'01"	113°50'11"	777140	6821900	0.1		150 m to Campbell Island
Crake Island	28°44'32"	113°48'58"	775040	6817280	0.5	3	40 m to Morley Island
Disappearing Island	28°47'04"	113°44'24"	767500	6812800	0.8		4.2 km to Sandy Island
Dry Island	28°44'23"	113°46'44"	771400	6817650	1.5	3	330 m to Little Roma Island
Gibson Island	28°41'14"	113°49'41"	776340	6823360	0.6		120 m to Serventy Island
Gilbert Island	28°40'06"	113°49'35"	776250	6825450	2.4	3	40 m to "Gilbert Islet 4"
"Gilbert Islet 1"	28°40'05"	113°49'28"	776040	6825490	0.1		80 m to "Gilbert Islet 2"
"Gilbert Islet 2"	28°40'08"	113°49'28"	776060	6825390	0.2		60 m to "Gilbert Islet 3"
"Gilbert Islet 3"	28°40'11"	113°49'30"	776100	6825300	0.1		60 m to "Gilbert Islet 2"
"Gilbert Islet 4"	28°40'10"	113°49'33"	776180	6825340	0.04		40 m to Gilbert Island
Helms Island	28°40'11"	113°51'39"	779600	6825230	1.2		60 m to "Helms Islet 1"
"Helms Islet 1"	28°40'17"	113°51'34"	779460	6825040	0.3		60 m to Helms Island
"Helms Islet 2"	28°40'22"	113°51'28"	779290	6824900	0.4		120 m to "Helms Islet 1"
Joe Smith Island	28°40'56"	113°51'29"	779300	6823850	0.3	1	500 m to Leo Island
Keru Island	28°43'35"	113°49'58"	776700	6819000	4.0	1	60 m to Suomi Island
"Landscope Island"	28°40'28"	113°51'24"	779180	6824720	0.1	2	100 m to "Nitraria Island"
Leo Island	28°41'23"	113°51'37"	779500	6823000	23	2	20 m to "Leo Islet 1"
"Leo Islet 1"	28°41'20"	113°51'37"	779500	6823100	0.05	2	20 m to Leo Island
"Leo Islet 2"	28°41'12"	113°52'16"	780570	6823310	0.2	2	260 m to Leo Island
Little North Island	28°37'52"	113°52'54"	781750	6829450	3.8	1	2.7 km to Bynoe Island
Little Rat Island	28°43'42"	113°47'08"	772100	6818900	9.5	3	40 m to Bushby Island
Little Roma Island	28°44'08"	113°46'52"	771630	6818100	0.1	1	330 m to Dry Island
"Little Stokes Island"	28°40'23"	113°51'10"	778810	6824890	0.3		30 m to Stokes Island
Morley Island	28°44'48"	113°48'46"	774700	6816800	12	3	10 m to "Morley Islet"
"Morley Islet"	28°44'55"	113°48'34"	774370	6816610	0.4		10 m to Morley Island
"Nitraria Island"	28°40'32"	113°51'22"	779120	6824600	0.1	2	80 m to Tapani Island
Rat Island	28°42'57"	113°47'03"	772000	6820300	61	3	80 m to Bushby Island
"Rat Islet"	28°42'33"	113°46'48"	771600	6821050	0.03		130 m to Rat Island
Roma Island	28°43'58"	113°47'07"	772050	6818400	0.5	2	220 m to "Roma Islet"
"Roma Islet"	28°44'11"	113°47'08"	772060	6818020	0.05		220 m to Roma Island
Sandy Island	28°46'32"	113°47'09"	780600	6802650	2.3		2.7 km to Wooded Island
Serventy Island	28°41'00"	113°49'53"	776700	6823800	13	3	20 m to "Serventy Islet 3"
"Serventy Islet 1"	28°40'57"	113°49'49"	776570	6823890	0.1		20 m to "Serventy Islet 2"
"Serventy Islet 2"	28°40'57"	113°49'47"	776530	6823870	0.02		20 m to "Serventy Islet 1"
"Serventy Islet 3"	28°41'13"	113°49'50"	776610	6823400	0.001		20 m to Serventy Island
Shearwater Island	28°43'57"	113°49'30"	775940	6818340	0.4		640 m to "Shearwater Islet"
"Shearwater Islet"	28°44'20"	113°49'22"	775700	6817640	0.2		640 m to Shearwater Island
Stokes Island	28°40'31"	113°51'03"	778600	6824650	4.0		30 m to "Little Stokes Island"
Suomi Island	28°42'46"	113°50'18"	777300	6820500	20		60 m to Keru Island
Tapani Island	28°40'31"	113°51'17"	778980	6824620	0.8		80 m to "Nitraria Island"
White Bank	28°42'08"	113°46'44"	771500	6821800	0.2		790 m to Rat Island
White Island	28°40'17"	113°52'31"	781020	6825000	6.5	2	180 m to "White Islet"
"White Islet"	28°40'33"	113°52'34"	781070	6824530	0.2		180 m to White Island
Wooded Island	28°45'08"	113°48'21"	774000	6816200	18		60 m to "Morley Islet"

TABLE 1(continued)

ISLAND NAME	LATITUDE (south)	LONGITUDE (east)	AMG E	AMG N	AREA (ha)	MAXIMUM ELEVATION A.S.L. (m)	ISOLATION
PELSAERT GROUP							
Arthur Island	28°53'56"	114°00'13"	207800	6799500	0.6		50 m to Gregory Island
Basile Island	28°52'34"	113°57'39"	788800	6802100	1.1	2	220 m to Burnett Island
Burnett Island	28°52'23"	113°57'48"	789060	6802450	2.5	2	10 m to "Burnett Islet 2"
"Burnett Islet 1"	28°52'18"	113°57'50"	789110	6802580	0.03		10 m to "Burnett Islet 2"
"Burnett Islet 2"	28°52'19"	113°57'50"	789120	6802560	0.1		10 m to "Burnett Islet 1"
Burton Island	28°52'00"	113°59'07"	791210	6803100	1.5	3	160 m to Travia Island
Coronation Island	28°52'15"	113°59'08"	791250	6802620	3.0	1	20 m to "Coronation Islet"
"Coronation Islet"	28°52'11"	113°59'09"	791260	6802770	0.1		20 m to Coronation Island
Davis Island	28°54'54"	113°52'34"	780450	6798000	2.0		250 m to Sweet Island
Diver Island	28°52'03"	113°58'21"	789980	6803040	0.3		60 m to Post Office Island
Eight Island	28°53'57"	113°51'37"	778940	6799780	0.6	2	800 m to Seven Island
Foale Island	28°52'46"	114°00'21"	207970	6801670	0.1		130 m to Iris Refuge Island
Gaze Island	28°51'51"	113°59'26"	791750	6803350	0.6		30 m to "Gaze Islet 1"
"Gaze Islet 1"	28°51'54"	113°59'24"	791690	6803270	0.2		30 m to Gaze Island
"Gaze Islet 2"	28°52'02"	113°59'27"	791770	6803010	0.02		30 m to "Gaze Islet 3"
"Gaze Islet 3"	28°52'04"	113°59'27"	791770	6802950	0.02		30 m to "Gaze Islet 2"
Gregory Island	28°53'56"	114°00'20"	208000	6799500	1.0		50 m to Arthur Island
Gun Island	28°53'18"	113°51'27"	778700	6801000	18	5	30 m to "Gun Islet"
"Gun Islet"	28°53'30"	113°51'36"	778930	6800630	0.01		30 m to Gun Island
Hummock Island	28°48'03"	114°02'21"	211000	6810450	3.9		8 km to Newman Island
Iris Refuge Island	28°52'49"	114°00'17"	207860	6801560	0.1		130 m to Foale Island
Jackson Island	28°52'18"	114°00'11"	207670	6802500	1.9	3	20 m to the closest of the "Jackson Islets"
"Jackson Islets" (7 islets)	28°52'19"	113°59'57"	792570	6802470	0.1		20 - 60 m to Jackson Island
Jon Jim Island	28°59'15"	113°57'35"	788400	6789750	0.4	3	50 m to Pelsaert Island
Lagoon Island	28°52'23"	113°59'40"	792090	6802360	0.6	4	50 m to Rotondella Island
"Little Jackson Island"	28°52'15"	114°00'15"	207770	6802620	1.2	2	60 m to Jackson Island
Middle Island	28°54'32"	113°54'37"	783800	6798600	20		1.5 km to Murray Island
Murray Island	28°53'54"	113°53'48"	782500	6799800	4.2		1.5 km to Middle Island
Newbold Island	28°52'55"	114°00'20"	207950	6801380	0.1		40 m to Robertson Island
Newman Island	28°51'49"	113°59'43"	792200	6803400	6.1	3	10 m to "Newman Islet 1"
"Newman Islet 1"	28°51'48"	113°59'39"	792110	6803440	0.1		10 m to Newman Island
"Newman Islet 2"	28°51'58"	113°59'41"	792160	6803140	0.01		10 m to Newman Island
Nook Island	28°51'59"	113°59'58"	792610	6803100	0.1		150 m to Newman Island
One Island	28°54'35"	113°52'56"	781040	6798580	1.8		170 m to Two Island
Pelsaert Island	28°54'12"– 28°55'46"	113°58'28"– 114°00'08"	207700 – 790000	6796150 – 6799000	166	3	50 m to Jon Jim Island
Post Office Island	28°51'54"	113°58'29"	790200	6803300	7.4	3	10 m to "Post Office Islet"
"Post Office Islet"	28°51'55"	113°58'26"	790110	6803270	0.1		10 m to Post Office Island
Robertson Island	28°52'59"	114°00'21"	207980	6801270	0.4		40 m to Newbold Island
Rotondella Island	28°52'22"	113°59'46"	792260	6802380	0.2	1	10 m to "Rotondella Islet 1"
"Rotondella Islet 1"	28°52'25"	113°59'46"	792250	6802310	0.01		4 m to "Rotondella Islet 2"
"Rotondella Islet 2"	28°52'25"	113°59'46"	792250	6802300	0.01		4 m to "Rotondella Islet 1"
Sandy Island	28°52'23"	113°52'36"	780600	6802650	0.2		2 km to Gun Island
Seven Island	28°54'23"	113°51'22"	778498	6799017	0.5		50 m to "Seven Islet"
"Seven Islet"	28°54'21"	113°51'20"	778450	6799050	0.1		50 m to Seven Island
Ship Rock	28°55'52"	113°55'45"	785575	6796100	0.1		1.4 km to Middle Island
Sid Liddon Island	28°54'41"	113°51'50"	779250	6798420	0.9		730 m to Three Island
Square Island	28°54'08"	113°56'39"	787100	6799250	1.1		2.4 km to Stick Island
Stick Island	28°53'23"	113°55'12"	784800	6800700	2.3	3	1.7 km to Middle Island
Sweet Island	28°55'02"	113°52'18"	780000	6797750	2.1		250 m to Davis Island
The Coral Patches (13 islets)	28°51'15"	114°01'02"	209000	6804500	0.3		1.5 - 2.1 km to Newman Island
Three Island	28°54'25"	113°52'17"	780000	6798890	1.6	2	550 m to Two Island
Travia Island	28°51'53"	113°59'13"	791400	6803300	0.8		60 m to "Gaze Islet 1"
Two Island	28°54'35"	113°52'43"	780690	6798570	0.3		170 m to One Island
Uncle Margie Island	28°52'05"	113°58'00"	789400	6803000	1.6	2	40 m to "Uncle Margie Islet"
"Uncle Margie Islet"	28°52'09"	113°58'01"	789440	6802860	0.004		40 m to Uncle Margie Island

TABLE 2

Geological information for the Abrolhos islands.

Island type is according to Collins *et al.* (1997). The Island Type column also includes further landform and soils details as noted by Harvey and Alford in their 1987 survey. The "rock" noted in the Island Type column by Harvey and Alford equates to "emergent coral reef and cemented, imbricated coral rubble", as described by Collins *et al.* (1997).

ISLAND NAME	ISLAND GROUP	ISLAND TYPE	LAGOON(S)
WALLABI GROUP			
Akerstrom Island	Central platform	high rock	×
Alcatraz Island	Central platform	high rock	×
Barge Rock	Central platform	high rock	×
Beacon Island	Beacon group	composite	×
Dakin Island	Beacon group	composite	×
Dick Island	Long Island chain	rock, loose coral shingle, and patches of coarse sand composite	×
"Eagle Point Islet"	Central platform	rock, loose coral shingle, and sand dunes high rock	×
Eastern Island	Beacon group	composite	×
"East Mangrove Island"	Central platform	rock, loose coral shingle, and small dunes of coarse sand high rock	×
East Wallabi Island	Central platform	eolianite	×
Far Island	Beacon group	cemented coral-shingle cay	×
"Far Islet 1"	Beacon group	cemented coral-shingle cay	×
"Far Islet 2"	Beacon group	cemented coral-shingle cay	×
First Sister	Sisters group	cemented coral-shingle cay	×
"First Sister Islet"	Sisters group	cemented coral-shingle cay	×
"G Island"	Beacon group	composite	×
Hall Island	Beacon group	low coral-shingle/sand cay	×
Little Pigeon Island	Central platform	loose coral shingle with coarse sand high rock	×
Long Island	Long Island chain	composite	✓
Marinula Island	Central platform	high rock	×
"Naturalist Island"	Sisters group	cemented coral-shingle cay	×
North Island	North Island group	eolianite	✓
Oystercatcher Island	Central platform	high rock	×
Pelican Island	Central platform	high rock	×
Pigeon Island	Central platform	high rock	×
Plover Island	Central platform	high rock	×
Saville-Kent Island	Beacon group	composite	×
Seagull Island	Central platform	rock, loose coral shingle, and a small patch of coarse sand in mid-western edge high rock	×
Seal Island	Beacon group	composite	✓
Second Sister	Sisters group	rock, loose coral shingle, and patches of coarse sand low coral-shingle/sand cay	×
Shag Rock	Central platform	high rock	×
"Shag Rock"	North Island group	high rock	×
"Short Island"	Long Island chain	composite	×
Tattler Island	Central platform	high rock	×
"Tectus Island"	Sisters group	cemented coral-shingle cay	×
Third Sister	Sisters group	cemented coral-shingle cay	×
Traitors Island	Beacon group	cemented coral-shingle cay	×
"Traitors Islet 1"	Beacon group	cemented coral-shingle cay	×
"Traitors Islet 2"	Beacon group	cemented coral-shingle cay	×
"Traitors Islet 3"	Beacon group	cemented coral-shingle cay	×
"Traitors Islet 4"	Beacon group	cemented coral-shingle cay	×
"Traitors Islet 5"	Beacon group	cemented coral-shingle cay	×
"Traitors Islet 6"	Beacon group	cemented coral-shingle cay	×
Turnstone Island	Central platform	high rock	×
Wann Island	Sisters group	cemented coral-shingle cay	×
West Wallabi Island	Central platform	eolianite	✓

TABLE 2(continued)

ISLAND NAME	ISLAND GROUP	ISLAND TYPE	LAGOON(S)
EASTER GROUP			
Alexander Island	Suomi Island chain	composite	✓
		rock, loose coral shingle storm ridges, and coarse sand in depressions on beaches	
"Alexander Islet 1"	Suomi Island chain	composite	×
"Alexander Islet 2"	Suomi Island chain	composite	×
Bushby Island	Central platform	high rock	×
Bynoe Island	Eastern islands	composite	×
		rock platform on west side, loose coral shingle, coral shingle storm ridges, and dunes of coarse sand	
"Bynoe Islet 1"	Eastern islands	cemented coral-shingle cay	×
"Bynoe Islet 2"	Eastern islands	cemented coral-shingle cay	×
"Bynoe Islet 3"	Eastern islands	cemented coral-shingle cay	×
"Bynoe Islet 4"	Eastern islands	cemented coral-shingle cay	×
Campbell Island	Suomi Island chain	composite	✓
		rock platform, loose coral shingle,sandy dunes, and beaches of coarse sand	
"Campbell Islet"	Suomi Island chain	composite	×
Crake Island	Suomi Island chain	composite	✓
		rock platform, and loose coral shingle	
Disappearing Island	isolated	low coral-shingle/sand cay	×
		temporary sand cay	
Dry Island	Central platform	high rock	×
Gibson Island	Suomi Island chain	cemented coral-shingle cay	×
Gilbert Island	Suomi Island chain	composite	✓
		loose coral shingle storm ridges with patches of coarse sand inland and on the beaches	
"Gilbert Islet 1"	Suomi Island chain	cemented coral-shingle cay	×
"Gilbert Islet 2"	Suomi Island chain	cemented coral-shingle cay	×
"Gilbert Islet 3"	Suomi Island chain	cemented coral-shingle cay	×
"Gilbert Islet 4"	Suomi Island chain	cemented coral-shingle cay	×
Helms Island	Eastern islands	composite	✓
"Helms Islet 1"	Eastern islands	cemented coral-shingle cay	✓
"Helms Islet 2"	Eastern islands	cemented coral-shingle cay	×
Joe Smith Island	Eastern islands	composite	×
Keru Island	Suomi Island chain	composite	✓
		loose coral shingle with coarse sand in depressions on the beach and as dunes	
"Landscope Island"	Eastern islands	cemented coral-shingle cay	×
Leo Island	Eastern islands	composite	✓
		loose coral shingle, and sand dunes	
"Leo Islet 1"	Eastern islands	cemented coral-shingle cay	×
"Leo Islet 2"	Eastern islands	composite	×
Little North Island	isolated	low coral-shingle/sand cay	×
		loose coral shingle	
Little Rat Island	Central platform	high rock	×
Little Roma Island	Central platform	high rock	×
"Little Stokes Island"	Eastern islands	composite	×
Morley Island	Suomi Island chain	composite	✓
		rock, loose coral shingle, coral shingle storm ridges, sandy beaches and dunes, and guano and coarse sand in depressions	
"Morley Islet"	Suomi Island chain	composite	×
"Nitraria Island"	Eastern islands	cemented coral-shingle cay	×
Rat Island	Central platform	high rock	×
"Rat Islet"	Central platform	high rock	×
Roma Island	Central platform	high rock	×
"Roma Islet"	Central platform	high rock	×
Sandy Island	isolated	low coral-shingle/sand cay	×

TABLE 2(continued)

ISLAND NAME	ISLAND GROUP	ISLAND TYPE	LAGOON(S)
Serventy Island	Suomi Island chain	composite	✓
		extensive loose coral shingle storm ridges, small patches of coarse sand, and deep gullies with guano	
"Serventy Islet 1"	Suomi Island chain	cemented coral-shingle cay	×
"Serventy Islet 2"	Suomi Island chain	cemented coral-shingle cay	×
"Serventy Islet 3"	Suomi Island chain	cemented coral-shingle cay	×
Shearwater Island	Suomi Island chain	composite	×
"Shearwater Islet"	Suomi Island chain	composite	×
Stokes Island	Eastern islands	composite	✓
Suomi Island	Suomi Island chain	composite	✓
Tapani Island	Eastern islands	composite	×
White Bank	Central platform	low coral-shingle/sand cay	×
White Island	Eastern islands	composite	✓
		rock, loose coral shingle storm ridges, and patches of coarse sand	
"White Islet"	Eastern islands	composite	×
Wooded Island	Suomi Island chain	composite	✓
PELSAERT GROUP			
Arthur Island	Pelsaert Island chain	composite	✓
Basile Island	Mangrove group	composite	×
		rock, loose coral shingle, patches of coarse sand, and coarse sand beaches	
Burnett Island	Mangrove group	composite	✓
		rock, loose coral shingle, and beaches of coarse sand	
"Burnett Islet 1"	Mangrove group	cemented coral-shingle cay	×
"Burnett Islet 2"	Mangrove group	composite	×
Burton Island	Mangrove group	composite	✓
		rock, loose coral shingle, and beaches of coarse sand	
Coronation Island	Mangrove group	composite	✓
		rock, and loose coral shingle storm ridges	
"Coronation Islet"	Mangrove group	cemented coral-shingle cay	✓
Davis Island	Numbered islands	high rock	×
Diver Island	Mangrove group	composite	×
Eight Island	Numbered islands	high rock	×
Foale Island	Mangrove group	composite	×
Gaze Island	Mangrove group	composite	×
"Gaze Islet 1"	Mangrove group	composite	×
"Gaze Islet 2"	Mangrove group	composite	×
"Gaze Islet 3"	Mangrove group	composite	×
Gregory Island	Pelsaert Island chain	composite	✓
Gun Island	Central platform	high rock	✓
"Gun Islet"	Central platform	high rock	×
Hummock Island	isolated	composite	✓
Iris Refuge Island	Mangrove group	composite	×
Jackson Island	Mangrove group	composite	✓
		rock, loose coral shingle storm ridges, and beaches of coarse sand	
"Jackson Islets" (7 islets)	Mangrove group	cemented coral-shingle cay	×
Jon Jim Island	Pelsaert Island chain	cemented coral-shingle cay	×
Lagoon Island	Mangrove group	composite	✓
"Little Jackson Island"	Mangrove group	composite	✓
		rock, and loose coral shingle storm ridges	
Middle Island	Central platform	high rock	×
Murray Island	Central platform	high rock	×
Newbold Island	Mangrove group	composite	×

TABLE 2(continued)

ISLAND NAME	ISLAND GROUP	ISLAND TYPE	LAGOON(S)
Newman Island	Mangrove group	composite rock, loose coral shingle storm ridges, and beaches of coarse sand	✓
"Newman Islet 1"	Mangrove group	composite	×
"Newman Islet 2"	Mangrove group	composite	×
Nook Island	Mangrove group	composite	×
One Island	Numbered islands	high rock	×
Pelsaert Island	Pelsaert Island chain	composite, and high rock at south of island loose coral shingle on weather side, high rock platform at south end of island	✓
Post Office Island	Mangrove group	composite rock with loose coral shingle storm ridges	✓
"Post Office Islet"	Mangrove group	composite	×
Robertson Island	Mangrove group	composite	✓
Rotondella Island	Mangrove group	composite rock with loose coral shingle	×
"Rotondella Islet 1"	Mangrove group	cemented coral-shingle cay	×
"Rotondella Islet 2"	Mangrove group	cemented coral-shingle cay	×
Sandy Island	isolated	low coral-shingle/sand cay sand	×
Seven Island	Numbered islands	high rock	×
"Seven Islet"	Numbered islands	high rock	×
Ship Rock	Central platform	high rock	×
Sid Liddon Island	Numbered islands	high rock	×
Square Island	"middle group"	composite	×
Stick Island	"middle group"	low coral-shingle/sand cay sand, with loose coral shingle around shore	×
Sweet Island	Numbered islands	high rock	×
The Coral Patches	The Coral Patches	low coral-shingle/sand cay	×
Three Island	Numbered islands	high rock	×
Travia Island	Mangrove group	composite	✓
Two Island	Numbered islands	high rock	×
Uncle Margie Island	Mangrove group	composite rock, loose coral shingle, and beaches of coarse sand	✓
"Uncle Margie Islet"	Mangrove group	cemented coral-shingle cay	×

TABLE 4

Disturbance on the islands owing to mining, occupation and feral animals.

Guano-mining information from Stanbury and Brown (1979, 2nd edn 1992), Stanbury (1993) and Fisheries Western Australia (1998). Occupation information from Fisheries Western Australia (1998). Feral animal information, where not referenced, is from Morris (1989), Abbott and Burbidge (1995) and Burbidge (personal communication). Italicized disturbance descriptions are observations made by Harvey and Alford in their 1987 survey; bracketed disturbance descriptions are from Harvey and Longman's visit to the islands in 1999.

ISLAND NAME	GUANO MINING	OCCUPIED BUILDINGS	FERAL ANIMALS	OTHER DISTURBANCE
WALLABI GROUP				
Alcatraz Island	✓	✓		3 camps
Beacon Island		✓		10 camps
East Wallabi Island			Goats - not present now	airstrip, (restroom)
			(Storr *et al.* 1986)	*On the abandoned airstrips and disturbed areas along the existing airstrip, many annual weed species were found growing, some of the weed seeds having been brought in on the wheels of aircraft and shoes of visitors. Efforts to rehabilitate the old E-W strip have failed in some areas and the degrading parawebbing is causing further erosion, more so on the eastern than western end. Other rehabilitated areas at the northern end of the existing strip show signs of restabilization.*
Little Pigeon Island	✓	✓		22 camps
North Island		✓	Rabbits - not present now	69 camps, 1 school, 1 club, airstrip
			Mice	
Pigeon Island	✓	✓	Black rats - not present now	54 camps, 1 school, 1 club, *high-density huts displace vegetation, exotic garden plants in gardens, remaining native vegetation in reasonable health, rock piles created when guano was mined still remain,* (invasive weed *Bryophyllum* present)
Third Sister				2 posts (Coate, diaries 1999)
West Wallabi Island	✓	✓		12 camps, *introduced tamarisk tree to 5 m has become established,* the remains of a guano-carrying tramway can still be seen and a concentration of grasses and weeds indicate the position of a horse yard (Stanbury 1991). Storr (1965) writes of the effects of guano-mining: "Apart from the remains of a jetty, tramline and horse yard, and some obviously unnatural hollows and heaps of stones in the dunes, there was little evidence in 1959 of this once profitable industry. All the excavations were completely revegetated but whether any plant species were permanently affected by this activity could not be ascertained".
EASTER GROUP				
Alexander Island				*An abandoned camp - stone ruins, timber scraps with associated weeds* - *Raphanus spp., *Hordeum, *Ehrharta, *Phalaris minor *and* *Avena fatua
Bushby Island	✓	✓	Black rats - eradicated 1991	2 camps
Joe Smith Island				Concrete foundations of abandoned camp, rusting roofing iron and asbestos roofing sheets stacked on ground (Coate, diaries 1999)
Leo Island		✓	Rabbits - eradicated	2 camps, *associated rubbish*
Little Rat Island	✓	✓	Black rats - eradicated 1991	40 camps, 1 school, 1 club
Morley Island			Rabbits - eradicated	*Domestic rubbish from islands to the west*

TABLE 4 (continued)

ISLAND NAME	GUANO MINING	OCCUPIED BUILDINGS	FERAL ANIMALS	OTHER DISTURBANCE
Rat Island	✓	✓	Black rats - eradicated 1991 Cats - eradicated Mice	59 camps, 1 school, 1 nursing post, airstrip, embankments for guano-carrying tramlines representing several kilometres of track criss-cross the islands and are overgrown with saltbush and weeds such as *Avena fatua* (Stanbury 1993), (invasive weed *Bryophyllum* present)
Roma Island	✓	✓	Black rats - eradicated 1991	12 camps
Tapani Island				One pole (Coate, diaries 1999)
Wooded Island			Rabbits - eradicated	
PELSAERT GROUP				
Basile Island		✓		22 camps, 1 Church
Burnett Island		✓		10 camps, *rubbish in lagoon*
Coronation Island		✓		5 camps, *considerable flotsam from adjacent islands*
Davis Island	✓			
Eight Island	✓			Piles of rock, short walls and an old stone and rock beacon are relics of guano-mining (Coate, diaries 1999)
Foale Island		✓		2 camps
Gun Island	✓			Tramline foundations and a limestone causeway extending for 23 m out to sea are guano-mining relics. In 1968 British Petroleum drilled on Gun Island for oil (Green and Stanbury 1988).
Jackson Island		✓		10 camps
Newman Island		✓		3 camps, *associated rubbish, steel pickets marking proposed airstrip*
Nook Island		✓		3 camps
One Island	✓			
Pelsaert Island	✓		Rabbits - not present now (Helms 1902)	Guano-carrying tramlines (Green and Stanbury 1988).
Post Office Island		✓		5 camps
Robertson Island		✓		5 camps
Rotondella Island		✓		2 camps
Sid Liddon Island	✓			
Stick Island				*2 long-abandoned and flattened camps*
Sweet Island	✓			During guano mining, discarded limestone rocks were stacked to form "walls", some over 2 m high (Green and Stanbury 1988)
Three Island	✓			Extensively mined for guano, many rock mounds at the west end and north side, old abandoned guano workers' shelters, old roofing iron (Coate, diaries 1999)
Uncle Margie Island		✓		10 camps, *associated rubbish*

TABLE 5

Occurrence of boxthorn on the islands.

Information from Green (1972)[1], Geraldton Regional College of TAFE (1997)[2] and diaries of P. Fuller and A. Burbidge[3], and K. Coate[4]. Fuller and Burbidge recorded boxthorn during visits in October 1990 and late November-early December in 1991, 1993, 1996, 1997 and 1999; Geraldton Regional College of TAFE and the Fisheries Department visited between 21–28 June 1997. The Geraldton College of TAFE reported finding and removing boxthorn from both Sweet and Number 5 Islands but these islands are reported in Abrolhos Islands Task Force for the Abrolhos Islands Consultative Committee (1988) to be one and the same island. Consequently, the six plants recorded and killed by Geraldton College of TAFE on "Number 5 Island" cannot be recorded in the table and this island's identity remains unknown.

ISLAND	OCCURRENCE OF BOXTHORN (*Lycium ferocissimum*)							
	1970	1984	1990	1991	1993	1996	1997	1999
EASTER GROUP								
Wooded Island	boxthorn recorded [1]			1 recorded and pulled out [3]				
PELSAERT GROUP								
Arthur Island				2 recorded [3]		2 recorded [3]		
Davis Island					nil [3]	nil [3]	5 plants killed [2]	
Eight Island					all dead [3]	nil [3]	nil [3]	all dead [3,4]
Gun Island				1 recorded [3]	4–5 small plants recorded [3]	nil [3]		several recorded near old oil well site [3]
Murray Island					nil [3]	nil [3]		
Newman Island								4 recorded [3]
One Island					nil [3]			
Pelsaert Island		recorded by Harvey in 1984	*ca* 100 recorded and pulled out [3]	nil [3]	2 recorded and removed [3]	3 recorded and removed [3]		4 recorded at southern end [3]
Sandy Island						nil [3]		
Seven Island					1 recorded [3]	nil [3]		
Sid Liddon Island					many plants recorded [3]	150–200 recorded [3]	247 plants killed [2] 25 recorded [3]	many plants recorded [3]
Sweet Island				many plants recorded [3]	many plants recorded [3]	300–400 recorded [3]	254 plants killed [2]; *ca* 20 regenerating [3]	many dead plants but several alive [3]
Three Island				3 recorded [3]	8 recorded [3]	2 recorded [3]	1 plant killed [2]	all dead [4]
Two Island					nil [3]	nil [3]		

For Table 6a, b and c, island names in normal print (and no quotation marks) are former names; island names in bold print are current DOLA-approved names; names in quotation marks are current, are not DOLA-approved but are the only names available at present to describe the island or islet. A tick in the column "veg. desc." indicates that there is a description of the vegetation in the reference. A letter in the "species list" column indicates that this worker recorded plant species when visiting the island; the letter in the cell is the researcher's identifying code in Table 11(p. 559). For the 1999 field trip, the "new records" column indicates when a plant species was newly recorded on an island visited, and the new species are recorded with code L in Table 11; the "no new records" column indicates that the island was visited, vegetation and some flora details were noted but only previously-recorded species were found (this information has not been included in Table 11), or there are no plants on the island. The "aerial photo interpretation only" column indicates islands which have had no flora or vegetation information collected, and vegetation maps have been derived solely from aerial photographs.

TABLE 6a

Islands in the Wallabi Group (including North Island), showing island name changes and workers who have collected plant species information appearing in Table 11 (p. 559).

CURRENT ISLAND NAME	WORKERS WHO HAVE COLLECTED PLANT SPECIES INFORMATION																					Aerial photo interpretation only	OTHER FORMER ISLAND NAMES
	G. M. Storr (1960, 1965) Visited the islands 1959 - 1960			P.M. O'Loughlin (1965, 1966) Visited the islands 1964-1965			I. Abbott (1980) Visited the islands 1975-1977			R.E. Johnstone (Johnstone and Storr 1994), diaries Visited the islands 1977-1983			J. Harvey and J. Alford (previously unpublished) Visited the islands 1987		J. Harvey and V. Longman (previously unpublished) Visited the islands 1999			OTHER WORKERS and date the island was visited				
	veg. desc.	species list	ISLAND NAME	veg. desc.	species list	ISLAND NAME	veg. desc.	species list	ISLAND NAME	veg. desc.	species list	ISLAND NAME	species list	ISLAND NAME	new records	no new records	ISLAND NAME					
Akerstrom Island		S	Mangrove Island				✓	A	West Mangrove Island		J	West Mangrove Island			L		**Akerstrom Island**					
Alcatraz Island							✓	A	Lumley Island		J	**Alcatraz Island**			L		**Alcatraz Island**					
Barge Rock							✓	A	**Barge Rock**						L		**Barge Rock**					
Beacon Island		S	**Beacon Island**				✓	A	**Beacon Island**		J	**Beacon Island**			L		**Beacon Island**					*Batavia*'s Graveyard (Stanbury 1991)
Dakin Island											J	**Dakin Island**	B	**Dakin Island**		✓	**Dakin Island**					
Dick Island											J	**Dick Island**	B	**Dick Island**		✓	**Dick Island**					Goss Island
"Eagle Point Islet"							✓	A	Eagle Point Islet						L		"Eagle Point Islet"					
Eastern Island				✓	Q	Eastern Island					J	**Eastern Island**	B	**Eastern Island**		✓	**Eastern Island**					
"East Mangrove Island"		S	Mangrove Island				✓	A	East Mangrove Island						L		"East Mangrove Island"					
East Wallabi Island	✓	S	**East Wallabi Island**					A	**East Wallabi Island**		J	**East Wallabi Island**	B	**East Wallabi Island**	L		**East Wallabi Island**	W.B. Alexander 1913, M.E. Gillham 1959, R.D. Royce 1960, A.R. Main 1963,1968, A.M. Ashby 1970, J.W. Green 1978				High Island (Green *et al* 1988)
Far Island															L		**Far Island**					
"Far Islet 1"																				✓		
"Far Islet 2"																				✓		
First Sister															L		**First Sister**	K. Coate 1999				Lagoon Island
"First Sister Islet"															L		"First Sister Islet"					
"G Island"													B	G Island	L		"G Island"					
Hall Island													B	**Hall Island**		✓	**Hall Island**					
Little Pigeon Island							✓	A	**Little Pigeon Island**		J	**Little Pigeon Island**			L		**Little Pigeon Island**					South Pigeon Island
Long Island		S	**Long Island**		Q	**Long Island**	✓	A	**Long Island**		J	**Long Island**			L		**Long Island**					Seals Island (Stanbury 1991)
Marinula Island		S	Mangrove Island				✓	A	Middle Mangrove Island						L		**Marinula Island**					
"Naturalist Island"															L		"Naturalist Island"	K. Coate 1999				

TABLE 6a (continued)

CURRENT ISLAND NAME	WORKERS WHO HAVE COLLECTED PLANT SPECIES INFORMATION																					OTHER WORKERS and date the island was visited	Aerial photo inter-pretation only	OTHER FORMER ISLAND NAMES
	G. M. Storr (1960, 1965) Visited the islands 1959 - 1960			P.M. O'Loughlin (1965, 1966) Visited the islands 1964-1965			I. Abbott (1980) Visited the islands 1975-1977			R.E. Johnstone (Johnstone and Storr 1994), diaries Visited the islands 1977-1983			J. Harvey and J. Alford (previously unpublished) Visited the islands 1987			J. Harvey and V. Longman (previously unpublished) Visited the islands 1999							
	veg. desc.	species list	ISLAND NAME	veg. desc.	species list	ISLAND NAME	veg. desc.	species list	ISLAND NAME	veg. desc.	species list	ISLAND NAME	species list	ISLAND NAME	new records	no new records	ISLAND NAME							
North Island	✓	S	**North Island**								J	**North Island**			L		**North Island**	W.B. Alexander 1913		
Oystercatcher Island							✓	A	Middle Seagull Island						L		**Oystercatcher Island**			
Pelican Island		S	**Pelican Island**												L		**Pelican Island**			
Pigeon Island		S	**Pigeon Island**				✓	A	**Pigeon Island**		J	**Pigeon Island**	B	**Pigeon Island**	L		**Pigeon Island**			
Plover Island							✓	A	South Seagull Island						L		**Plover Island**			
Saville-Kent Island											J	**Saville-Kent Island**	B	**Saville-Kent Island**		✓	**Saville-Kent Island**			
Seagull Island							✓	A	North Seagull Island		J	**Seagull Island**			L		**Seagull Island**			
Seal Island											J	**Seal Island**	B	**Seal Island**		✓	**Seal Island**	E.M. Scrymgeour 1963, J.W. Green 1978		
Second Sister															L		**Second Sister**	K. Coate 1999		
Shag Rock							✓	A	**Shag Rock**							✓	**Shag Rock**	K Coate 1999		
"Shag Rock"															L		"Shag Rock"			Shag Rock
"Short Island"															L		"Short Island"			
Tattler Island		S	**Tattler Island**				✓	A	**Tattler Island**						L		**Tattler Island**			
"Tectus Island"															L		"Tectus Island"	K. Coate 1999		
Third Sister																✓	**Third Sister**	K. Coate 1999		
Traitors Island															L		**Traitors Island**	K. Coate 1999		
"Traitors Islet 1"															L		"Traitors Islet 1"			
"Traitors Islet 2"															L		"Traitors Islet 2"			
"Traitors Islet 3"															L		"Traitors Islet 3"			
"Traitors Islet 4"															L		"Traitors Islet 4"			
"Traitors Islet 5"															L		"Traitors Islet 5"			
"Traitors Islet 6"															L		"Traitors Islet 6"			
Turnstone Island							✓	A	No name No. 6						L		**Turnstone Island**			
Wann Island																✓	**Wann Island**	K. Coate 1999		Small Islet
West Wallabi Island	✓	S	**West Wallabi Island**							✓	J	**West Wallabi Island**	B	**West Wallabi Island**	L		**West Wallabi Island**	Gilham 1959, K. Coate 1999		

TABLE 6b

Islands in the Easter Group, showing island name changes and workers who have collected plant species information appearing in Table 11(p. 559).

CURRENT ISLAND NAME	WORKERS WHO HAVE COLLECTED PLANT SPECIES INFORMATION												OTHER WORKERS and date the island was visited	Aerial photo inter-pret-ation only	OTHER FORMER ISLAND NAMES
	G.A. Green (1972) Visited the islands 1970			R.E. Johnstone (Johnstone and Coate 1992), (Johnstone 1992), diaries Visited the islands 1977-1983			J. Harvey and J. Alford (previously unpublished) Visited the islands 1987		J. Harvey, V. Longman, J. Blyth and P.J. Fuller (previously unpublished) Visited the islands 1999						
	veg. desc.	species list	ISLAND NAME	veg. desc.	species list	ISLAND NAME	species list	ISLAND NAME	new records	no new records	ISLAND NAME				
Alexander Island					J	**Alexander Island**	B	**Alexander Island**		✓	**Alexander Island**				
"Alexander Islet 1"										✓	"Alexander Islet 1"			✓	
"Alexander Islet 2"															Middle Island
Bushby Island					J	**Bushby Island**			L		**Bushby Island**				
Bynoe Island					J	**Bynoe Island**	B	**Bynoe Island**		✓	**Bynoe Island**			✓	
"Bynoe Islet 1"														✓	
"Bynoe Islet 2"														✓	
"Bynoe Islet 3"														✓	
"Bynoe Islet 4"															
Campbell Island					J	**Campbell Island**	B	**Campbell Island**	L		**Campbell Island**			✓	
"Campbell Islet"															
Crake Island					J	**Crake Island**	B	**Crake Island**		✓	**Crake Island**				
Disappearing Island										✓	**Disappearing Island**				Graveyard Island
Dry Island									L		**Dry Island**				Beacon Island, Dingville Island, Ding Island
Gibson Island					J	**Gibson Island**			L		**Gibson Island**				
Gilbert Island					J	**Gilbert Island**	B	**Gilbert Island**		✓	**Gilbert Island**				
"Gilbert Islet 1"														✓	
"Gilbert Islet 2"														✓	
"Gilbert Islet 3"														✓	
"Gilbert Islet 4"														✓	
Helms Island					J	**Helms Island**				✓	**Helms Island**				
"Helms Islet 1"														✓	
"Helms Islet 2"									L		"Helms Islet 2"				
Joe Smith Island										✓	**Joe Smith Island**	K. Coate 1999			
Keru Island					J	**Keru Island**	B	**Keru Island**		✓	**Keru Island**	N. Sammy 1972			
"Landscope Island"										✓	"Landscope Island"	K. Coate 1999			
Leo Island					J	**Leo Island**	B	**Leo Island**		✓	**Leo Island**				
"Leo Islet 1"									L		"Leo Islet 1"				
"Leo Islet 2"									L		"Leo Islet 2"				
Little North Island							B	**Little North Island**	L		**Little North Island**				
Little Rat Island	✓	Q	Helsinki						L		**Little Rat Island**				
Little Roma Island									L		**Little Roma Island**				
"Little Stokes Island"									L		"Little Stokes Island"				
Morley Island				✓	J	**Morley Island**	B	**Morley Island**						✓	
"Morley Islet"															
"Nitraria Island"										✓	"Nitraria Island"	K. Coate 1999			

TABLE 6b (continued)

CURRENT ISLAND NAME	WORKERS WHO HAVE COLLECTED PLANT SPECIES INFORMATION													OTHER WORKERS and date the island was visited	Aerial photo inter-pret-ation only	OTHER FORMER ISLAND NAMES
	G.A. Green (1972) Visited the islands 1970			R.E. Johnstone (Johnstone and Coate 1992), (Johnstone 1992), diaries Visited the islands 1977-1983			J. Harvey and J. Alford (previously unpublished) Visited the islands 1987		J. Harvey, V. Longman, J. Blyth and P.J. Fuller (previously unpublished) Visited the islands 1999							
	veg. desc.	species list	ISLAND NAME	veg. desc.	species list	ISLAND NAME	species list	ISLAND NAME	new records	no new records	ISLAND NAME					
Rat Island	✓	Q	**Rat Island**		J	**Rat Island**			L		**Rat Island**			A.S. George 1972, N. Sammy 1972		
"Rat Islet"															✓	
Roma Island									L		**Roma Island**					Travia Island
"Roma Islet"															✓	
Sandy Island									L		**Sandy Island**					Graveyard Island, Disappearing Island
Serventy Island					J	**Serventy Island**	B	**Serventy Island**	L		**Serventy Island**					
"Serventy Islet 1"															✓	
"Serventy Islet 2"															✓	
"Serventy Islet 3"															✓	
Shearwater Island					J	**Shearwater Island**				✓	**Shearwater Island**					
"Shearwater Islet"									L		"Shearwater Islet"					
Stokes Island					J	**Stokes Island**			L		**Stokes Island**					
Suomi Island	✓	Q	**Suomi Island**		J	**Suomi Island**				✓	**Suomi Island**					
Tapani Island										✓	**Tapani Island**			K. Coate 1999		
White Bank									L		**White Bank**					
White Island					J	**White Island**	B	**White Island**		✓	**White Island**					
"White Islet"															✓	
Wooded Island	✓	Q	**Wooded Island**	✓	J	**Wooded Island**				✓	**Wooded Island**			A.S. George 1972, N. Sammy 1972, P.J. Fuller and A.A. Burbidge 1991		

TABLE 6c

Islands in the Pelsaert Group, showing island name changes and workers who have collected plant species information appearing in Table 11(p. 559).

CURRENT ISLAND NAME	WORKERS WHO HAVE COLLECTED PLANT SPECIES INFORMATION															OTHER WORKERS and date the island was visited	Aerial photo inter-pretation only	OTHER FORMER ISLAND NAMES
	P.M. O'Loughlin (1969) Visited the islands 1966, 1968			I. Abbott (1980) Visited the islands 1975			R.E. Johnstone diaries Visited the islands 1977-1983			J. Harvey and J. Alford (previously unpublished) Visited the islands 1987 (1984 for Pelsaert Is.)			J. Harvey, V. Longman, J. Blyth and P.J. Fuller (previously unpublished) Visited the islands 1999					
	veg. desc.	species list	ISLAND NAME	veg. desc.	species list	ISLAND NAME	veg. desc.	species list	ISLAND NAME	veg. desc.	species list	ISLAND NAME	new records	no new records	ISLAND NAME			
Arthur Island													L		**Arthur Island**	P.J. Fuller and A.A. Burbidge 1991, 1996		
Basile Island								J	**Basile Island**	✓	B	**Basile Island**		✓	**Basile Island**	P. Roberts 1988		
Burnett Island								J	**Burnett Island**	✓	B	**Burnett Island**		✓	**Burnett Island**			Fin Island, Brad Island, Shark Island
"Burnett Islet 1"																	✓	
"Burnett Islet 2"																	✓	
Burton Island										✓	B	**Burton Island**		✓	**Burton Island**			
Coronation Island								J	**Coronation Island**	✓	B	**Coronation Island**		✓	**Coronation Island**			
"Coronation Islet"																	✓	
Davis Island													L		**Davis Island**	Geraldton College of TAFE 1997		Four Island
Diver Island																	✓	
Eight Island														✓	**Eight Island**	P.J. Fuller and A.A. Burbidge 1993, K. Coate 1999		
Foale Island													L		**Foale Island**			
Gaze Island														✓	**Gaze Island**	K. Coate 1999		
"Gaze Islet 1"													L		**"Gaze Islet 1"**			
"Gaze Islet 2"																	✓	
"Gaze Islet 3"																	✓	
Gregory Island													L		**Gregory Island**			
Gun Island	✓	Q	**Gun Island**										L		**Gun Island**	P. Roberts 1988, P.J. Fuller and A.A. Burbidge 1991, 1993		
"Gun Islet"													L		**"Gun Islet"**			
Hummock Island								J	**Hummock Island**				L		**Hummock Island**			
Iris Refuge Island													L		**Iris Refuge Island**			
Jackson Island										✓	B	**Jackson Island**		✓	**Jackson Island**			Norm Jackson Island, Spoon Landing, Marge Island
"Jackson Islets"																	✓	
Jon Jim Island	✓	Q	Little Island	✓	A	**Jon Jim**								✓	**Lagoon Island**	K. Coate 1999		Wreck Island, Little Island
Lagoon Island										✓	B	**"Little Jackson Island"**		✓	**"Little Jackson Island"**			Fairbridge Island
"Little Jackson Island"																P. Roberts 1988		
Middle Island	✓	Q	**Middle Island**					J	**Middle Island**				L		**Murray Island**			
Murray Island	✓	Q	**Murray Island**														✓	
Newbold Island																		
Newman Island								J	**Newman Island**	✓	B	**Newman Island**		✓	**Newman Island**		✓	
"Newman Islet 1"																	✓	
"Newman Islet 2"																		
Nook Island								J	**Nook Island**				L		**Nook Island**			

TABLE 6c (continued)

CURRENT ISLAND NAME	WORKERS WHO HAVE COLLECTED PLANT SPECIES INFORMATION															OTHER WORKERS and date the island was visited	Aerial photo inter-pretation only	OTHER FORMER ISLAND NAMES
	P.M. O'Loughlin (1969) Visited the islands 1966, 1968			I. Abbott (1980) Visited the islands 1975			R.E. Johnstone diaries Visited the islands 1977-1983			J. Harvey and J. Alford (previously unpublished) Visited the islands 1987 (1984 for Pelsaert Is.)			J. Harvey, V. Longman, J. Blyth and P.J. Fuller (previously unpublished) Visited the islands 1999					
	veg. desc.	species list	ISLAND NAME	veg. desc.	species list	ISLAND NAME	veg. desc.	species list	ISLAND NAME	veg. desc.	species list	ISLAND NAME	new records	no new records	ISLAND NAME			
One Island													L		One Island			
Pelsaert Island		Q	Pelsart Island	✓	A	Pelsart Island		J	Pelsaert Island	✓	B	Pelsaert Island		✓	Pelsaert Island	W.B. Alexander 1913, V.L. Serventy 1943, G.G. Smith 1947, P.J. Fuller and A.A. Burbidge 1990, 1993, 1996		Batavia Road Island, South Island, Long Island (H.E. Tarr 1949, P.T. Sandland 1937), Pelsart Island (spelling changed in May 1976)
Post Office Island								J	Post Office Island	✓	B	Post Office Island		✓	Post Office Island	P. Roberts 1988		
"Post Office Islet"																	✓	
Robertson Island													L		Robertson Island			Robinson Island
Rotondella Island										✓	B	Rotondella Island	L		Rotondella Island			
"Rotondella Islet 1"																	✓	
"Rotondella Islet 2"																	✓	
Sandy Island													L		Sandy Island			
Seven Island													L		Seven Island	P.J. Fuller and A.A. Burbidge 1993		
"Seven Islet"													L		"Seven Islet"			
Ship Rock													L		Ship Rock			
Sid Liddon Island													L		Sid Liddon Island	P.J. Fuller and A.A. Burbidge 1993, 1996, 1997, Geraldton College of TAFE 1997		Six Island
Square Island	✓	Q	Square Island					J	Square Island					✓	Square Island			
Stick Island								J	Stick Island	✓	B	Stick Island		✓	Stick Island			Jubilee Island
Sweet Island													L		Sweet Island	P.J. Fuller and A.A. Burbidge 1991, 1993, 1996, 1997, Geraldton College of TAFE 1997		Five Island
The Coral Patches													L		The Coral Patches			
Three Island													L		Three Island	P.J. Fuller and A.A. Burbidge 1991, 1993, 1996, Geraldton College of TAFE 1997, K. Coate 1999		
Travia Island													L		Travia Island	K. Coate 1999		
Two Island													L		Two Island			
Uncle Margie Island								J	Uncle Margie Island	✓	B	Uncle Margie Island		✓	Uncle Margie Island			Mangrove Island (Storr, Johnstone and Griffin), Hancock Island

TABLE 8
Dominant plant species codes used in vegetation mapping of Figures 2–69 (pp. 584–623).

LIFE FORM / HEIGHT CLASS	CODE	PLANT SPECIES
S: Shrubs > 1 m tall	a_2	*Atriplex* spp.
	a	*Avicennia marina*
	d	*Diplolaena grandiflora*
	e_3	*Eucalyptus oraria*
	h	*Halosarcia halocnemoides*
	m	*Myoporum insulare*
	n	*Nitraria billardierei*
	o	*Olearia axillaris*
	p	*Pittosporum phylliraeoides*
	r	*Rhagodia* spp.
	s_6	*Scaevola crassifolia*
	x_1	East Wallabi pavement limestone species (listed on relevant vegetation map)
	x_2	East Wallabi consolidated dunes species (listed on relevant vegetation map)
Z: Dwarf shrubs < 1 m tall	a_2	*Atriplex* spp.
	a	*Avicennia marina*
	c_2	**Cakile maritima*
	d	*Diplolaena grandiflora*
	e	*Enchylaena tomentosa*
	e_2	*Eremophila glabra*
	f	*Frankenia pauciflora*
	g	*Grevillea argyrophylla*
	h	*Halosarcia halocnemoides*
	h_2	*Hibbertia racemosa*
	m_3	*Muellerolimon salicorniaceum*
	m	*Myoporum insulare*
	n	*Nitraria billardierei*
	o	*Olearia axillaris*
	p_2	*Pimelea microcephala*
	p	*Pittosporum phylliraeoides*
	r	*Rhagodia* spp.
	s_4	*Sarcostemma viminale*
	s_6	*Scaevola crassifolia*
	t	*Threlkeldia diffusa*
	w	*Westringia dampieri*
	x_1	East Wallabi pavement limestone species (listed on relevant vegetation map)
	x_2	East Wallabi consolidated dunes species (listed on relevant vegetation map)
	x_3	West Wallabi pavement limestone species (listed on relevant vegetation map)
	x_4	North Island consolidated dunes species (listed on relevant vegetation map)
G: Bunch grasses	b	*Bromus* spp. (introduced and/or native)
	s	*Spinifex longifolius*
	x	Mixed, species listed
F: Forbs	s_2	*Senecio lautus*
	u	*Urospermum picroides*
	x	Mixed, species listed
C: Succulents	c	*Carpobrotus virescens*
	h	*Halosarcia indica*
	m_2	*Mesembryanthemum crystallinum*
	s_3	*Sarcocornia quinqueflora*
	s_5	*Suaeda australis*
	x	Mixed, species listed

TABLE 9

Figure numbers and accuracy codes for vegetation maps of the islands and islets of the Houtman Abrolhos

ISLAND NAME	FIGURE No.	ACCURACY (1 – 6) (see Table 10, p. 534)
WALLABI GROUP		
Akerstrom Island	Fig 2	6
Alcatraz Island	Fig 3	6
Barge Rock	Fig 4	6
Beacon Island	Fig 5	6
Dakin Island	Fig 6	6
Dick Island	Fig 7	6
"Eagle Point Islet"	Fig 8	6
Eastern Island	Fig 9	6
"East Mangrove Island"	Fig 2	6
East Wallabi Island	Fig 8	5
Far Island	Fig 10	6
"Far Islet 1"	Fig 10	1
"Far Islet 2"	Fig 10	1
First Sister	Fig 11	6
"First Sister Islet"	Fig 11	6
"G Island"	Fig 12	6
Hall Island	Fig 6	6
Little Pigeon Island	Fig 3	6
Long Island	Fig 13	6
Marinula Island	Fig 2	6
"Naturalist Island"	Fig 11	6
North Island	Fig 14	6
Oystercatcher Island	Fig 15	6
Pelican Island	Fig 16	6
Pigeon Island	Fig 17	6
Plover Island	Fig 18	6
Saville-Kent Island	Fig 6	6
Seagull Island	Fig 15	6
Seal Island	Fig 12	6
Second Sister	Fig 19	6
Shag Rock	Fig 20	6
"Shag Rock"	Fig 14	4
"Short Island"	Fig 13	6
Tattler Island	Fig 21	6
"Tectus Island"	Fig 11	6
Third Sister	Fig 22	6
Traitors Island	Fig 23	6
"Traitors Islet 1"	Fig 23	6
"Traitors Islet 2"	Fig 23	6
"Traitors Islet 3"	Fig 23	6
"Traitors Islet 4"	Fig 23	6
"Traitors Islet 5"	Fig 23	6
"Traitors Islet 6"	Fig 23	6
Turnstone Island	Fig 15	6
Wann Island	Fig 24	6
West Wallabi Island	Fig 25	6

ISLAND NAME	FIGURE No.	ACCURACY (1 – 6) (see Table 10)
EASTER GROUP		
Alexander Island	Fig 26	4
"Alexander Islet 1"	Fig 26	5
"Alexander Islet 2"	Fig 26	1
Bushby Island	Fig 37	6
Bynoe Island	Fig 27	5
"Bynoe Islet 1"	Fig 27	1
"Bynoe Islet 2"	Fig 27	1
"Bynoe Islet 3"	Fig 27	1
"Bynoe Islet 4"	Fig 27	1
Campbell Island	Fig 28	4
"Campbell Islet"	Fig 28	1
Crake Island	Fig 29	4
Disappearing Island	Fig 30	5
Dry Island	Fig 39	5
Gibson Island	Fig 31	5
Gilbert Island	Fig 26	5
"Gilbert Islet 1"	Fig 26	1
"Gilbert Islet 2"	Fig 26	1
"Gilbert Islet 3"	Fig 26	1
"Gilbert Islet 4"	Fig 26	1
Helms Island	Fig 32	4
"Helms Islet 1"	Fig 32	1
"Helms Islet 2"	Fig 32	4
Joe Smith Island	Fig 33	4
Keru Island	Fig 34	4
"Landscope Island"	Fig 32	5
Leo Island	Fig 35	6
"Leo Islet 1"	Fig 35	6
"Leo Islet 2"	Fig 35	5
Little North Island	Fig 36	4
Little Rat Island	Fig 37	6
Little Roma Island	Fig 39	2
"Little Stokes Island"	Fig 32	4
Morley Island	Fig 29	4
"Morley Islet"	Fig 29	1
"Nitraria Island"	Fig 32	5
Rat Island	Fig 38	6
"Rat Islet"	Fig 38	1
Roma Island	Fig 39	6
"Roma Islet"	Fig 39	1
Sandy Island	Fig 40	5
Serventy Island	Fig 31	5
"Serventy Islet 1"	Fig 31	1
"Serventy Islet 2"	Fig 31	1
"Serventy Islet 3"	Fig 31	1
Shearwater Island	Fig 41	5
"Shearwater Islet"	Fig 41	5
Stokes Island	Fig 32	4
Suomi Island	Fig 34	4
Tapani Island	Fig 32	5
White Bank	Fig 38	3
White Island	Fig 42	4
"White Islet"	Fig 42	1
Wooded Island	Fig 43	4

ISLAND NAME	FIGURE No.	ACCURACY (1 – 6) (see Table 10)
PELSAERT GROUP		
Arthur Island	Fig 44	5
Basile Island	Fig 45	4
Burnett Island	Fig 46	4
"Burnett Islet 1"	Fig 46	1
"Burnett Islet 2"	Fig 46	1
Burton Island	Fig 47	4
Coronation Island	Fig 48	4
"Coronation Islet"	Fig 48	1
Davis Island	Fig 49	4
Diver Island	Fig 50	1
Eight Island	Fig 49	4
Foale Island	Fig 51	5
Gaze Island	Fig 52	4
"Gaze Islet 1"	Fig 52	4
"Gaze Islet 2"	Fig 52	1
"Gaze Islet 3"	Fig 52	1
Gregory Island	Fig 44	5
Gun Island	Fig 53	4
"Gun Islet"	Fig 52	5
Hummock Island	Fig 54	4
Iris Refuge Island	Fig 51	4
Jackson Island	Fig 55	4
"Jackson Islets" (7 islets)	Fig 55	1
Jon Jim Island	Fig 56	4
Lagoon Island	Fig 57	4
"Little Jackson Island"	Fig 55	4
Middle Island	Fig 58	4
Murray Island	Fig 59	5
Newbold Island	Fig 51	1
Newman Island	Fig 60	3
"Newman Islet 1"	Fig 60	1
"Newman Islet 2"	Fig 60	1
Nook Island	Fig 61	4
One Island	Fig 49	4
Pelsaert Island	Fig 62	5
Post Office Island	Fig 63	3
"Post Office Islet"	Fig 63	1
Robertson Island	Fig 51	4
Rotondella Island	Fig 57	4
"Rotondella Islet 1"	Fig 57	1
"Rotondella Islet 2"	Fig 57	1
Sandy Island	Fig 64	5
Seven Island	Fig 49	4
"Seven Islet"	Fig 49	4
Ship Rock	Fig 65	4
Sid Liddon Island	Fig 49	4
Square Island	Fig 66	5
Stick Island	Fig 67	4
Sweet Island	Fig 49	4
The Coral Patches (13 islets)	Fig 68	2
Three Island	Fig 49	4
Travia Island	Fig 52	5
Two Island	Fig 49	4
Uncle Margie Island	Fig 69	3
"Uncle Margie Islet"	Fig 69	1

TABLE 11a

List of vascular plants found in the Wallabi Group of the Abrolhos islands, showing occurrence on each island. Introduced/naturalized species are denoted by an asterisk. Letters denote recordings of the species by researchers (see Table 12, p. 574); letters followed by the superscript "h" indicate that the researcher has lodged specimens at the Western Australian Herbarium.

Note that taxonomy of all herbarium specimens indicated in Table 11 has been confirmed by herbarium staff, except for specimens deposited by Harvey and Longman after the 1999 field trip: taxonomy of these specimens (except for *Atriplex* spp. and *Rhagodia* spp.) had not yet been confirmed by the herbarium as at June 2000. Storr (1965) groups Akerstrom, Marinula and "East Mangrove Island" into *Mangrove Island* (see Table 6, p. 551); whereas Abbott separates them (Abbott 1980).

Further details for some of the species follow.

Atriplex cinerea found by Harvey and Longman on Plover Island and Shag Rock has been identified by P. Wilson as *Atriplex cinerea?*

Atriplex paludosa found by Storr on North Island is *Atriplex paludosa* ssp. *baudinii* (WAHerb records); similarly *Atriplex paludosa* found by Harvey and Longman on Little Pigeon Island is *Atriplex paludosa* ssp. *baudinii*

Austrostipa found by Abbott on Oystercatcher, Tattler, Akerstrom and Seagull Islands (originally *Stipa ?flavescens*) is reported as *Austrostipa ?flavescens* (Abbott 1980).

Brachyscome sp.- Abbott found one of *B. ciliaris* or *B. iberidifolia* on East Wallabi Island (Abbott 1980), but he does not identify which one.

Capparis spinosa found by Green on East Wallabi Island is *C. spinosa* var. *nummularia* (WAHerb records).

**Conyza bonariensis* found by Abbott on Pigeon and Little Pigeon Islands is reported as uncertain (Abbott 1980).

Crassula colorata found by Storr on North and West Wallabi Islands is *C. colorata* var. *colorata* (WAHerb records).

Dianella revoluta found by Gillham on East Wallabi Island is *Dianella revoluta* var. *divaricata* (WAHerb records).

Enchylaena tomentosa found by Harvey and Alford on Dick and Eastern Islands, and by Storr on North Island is *Enchylaena tomentosa* var. *tomentosa* (WAHerb records).

Eremophila glabra found by Alexander and Storr on East Wallabi Island is *E. glabra* ssp. *albicans* (WAHerb records).

Euphorbia tannensis found by Abbott (1980) and by Storr (WAHerb records) and by Harvey and Longman is *Euphorbia tannensis* ssp. *eremophila.*

Pimelea microcephala found by Harvey and Alford on West Wallabi Island and Storr on North Island is *P. microcephala* ssp. *microcephala* (WAHerb records).

Pittosporum phylliraeoides found by Ashby on East Wallabi Island and Scrymgeour on Seal Island is *P. phylliraeoides* var. *phylliraeoides* (WAHerb records).

Ptilotus divaricatus found by Storr on East Wallabi Island is *Ptilotus divaricatus* var. *divaricatus* (WAHerb records).

Rhagodia latifolia found by Storr on North Island and by Harvey and Longman on Akerstrom, Little Pigeon and Pigeon Islands is *Rhagodia latifolia* ssp. *latifolia.*

Salsola kali found by Alexander on North Island is *S. kali* ssp. *tragus* (WAHerb records).

Senecio lautus found by Harvey and Alford on East Wallabi Island is *S. lautus* ssp. *dissectifolius* (WAHerb records).

Stackhousia viminea is not a current name but, since there is no herbarium specimen to study, it is impossible to determine which of *S. clementii, S. intermedia* or *S. muricata* was found by Storr (1965) and Abbott (1980).

TABLE 11a (continued)

PLANT NAME	Akerstrom Island	Alcatraz Island	Barge Rock	Beacon Island	Dakin Island	Dick Island	*Eagle Point Islet*	Eastern Island	*East Mangrove Island*	East Wallabi Island	Far Island	First Sister	*First Sister Islet*	*G Island*	Hall Island	Little Pigeon Island	Long Island	*Mangrove Island*	Marinula Island	*Naturalist Island*	North Island	Oystercatcher Island	Pelican Island	Pigeon Island	Plover Island	Saville-Kent Island	Seagull Island	Seal Island	Second Sister	Shag Rock	*Shag Rock*	*Short Island*	Tattler Island	*Tectus Island*	Third Sister	Traitors Island	*Traitors Islet 1*	*Traitors Islet 2*	*Traitors Islet 3*	*Traitors Islet 4*	*Traitors Islet 5*	*Traitors Islet 6*	Turnstone Island	Wann Island	West Wallabi Island
AIZOACEAE																																													
Carpobrotus virescens	A						A	Q		SA						AJ	QAJ				SS^h	A		SAJB			A						SA											K	SBK
Disphyma crassifolium subsp. *clavellatum*																								B																					
* *Mesembryanthemum crystallinum*	L	AJ	A	A	B	B	A	QB	A	A		K	L		B	AJ	QA		A	K	S	A	S	SAB	A	B	A		K	A		L	SA	K	K	K	L	L	L	L	L	L	A	K	SJB
AMARANTHACEAE																																													
Ptilotus divaricatus										SS^{h}M^{h}AL^h																																			
Ptilotus eriotrichus										SS^h																																			SS^{h}B
Ptilotus gaudichaudii										B																																			
Ptilotus obovatus										SA																																			
Ptilotus villosiflorus																																													SB
ANTHERICACEAE																																													
Thysanotus patersonii										SAB											SS^{h}L^h			S			A																		SB
APIACEAE																																													
Apium annuum										SS^{h}AB																																			SS^{h}BB^h
Apium prostratum																																	A												
Daucus glochidiatus										SS^{h}AB											S			B																					SS^{h}B
Hydrocotyle diantha										S																																			S
Trachymene pilosa										SABB^h																																			
APOCYNACEAE																																													
Alyxia buxifolia										W^{h}SS^{h}AB																	L																		SB
ASCLEPIADACEAE																																													
Sarcostemma viminale subsp. *australe*							A			W^{h}SS^{h}AJ												A		SAB			L																		SJBKL^h
ASPHODELACEAE																																													
Bulbine semibarbata							AL^h			SS^{h}A						AL^h					SS^h			AB																					SB
ASTERACEAE																																													
Actinobole condensatum										SS^{h}AB											S																								SS^h
Actites megalocarpa																A	QA					A		A			A																		
Angianthus tomentosus										B																																			
Brachyscome ciliaris										SB											SS^{h}L^h			B																					
Brachyscome iberidifolia										S																																			
Calocephalus aervoides										SBB^h																																			S
Chthonocephalus tomentellus																																													B
* *Conyza bonariensis*																A								A																					
Euchiton sphaericus										B^h											S^h																								
Gnaphalium indutum										B																																			
* *Lactuca saligna*																								A																					
Olearia axillaris								Q		SAL^h							QA				S	A		SAB			A																A		SJBK
Podotheca angustifolia																					S																								SS^{h}B
* *Pseudognaphalium luteoalbum*										SAL^h											SS^{h}L^h																						L^h		B
Senecio glossanthus										SS^{h}B^h											S																								B
Senecio lautus	A		L^h	A	B	JB		QJB		W^{h}SABB^{h}L^h		K		B		A	QAJ				W^{h}S	A	S	SAB		B	A	JBB^h	L				A		K								L^h		SJL^h
* *Sonchus oleraceus*	A	A	A	A			A	QBB^h	A	SA						A	A		A		S	A	S	SAB	AL^h		A						SA										A		SK
* *Urospermum picroides*	L	L					L^h	BB^h		S							L^h					L					L						L										L^h		
Vittadinia cuneata var. *cuneata*	A		A							SS^{h}AB									A								A																A		
Vittadinia sp.										B^h																																			
AVICENNIACEAE																																													
Avicennia marina	AJ								L										L			A					AJ						SA										A		SB

TABLE 11a (continued)

ISLAND

PLANT NAME	Akerstrom Island	Alcatraz Island	Barge Rock	Beacon Island	Dakin Island	Dick Island	'Eagle Point Islet'	Eastern Island	'East Mangrove Island'	East Wallabi Island	Far Island	First Sister	'First Sister Islet'	'G Island'	Hall Island	Little Pigeon Island	Long Island	*Mangrove Island*	Marinula Island	'Naturalist Island'	North Island
BORAGINACEAE																					
Cynoglossum australe										G^{h}SS^{h}BB^h											
* *Echium plantagineum*										L											
Trichodesma zeylanicum																					S
BRASSICACEAE																					
* *Brassica rapa*				AA^h																	
* *Cakile maritima*				A		B		Q		SA		K					QA				W^{h}SS^h
* *Hornungia procumbens*		A	A	A	B^h	B		QB		SAB							A				SS^h
* *Hymenolobus procumbens*												L^h									
Lepidium lyratogynum								B													
Lepidium pseudoruderale				A	B	B		Q													
Lepidium puberulum								BB^h				L^h									
* *Raphanus raphanistrum*																					
* *Sisymbrium orientale*				A																	
CAPPARACEAE																					
Capparis spinosa							A			SR^{h}A						A					
CARYOPHYLLACEAE																					
* *Polycarpon tetraphyllum*										BB^h						AL^h					
* *Sagina apetala*										SAB											
* *Spergularia rubra*	A	A	AL^h	L^h						SA						A					S
* *Stellaria media*																					
CHENOPODIACEAE																					
Atriplex cinerea		J		J	JBB^h	JB	L^h	QJ		SA		K	L	L	B	J	JL^h		L		SS^{h}J
Atriplex sp.	A	A	A	A			A		A							A	A		A		
Atriplex paludosa																L	S	S			SS^h
Atriplex vesicaria subsp. *variabilis*																					
Chenopodium melanocarpum										S											
* *Chenopodium murale*				AL^h																	S
Chenopodium nitrariaceum										S											
Dysphania plantaginella										S											
Enchylaena tomentosa	A		A	A	B	BB^h		QBB^h	A	B		K				AL^h	AL^h	S	A	K	SS^h
Halosarcia halocnemoides	A	A	A							SA											SL^h
Halosarcia indica subsp. *bidens*	AL^h																				
Halosarcia sp.																					
Rhagodia baccata	A									SA											S
Rhagodia latifolia	L^h						L^h									L^h					S^h
* *Salsola kali*						B		Q		A							QA				W^{h}S
Sarcocornia quinqueflora	A								L	A		K	L				QAJ		A	K	S
Sclerostegia arbuscula										S											S
Suaeda australis				A				B	AL^h								QAL^h		A		SS^h
Threlkeldia diffusa	A	A	A	L	B	BB^h	A	QBB^h	A	SA		K	L	L	B	AL^h	QA		A	L	S
COLCHICACEAE																					
Wurmbea monantha										SH^{h}AB											SS^h
CRASSULACEAE																					
* *Bryophyllum* sp.																					
Crassula colorata						B		B		SAB							A				SS^h
Crassula exserta						B^h		B													

PLANT NAME	Oystercatcher Island	Pelican Island	Pigeon Island	Plover Island	Saville-Kent Island	Seagull Island	Seal Island	Second Sister	Shag Rock	'Shag Rock'	'Short Island'	Tattler Island	'Tectus Island'	Third Sister	Traitors Island	'Traitors Islet 1'	'Traitors Islet 2'	'Traitors Islet 3'	'Traitors Islet 4'	'Traitors Islet 5'	'Traitors Islet 6'	Turnstone Island	Wann Island	West Wallabi Island
BORAGINACEAE																								
Cynoglossum australe																								SS^{h}B
* *Echium plantagineum*																								
Trichodesma zeylanicum																								
BRASSICACEAE																								
* *Brassica rapa*																								
* *Cakile maritima*							B	L																B
* *Hornungia procumbens*	A					A	BB^h																	SB
* *Hymenolobus procumbens*																								
Lepidium lyratogynum																								
Lepidium pseudoruderale					B		B																	
Lepidium puberulum																								
* *Raphanus raphanistrum*			A																					
* *Sisymbrium orientale*																								
CAPPARACEAE																								
Capparis spinosa	A		SABL^h			A						SA										A		SJBK
CARYOPHYLLACEAE																								
* *Polycarpon tetraphyllum*			AB																					
* *Sagina apetala*																								
* *Spergularia rubra*	A		SAB			A						A												SB
* *Stellaria media*																								SB
CHENOPODIACEAE																								
Atriplex cinerea			JL^h	L^h	JBB^h		JB	K	KL^h			L^h	K	K	K								K	S^{h}JB^h
Atriplex sp.	A	L	A	A		A			A			A										A		
Atriplex paludosa		S	SBL^h									S												SJBB^h
Atriplex vesicaria subsp. *variabilis*						L^h																		
Chenopodium melanocarpum																								
* *Chenopodium murale*		S																						SB
Chenopodium nitrariaceum																								B
Dysphania plantaginella																								
Enchylaena tomentosa	A	S	SA			A						A	K		K	L	L		L				K	
Halosarcia halocnemoides			A						K															SJBKL^h
Halosarcia indica subsp. *bidens*																								
Halosarcia sp.																								S^h
Rhagodia baccata	A		SAB			A						SA										A		SB
Rhagodia latifolia			L^h																					
* *Salsola kali*							B							K										SJB
Sarcocornia quinqueflora	A					A	R^{h}JB					SA	L									A	K	SBL^h
Sclerostegia arbuscula			S																					SB
Suaeda australis						A						S				L	L	L						
Threlkeldia diffusa	A	L	SAB		B	A	BB^h				L^h	SA	K	K			L					A	K	SJBK
COLCHICACEAE																								
Wurmbea monantha																								SS^{h}B
CRASSULACEAE																								
* *Bryophyllum* sp.			L																					
Crassula colorata												L												SS^{h}B
Crassula exserta																								B

TABLE 11a (continued)

ISLAND

PLANT NAME	Akerstrom Island	Alcatraz Island	Barge Rock	Beacon Island	Dakin Island	Dick Island	'Eagle Point Islet'	Eastern Island	'East Mangrove Island'	East Wallabi Island	Far Island	First Sister	'First Sister Islet'	'G Island'	Hall Island	Little Pigeon Island	Long Island	*Mangrove Island*	Marinula Island	'Naturalist Island'	North Island	Oystercatcher Island
* *Cotyledon orbiculata*																						
CUNONIACEAE																						
Aphanopetalum clematideum										SS^{h}A												
CYPERACEAE																						
* *Isolepis marginata*										SS^{h}A												
Isolepis nodosa																					L^h	
DASYPOGONACEAE																						
Acanthocarpus preissii							A			SA						L					S	A
DILLENIACEAE																						
Hibbertia racemosa										SS^{h}H^{h}ABB^h												
EPACRIDACEAE																						
Leucopogon insularis										SA												
EUPHORBIACEAE																						
Beyeria viscosa										SL^h												L^h
Euphorbia boophthona																						
Euphorbia drummondii										SAB												
Euphorbia tannensis							A									AL^h					SS^h	A
* *Euphorbia terracina*																						
Phyllanthus calycinus										SS^{h}H^{h}ABB^h												
FRANKENIACEAE																						
Frankenia pauciflora	A						A			SA						AL^h					SL^h	A
GENTIANACEAE																						
* *Centaurium maritimum*										BB^h												
* *Centaurium spicatum*										SABB^h											W^{h}SS^{h}L^h	
GERANIACEAE																						
* *Erodium cicutarium*			A							SA							Q				S^h	
Erodium cygnorum										SA											S	
Pelargonium littorale										S												
GOODENIACEAE																						
Scaevola crassifolia										SA											SS^h	
HALORAGACEAE																						
Haloragis trigonocarpa										S												
JUNCACEAE																						
* *Juncus bufonius*										S											S	
JUNCAGINACEAE																						
Triglochin centrocarpum						B																
Triglochin mucronatum																					SS^h	
Triglochin muelleri										S												
Triglochin trichophorum			A							SA											SL^h	
LAMIACEAE																						
Westringia dampieri										SH^{h}AB		L^h										
LILIACEAE																						
* *Aloe* sp.																L						

PLANT NAME	Pelican Island	Pigeon Island	Plover Island	Saville-Kent Island	Seagull Island	Seal Island	Second Sister	Shag Rock	'Shag Rock'	'Short Island'	Tattler Island	'Tectus Island'	Third Sister	Traitors Island	'Traitors Islet 1'	'Traitors Islet 2'	'Traitors Islet 3'	'Traitors Islet 4'	'Traitors Islet 5'	'Traitors Islet 6'	Tumstone Island	Wann Island	West Wallabi Island
* *Cotyledon orbiculata*		A																					
CUNONIACEAE																							
Aphanopetalum clematideum																							
CYPERACEAE																							
* *Isolepis marginata*																							SB
Isolepis nodosa																							
DASYPOGONACEAE																							
Acanthocarpus preissii		SAB			A						A												SJBK
DILLENIACEAE																							
Hibbertia racemosa																							SS^{h}JBL^h
EPACRIDACEAE																							
Leucopogon insularis																							L^h
EUPHORBIACEAE																							
Beyeria viscosa																							SJBKL^h
Euphorbia boophthona		B																					
Euphorbia drummondii																							B
Euphorbia tannensis		A			A																A		
* *Euphorbia terracina*		A																					
Phyllanthus calycinus																							SB
FRANKENIACEAE																							
Frankenia pauciflora		SABL^h			A						SA										A		SJBK
GENTIANACEAE																							
* *Centaurium maritimum*																							
* *Centaurium spicatum*		B									L										L^h		SB
GERANIACEAE																							
* *Erodium cicutarium*		B																					SS^{h}B
Erodium cygnorum		S																					
Pelargonium littorale																							
GOODENIACEAE																							
Scaevola crassifolia					A																		BB^h
HALORAGACEAE																							
Haloragis trigonocarpa		B																					
JUNCACEAE																							
* *Juncus bufonius*		B																					B
JUNCAGINACEAE																							
Triglochin centrocarpum		B																					B^h
Triglochin mucronatum																							SB
Triglochin muelleri																							
Triglochin trichophorum																							
LAMIACEAE																							
Westringia dampieri																							SBL^h
LILIACEAE																							
* *Aloe* sp.																							

TABLE 11a (continued)

PLANT NAME	Akerstrom Island	Alcatraz Island	Barge Rock	Beacon Island	Dakin Island	Dick Island	"Eagle Point Islet"	Eastern Island	"East Mangrove Island"	East Wallabi Island	Far Island	First Sister	"First Sister Islet"	"G Island"	Hall Island	Little Pigeon Island	Long Island	*Mangrove Island*	Marinula Island	"Naturalist Island"	North Island	Oystercatcher Island	Pelican Island	Pigeon Island	Plover Island	Saville-Kent Island	Seagull Island	Seal Island	Second Sister	Shag Rock	"Shag Rock"	"Short Island"	Tattler Island	"Tectus Island"	Third Sister	Trailors Island	"Trailors Islet 1"	"Trailors Islet 2"	"Trailors Islet 3"	"Trailors Islet 4"	"Trailors Islet 5"	"Trailors Islet 6"	Turnstone Island	Wann Island	West Wallabi Island
LOGANIACEAE																																													
Phyllangium paradoxum																																													B
MALVACEAE																																													
Lavatera plebeia		A		A	B	B		QB	A	B		L			B	A	Q						S	AB	AL^h	B		B						L		K	L		L				L^h		
* *Malva parviflora*										S											S			SAJ																					B
Sida spodochroma										B																																			
MIMOSACEAE																																													
Acacia didyma										Y^{h}SS^{h}AL^h																																			
MYOPORACEAE																																													
Eremophila glabra										W^{h}SS^{h}A																																			SBL^h
Eremophila deserti										L^h																																			
Myoporum insulare	A	A	A	A		JBB^h	A	QJB		SA		K		B		AJ	SQAJL^h		A	L	SJL^h	A		SAJB			A	B	K				A	K	K	K							AL^h	K	SJBK
MYRTACEAE																																													
Eucalyptus oraria										SM^{h}R^{h}A																																			
ONAGRACEAE																																													
Epilobium billardierianum										A																																			
OROBANCHACEAE																																													
* *Orobanche minor*										L^h																																			
ORCHIDACEAE																																													
Microtis media										S																																			
Microtis sp.										S^h																																			
OXALIDACEAE																																													
* *Oxalis corniculata*										SA																																			SB
PAPILIONACEAE																																													
Bossiaea spinescens										SS^h																																			
* *Medicago polymorpha*																L								AB																					
* *Melilotus indicus*				A																	L^h																								
Mirbelia ramulosa										SA																																			
PHORMIACEAE																																													
Dianella revoluta							A			G^{h}SAB												A		SAB			A						L												SJBK
PITTOSPORACEAE																																													
Pittosporum phylliraeoides	A						A			SH^{h}ABB^h												A		SAB			A	C^h					SAL^h										AL^h		SJBK
PLANTAGINACEAE																																													
Plantago debilis										SS^h											SS^h			B																					SB
PLUMBAGINACEAE																																													
Muellerolimon salicorniaceum	AL^h									SABB^h						AL^h			A		SS^{h}L^h	A		SAB			A						SA												SS^{h}BL^h
POACEAE																																													
Agrostis avenacea										SABB^h																																			S
Austrodanthonia caespitosa										SM^{h}ABB^h											SS^{h}L^h																								
Austrostipa crinita																					SS^h																								
Austrostipa elegantissima										G^{h}M^{h}SS^{h}ABB^h							A					A		SB			A																A		SS^{h}B
Austrostipa ?flavescens	A																					A					A						A												

TABLE 11a (continued)

ISLAND

PLANT NAME	Akerstrom Island	Alcatraz Island	Barge Rock	Beacon Island	Dakin Island	Dick Island	*Eagle Point Islet*	Eastern Island	*East Mangrove Island*	East Wallabi Island	Far Island	First Sister	*First Sister Islet*	*G Island*	Hall Island
Austrostipa variabilis										SA					
* Avena barbata															
* Avena fatua															
* Avena sp.				L											
Bromus arenarius				L^h	BB^h	B		B		SBB^h		KL^h			
* Bromus diandrus				A											
* Bromus hordeaceus		A	A	A				Q							
* Bromus japonicus var. vestitus															
* Bromus madritensis															
* Cynodon dactylon										A					
* Ehrharta brevifolia										A					
* Ehrharta longiflora			A	A											
Eragrostis dielsii	A									A					
* Hordeum leporinum															
* Lolium multiflorum															
* Lolium perenne															
* Lolium rigidum		A													
* Parapholis incurva															
* Phalaris minor															
* Poa annua				AL^h						B					
Poa poiformis										SABB^h					
* Polypogon monspeliensis															
Polypogon tenellus										S					
* Rostraria cristata															
Setaria dielsii	A		A			B	L			B		KL^h			
Setaria sp.						B^h									
Spinifex longifolius				A	JBB^h	B		QJB		W^{h}SA		K			
Sporobolus virginicus															
* Triticum aestivum															
* Vulpia myuros	A									SAB					
POLYGONACEAE															
* Emex australis															
PORTULACACEAE															
Calandrinia calyptrata															
PRIMULACEAE															
* Anagallis arvensis															
PROTEACEAE															
Grevillea argyrophylla										SS^{h}AL^h					
RANUNCULACEAE															
Ranunculus sessiliflorus										S					
RHAMNACEAE															
Spyridium globulosum										SH^{h}AL^h					
RUBIACEAE															
Galium migrans										SA					
Opercularia vaginata										B					
RUTACEAE															
Diplolaena grandiflora							A			SS^{h}ABB^h					

PLANT NAME	Little Pigeon Island	Long Island	*Mangrove Island*	Marinula Island	*Naturalist Island*	North Island	Oystercatcher Island	Pelican Island	Pigeon Island	Plover Island	Saville-Kent Island	Seagull Island	Seal Island	Second Sister	Shag Rock
Austrostipa variabilis						S									
* Avena barbata	L								AB						
* Avena fatua						S									
* Avena sp.															
Bromus arenarius		L^h				S			B		BB^h		B		
* Bromus diandrus	A	Q				S^h			AB			A			
* Bromus hordeaceus	A	A				S			A	A		A			
* Bromus japonicus var. vestitus													B^h		
* Bromus madritensis						S									
* Cynodon dactylon						S			AB						
* Ehrharta brevifolia															
* Ehrharta longiflora	A								AB			A			
Eragrostis dielsii	A					SS^{h}L^h			AJB						
* Hordeum leporinum	AL^h					S			AB						
* Lolium multiflorum															
* Lolium perenne															
* Lolium rigidum	A														
* Parapholis incurva						L^h									
* Phalaris minor						S			B						
* Poa annua															
Poa poiformis															
* Polypogon monspeliensis	L^h	Q													
Polypogon tenellus									B						
* Rostraria cristata	A					S			AB						
Setaria dielsii	AL^h	AL^h		A		SL^h	A		SAB			A			
Setaria sp.															
Spinifex longifolius		QAJ		A		SJ	A				B	A	B		
Sporobolus virginicus						SS^h	A		AB			A			
* Triticum aestivum						S^h									
* Vulpia myuros	A					S			AB						
POLYGONACEAE															
* Emex australis	A								B						
PORTULACACEAE															
Calandrinia calyptrata						S									
PRIMULACEAE															
* Anagallis arvensis									A						
PROTEACEAE															
Grevillea argyrophylla							A		SABL^h			A			
RANUNCULACEAE															
Ranunculus sessiliflorus															
RHAMNACEAE															
Spyridium globulosum						SS^h									
RUBIACEAE															
Galium migrans															
Opercularia vaginata															
RUTACEAE															
Diplolaena grandiflora	A						A		SAB			A			

PLANT NAME	*Shag Rock*	*Short Island*	Tattler Island	*Tectus Island*	Third Sister	Traitors Island	*Traitors Islet 1*	*Traitors Islet 2*	*Traitors Islet 3*	*Traitors Islet 4*	*Traitors Islet 5*	*Traitors Islet 6*	Turnstone Island	Wann Island	West Wallabi Island
Austrostipa variabilis			S												SB
* Avena barbata															
* Avena fatua															
* Avena sp.			L												
Bromus arenarius						L^h									SB
* Bromus diandrus													AL^h		
* Bromus hordeaceus													A		
* Bromus japonicus var. vestitus															
* Bromus madritensis															
* Cynodon dactylon															
* Ehrharta brevifolia															
* Ehrharta longiflora			A												
Eragrostis dielsii													A		
* Hordeum leporinum															
* Lolium multiflorum															B
* Lolium perenne															BB^h
* Lolium rigidum															
* Parapholis incurva															
* Phalaris minor															SB
* Poa annua															
Poa poiformis															
* Polypogon monspeliensis															SB
Polypogon tenellus															G^{h}S
* Rostraria cristata															
Setaria dielsii			A										AL^h		SS^{h}B
Setaria sp.															
Spinifex longifolius		L													SJBK
Sporobolus virginicus													AL^h		SB
* Triticum aestivum															
* Vulpia myuros													A		SB
POLYGONACEAE															
* Emex australis															
PORTULACACEAE															
Calandrinia calyptrata															
PRIMULACEAE															
* Anagallis arvensis															SS^{h}B
PROTEACEAE															
Grevillea argyrophylla															SS^{h}JBK
RANUNCULACEAE															
Ranunculus sessiliflorus															
RHAMNACEAE															
Spyridium globulosum															SJBL^h
RUBIACEAE															
Galium migrans															
Opercularia vaginata															
RUTACEAE															
Diplolaena grandiflora			A										A		SJBKL^h

TABLE 11a (continued)

PLANT NAME	ISLAND																																												
	Akerstrom Island	Alcatraz Island	Barge Rock	Beacon Island	Dakin Island	Dick Island	*Eagle Point Islet*	Eastern Island	*East Mangrove Island*	East Wallabi Island	Far Island	First Sister	*First Sister Islet*	*G Island*	Hall Island	Little Pigeon Island	Long Island	Mangrove Island	Marinula Island	*Naturalist Island*	North Island	Oystercatcher Island	Pelican Island	Pigeon Island	Plover Island	Saville-Kent Island	Seagull Island	Seal Island	Second Sister	Shag Rock	*Shag Rock*	*Short Island*	Tattler Island	*Tectus Island*	Third Sister	Traitors Island	*Traitors Islet 1*	*Traitors Islet 2*	*Traitors Islet 3*	*Traitors Islet 4*	*Traitors Islet 5*	*Traitors Islet 6*	Tumstone Island	Wann Island	West Wallabi Island
SANTALACEAE																																													
Exocarpos aphyllus										SAB^{h}						L^{h}	QA					AL^{h}		AB			L^{h}						SA												SJBL^{h}
Exocarpos sparteus																					SS^{h}																								BK
SAPINDACEAE																																													
Dodonaea aptera										SAL^{h}											SS^{h}	L^{h}																							SB
Dodonaea inaequifolia										SS^{h}A												L^{h}																							SBL^{h}
Dodonaea viscosa																											L^{h}																		
SCROPHULARIACEAE																																													
* *Dischisma arenarium*																																													S
SOLANACEAE																																													
* *Nicotiana glauca*																								A																					
Nicotiana occidentalis subsp. *hesperis*	A	A	AL^{h}				AL^{h}			SA						AL^{h}	A		A		SS^{h}	A		SAB			A						A												B
* *Solanum laciniatum*										B																																			
* *Solanum nigrum*				L						SA						A								AB																					SBB^{h}
Solanum symonii		A		A						AH^{h}BB^{h}												A					A																		
STACKHOUSIACEAE																																													
Stackhousia sp.																																													B
Stackhousia viminea										SA											S																								S
Tripterococcus brunonis										B																																			
STERCULIACEAE																																													
Lasiopetalum angustifolium										SS^{h}A																																			
TAMARICACEAE																																													
* *Tamarix* sp.																								L																					B
THYMELAEACEAE																																													
Pimelea microcephala	A						L			SA									L		SS^{h}	A		SAB			AL^{h}						SA										A		SJB^{h}L^{h}
URTICACEAE																																													
Parietaria cardiostegia					B^{h}																					B^{h}																			
Parietaria debilis				A	B	B		QB		SB							QA				S					B																			SB
* *Urtica urens*										ABL^{h}																																			SB
ZYGOPHYLLACEAE																																													
Nitraria billardierei	A	A	A	SAJ	JB	JB	A	QJB	A	SA	L	K	L		B	AJ	SQAJ	S	A	K	SS^{h}J	A	S	SAJB	A	JB	A	JB		AKL^{h}	L	L	SA	K	K	K	L	L	L	L	L		A	K	SJB
Zygophyllum simile				A	BB^{h}	B				SAB							A				SS^{h}																								SB

TABLE 11b

List of vascular plants found in the Easter Group of the Abrolhos islands, showing occurrence on each island. Introduced/naturalized species are denoted by an asterisk. Letters denote recordings of the species by researchers (see Table 12, p. 574); letters followed by the superscript "h" indicate that the researcher has lodged specimens at the Western Australian Herbarium.

Note that taxonomy of all herbarium specimens indicated in Table 11 has been confirmed by herbarium staff, except for specimens deposited by Harvey and Longman after the 1999 field trip; taxonomy of these specimens (except for *Atriplex* spp. and *Rhagodia* spp.) had not yet been confirmed by the herbarium as at June 2000.

Further details for some of the species follow.

Crassula colorata found by Harvey and Alford on Alexander and Keru Islands, and by Sammy on Rat Island is *C. colorata* var. *colorata* (WAHerb records).

Disphyma crassifolium ssp. *clavellatum* (originally *Disphyma blackii*) had ? against its occurrence on Rat Island (Green 1972).

Ehrharta longiflora found by Harvey and Alford on Alexander Island is *Ehrharta ?longiflora* (WAHerb records).

Enchylaena tomentosa found by George on Rat Island is *E. tomentosa* var. *tomentosa* (WAHerb records).

Frankenia pauciflora found by Harvey and Alford on Campbell Island is *F. pauciflora* var. *pauciflora* (WAHerb records).

Lavatera plebeia found by Harvey and Alford on Alexander Island is *L. plebeia* var. *tomentosa* (WAHerb records).

Pelargonium zonale (Green 1972) is not a current name, but the correct current name is indeterminable.

Senecio lautus found by Harvey and Alford on Gilbert and Keru Islands is *S. lautus* ssp. *lautus* (WAHerb records).

PLANT NAME	ISLAND																																	
	Alexander Island	Bushby Island	Bynoe Island	Campbell Island	Crake Island	Dry Island	Gibson Island	Gilbert Island	Helms Island	"Helms Islet 2"	Joe Smith Island	Keru Island	"Landscope Island"	Leo Island	"Leo Islet 1"	"Leo Islet 2"	Little North Island	Little Rat Island	Little Roma Island	"Little Stokes Island"	Morley Island	"Nitraria Island"	Rat Island	Roma Island	Sandy Island	Serventy Island	Shearwater Island	"Shearwater Islet"	Stokes Island	Suomi Island	Tapani Island	White Bank	White Island	Wooded Island
AIZOACEAE																							X^h											
Carpobrotus sp.																							Q											
Carpobrotus virescens	B	J	JB	B	JB		J	B	J	L		B		B	L		B	Q			JB	K	QJ	L	L	JB			L	Q	K		JB	QN^hJ
Disphyma crassifolium subsp. *clavellatum*														B									Q											
* *Mesembryanthemum crystallinum*	B	L	B	L	JB	L							K	B			B	Q	L		B	K	QJ	L	L								B	QJ
Sesuvium portulacastrum				B																														
* *Tetragonia decumbens*					J							J																					J	J
AMARANTHACEAE																																		
Ptilotus gaudichaudii																										B								
APIACEAE																																		
Apium annuum	BB^h			B																						B								
Daucus glochidiatus				B								B																					BB^h	
Hydrocotyle diantha																							N^h											
* *Petroselinum crispum*																		L					N^h	L										
ASPHODELACEAE																																		
Bulbine semibarbata																							Q											

TABLE 11b (continued)

PLANT NAME	Alexander Island	Bushby Island	Bynoe Island	Campbell Island	Crake Island	Dry Island	Gibson Island	Gilbert Island	Helms Island	"Helms Islet 2"	Joe Smith Island	Keru Island	"Landscope Island"	Leo Island	"Leo Islet 1"	"Leo Islet 2"	Little North Island
ASTERACEAE																	
* *Aster subulatus*																	
Brachyscome ciliaris																	
* *Conyza albida*																	
* *Conyza bonariensis*		L															
Euchiton sphaericus																	
Gnaphalium indutum														B			
Olearia axillaris				B													
* *Pseudognaphalium luteoalbum*																	
* *Reichardia tingitana*				B^h													
Senecio lautus	B		JB	B	B			BB^h	J		K	BB^h		B			B
* *Sonchus oleraceus*	B	L	BB^h	B				B				BB^h	K	B			BB^h
* *Sonchus tenerrimus*				B										BB^h			
* *Urospermum picroides*	BB^h	L	B	BB^h				BB^h				BB^h					
* *Ursinia anthemoides*	B													B			
AVICENNIACEAE																	
Avicennia marina	JB			JB								JB					
BRASSICACEAE																	
* *Cakile maritima*	B		B	B				B				B		B			
* *Homungia procumbens*			BB^h											B			
Lepidium lyratogynum			B											BB^{h}L^h			BB^h
Lepidium puberulum	BB^h		BB^h	B				BB^h				BB^h		BB^{h}L^h			B
* *Raphanus raphanistrum*	BB^h																
* *Raphanus sativus*	BB^h																
* *Sisymbrium irio*																	
* *Sisymbrium orientale*																	
CACTACEAE																	
* *Opuntia stricta*																	
CAMPANULACEAE																	
Wahlenbergia gracilis																	
Wahlenbergia multicaulis																	
CARYOPHYLLACEAE																	
* *Petrorhagia velutina*																	
* *Polycarpon tetraphyllum*																	
* *Silene gallica*																	
* *Silene nocturna*	BB^h		B														
Spergularia nesophila																	
* *Spergularia rubra*																	

PLANT NAME	Little Rat Island	Little Roma Island	"Little Stokes Island"	Morley Island	"Nitraria Island"	Rat Island	Roma Island	Sandy Island	Serventy Island	Shearwater Island	"Shearwater Islet"	Stokes Island	Suomi Island	Tapani Island	White Bank	White Island	Wooded Island
ASTERACEAE																	
* *Aster subulatus*						QL^h											
Brachyscome ciliaris	L^h																
* *Conyza albida*						Q^h											
* *Conyza bonariensis*	L					Q	L										
Euchiton sphaericus						QQ^{h}L^h											
Gnaphalium indutum																	
Olearia axillaris																	
* *Pseudognaphalium luteoalbum*	L^h					L											
* *Reichardia tingitana*						Q											
Senecio lautus	Q			JB		Q			JB			J				JBB^h	QJ
* *Sonchus oleraceus*	L			JB	K	Q	L^h		B				QQ^h	K		B	J
* *Sonchus tenerrimus*																	
* *Urospermum picroides*				JB		Q			B							B	
* *Ursinia anthemoides*									B							B	
AVICENNIACEAE																	
Avicennia marina	L		L	JB					JBB^h				QJ				QX^{h}J
BRASSICACEAE																	
* *Cakile maritima*				JB		Q	L		B						L	B	QJ
* *Homungia procumbens*				JB					B								
Lepidium lyratogynum																BB^h	
Lepidium puberulum				JB					B							B	
* *Raphanus raphanistrum*	L^h					QQ^{h}L^h			B								
* *Raphanus sativus*																	
* *Sisymbrium irio*													Q				
* *Sisymbrium orientale*	L					Q											
CACTACEAE																	
* *Opuntia stricta*						L											
CAMPANULACEAE																	
Wahlenbergia gracilis						QQ^h											
Wahlenbergia multicaulis						N^h											
CARYOPHYLLACEAE																	
* *Petrorhagia velutina*						Q											
* *Polycarpon tetraphyllum*	L^h																
* *Silene gallica*																B	
* *Silene nocturna*	L			B					B								
Spergularia nesophila						QQ^h											
* *Spergularia rubra*	L						L^h										

TABLE 11b (continued)

PLANT NAME	ISLAND																																				
	Alexander Island	Bushby Island	Bynoe Island	Campbell Island	Crake Island	Dry Island	Gibson Island	Gilbert Island	Helms Island	"Helms Islet 2"	Joe Smith Island	Keru Island	"Landscope Island"	Leo Island	"Leo Islet 1"	"Leo Islet 2"	Little North Island	Little Rat Island	Little Roma Island	"Little Stokes Island"	Morley Island	"Nitraria Island"	Rat Island	Roma Island	Sandy Island	Serventy Island	Shearwater Island	"Shearwater Islet"	Stokes Island	Suomi Island	Tapani Island	White Bank	White Island	Wooded Island				
CHENOPODIACEAE																							X^h														
Atriplex bunburyana	BB^h		JB	JB	JB			BB^h	J		K	JB	K	JB			B				JB		QJL^h	L^h		JB	J		J	QJ	K		JB	X^hJ			
Atriplex cinerea																							L^h														
Atriplex paludosa subsp. *baudinii*		L				L	L								L	L		L	L						L			L			L						
Atriplex sp.																		L^h																			
* *Chenopodium album*	BB^h										K		K									K	QX^h											X^h			
* *Chenopodium murale*	B	L	B											B			L	L			B		QX^h	L									B	QJ			
Enchylaena tomentosa	B	J	B	B	B									JB				Q			JB		Q	L		L				QJ			B				
Halosarcia halocnemoides																		Q					QX^hL^h														
Halosarcia indica subsp. *bidens*																							Q														
Rhagodia sp.																		L^h					L^h														
Rhagodia preisii subsp. *obovata*			B	J	B									JB							JB		QX^h														
* *Salsola kali*	JB		B	JB	J	L		B				B		B				L		L	JB		X^h			JB	J		L	Q	K		B	X^h			
Sarcocornia quinqueflora																						K									K			X^h			
Suaeda australis	B	L	B	B				B			K	B		B			B	L			JB	K	X^h	L	L	B				Q			B	QJ			
Threlkeldia diffusa																										B											
COLCHICACEAE	B																																				
Wurmbea monantha																		L																			
CONVOLVULACEAE																							L														
* *Ipomoea calrica*																																					
CRASSULACEAE																							L														
* *Bryophyllum* sp.	BB^h		B	B								BB^h		B							JB		N^hL^h			B				Q			B				
Crassula colorata			B^h	B^h										B^hL^h																			B^h				
Crassula exserta																							Q														
CUCUBITACEAE																																					
* *Cucurbita pepo*																		L^h					Q														
EUPHORBIACEAE																		L^h					JL^h														
Euphorbia drummondii																																					
* *Euphorbia terracina*		L		BB^h														L					Q														
FRANKENIACEAE																																					
Frankenia pauciflora		L																L^h																			
GENTIANACEAE																																					
* *Centaurium erythraea*																		Q					Q														
GERANIACEAE																							Q														
* *Erodium cicutarium*																																					
Pelargonium zonale																																					

TABLE 11b (continued)

PLANT NAME	Alexander Island	Bushby Island	Bynoe Island	Campbell Island	Crake Island	Dry Island	Gibson Island	Gilbert Island	Helms Island	"Helms Islet 2"	Joe Smith Island	Keru Island	"Landscope Island"	Leo Island	"Leo Islet 1"	"Leo Islet 2"	Little North Island	Little Rat Island	Little Roma Island	"Little Stokes Island"	Morley Island	"Nitraria Island"	Rat Island	Roma Island	Sandy Island	Serventy Island	Shearwater Island	"Shearwater Islet"	Stokes Island	Suomi Island	Tapani Island	White Bank	White Island	Wooded Island
GOODENIACEAE																																		
Scaevola crassifolia				B																			L							Q				
JUNCAGINACEAE																																		
Triglochin tricophorum												N^{h}											Q			B								
MALVACEAE																																		
• *Lavatera cretica*																	B^{h}																B^{h}	
Lavatera plebeia	BB^{h}		B	B				B			K	B	K	B			B	Q					Q	L						Q			B	QJ
Lavatera sp.																												L						
• *Malva parviflora*																							L^{h}											
MYOPORACEAE																																		
Myoporum insulare	JB		JB	B	J		J	B			K	JB	K	B			B				JB	K	J	L	L	JB			J	Q	K		JB	QX^{h}J
PAPILIONACEAE																																		
• *Medicago polymorpha*																		L					Q							Q				
• *Medicago* sp.																							X^{h}											
• *Melilotus indicus*		L																L					QX^{h}L^{h}											
PLANTAGINACEAE																																		
• *Plantago coronopus*																		L^{h}																
PLUMBAGINACEAE																																		
Muellerolimon salicorniaceum																		L					QQ^{h}L^{h}											
POACEAE																																		
Austrostipa variabilis																																		
• *Avena barbata*																							Q											
• *Avena fatua*	B																							L										J
• *Avena* sp.		L																Q					Q			B				Q				Q
Bromus arenarius	B		BB^{h}	B								B		B			B	L			JB		Q			B				Q			B	N^{h}
• *Bromus diandrus*	BB^{h}			B				BB^{h}						B																				J
Bromus sp.				B^{h}																														
• *Cynodon dactylon*																							Q											Q
• *Cynodon* sp.																							X^{h}											
• *Ehrharta longiflora*	BB^{h}	L	B	BB^{h}				B									BB^{h}	L			JB		L			B							BB^{h}	J
Eragrostis dielsii																		L					QQ^{h}											
• *Hordeum leporinum*	BB^{h}																																	
• *Lolium temulentum*				B										B									Q											
• *Parapholis incurva*			BB^{h}	B								B		B							B			L										
• *Pennisetum clandestinum*																		L																
• *Phalaris minor*	BB^{h}																				B					B				Q				
• *Rostraria cristata*			B																							BB^{h}								

TABLE 11b (continued)

PLANT NAME	ISLAND																																		
	Alexander Island	Bushby Island	Bynoe Island	Campbell Island	Crake Island	Dry Island	Gibson Island	Gilbert Island	Helms Island	"Helms Islet 2"	Joe Smith Island	Keru Island	"Landscope Island"	Leo Island	"Leo Islet 1"	"Leo Islet 2"	Little North Island	Little Rat Island	Little Roma Island	"Little Stokes Island"	Morley Island	"Nitraria Island"	Rat Island	Roma Island	Sandy Island	Serventy Island	Shearwater Island	"Shearwater Islet"	Stokes Island	Suomi Island	Tapani Island	White Bank	White Island	Wooded Island
Setaria dielsii	B	L	B			L		BB^{h}				BB^{h}					L^{h}	L^{h}			B		QQ^{h}X^{h}L^{h}	L										
Spinifex longifolius			JB	JB				B				B		JBB^{h}							JB		Q		L	JB				Q		L	B	QJ
* *Vulpia myuros*																		L					N^{h}			B								
POLYGONACEAE																																			
* *Emex australis*																							J												
PRIMULACEAE																																			
* *Anagallis arvensis*	BB^{h}	L																L					QQ^{h}			B								
RUTACEAE																																			
Diplolaena grandiflora																		L					QQ^{h}X^{h}N^{h}											
SOLANACEAE																																			
* *Lycium ferocissimum*																																			QF
* *Lycopersicon esculentum*																							Q	L											
Nicotiana occidentalis subsp. *hesperis*	B																				JB												BB^{h}	Q^{h}
* *Solanum nigrum*		L																L					L	L										
URTICACEAE																																			
Parietaria cardiostegia			B^{h}									B^{h}																							
Parietaria debilis	B		B									B		B			B				B		Q										B	
ZYGOPHYLLACEAE																																			
Nitraria billardierei	JB	L	B	JB	JB	L	L	JB	J		K	B	K	JB	L	L	B	L			JB	K	QJ	L		JB	J	L	J	Q	K	L	B	QX^{h}J

TABLE 11c

List of vascular plants found in the Pelsaert Group of the Abrolhos islands, showing occurrence on each island. Introduced/naturalized species are denoted by an asterisk. Letters denote recordings of the species by researchers (see Table 12, p. 574); letters followed by the superscript "h" indicate that the researcher has lodged specimens at the Western Australian Herbarium.

Further details for some of the species follow.

**Anagallis arvensis* found by Aquinas on Middle and Pelsaert Islands is **A. arvensis* var. *caerulea* (WAHerb records).

Frankenia pauciflora variants with different-coloured flowers were noted by O'Loughlin (1969).

PLANT NAME	ISLAND																																						
	Arthur Island	Basile Island	Burnett Island	Burton Island	Coronation Island	Davis Island	Eight Island	Foale Island	Gaze Island	*Gaze Islet 1*	Gregory Island	Gun Island	*Gun Islet*	Hummock Island	Iris Refuge Island	Jackson Island	Jon Jim Island	Lagoon Island	*Little Jackson Island*	Middle Island	Murray Island	Newman Island	Nook Island	One Island	Pelsaert Island	Post Office Island	Robertson Island	Rotondella Island	Sandy Island	Seven Island	*Seven Islet*	Ship Rock	Sid Liddon Island	Square Island	Stick Island	Sweet Island	The Coral Patches	Three Island	Travia Island	Two Island	Uncle Margie Island
AIZOACEAE																																								
Carpobrotus virescens	L		B	B	B	L	K					Q	L	J		B	A	K	B	QJ	Q		J	L	W*QAJB	B		L							L		K		L	
* *Mesembryanthemum crystallinum*		B	B	B		L	K	L				Q		L		B	QA	K	B	Q	Q	B	J	L	QAJB			B	L	L	L	L	L	Q		L	L	K		L	B
APIACEAE																																								
Apium prostratum																				Q																				
Daucus glochidiatus																				T[h]																				
Hydrocotyle diantha		T																		QT[h]																				
ASCLEPIADACEAE																																								
Sarcostemma viminale subsp. *australe*		T																		QJT[h]																				
ASPHODELACEAE																																								
Bulbine semibarbata																				QT[h]					A															
ASTERACEAE																																								
Actites megalocarpa																									A															
* *Erigeron karvinskianus*												Q									Q																				
* *Hypochaeris glabra*		B																																						
* *Reichardia tingitana*		B[h]																		T																				
Senecio lautus		B	B	B	B									J		B		K	B	QT		B			QAB	BT		B					QJ	B			K			
* *Sonchus oleraceus*		B	BB[h]	B	B											B		K	B			B			AB	BT		B				L	Q	B					B
* *Sonchus tenerrimus*			B	B			K																			B													
* *Urospermum picroides*			B	B								T																												B
* *Ursinia anthemoides*		B	B																							B													B
AVICENNIACEAE																																								
Avicennia marina		JB	JB	B	JB				K						L	B			B			JB			Z[h]QAJB	JB	L										K		JB
BRASSICACEAE																																								
* *Cakile maritima*		B		B	B															T		B			QAB	B		B	L				Q	B						B
* *Homungia procumbens*				B																					A														
Lepidium pseudoruderale			B	B	B											B			B			B			A	B								Q						
* *Raphanus raphanistrum*		B										Q									Q				Q	B														
* *Raphanus sativus*		B	BB[h]																						A	T														
* *Sisymbrium orientale*			BB[h]																																					
CACTACEAE																																								
* *Opuntia stricta*		J																																						
CARYOPHYLLACEAE																																								
* *Cerastium glomeratum*							K																														K			
* *Polycarpon tetraphyllum*		BB[h]														B																									
* *Spergularia diandra*												L																													
* *Spergularia rubra*																									A												K			

TABLE 11c (continued)

PLANT NAME	Arthur Island	Basile Island	Burnett Island	Burton Island	Coronation Island	Davis Island	Eight Island	Foale Island	Gaze Island	"Gaze Islet 1"	Gregory Island	Gun Island	"Gun Islet"	Hummock Island	Iris Refuge Island	Jackson Island	Jon Jim Island	Lagoon Island	"Little Jackson Island"	Middle Island	Murray Island	Newman Island	Nook Island	One Island	Pelsaert Island	Post Office Island	Robertson Island	Rotondella Island	Sandy Island	Seven Island	"Seven Islet"	Ship Rock	Sid Liddon Island	Square Island	Stick Island	Sweet Island	The Coral Patches	Three Island	Travia Island	Two Island	Uncle Margie Island
CHENOPODIACEAE																																									
Atriplex amnicola												Q									Q				Q																
Atriplex cinerea		B	B	B	B		K		K			Q		J		B	Q	K	B	Q	Q	B	J		QJB	BT		B						QJ	JB			K			
Atriplex sp.	L					L		L		L	L		L		L		A							L	A		L			L	L		L			L	L		L	L	
* *Chenopodium murale*				BB^h								Q							BB^h						QAB									Q							B
Enchylaena tomentosa		B	B	B		L	K					Q					QA	K	B	Q	Q				QAB	B						L		Q				L			B
Halosarcia halocnemoides	L	B	BL^h	B	B	L			K	L	L		L			B		K	B			B	L	L	AB	BT		B		L						L		K	L	L	B
Halosarcia indica subsp. *bidens*																		K							QA																
* *Salsola kali*		B			B																				QAB										B						
Sarcocornia quinqueflora	L	JB	B		B				K	L				L		B			B			B			AJB	B										L			K		B
Sclerostegia arbuscula												Q								Q	Q				Q																
Suaeda australis																						B^h			QA																
Threlkeldia diffusa		B	B	B	B		K		K							B	A	K	B			B			V^hQAB	B		B	L^h					Q	B			K	K		B
CRASSULACEAE																																									
Crassula colorata		BT		B																Q					A										B						
EUPHORBIACEAE																																									
Euphorbia drummondii																				Q																					
Euphorbia tannensis																				Q																					
FRANKENIACEAE																																									
Frankenia pauciflora						L						QT								Q	Q				QAB											L					
GENTIANACEAE																																									
* *Centaurium spicatum*		T										T													A																
GERANIACEAE																																									
* *Erodium cicutarium*																				Q					AB									Q							
GOODENIACEAE																																									
Scaevola crassifolia																									QAB																
JUNCAGINACEAE																																									
Triglochin mucronatum												T								Q					AA^h													K			
Triglochin trichophorum																									A																
MALVACEAE																																									
Lavatera plebeia		BT	B	B	B							T				B			B	QT		B			QAB	T								Q							
* *Malva parviflora*																						B^h											L								
MYOPORACEAE																																									
Eremophila glabra		T																		Q																					
Myoporum insulare	L	B	B	B	B							L				B		K	B	JT		B			QAJB	B		L							JB				L		B
PAPILIONACEAE																																									
* *Medicago polymorpha*																									A																
* *Melilotus indicus*		BB^h										QT^h													A	T															
PITTOSPORACEAE																																									
Pittosporum phylliraeoides																				Q																					
PLANTAGINACEAE																																									
Plantago debilis																				Q																					

TABLE 11c (continued)

PLANT NAME	ISLAND	Arthur Island	Basile Island	Burnett Island	Burton Island	Coronation Island	Davis Island	Eight Island	Foale Island	Gaze Island	"Gaze Islet 1"	Gregory Island	Gun Island	"Gun Islet"	Hummock Island	Iris Refuge Island	Jackson Island	Jon Jim Island	Lagoon Island	"Little Jackson Island"	Middle Island	Murray Island	Newman Island	Nook Island	One Island	Pelsaert Island	Post Office Island	Robertson Island	Rotondella Island	Sandy Island	Seven Island	"Seven Islet"	Ship Rock	Sid Liddon Island	Square Island	Stick Island	Sweet Island	The Coral Patches	Three Island	Travia Island	Two Island	Uncle Margie Island
PLUMBAGINACEAE																					Q																						
Muellerolimon salicorniaceum																																										
POACEAE																					Q																						
Austrostipa elegantissima																										A																
• *Avena barbata*			B																							B																
• *Avena fatua*			B	B	B																					B																
Bromus arenarius				B	B	B																				B																
• *Bromus diandrus*			BT		B			K															B			B								B								
• *Bromus hordeaceus*																					Q					QA								Q					K			
• *Bromus rubens*			B?	B?																																						
Bromus sp.													L									L			L																B?	
• *Ehrharta brevifolia*																								L		A					L											
• *Ehrharta calycina*			T																																							
• *Ehrharta longiflora*			B		B			K					T[h]				B						B			A															BB[h]	
Eragrostis dielsii																										A																
• *Hordeum leporinum*			BB[h]																																							
• *Lolium perenne*			BB[h]																																							
• *Lolium rigidum*																										A																
• *Lolium temulentum*																																										
• *Parapholis incurva*																																				B?						
• *Phalaris canariensis*																											T															B
• *Phalaris minor*			B	B	B																						BB[h]															
• *Phleum pratensis*													L																													B
Setaria dielsii				B	B								T[h]								Q		B			QAB								Q					K			
Spinifex longifolius					B	B									J						T					V[h]QAJB	B								JB							
Sporobolus virginicus																					Q																					
PORTULACACEAE																													B														
Calandrinia calyptrata																																										B	
PRIMULACEAE																					Q					QA																
• *Anagallis arvensis*													T																														
PROTEACEAE																																										
Grevillea argyrophylla			T																			QT[h]	L[h]																			
RUTACEAE																																										
Diplolaena grandiflora													Q																													
SOLANACEAE																																										
• *Lycium ferocissimum*			F				E	FK					F													BF					F			EF			EF		EFK		
• *Lycopersicon esculentum*																	B				Q																				
Nicotiana occidentalis subsp. *hesperis*																					Q					A																
• *Solanum nigrum*								K					T																													
URTICACEAE																																										
Parietaria cardiostegia					B[h]																																					
Parietaria debilis			B	B	B	B											B	A		B	Q		B			QAB	B								Q	B						
ZYGOPHYLLACEAE																																										
Nitraria billardierei		L	JB	B	B	JB		K					L	Q	L	J	L	B	QA	K	B	QT	Q	B	J	QAJB	BT		B		L	L	L	L	Q	B	L	L	K	L	B

TABLE 12

Key to accompany the plant species lists (Table 11). The list of islands visited by each worker only includes islands on which they collected flora or vegetation information.

CODE	RESEARCHER	REFERENCE	CURRENT ISLAND NAME	DATE ISLAND WAS VISITED
A, A[h]	I. Abbott	Abbott (1980), WAHerb records	Akerstrom, Alcatraz, Barge Rock, Beacon, East Wallabi, Little Pigeon, Long, Marinula, Oystercatcher, Pigeon, Plover, Seagull, Shag Rock, Tattler, Turnstone, "Eagle Point Islet", "East Mangrove", Jon Jim, Pelsaert Islands	9/10/1975–4/11/1975
B	J. Harvey	Harvey diaries	Pelsaert Island	February 1984
B, B[h]	J. Harvey and J. Alford	WAHerb records	Alexander, Basile, Burnett, Burton, Bynoe, Campbell, Coronation, Crake, Dakin, Dick, Eastern, East Wallabi, "G Island", Gilbert, Hall, Jackson, Keru, Leo, "Little Jackson Island", Little North, Morley, Newman, Pelsaert, Pigeon, Post Office, Rotondella, Saville-Kent, Seal, Serventy, Stick, Uncle Margie, West Wallabi, White Islands	1/10/1987–7/10/1987
C[h]	E.M. Scrymgeour	WAHerb records	Seal Island	4/09/1963
E	Geraldton College of TAFE	Geraldton Regional College of TAFE (1997)	Davis, Sid Liddon, Sweet, Three Islands	21/6/1997–28/6/1997
F	P. Fuller and A. Burbidge	P. Fuller and A. Burbidge diaries	Wooded, Arthur, Eight, Gun, Pelsaert, Seven, Sid Liddon, Sweet, Three, Two Islands	1990–1997 (see Table 5 on p. 550 for more specific dates)
G[h]	M.E. Gillham	WAHerb records	East Wallabi, West Wallabi Islands	7/09/1959-10/09/1959
H[h]	A.M. Ashby	WAHerb records	East Wallabi Island	19/07/1970
J	R.E. Johnstone	Johnstone diaries, Johnstone and Coate (1992), Johnstone (1992), Johnstone and Storr (1994)	Morley, Pelsaert, Rat, Wooded Islands Alexander, Basile, Beacon, Leo, Long, Nook, Pelsaert, Post Office, Serventy, Wooded Islands North Island Akerstrom, Campbell, Gibson, Long, Morley, Newman, Rat, Serventy, Suomi, West Wallabi Islands Alcatraz, Alexander, Basile, Beacon, Burnett, Bushby, Bynoe, Coronation, Crake, Dakin, Dick, Eastern, East Wallabi, Gilbert, Hall, Helms, Hummock, Keru, Little Pigeon, Little Roma, Long, Middle, Morley, Newman, Pigeon, Rat, Saville-Kent, Seagull, Seal, Serventy, Shearwater, Square, Stick, Stokes, Suomi, Uncle Margie, West Wallabi, White, Wooded Islands	21/08/1977–24/08/1977 4/05/1981–7/05/1981 8/05/1981–9/05/1981 6/10/1981–8/10/1981 11/08/1983–18/08/1983
K	K. Coate	Coate diaries, Kenneally *et al.* (1999)	Eight, First Sister, Gaze, Joe Smith, Lagoon, "Landscope", "Naturalist", "Nitraria", Second Sister, Shag Rock, Tapani, "Tectus", Third Sister, Three, Traitors, Travia, Wann, West Wallabi Islands	17/02/1999–20/02/1999

L, L[h]	J. Harvey and V. Longman		All islands and islets of Wallabi Group (except "Far Islet 1" and "Far Islet 2") – see Table 6 on pp. 551–556	17/11/1999–21/11/1999
			Bushby, Leo, "Leo Islet 1", Little Rat, Rat, Roma Islands	22/11/1999
L, L[h]	P. Fuller and J. Blyth		Alexander, "Alexander Islet", Bynoe, Campbell, Crake, Disappearing, Dry, Gibson, Gilbert, Helms, "Helms Islet 2", Joe Smith, Keru, "Landscope", "Leo Islet 2", Little North, Little Roma, "Little Stokes", "Nitraria", Sandy, Serventy, Shearwater, "Shearwater Islet", Stokes, Suomi, Tapani, White Bank, White Islands	23/11/1999–25/11/1999
			Arthur, Basile, Burnett, Burton, Coronation, Davis, Eight, Foale, Gaze, "Gaze Islet 1", Gregory, Gun, "Gun Islet", Hummock, Iris Refuge, Jackson, Lagoon, "Little Jackson", Murray, Newman, Nook, One, Pelsaert, Post Office, Robertson, Rotondella, Sandy, Seven, "Seven Islet", Ship Rock, Sid Liddon, Square, Stick, Sweet, The Coral Patches, Three, Travia, Two, Uncle Margie Islands	26/11/1999–30/11/1999
M[h]	A.R. Main	WAHerb records	East Wallabi Island	13/02/1963, 15/12/1968, December 1968
N[h]	N. Sammy	WAHerb records	Rat, Keru, Wooded Islands	29/08/1972, 31/08/1972, 2/09/1972, 3/09/1972
Q, Q[h]	Aquinas College first expedition	O'Loughlin (1965)	Long Island	24/08/1964–31/08/1964
	Aquinas College second expedition	O'Loughlin (1966)	Eastern Island	23/08/1965–31/08/1965
	Aquinas College third and fourth expeditions	O'Loughlin (1969)	Gun, Jon Jim, Middle, Murray, Pelsaert, Square Islands	third expedition 24/08/1966–1/09/1966; fourth expedition 2/01/1968–12/01/1968
	Aquinas College fifth expedition	Green (1972), WAHerb records	Little Rat, Rat, Suomi, Wooded Islands	22/08/1970–28/08/1970
R[h]	J.W. Green	WAHerb records	East Wallabi, Seal Islands	6/04/1978–7/04/1978
S, S[h]	G.M. Storr	Storr (1960, 1965), WAHerb records	North Island	16/04/1959–22/04/1959, 21/06/1959–25/06/1959, 2/09/1959–12/09/1959, 22/04/1960–27/04/1960
T, T[h]	P. Roberts	Roberts* (personal communication), WA Herb records	Gun, Middle, Post Office and Basile Islands	11/09/1988
V[h]	D.L. Serventy	WAHerb records	Pelsaert Island	4/11/1943
W[h]	W.B. Alexander	WAHerb records	North, East Wallabi, Pelsaert Islands	November 1913
X[h]	A.S. George	WAHerb records	Rat, Wooded Islands	13/05/1972–16/05/1972
Y[h]	R.D. Royce	WAHerb records	East Wallabi Island	13/05/1960
Z[h]	G.G. Smith	WAHerb records	Pelsaert Island	September 1947

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TABLE 13

Specimens lodged at the Western Australian Herbarium with incomplete collection location descriptions (WAHerb).

Where other specimens of exactly the same taxon and with known collection locations have been recorded or lodged (see Table 11, p. 559) they are indicated on the table below (with W, E or P to show the island group); similarly, when these are the only recording of this species they are recorded in the table as 'not recorded elsewhere'.

PLANT NAME	COLLECTOR	DATE ON SPECIMEN	ISLAND DESCRIPTION	COLLECTED OR RECORDED IN WALLABI, EASTER OR PELSAERT GROUPS BY OTHER WORKERS		
AIZOACEAE						
Carpobrotus sp.	Aquinas College Expedition	August 1972	Easter Group		E	
Carpobrotus virescens	N. Sammy	30/08/72	Island S of Island , No. 20 Easter Group	W	E	P
AMARANTHACEAE						
Ptilotus divaricatus var. *divaricatus*	W.B. Alexander	1/11/13	Wallabi Island	W		
APIACEAE						
Daucus glochidiatus	Aquinas College Expedition	30/08/72	Island No. 20. Easter Group	W	E	P
APOCYNACEAE						
Alyxia buxifolia	A.R. Main	1/10/63	Wallabi Island	W		
ASCLEPIADACEAE						
Sarcostemma viminale ssp. *australe*	R. Helms	Nov 1897	Abrolhos Islands	W		P
ASTERACEAE						
Gnaphalium indutum	N. Sammy	31/08/72	Easter Group	W	E	
Podotheca angustifolia	G.M. Storr	6/09/59	Houtman Abrolhos	W		
**Pseudognaphalium luteo-album*	R. Helms	Nov 1897	Abrolhos Islands	W	E	
Senecio lautus ssp. *dissectifolius*	Aquinas College Expedition	1/08/65	Wallabi Group	W		
Senecio lautus ssp. *dissectifolius*	R. Helms	Nov 1897	Abrolhos Islands	W		
AVICENNIACEAE						
Avicennia marina	R. Helms	Nov 1897	Abrolhos Islands	W	E	P
BRASSICACEAE						
**Hornungia procumbens*	R. Helms	Nov 1897	Abrolhos Islands	W	E	P
**Hornungia procumbens*	N. Sammy	30/08/72	Island 20, Easter Group	W	E	P
Lepidium puberulum	Aquinas College Expedition	1/08/65	Wallabi Group	W	E	
CAPPARACEAE						
Capparis spinosa	Dr Stubbe	1/11/32	Abrolhos Islands	W		
CHENOPODIACEAE						
Atriplex cinerea	R. Helms	Nov 1897	Abrolhos Islands	W	E	P
Atriplex paludosa ssp. *baudinii*	R. Helms	Nov 1897	Abrolhos Islands	W	E	
Enchylaena tomentosa	R. Helms	Nov 1897	Abrolhos Islands	W	E	P
Halosarcia halocnemoides	N. Sammy	30/08/72	Island 20, Easter Group	W	E	P
Threlkeldia diffusa	N. Sammy	30/08/72	Island 20, Easter Group	W	E	P
Threlkeldia diffusa	Aquinas College Expedition	Aug 1972	Island south of Island 20	W	E	P
Threlkeldia diffusa	R. Helms	Nov 1897	Abrolhos Islands	W	E	P
COLCHICACEAE						
Wurmbea monantha	Aquinas College Expedition	1/08/72	Easter Group	W	E	
Wurmbea monantha	N. Sammy	1/08/72	Island 20	W	E	
CUNONIACEAE						
Aphanopetalum clematideum	A.R. Main	1/10/63	Wallabi Island	W		
EUPHORBIACEAE						
Euphorbia drummondii	R. Helms	Nov 1897	Abrolhos Islands	W	E	P
Phyllanthus calycinus	A.R. Main	1/10/63	Wallabi Island	W		

TABLE 13 (continued)

PLANT NAME	COLLECTOR	DATE ON SPECIMEN	ISLAND DESCRIPTION	COLLECTED OR RECORDED IN WALLABI, EASTER OR PELSAERT GROUPS BY OTHER WORKERS
GENTIANACEAE				
**Centaurium spicatum*	R. Helms	Nov 1897	Abrolhos Islands	W P
GOODENIACEAE				
Scaevola crassifolia	W.B. Alexander	1/11/13	Wallabi Group	W E P
Scaevola cunninghamii	W.B. Alexander	1/11/13	Wallabi Group	not recorded elsewhere
Scaevola spinescens	W.B. Alexander	1/11/13	Wallabi Group	not recorded elsewhere
JUNCACEAE				
Juncus sp.	Aquinas College Expedition	1/08/72	Easter Group	W
MALVACEAE				
Lavatera plebeia	R. Helms	Nov 1897	Abrolhos Islands	W E P
MIMOSACEAE				
Acacia didyma	A.R. Main	1/10/63	Wallabi Island	W
MYOPORACEAE				
Myoporum insulare	R. Helms	Nov 1897	Abrolhos Islands	W E P
MYRTACEAE				
Eucalyptus oraria	D.L. Serventy		Wallabi Island	W
ORCHIDACEAE				
Prasophyllum calcicola	N. Sammy	28/09/72	Island 20, Easter Group	not recorded elsewhere
Prasophyllum calcicola	Aquinas College		Island 20, Easter Group	not recorded elsewhere
PAPILIONACEAE				
**Melilotus indicus*	Aquinas College Expedition	1/08/65	Wallabi Group	W E P
Swainsona calcicola	W.B. Alexander	1/11/13	Abrolhos Islands	not recorded elsewhere
PITTOSPORACEAE				
Marianthus candidus	Gilbert	1842	South Island	not recorded elsewhere
Pittosporum phylliraeoides var. *phylliraeoides*	R. Helms	Nov 1897	Abrolhos Islands	W
PLUMBAGINACEAE				
Muellerolimon salicorniaceum	Aquinas College Expedition	1/08/65	Wallabi Group	W E P
Muellerolimon salicorniaceum	R. Helms	Nov 1897	Abrolhos Islands	W E P
POACEAE				
Austrostipa elegantissima	A.R. Main	1/10/63	Wallabi Island	W P
Austrostipa elegantissima	R. Helms	Nov 1897	Abrolhos Islands	W P
Bromus arenarius	R. Helms	Nov 1897	Abrolhos Islands	W E P
**Hordeum leporinum*	N. Sammy	30/08/72	Island 21, Easter Group	W E P
Setaria dielsii	R. Helms	Nov 1897	Abrolhos Islands	W E P
Setaria dielsii	Aquinas College Expedition	1/08/65	Abrolhos Islands	W E P
Spinifex longifolius	R. Helms	Nov 1897	Abrolhos Islands	W E P
PROTEACEAE				
Grevillea argyrophylla	A.R. Main	1/10/63	Wallabi Island	W P
SAPINDACEAE				
Dodonaea bursariifolia	A.R. Main	1/10/63	Wallabi Island	not recorded elsewhere
Dodonaea inaequifolia	A.R. Main	1/10/63	Wallabi Island	W
SOLANACEAE				
Nicotiana occidentalis ssp. *hesperis*	Aquinas College Expedition	1/08/65	Wallabi Group	W E P
STERCULIACEAE				
Lasiopetalum angustifolium	A.R. Main	1/10/63	Wallabi Island	W

TABLE 14
Changes and corrections to plant names.

NAME PROGRESSION			REFERENCE
NAME 1	NAME 2	NAME 3	
Acacia bivenosa	*Acacia didyma*		Storr (1965), Abbott (1980)
Actinobole uliginosum	*Actinobole condensatum*		Abbott (1980)
**Anagallis femina*	** Anagallis arvensis*		Storr (1965)
Anguillaria dioica	*Wurmbea dioica*	*Wurmbea monantha*	Storr (1965)
Apium australe	*Apium annuum*		Storr (1965), Abbott (1980)
Arthrocnemum arbuscula	*Sclerostegia arbuscula*		Storr (1965), Abbott (1980)
Arthrocnemum arbusculum	*Sclerostegia arbuscula*		O'Loughlin (1969)
Arthrocnemum bidens	*Halosarcia indica* ssp. *bidens*		O'Loughlin (1969), Green (1972), Abbott (1980)
Arthrocnemum halocnemoides	*Halosarcia halocnemoides*		Storr (1965), Green (1972), Abbott (1980)
Atriplex rhagodioides	*Atriplex amnicola*		O'Loughlin (1969)
Bossiaea rufa var. *foliosa*	*Bossiaea spinescens*		Storr (1965), Abbott (1980)
Brachycome ciliaris	*Brachyscome ciliaris*		Storr (1965)
Brachycome iberidifolia	*Brachyscome iberidifolia*		Storr (1965)
**Bromus gussonii*	** Bromus diandrus*		O'Loughlin (1965)
**Bromus molliformis*	** Bromus hordeaceus*		Storr (1965)
Bromus mollis	** Bromus hordeaceus*		O'Loughlin (1966), O'Loughlin (1969)
Bulbinopsis semibarbata	*Bulbine semibarbata*		Green (1972), Abbott (1980)
Calocephalus aeruoides	*Calocephalus aervoides*		Storr (1965)
**Carpobrotus aequilaterus*	*Carpobrotus virescens*		Storr (1965), O'Loughlin (1965, 1966, 1969)
Chenopodium carinatum	*Chenopodium melanocarpum*		Storr (1965), Abbott (1980)
Chenopodium plantaginellum	*Dysphania plantaginella*		Storr (1965), Abbott (1980)
**Cryophytum crystallinum*	** Gasoul crystallinum*	** Mesembryanthemum crystallinum*	Storr (1965), O'Loughlin (1965, 1966, 1969)
Danthonia caespitosa	*Notodanthonia caespitosa*	*Austrodanthonia caespitosa*	Storr (1965)
Didiscus pilosus	*Trachymene pilosa*		Storr (1965)
Diplolaena dampieri	*Diplolaena grandiflora*		Storr (1965), O'Loughlin (1969), Abbott (1980), Johnstone and Storr (1994)
Disphyma blackii	*Disphyma crassifolium* ssp. *clavellatum*		Green (1972)
Erigeron crispis	** Erigeron karvinskianus*		O'Loughlin (1969)
**Erythraea centaurium*	** Centaurium spicatum*		Storr (1965)
Euphorbia clutioides	*Euphorbia tannensis*		Storr (1965), O'Loughlin (1969)
Exocarpos aphylla	*Exocarpos aphyllus*		Storr (1965), O'Loughlin (1965), Abbott (1980)
Exocarpos spartea	*Exocarpos sparteus*		Storr (1965)
Frankenia panciflora	*Frankenia pauciflora*		O'Loughlin (1969)
Galium sp.	*Galium migrans*		Storr (1965), Abbott (1980)
**Gasoul crystallinum*	** Mesembryanthemum crystallinum*		Abbott (1980)
Gnaphalodes uligulosus	*Actinobole condensatum*		Storr (1965)
Gnaphalium involucratum	*Gnaphalium sphaericum*	*Euchiton sphaericus*	Green (1972)
**Gnaphalium luteo-album*	** Pseudognaphalium luteoalbum*		Storr (1965)
Hibbertia subvaginata	*Hibbertia racemosa*		Storr (1965), Abbott (1980), Johnstone and Storr (1994)
**Hymenolobus procumbens*	** Hornungia procumbens*		Storr (1965), O'Loughlin (1966), Abbott (1980)
**Koeleria phleoides*	** Trisetaria cristata*	** Rostraria cristata*	Storr (1965)
Lavatera plebeja	*Lavatera plebeia*		Storr (1965)
Limonium salicorniaceum	*Muellerolimon salicorniaceum*		Storr (1965), O'Loughlin (1969), Green (1972), Abbott (1980)
Lolium loliaceum	** Lolium rigidum*		Abbott (1980)
**Lophochloa cristata*	** Trisetaria cristata*	** Rostraria cristata*	Abbott (1980)
**Lycopersicon lycopersicum*	** Lycopersicon esculentum*		Green (1972)
**Medicago polymorpha* ssp. *vulgaris*	** Medicago polymorpha* var. *vulgaris*	** Medicago polymorpha*	Green (1972)
**Melilotus indica*	** Melilotus indicus*		O'Loughlin (1969), Green (1972), Abbott (1980).

TABLE 14 (continued)

NAME PROGRESSION			REFERENCE
NAME 1	NAME 2	NAME 3	
Microtis unifolia	*Microtis media*		Storr (1965), Abbott (1980)
Myoporum adscendens	*Myoporum insulare*		Green (1972), Abbott (1980)
Nicotiana hesperis	*Nicotiana occidentalis* ssp. *hesperis*		O'Loughlin (1969)
Nicotiana rotundifolia	*Nicotiana occidentalis* ssp. *hesperis*		Storr (1965), Abbott (1980), Johnstone (1992)
Nitraria schoberi	*Nitraria billardierei*		Storr (1965), O'Loughlin (1965, 1966, 1969) Abbott (1980)
**Petrorhagia prolifera*	** Petrorhagia velutina*		Green (1972)
**Picris hieracioides*	** Urospermum picroides*		Storr (1965), Abbott (1980)
Pimelea microphylla	*Pimelea microcephala*		Abbott (1980)
Pittosporum phillyreoides	*Pittosporum phylliraeoides*		Storr (1965)
Plantago varia	*Plantago debilis*		Storr (1965), O'Loughlin (1969), Abbott (1980)
Poa caespitosa	*Poa poiformis*		Storr (1965)
Podosperma angustifolium	*Podotheca angustifolia*		Storr (1965)
Polypogon monspeiliensis	*Polypogon monspeliensis*		O'Loughlin (1965)
Ptilotus eriotrichum	*Ptilotus eriotrichus*		Abbott (1980)
Ranunculus parviflorus	*Ranunculus sessilflorus*		Storr (1965), Abbott (1980)
Salicornia sp.	*Sarcocornia quinqueflora*		Green (1972)
Salicornia australis	*Sarcocornia quinqueflora*		Storr (1965), O'Loughlin (1965)
Sarcocornia blackiana	*Sarcocornia quinqueflora*		Johnstone (1992)
Sarcocornia sp.	*Sarcocornia quinqueflora*		Abbott (1980)
Sarcostemma australe	*Sarcostemma viminale* ssp. *australe*		Storr (1965), O'Loughlin (1969), Abbott (1980), Johnstone and Storr (1994)
**Scirpus antarcticus*	** Isolepis marginata*		Storr (1965)
Senecio brachyglossus	*Senecio glossanthus*		Storr (1965), Abbott (1980)
Sonchus megalocarpus	*Actites megalocarpa*		O'Loughlin (1965)
**Spergularia rubra*	*Spergularia nesophila*		Green (1972)
Spinifex longifolia	*Spinifex longifolius*		O'Loughlin (1965)
Stipa crinita	*Austrostipa crinita*		Storr (1965)
Stipa elegantissima	*Austrostipa elegantissima*		Storr (1965), O'Loughlin (1969), Abbott (1980)
Stipa flavescens	*Austrostipa flavescens*		Abbott (1980)
Stipa variabilis	*Austrostipa variabilis*		Storr (1965), Green (1972)
Suaeda maritima	*Suaeda australis*		O'Loughlin (1965, 1969)
**Tetragonia zeyheri*	** Mesembryanthemum crystallinum*		Green (1972) - an incorrect identification of the plant photographed on page 76
**Tetragonia zeyheri*	** Tetragonia decumbens*		Johnstone and Coate (1992)
Thelkeldia diffusa	*Threlkeldia diffusa*		O'Loughlin (1965)
Thysanotus patersoni	*Thysanotus patersonii*		Storr (1965)
Trichinium obovatum	*Ptilotus obovatus*		Storr (1965)
Trichinium divaricatum	*Ptilotus divaricatus*		Storr (1965)
Trichinium eriotrichum	*Ptilotus eriotrichus*		Storr (1965)
Triglochin mucronata	*Triglochin mucronatum*		Storr (1965), O'Loughlin (1969), Abbott (1980)
Triglochin trichophora	*Triglochin trichophorum*		Storr (1965), Green (1972), Abbott (1980)
Vittadinia triloba	*Vittadinia cuneata* var. *cuneata*		Storr (1965), Abbott (1980)
Zygophyllum apiculatum	*Zygophyllum simile*		Storr (1965), Abbott (1980)

TABLE 15

Numbers of native and introduced species for each island of the Abrolhos, and a comparison of these numbers with occupation and mining disturbance for each island. Species information is not included for islands whose vegetation information resulted only from aerial photo interpretation. A note is made when a comprehensive flora survey has not been undertaken for a particular island. For this table, a species is defined as a taxon as appearing in Table 11 (p. 559). The percentage introduced is a measure of the proportion of weeds to total species on the island.

ISLAND NAME	NATIVE SPECIES	INTRODUCED SPECIES	TOTAL SPECIES	PERCENTAGE INTRODUCED	GUANO MINING	OCCUPIED BUILDINGS	FLORA SURVEY COMPLETENESS
WALLABI GROUP							
Akerstrom Island	23	4	27	15%			
Alcatraz Island	9	7	16	44%	✓	✓	
Barge Rock	11	7	18	39%			
Beacon Island	15	15	30	50%		✓	
Dakin Island	12	2	14	14%			
Dick Island	17	4	21	19%			
"Eagle Point Islet"	19	3	22	14%			
Eastern Island	18	7	25	28%			
"East Mangrove Island"	8	2	10	20%			
East Wallabi Island	98	26	124	21%			
Far Island	1	0	1	0%			
"Far Islet 1"	aerial photograph interpretation only						not comprehensive
"Far Islet 2"	aerial photograph interpretation only						not comprehensive
First Sister	13	3	16	19%			
"First Sister Islet"	4	1	5	20%			
"G Island"	4	0	4	0%			
Hall Island	4	1	5	20%			
Little Pigeon Island	24	17	41	41%	✓	✓	
Long Island	23	10	33	30%			
Marinula Island	15	2	17	12%			
"Naturalist Island"	5	1	6	17%			
North Island	51	26	77	34%		✓	
Oystercatcher Island	34	5	39	13%			
Pelican Island	7	3	10	30%			
Pigeon Island	45	29	74	39%	✓	✓	
Plover Island	4	3	7	43%			
Saville-Kent Island	10	1	11	9%			
Seagull Island	38	8	46	17%			
Seal Island	11	4	15	27%			
Second Sister	3	2	5	40%			
Shag Rock	4	1	5	20%			
"Shag Rock"	1	0	1	0%			
"Short Island"	3	1	4	25%			
Tattler Island	28	7	35	20%			
"Tectus Island"	7	1	8	13%			
Third Sister	5	2	7	29%			
Traitors Island	6	1	7	14%			
"Traitors Islet 1"	4	1	5	20%			
"Traitors Islet 2"	4	1	5	20%			
"Traitors Islet 3"	3	1	4	25%			
"Traitors Islet 4"	2	1	3	33%			
"Traitors Islet 5"	1	1	2	50%			
"Traitors Islet 6"	0	1	1	100%			
Turnstone Island	21	8	29	28%			
Wann Island	7	1	8	13%			
West Wallabi Island	72	25	97	26%	✓	✓	
EASTER GROUP							
Alexander Island	19	15	34	44%			
"Alexander Islet 1"	0	0	0	0%			
"Alexander Islet 2"	aerial photograph interpretation only						not comprehensive
Bushby Island	8	10	18	56%	✓	✓	
Bynoe Island	19	10	29	34%			
"Bynoe Islet 1"	aerial photograph interpretation only						not comprehensive

TABLE 15 (continued)

ISLAND NAME	NATIVE SPECIES	INTRODUCED SPECIES	TOTAL SPECIES	PERCENTAGE INTRODUCED	GUANO MINING	OCCUPIED BUILDINGS	FLORA SURVEY COMPLETENESS
"Bynoe Islet 2"	aerial photograph interpretation only						not comprehensive
"Bynoe Islet 3"	aerial photograph interpretation only						not comprehensive
"Bynoe Islet 4"	aerial photograph interpretation only						not comprehensive
Campbell Island	22	11	33	33%			
"Campbell Islet"	aerial photograph interpretation only						not comprehensive
Crake Island	7	3	10	30%			
Disappearing Island	0	0	0	0%			
Dry Island	4	1	5	20%			not comprehensive
Gibson Island	4	0	4	0%			not comprehensive
Gilbert Island	11	5	16	31%			
"Gilbert Islet 1"	aerial photograph interpretation only						not comprehensive
"Gilbert Islet 2"	aerial photograph interpretation only						not comprehensive
"Gilbert Islet 3"	aerial photograph interpretation only						not comprehensive
"Gilbert Islet 4"	aerial photograph interpretation only						not comprehensive
Helms Island	4	0	4	0%			not comprehensive
"Helms Islet 1"	aerial photograph interpretation only						not comprehensive
"Helms Islet 2"	1	0	1	0%			
Joe Smith Island	6	1	7	14%			
Keru Island	18	5	23	22%			
"Landscope Island"	4	3	7	43%			
Leo Island	20	9	29	31%		✓	
"Leo Islet 1"	3	0	3	0%			not comprehensive
"Leo Islet 2"	2	0	2	0%			not comprehensive
Little North Island	13	4	17	24%			
Little Rat Island	20	24	44	55%	✓	✓	
Little Roma Island	1	1	2	50%			not comprehensive
"Little Stokes Island"	2	0	2	0%			not comprehensive
Morley Island	17	10	27	37%			
"Morley Islet"	aerial photograph interpretation only						not comprehensive
"Nitraria Island"	5	3	8	38%			
Rat Island	37	34	71	48%	✓	✓	
"Rat Islet"	aerial photograph interpretation only						not comprehensive
Roma Island	9	10	19	53%	✓	✓	
"Roma Islet"	aerial photograph interpretation only						not comprehensive
Sandy Island	5	1	6	17%			not comprehensive
Serventy Island	17	13	30	43%			
"Serventy Islet 1"	aerial photograph interpretation only						not comprehensive
"Serventy Islet 2"	aerial photograph interpretation only						not comprehensive
"Serventy Islet 3"	aerial photograph interpretation only						not comprehensive
Shearwater Island	3	0	3	0%			not comprehensive
"Shearwater Islet"	3	0	3	0%			not comprehensive
Stokes Island	6	0	6	0%			not comprehensive
Suomi Island	13	5	18	28%			
Tapani Island	6	1	7	14%			
White Bank	3	1	4	25%			not comprehensive
White Island	20	8	28	29%			
"White Islet"	aerial photograph interpretation only						not comprehensive
Wooded Island	14	11	25	44%			
PELSAERT GROUP							
Arthur Island	6	1	7	14%			not comprehensive
Basile Island	17	21	38	55%		✓	
Burnett Island	15	10	25	40%		✓	
"Burnett Islet 1"	aerial photograph interpretation only						not comprehensive
"Burnett Islet 2"	aerial photograph interpretation only						not comprehensive
Burton Island	17	11	28	39%			
Coronation Island	14	3	17	18%		✓	
"Coronation Islet"	aerial photograph interpretation only						not comprehensive
Davis Island	5	2	7	29%	✓		not comprehensive

TABLE 15 (continued)

ISLAND NAME	NATIVE SPECIES	INTRODUCED SPECIES	TOTAL SPECIES	PERCENTAGE INTRODUCED	GUANO MINING	OCCUPIED BUILDINGS	FLORA SURVEY COMPLETENESS
Diver Island	aerial photograph interpretation only						not comprehensive
Eight Island	5	7	12	58%	✓		
Foale Island	1	1	2	50%		✓	not comprehensive
Gaze Island	5	0	5	0%			
"Gaze Islet 1"	3	0	3	0%			not comprehensive
"Gaze Islet 2"	aerial photograph interpretation only						not comprehensive
"Gaze Islet 3"	aerial photograph interpretation only						not comprehensive
Gregory Island	3	0	3	0%			not comprehensive
Gun Island	13	13	26	50%	✓		
"Gun Islet"	4	0	4	0%			
Hummock Island	6	1	7	14%			not comprehensive
Iris Refuge Island	3	0	3	0%			not comprehensive
Jackson Island	12	5	17	29%		✓	
"Jackson Islets" (7 islets)	aerial photograph interpretation only						not comprehensive
Jon Jim Island	7	1	8	13%			
Lagoon Island	9	2	11	18%			
"Little Jackson Island"	13	3	16	19%			
Middle Island	29	7	36	19%			
Murray Island	9	3	12	25%			
Newbold Island	aerial photograph interpretation only						not comprehensive
Newman Island	14	5	19	26%		✓	
"Newman Islet 1"	aerial photograph interpretation only						not comprehensive
"Newman Islet 2"	aerial photograph interpretation only						not comprehensive
Nook Island	4	1	5	20%		✓	not comprehensive
One Island	4	1	5	20%	✓		not comprehensive
Pelsaert Island	30	20	50	40%	✓		
Post Office Island	15	7	22	32%		✓	
"Post Office Islet"	aerial photograph interpretation only						not comprehensive
Robertson Island	2	0	2	0%		✓	not comprehensive
Rotondella Island	8	3	11	27%		✓	
"Rotondella Islet 1"	aerial photograph interpretation only						not comprehensive
"Rotondella Islet 2"	aerial photograph interpretation only						not comprehensive
Sandy Island	1	2	3	67%			not comprehensive
Seven Island	3	2	5	40%			not comprehensive
"Seven Islet"	2	1	3	33%			not comprehensive
Ship Rock	2	1	3	33%			not comprehensive
Sid Liddon Island	2	4	6	67%	✓		not comprehensive
Square Island	9	6	15	40%			
Stick Island	9	4	13	31%			
Sweet Island	7	2	9	22%	✓		not comprehensive
The Coral Patches (13 islets)	2	1	3	33%			not comprehensive
Three Island	9	5	14	36%	✓		not comprehensive
Travia Island	7	0	7	0%			
Two Island	4	1	5	20%			not comprehensive
Uncle Margie Island	9	10	19	53%		✓	
"Uncle Margie Islet"	aerial photograph interpretation only						not comprehensive

TABLE 16

Plant species that are present in all three groups of the Abrolhos.

PLANT NAME native plants	PLANT NAME introduced plants
Atriplex cinerea	* *Anagallis arvensis*
Avicennia marina	* *Avena barbata*
Bromus arenarius	* *Avena fatua*
Bulbine semibarbata	* *Bromus diandrus*
Carpobrotus virescens	* *Cakile maritima*
Crassula colorata	* *Chenopodium murale*
Daucus glochidiatus	* *Ehrharta longiflora*
Diplolaena grandiflora	* *Erodium cicutarium*
Enchylaena tomentosa	* *Hordeum leporinum*
Eragrostis dielsii	* *Hornungia procumbens*
Euphorbia drummondii	* *Malva parviflora*
Frankenia pauciflora	* *Medicago polymorpha*
Halosarcia halocnemoides	* *Melilotus indicus*
Halosarcia indica ssp. *bidens*	* *Mesembryanthemum crystallinum*
Hydrocotyle diantha	* *Parapholis incurva*
Lavatera plebeia	* *Phalaris minor*
Muellerolimon salicorniaceum	* *Polycarpon tetraphyllum*
Myoporum insulare	* *Raphanus raphanistrum*
Nicotiana occidentalis ssp. *hesperis*	* *Salsola kali*
Nitraria billardierei	* *Sisymbrium orientale*
Parietaria cardiostegia	* *Solanum nigrum*
Parietaria debilis	* *Sonchus oleraceus*
Sarcocornia quinqueflora	* *Spergularia rubra*
Scaevola crassifolia	* *Urospermum picroides*
Senecio lautus	
Setaria dielsii	
Spinifex longifolius	
Suaeda australis	
Threlkeldia diffusa	
Triglochin trichophorum	

Figures 2–69

Vegetation maps of the Abrolhos islands. Maps of the Wallabi Group islands (Figs 2–25) are followed by those of the Easter Group islands (Figs 26–43) and then the Pelsaert Group islands (Figs 44–69); maps of islands within each group are ordered roughly alphabetically. Mapping was based on the classification used by Beard (1981) and the binomial codes used to indicate vegetation types are defined in Table 7 (p. 534). Dominant plant species are also coded, according to Table 8 (p. 557). Note that when the letter *x* is used with bunch grasses (G) or forbs (F), it indicates mixed species, differing for each map and listed in the caption for each map. Where there are two or more strata, the code is given as a string, e.g. nSr a_2mZc xFi. Different surfaces are indicated with the codes **B** for beach, **BG** for bare ground, **C** for coral rubble, **D** for disturbed areas, **L** for lagoons, **R** for Rock and **S** for sinkhole. The accuracy of the vegetation mapping for each island is indicated on Table 9 (p. 558) by the numbers 1–6 (see Table 10, p. 534).

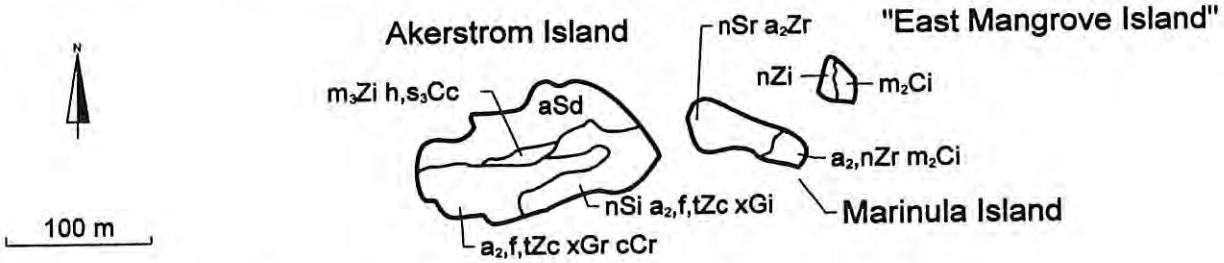

Figure 2. Vegetation map of Akerstrom Island, "East Mangrove Island", Marinula Island, Wallabi Group.
For Akerstrom Island, x of xGi and xGr includes Eragrostis dielsii, Setaria dielsii.

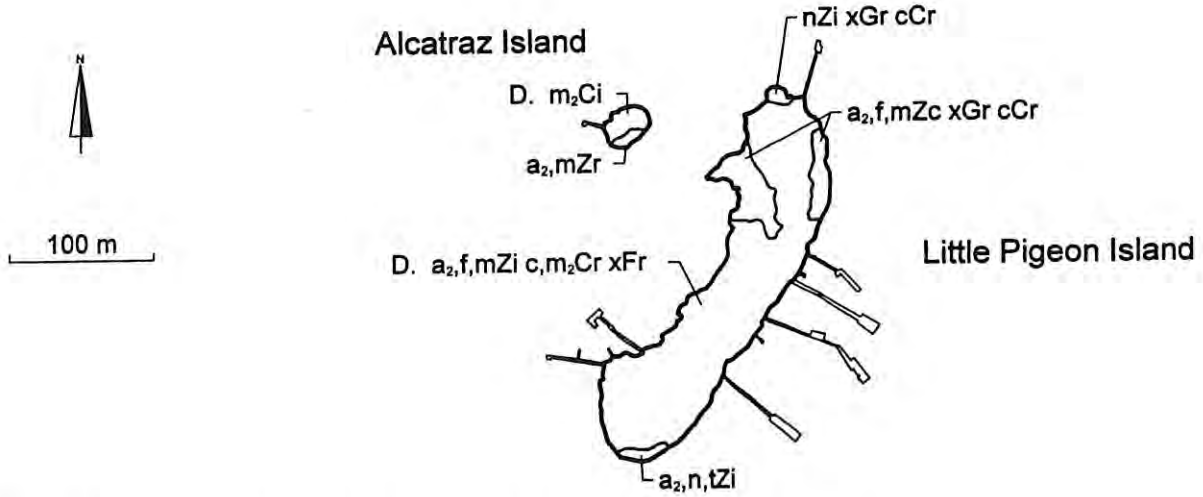

Figure 3. Vegetation map of Alcatraz Island, Little Pigeon Island, Wallabi Group.
For Little Pigeon Island, x of xFr includes *Conyza bonariensis, *Euphorbia tannensis *ssp.* eremophila, *Medicago polymorpha, Senecio lautus.
For Little Pigeon Island, x of xGr includes *Avena barbata, Bromus *sp.*, *Hordeum leporinum, *Lolium rigidum, *Polypogon monspeliensis, Setaria dielsii.

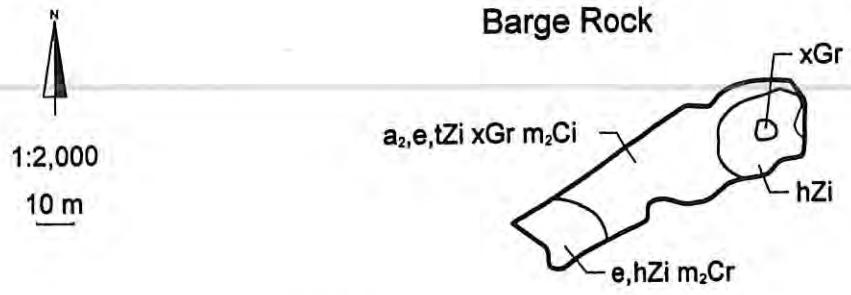

Figure 4 Vegetation map of Barge Rock, Wallabi Group.
For Barge Rock, x of xGr includes Bromus *spp.*, *Ehrharta longiflora, Setaria dielsii.

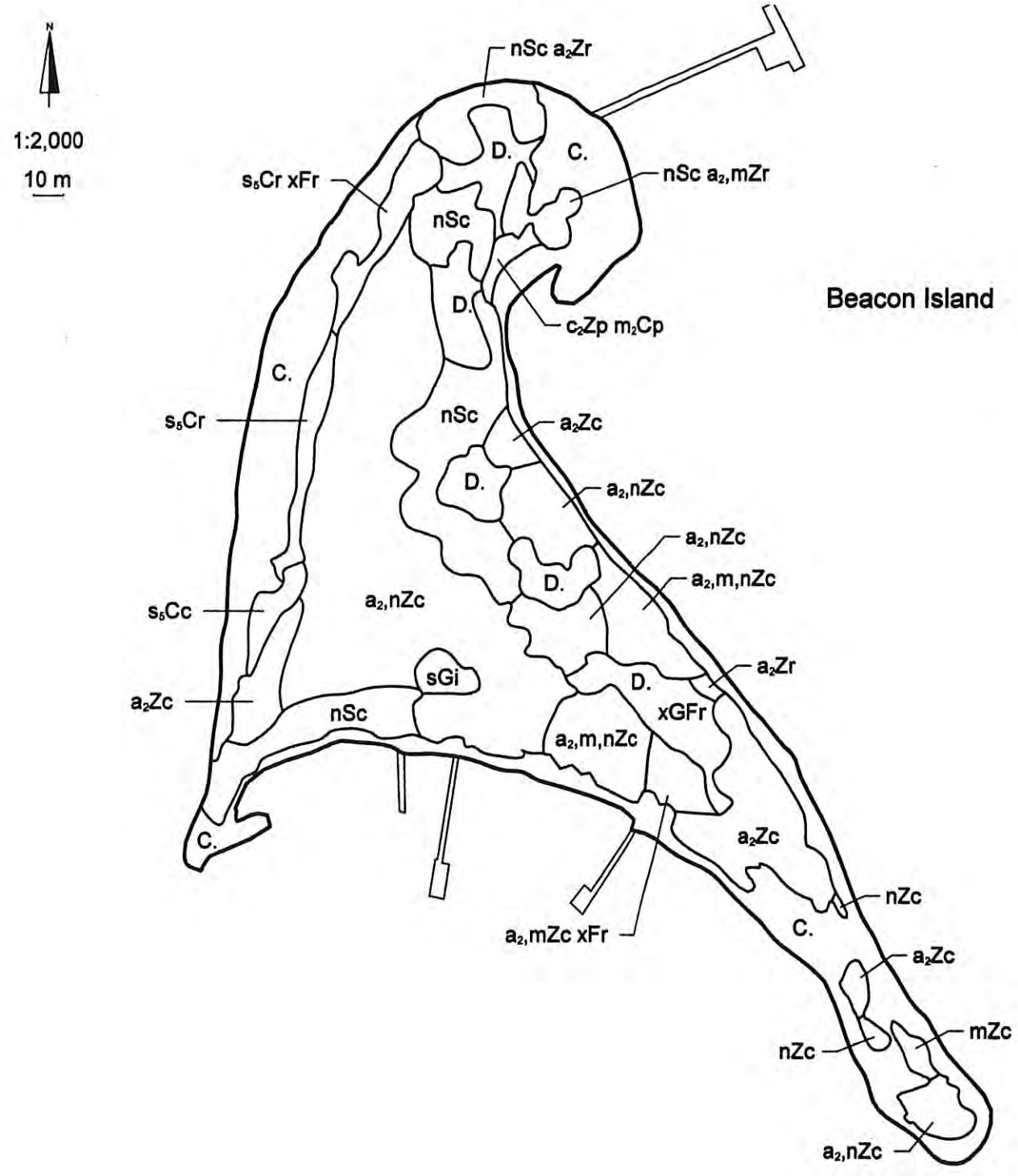

Figure 5. Vegetation map of Beacon Island, Wallabi Group.
For Beacon Island, x of xFr includes *Sisymbrium orientale, *Sonchus oleraceus.
For Beacon Island, x of xGFr includes *Avena *sp.*, Bromus *sp.*, *Poa annua, *Sisymbrium orientale, *Sonchus oleraceus.

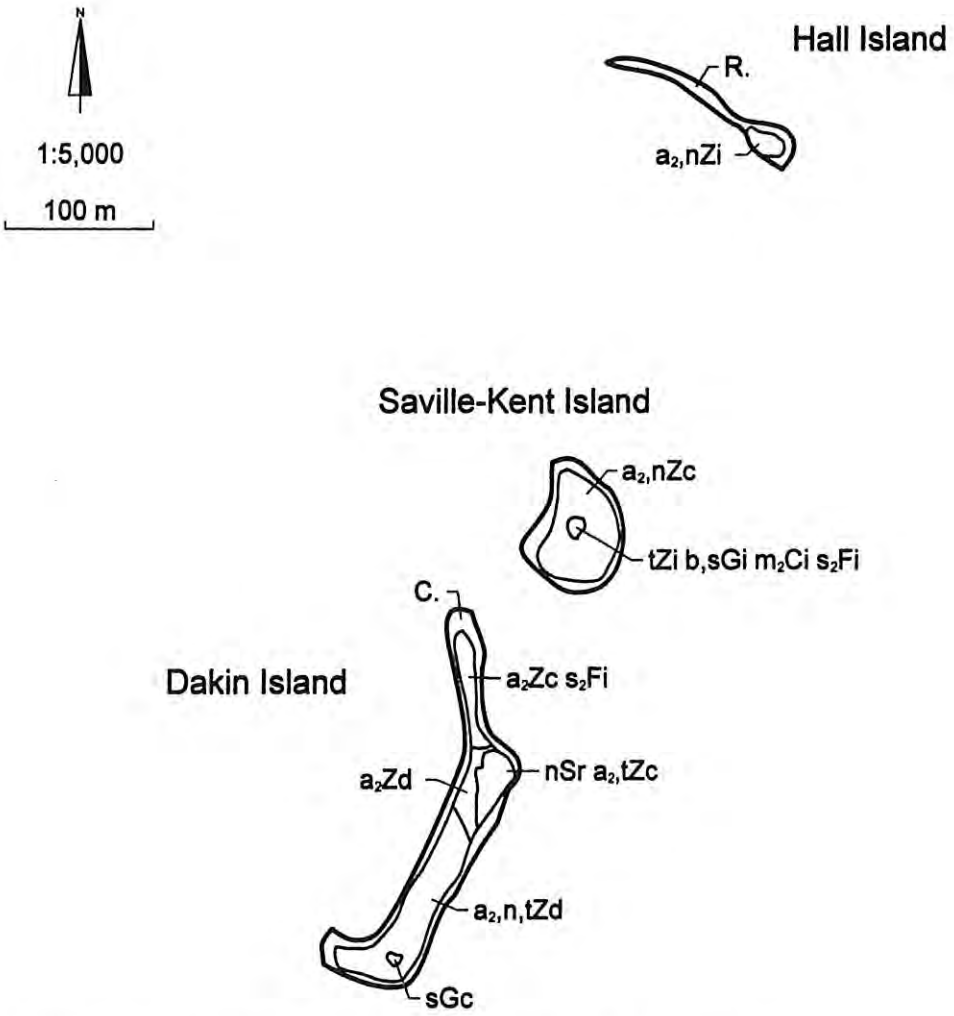

Figure 6. Vegetation map of Dakin Island, Hall Island, Saville-Kent Island, Wallabi Group.

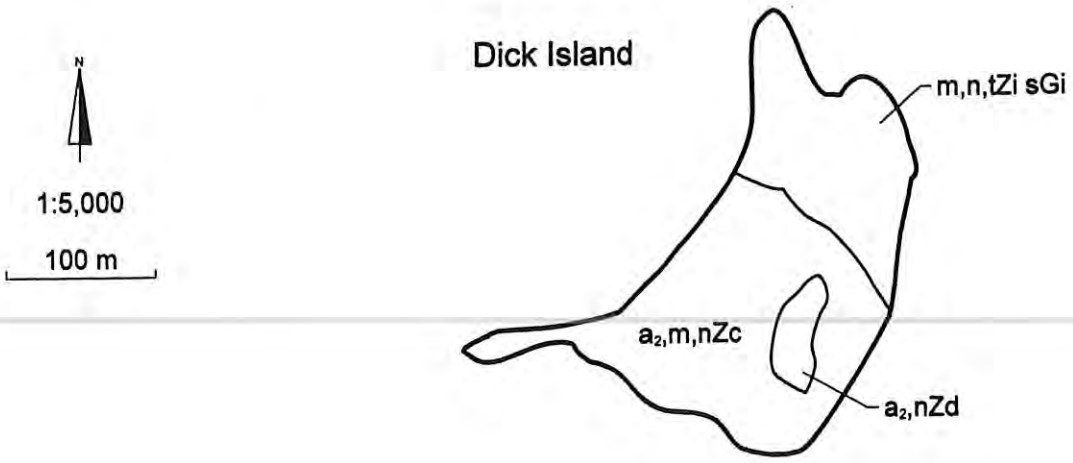

Figure 7. Vegetation map of Dick Island, Wallabi Group.

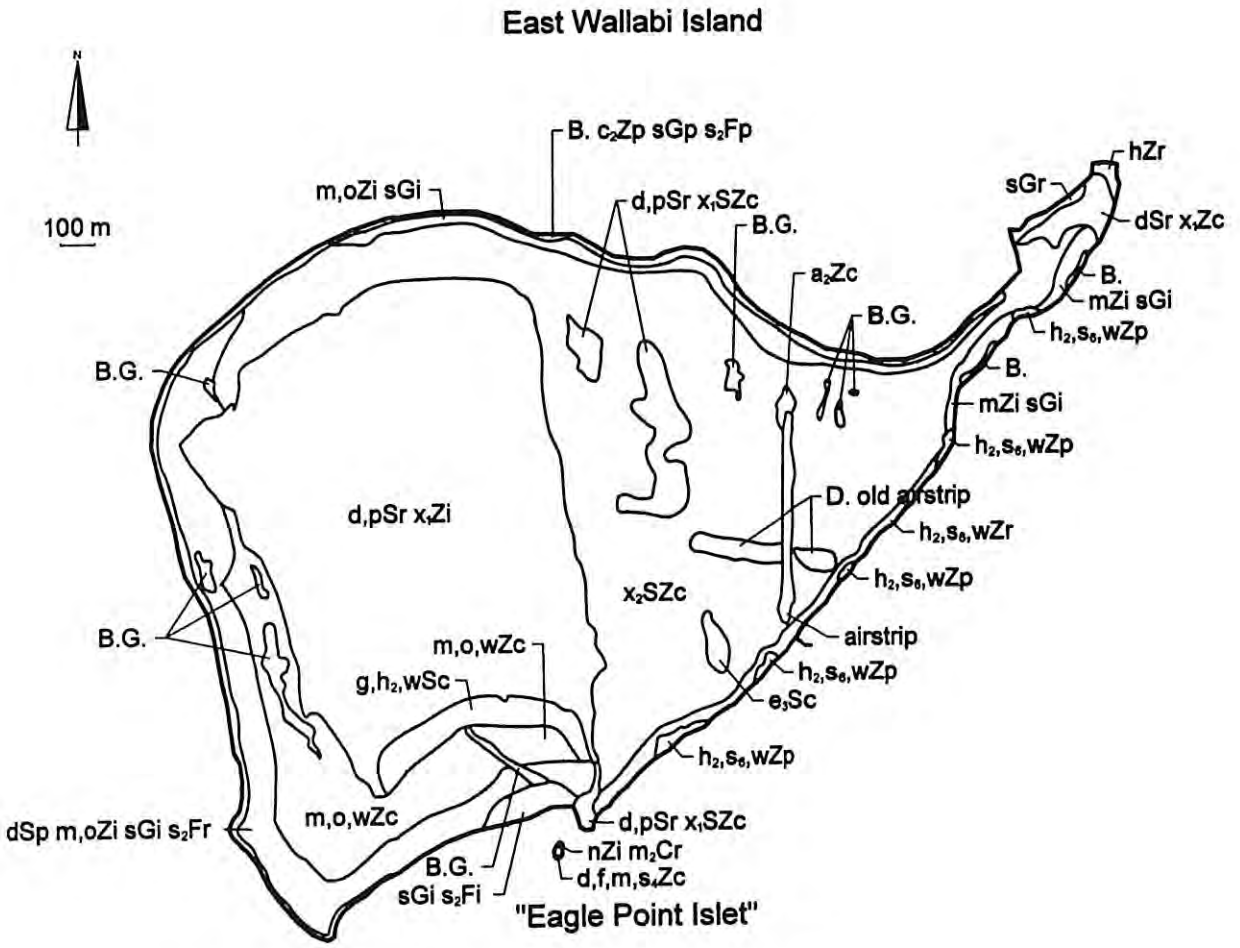

Figure 8. Vegetation map of "Eagle Point Islet", East Wallabi Island, Wallabi Group.
*On East Wallabi Island, x_1 denotes pavement limestone species (*Capparis spinosa, Exocarpos aphyllus, Grevillea argyrophylla, Hibbertia racemosa, Pimelea microcephala*).*
On East Wallabi Island, x_2 denotes consolidated dunes species (x_1 species plus Acacia didyma, Alyxia buxifolia, Bossiaea spinescens, Dodonaea *spp.*, Lasiopetalum angustifolium, Leucopogon insularis, Mirbelia ramulosa, Ptilotus divaricatus).

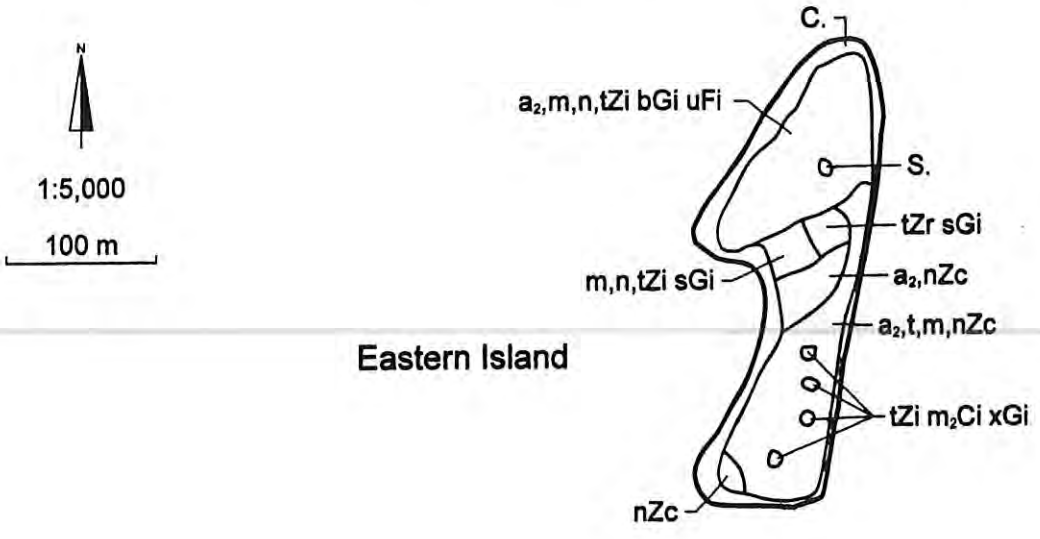

Figure 9. Vegetation map of Eastern Island, Wallabi Group.
For Eastern Island, x of xGi denotes mixed grasses (species not specified).

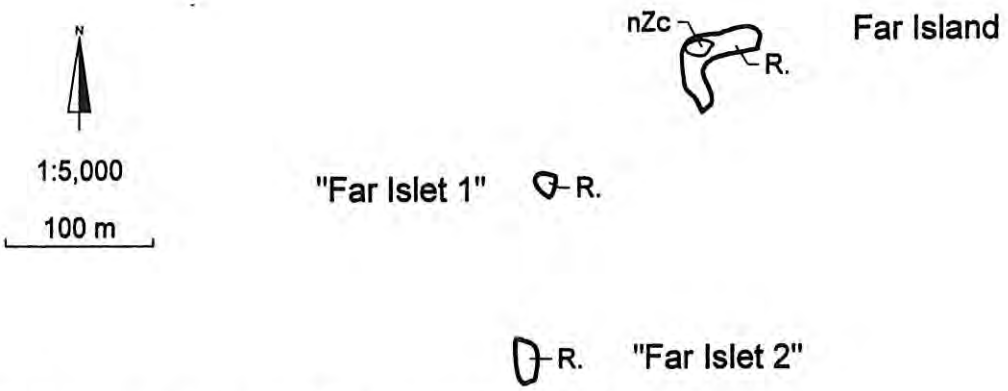

Figure 10. Vegetation map of Far Island, "Far Islet 1", "Far Islet 2", Wallabi Group.

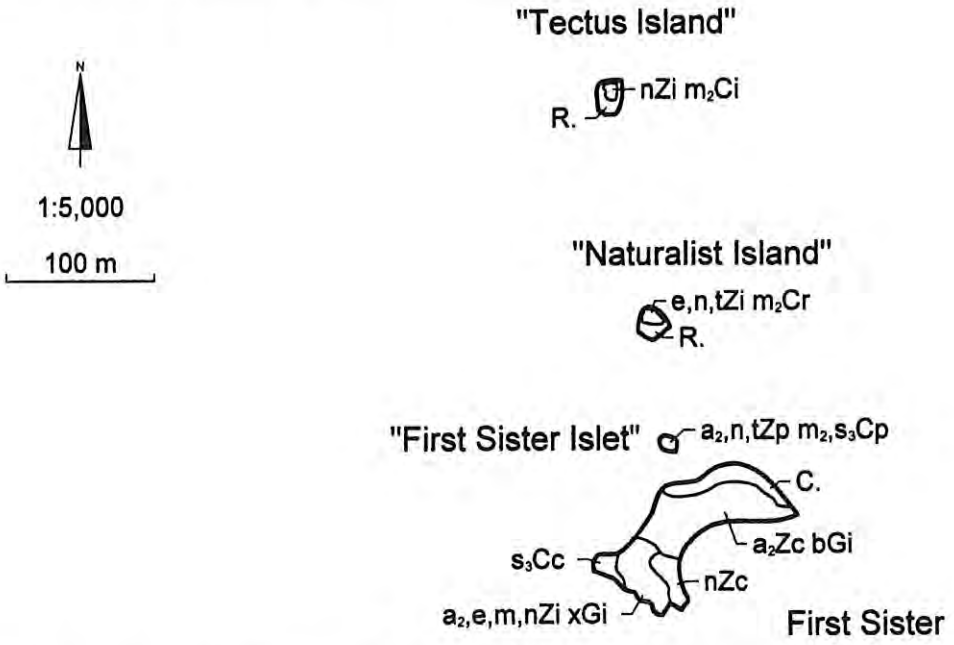

Figure 11. Vegetation map of First Sister, "First Sister Islet", "Naturalist Island", "Tectus Island", Wallabi Group. For First Sister, x of xGi includes Bromus arenarius, Setaria dielsii.

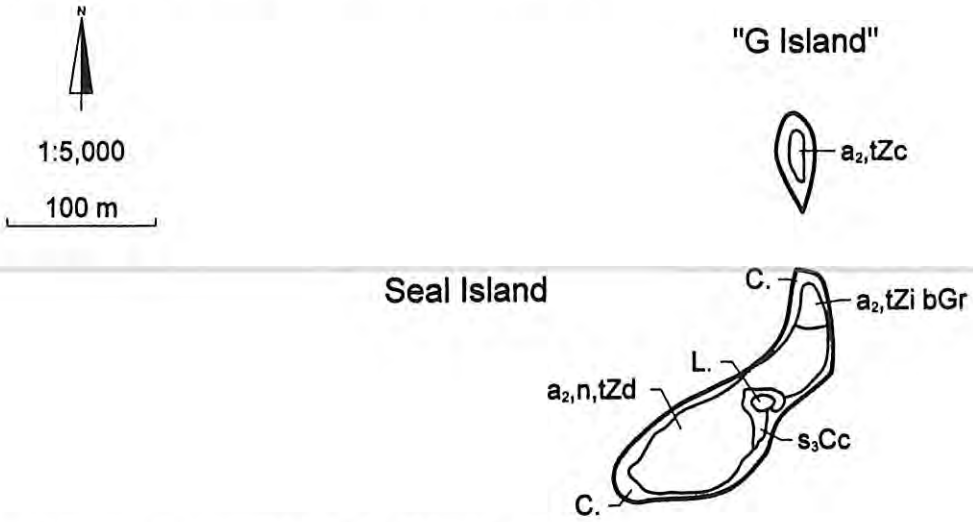

Figure 12. Vegetation map of "G Island", Seal Island, Wallabi Group.

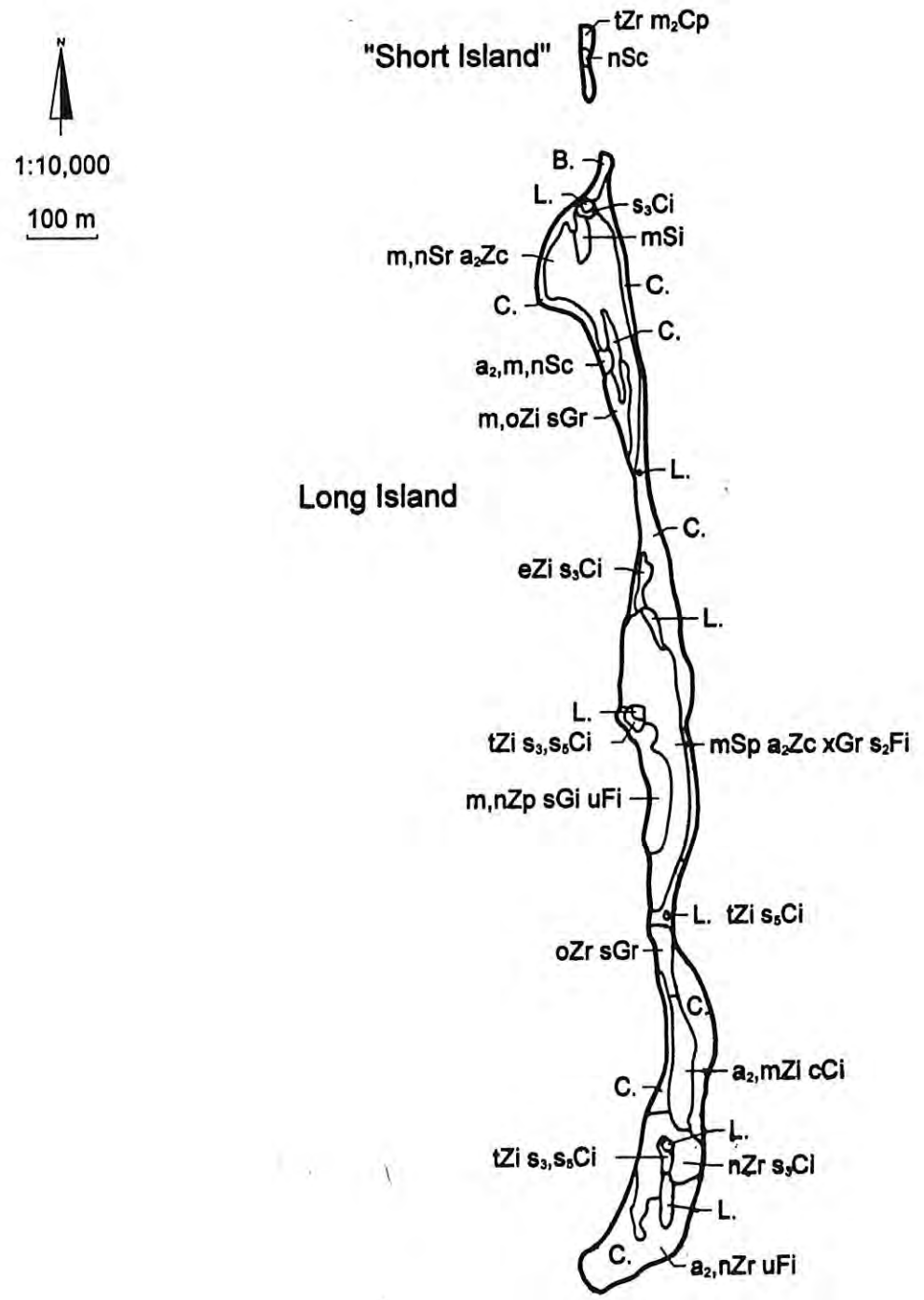

Figure 13. Vegetation map of Long Island, "Short Island", Wallabi Group.
For Long Island, x of xGr includes Bromus arenarius, Setaria dielsii.

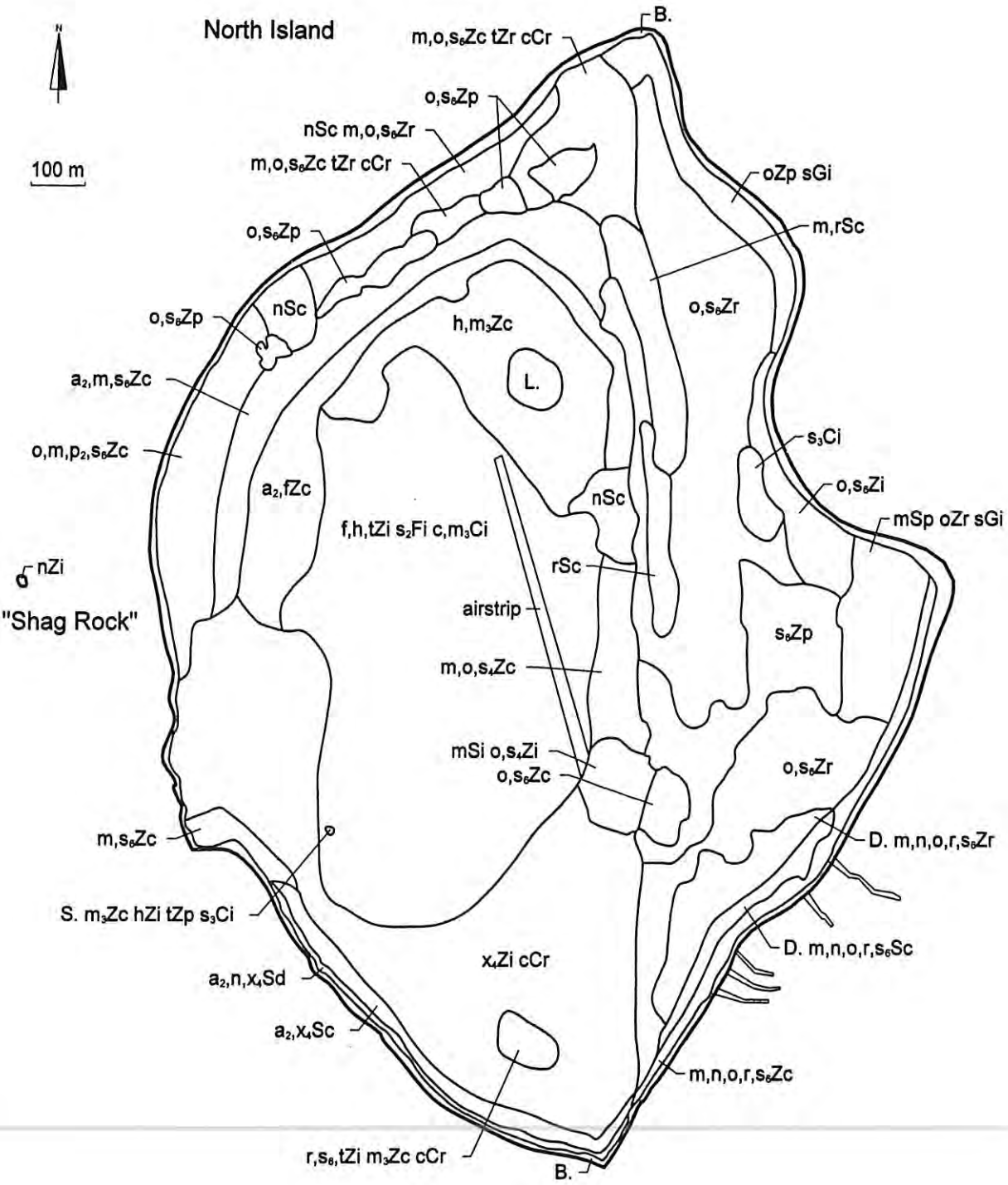

Figure 14. Vegetation map of North Island, Wallabi Group.
On North Island, x_4 denotes consolidated dunes species (Exocarpos aphyllus, Myoporum insulare, Pimelea microcephala, Olearia axillaris, Rhagodia *sp.*, Scaevola crassifolia, Threlkeldia diffusa).

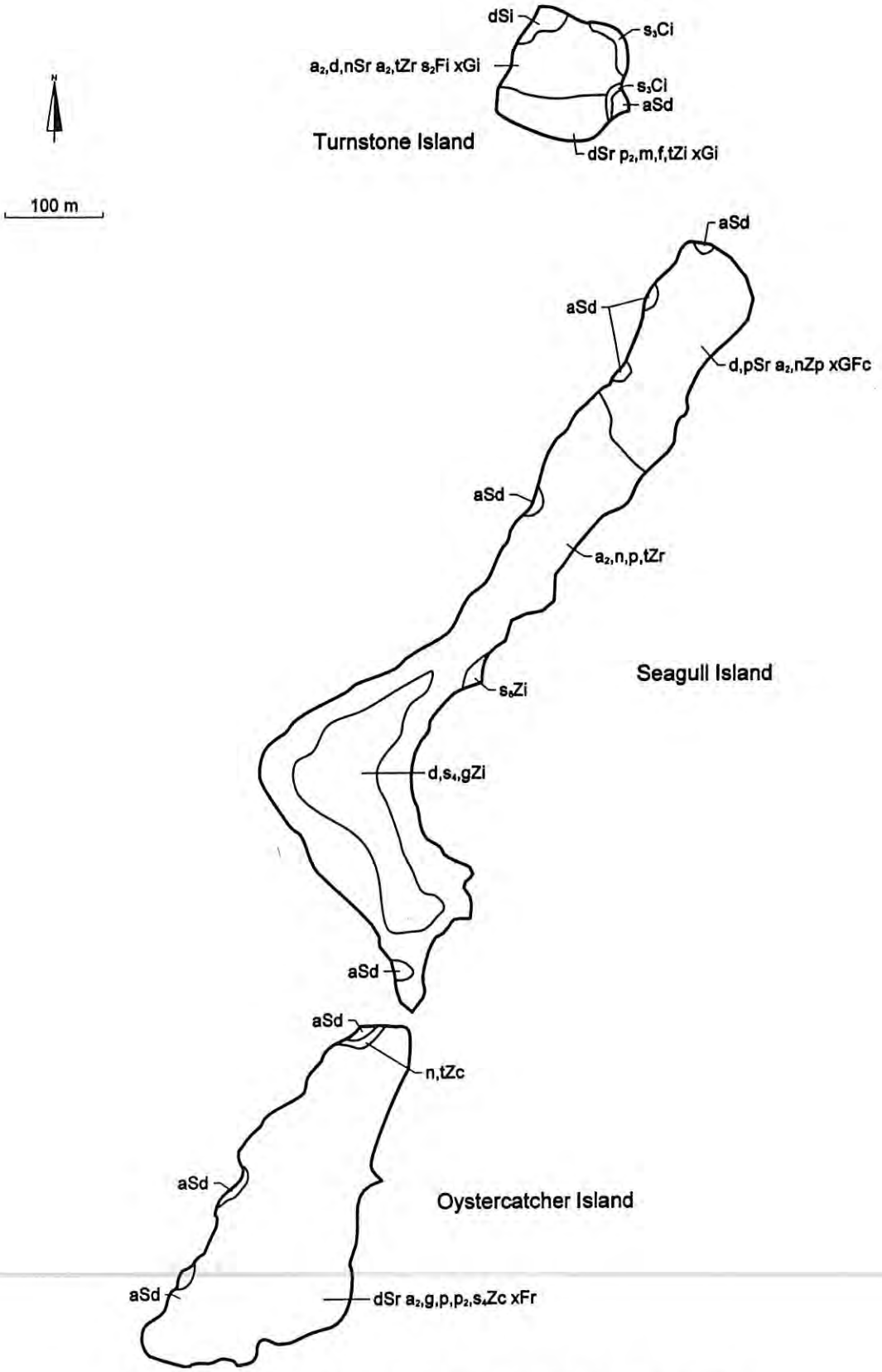

Figure 15. Vegetation map of Oystercatcher Island, Seagull Island, Turnstone Island, Wallabi Group.
For Oystercatcher Island, x of xFr includes Senecio lautus, *Sonchus oleraceus, *Urospermum picroides.
For Seagull Island, x of xGFc includes *Bromus *sp.*, Senecio lautus, *Urospermum picroides.
For Turnstone Island, x of xGi includes Austrostipa elegantissima, Bromus *sp.*, Setaria dielsii.

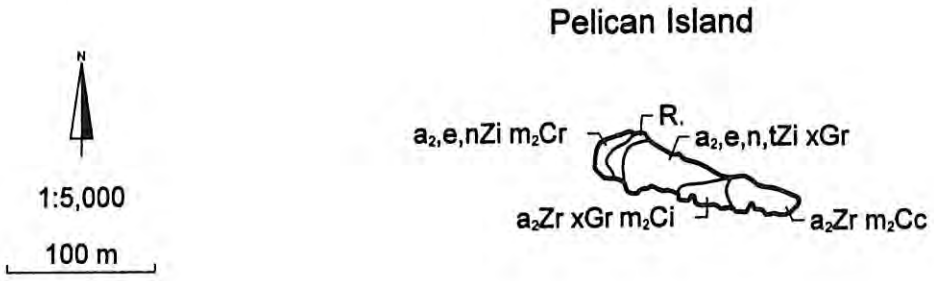

Figure 16. Vegetation map of Pelican Island, Wallabi Group.
For Pelican Island, x of xGr denotes mixed grasses (species not specified).

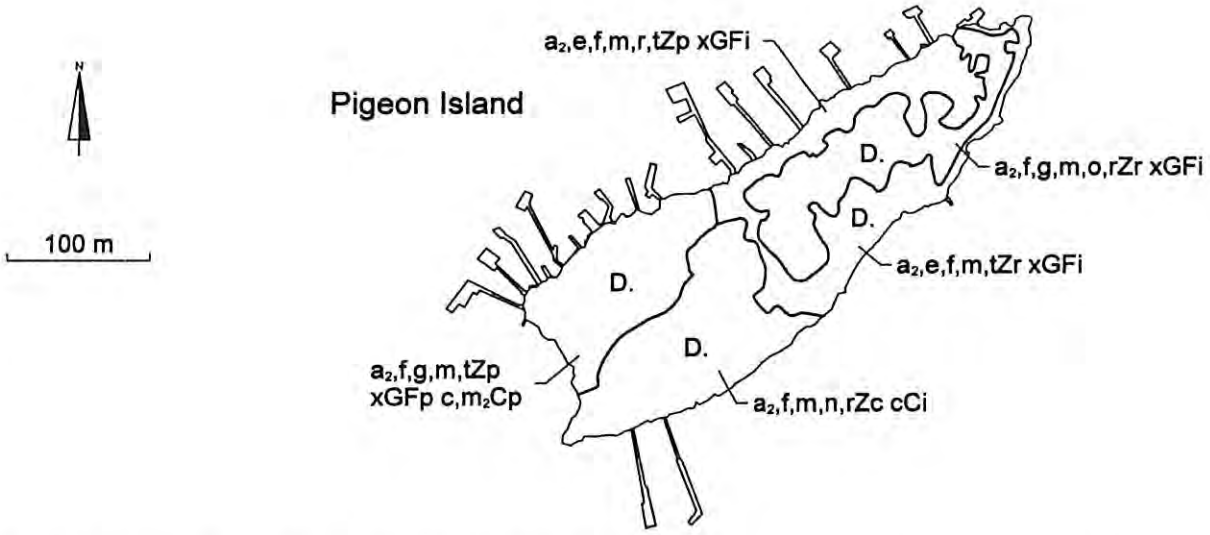

Figure 17. Vegetation map of Pigeon Island, Wallabi Group.
For Pigeon Island, x of xGFi denotes introduced grasses, garden plants and weeds, including *Bromus *sp.*, *Bryophyllum *sp.*, *Nicotiana glauca, Setaria dielsii, *Solanum nigrum, *Sonchus oleraceus, *Tamarix *sp.*

Figure 18. Vegetation map of Plover Island, Wallabi Group.

Figure 19. Vegetation map of Second Sister, Wallabi Group.

Figure 20. Vegetation map of Shag Rock, Wallabi Group.

Figure 21. Vegetation map of Tattler Island, Wallabi Group.
For Tattler Island, x of xGFi includes *Avena *sp.*, *Centaurium spicatum, Senecio lautus, Setaria dielsii, *Sonchus oleraceus.

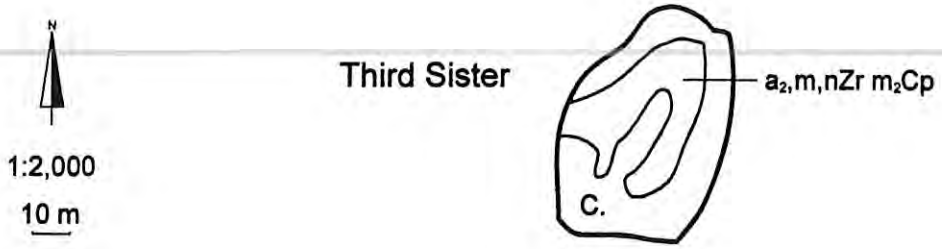

Figure 22. Vegetation map of Third Sister, Wallabi Group.

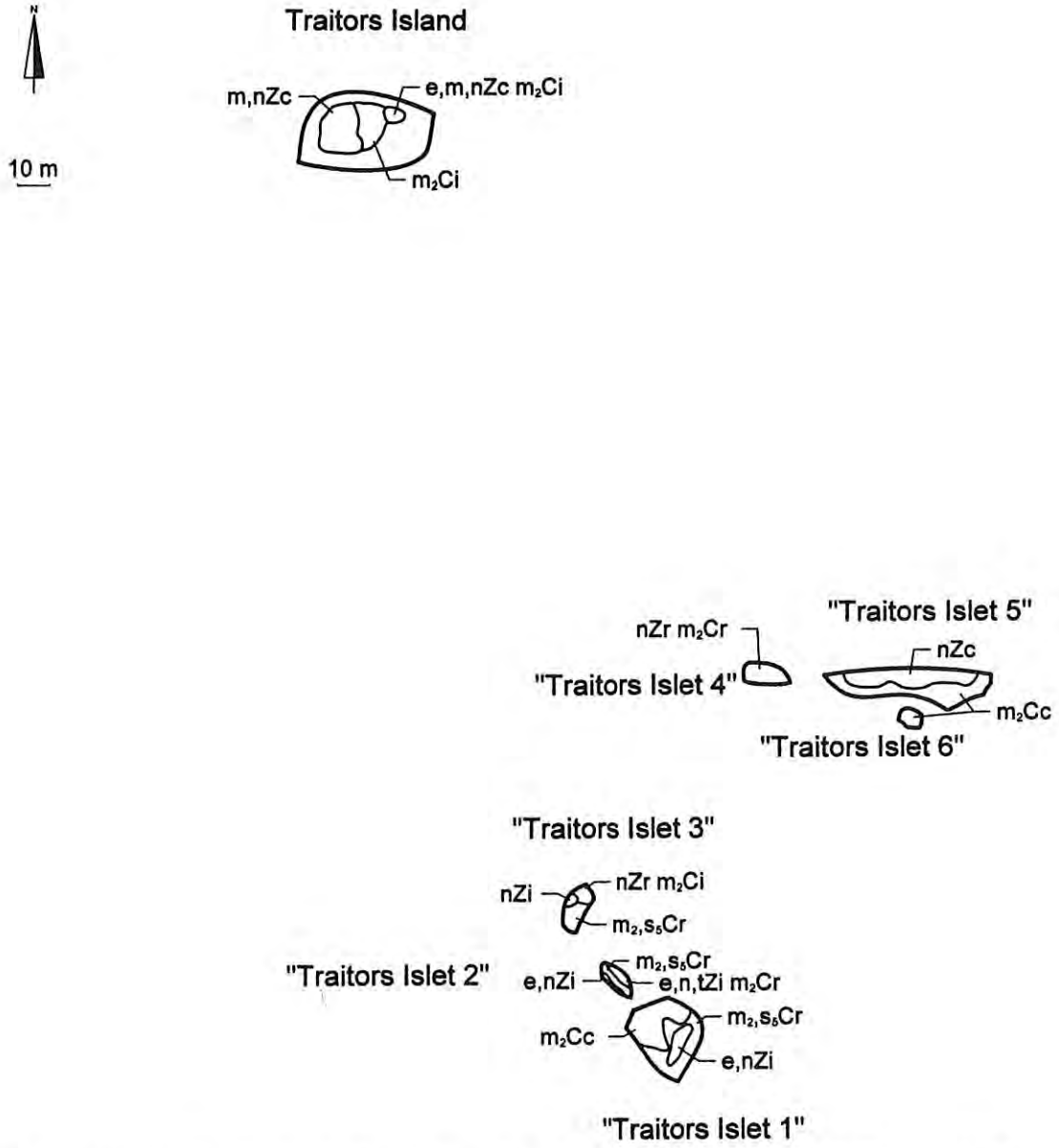

Figure 23. Vegetation map of Traitors Island, "Traitors Islet 1", "Traitors Islet 2", "Traitors Islet 3", "Traitors Islet 4", "Traitors Islet 5", "Traitors Islet 6", Wallabi Group.

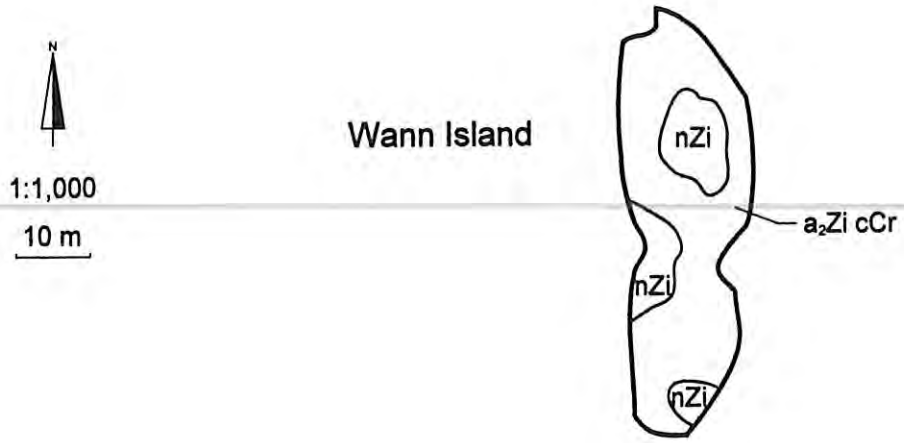

Figure 24. Vegetation map of Wann Island, Wallabi Group.

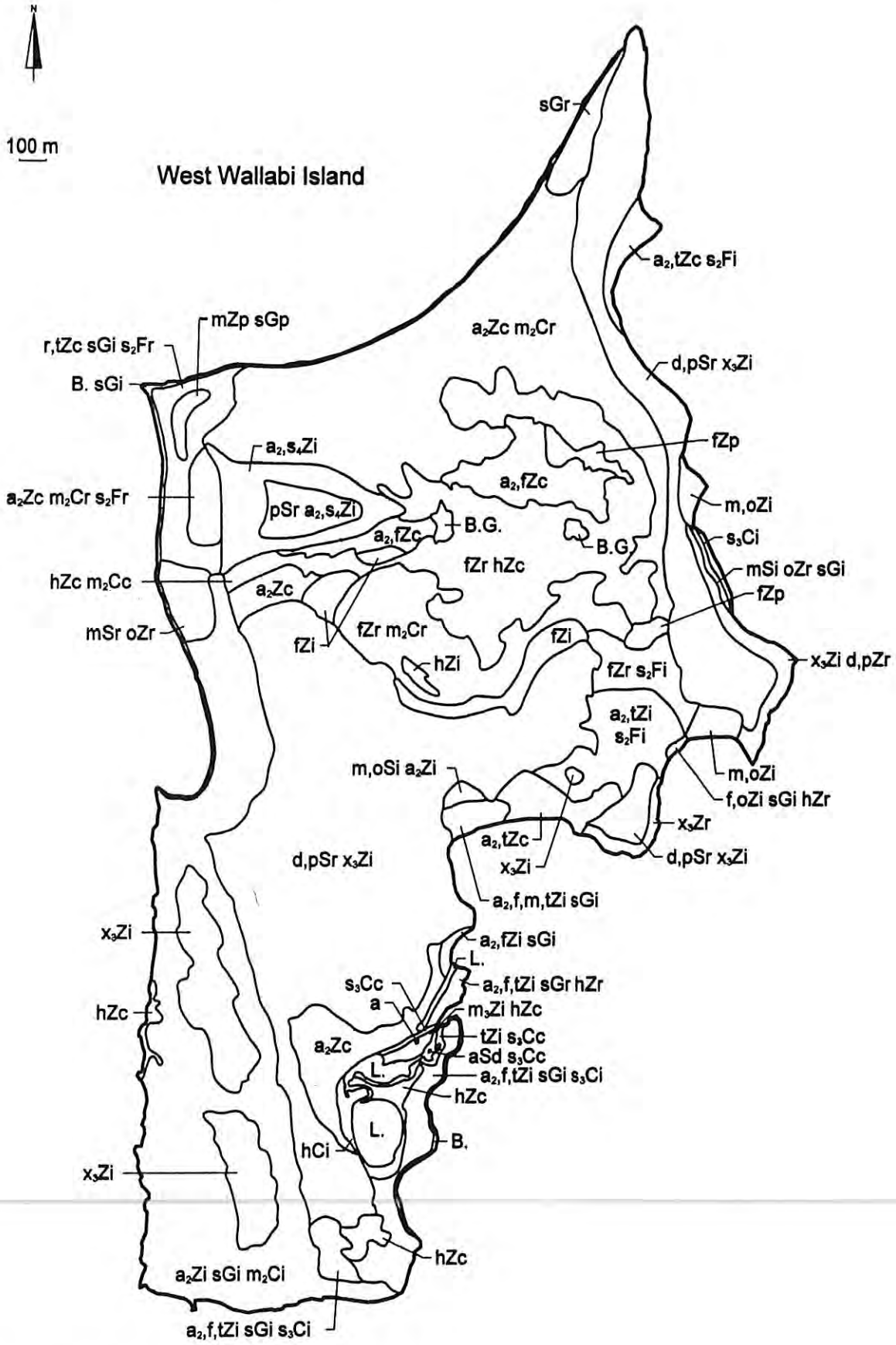

Figure 25. Vegetation map of West Wallabi Island, Wallabi Group.
On West Wallabi Island, x_3 denotes pavement limestone species (Beyeria viscosa, Capparis spinosa, Exocarpos aphyllus, Grevillea argyrophylla, Hibbertia racemosa, Olearia axillaris, Pimelea microcephala, Westringia dampieri).

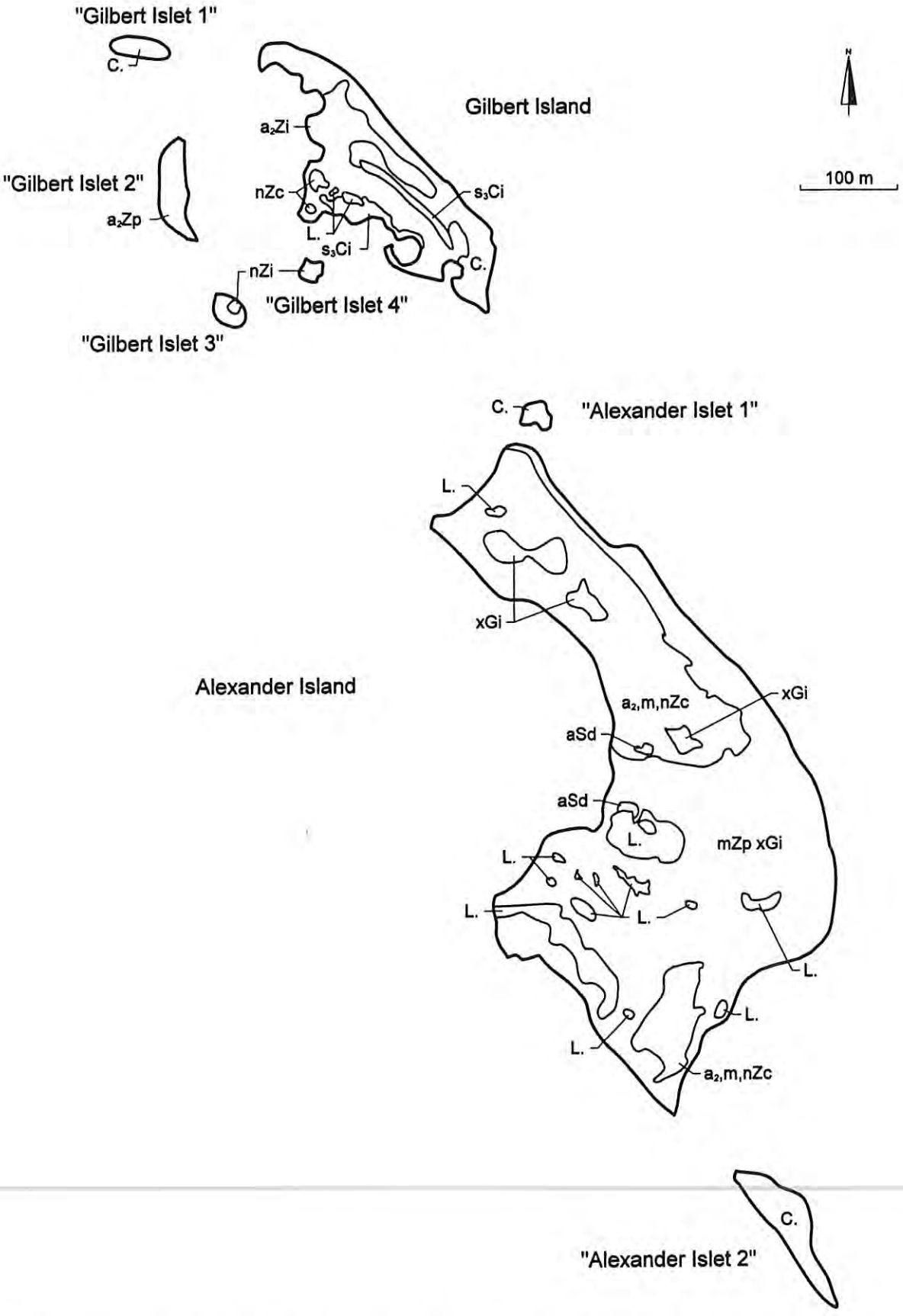

Figure 26. Vegetation map of Alexander Island, "Alexander Islet 1", "Alexander Islet 2", Gilbert Island, "Gilbert Islet 1", "Gilbert Islet 2", "Gilbert Islet 3", "Gilbert Islet 4", Easter Group.
For Alexander Island, x of xGi includes Bromus *sp.*, *Ehrharta longiflora, Setaria dielsii.

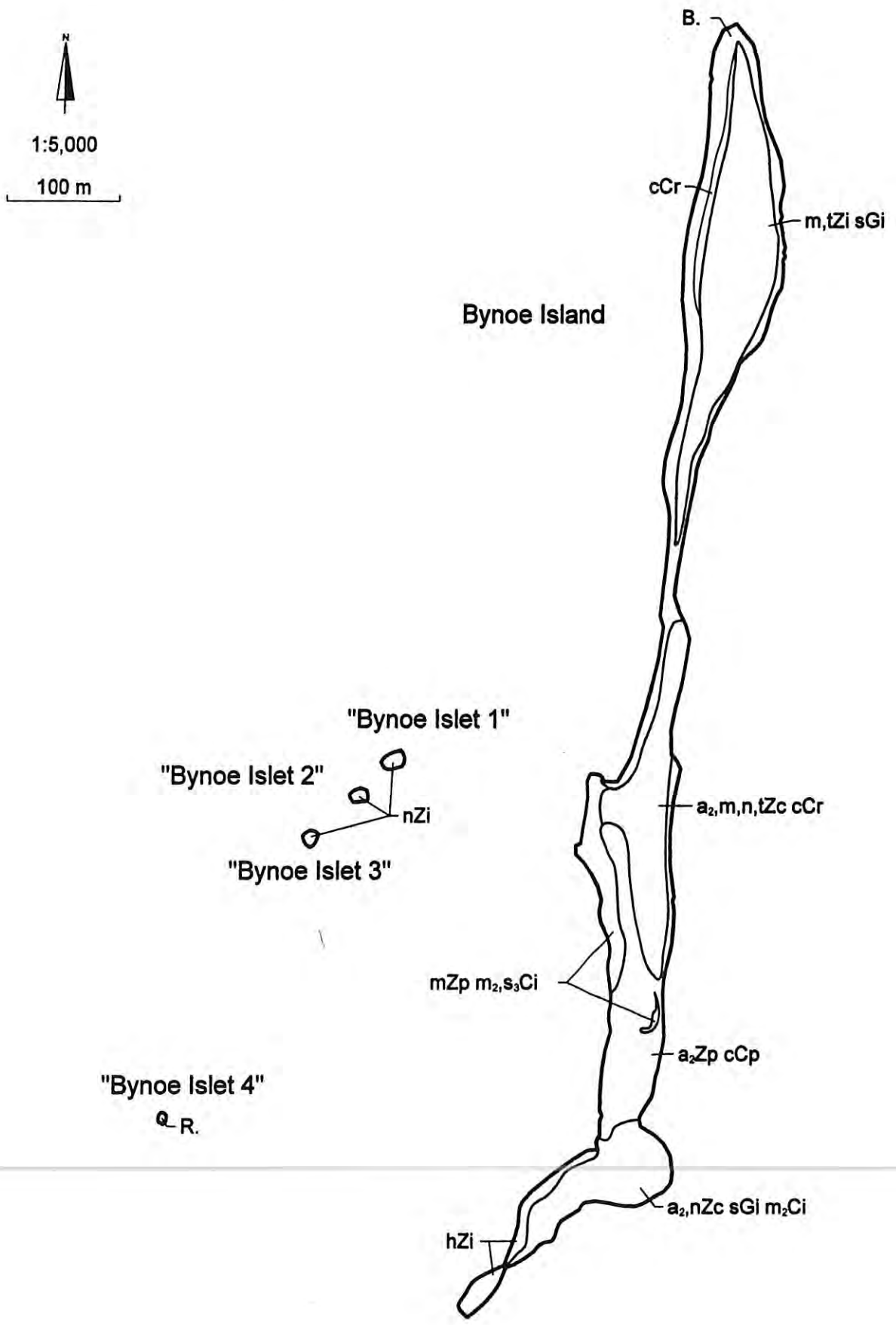

Figure 27. Vegetation map of Bynoe Island, "Bynoe Islet 1", "Bynoe Islet 2", "Bynoe Islet 3", "Bynoe Islet 4", Easter Group.

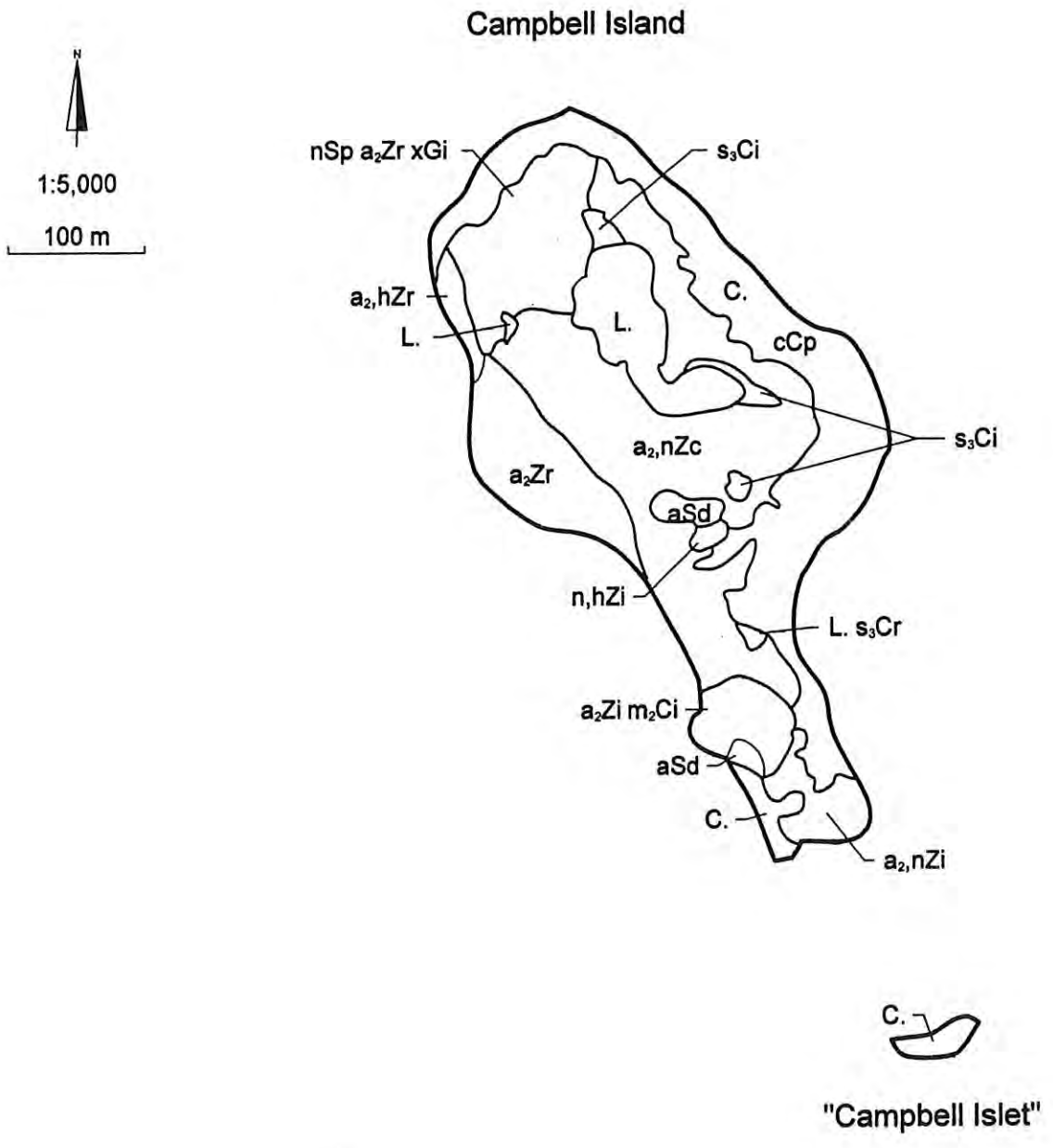

Figure 28. Vegetation map of Campbell Island, "Campbell Islet", Easter Group. For Campbell Island, x of xGi denotes mixed grasses (species not specified).

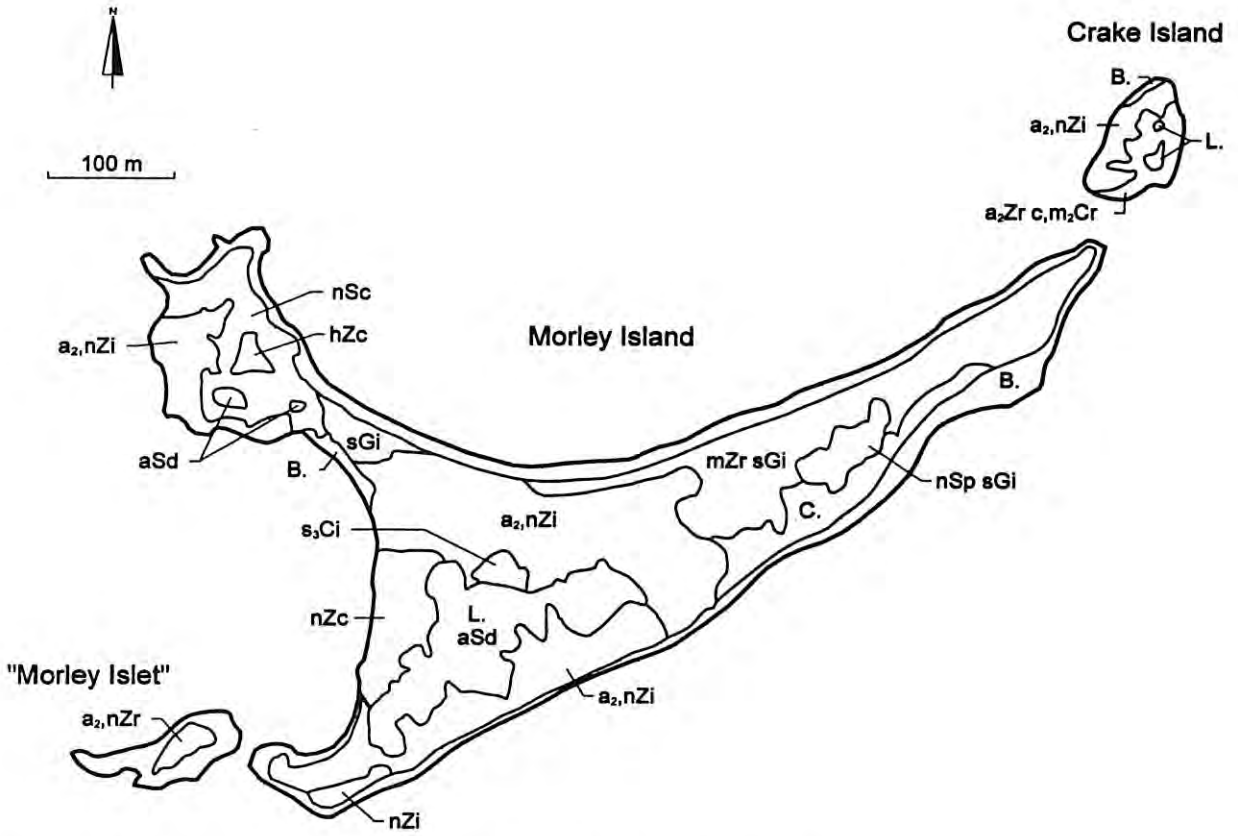

Figure 29. Vegetation map of Crake Island, Morley Island, "Morley Islet", Easter Group.

Figure 30. Vegetation map of Disappearing Island, Easter Group.

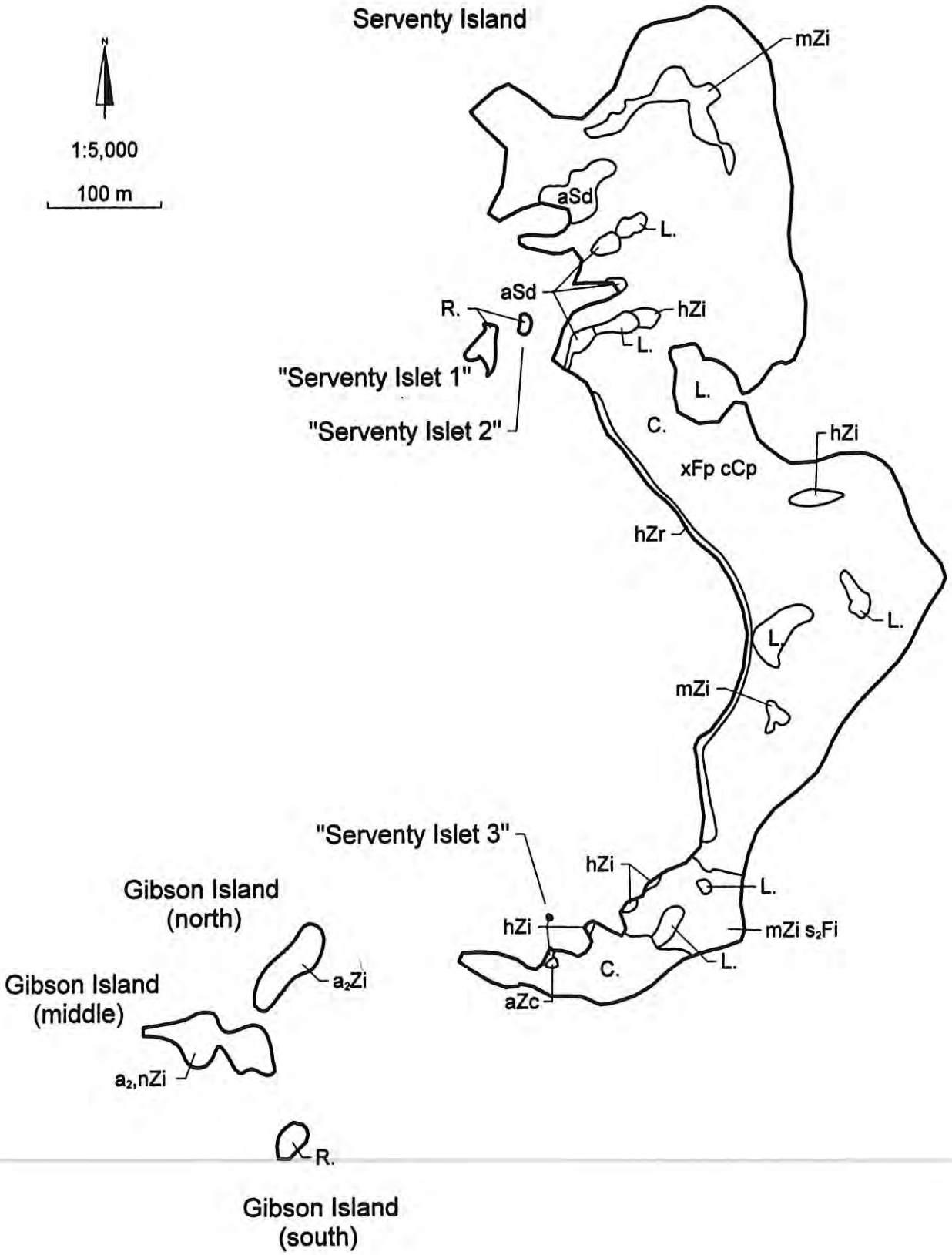

Figure 31. Vegetation map of Gibson Island, Serventy Island, "Serventy Islet 1", "Serventy Islet 2", "Serventy Islet 3", Easter Group.
For Serventy Island, x of xFp includes Senecio lautus, *Sonchus oleraceus, *Urospermum picroides.

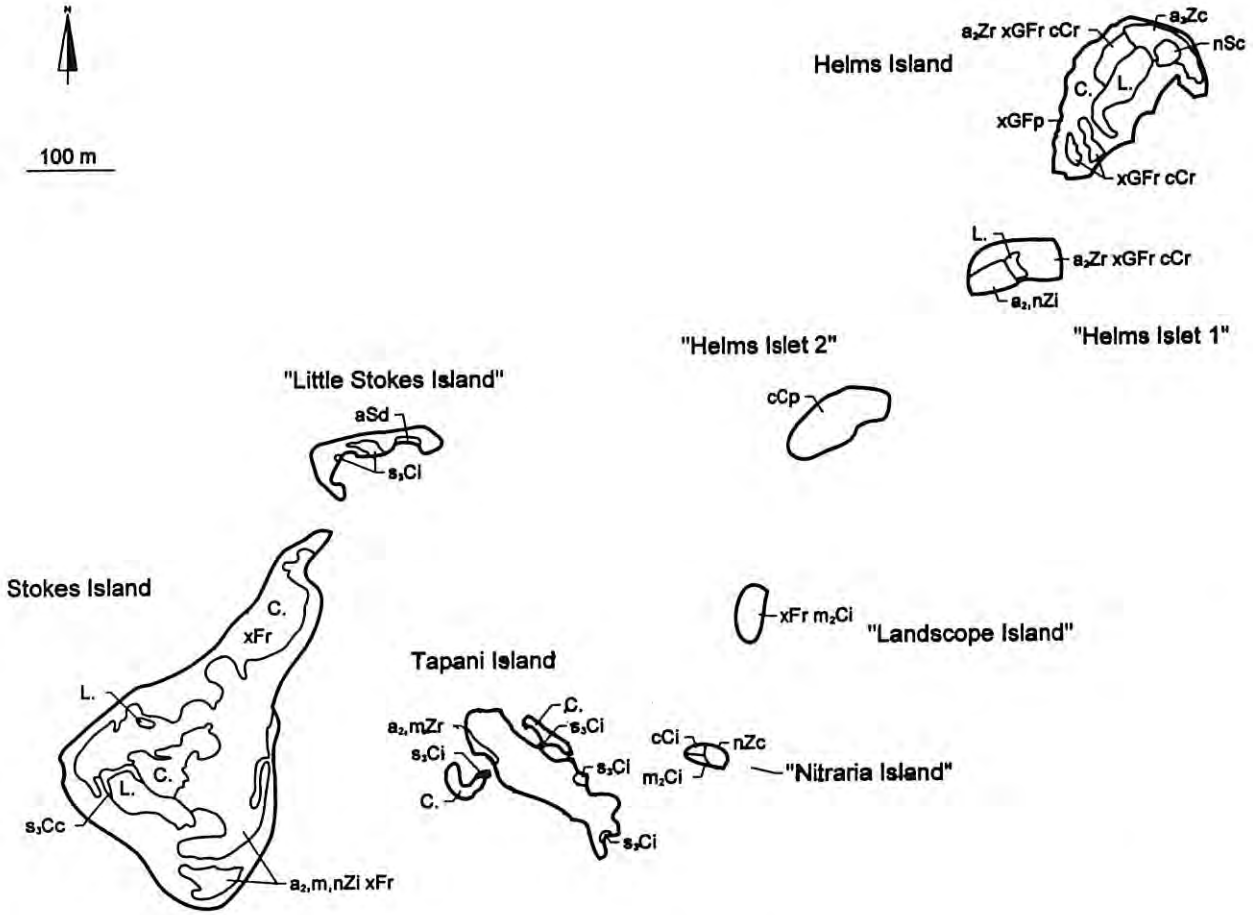

Figure 32. Vegetation map of Helms Island, "Helms Islet 1", "Helms Islet 2", "Landscope Island", "Little Stokes Island", "Nitraria Island", Stokes Island, Tapani Island, Easter Group.
For Helms Island, x of xGFp and xGFr denotes Senecio lautus *and other mixed grasses and forbs (species not specified).*
For "Helms Islet 1", x of xGFr denotes mixed grasses and forbs (species not specified).
For "Landscope Island", x of xFr includes *Chenopodium murale, Lavatera plebeia, *Sonchus oleraceus.
For Stokes Island, x of xFr includes Senecio lautus *and other forbs (species not specified).*

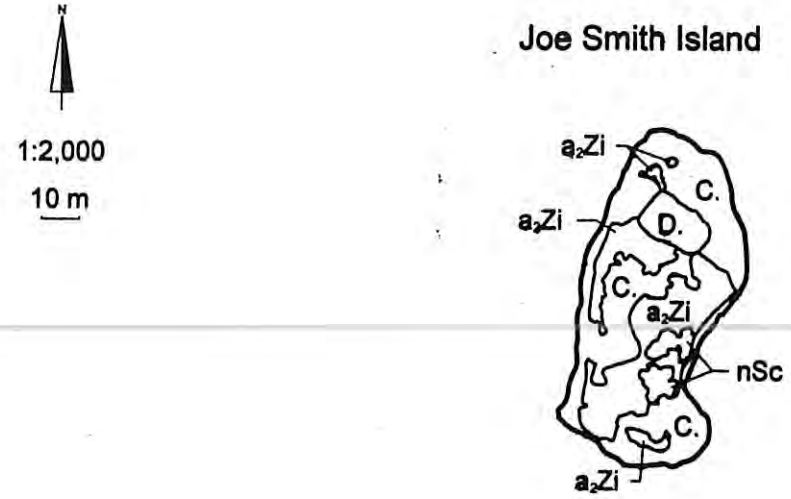

Figure 33. Vegetation map of Joe Smith Island, Easter Group.

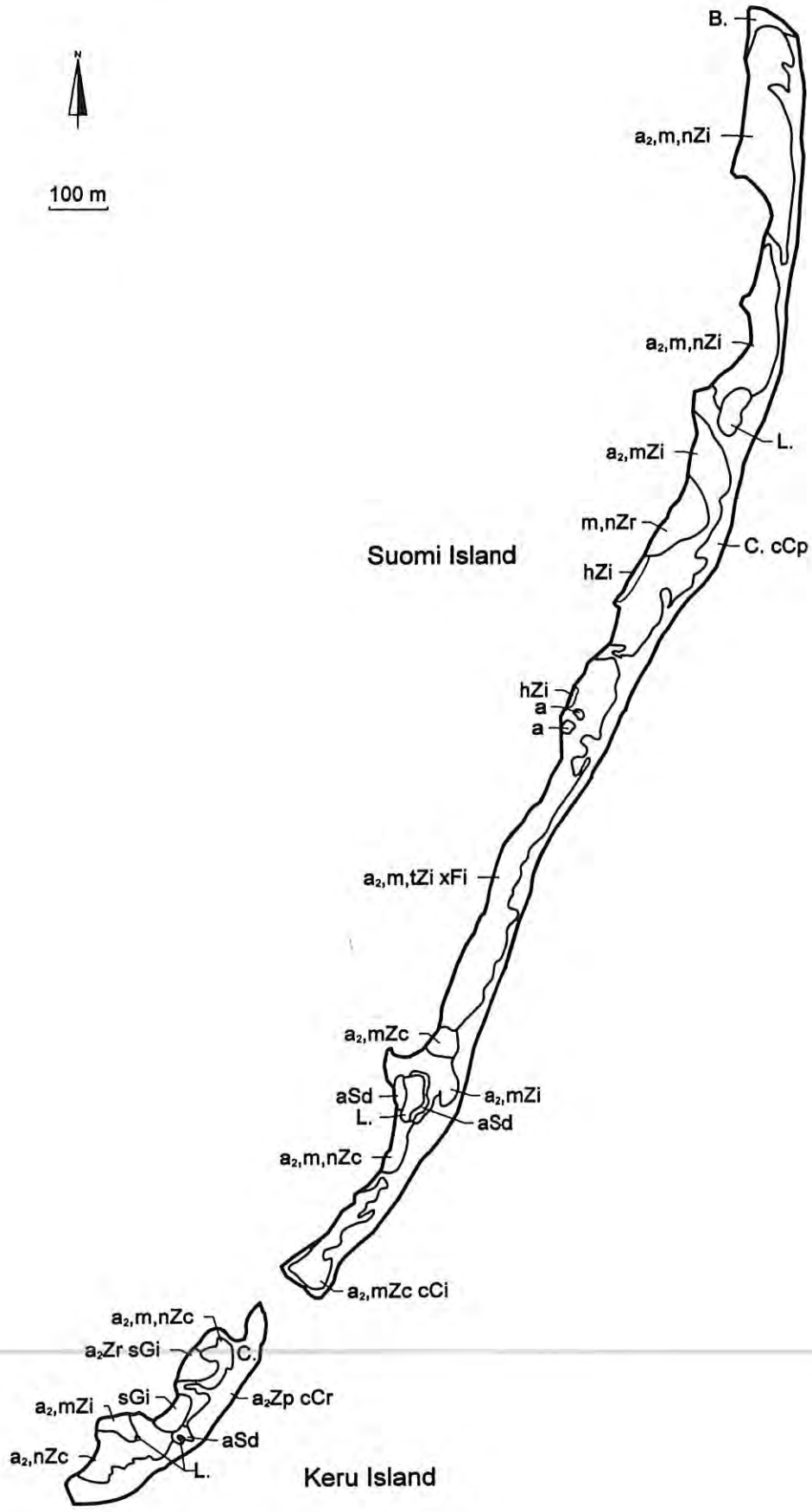

Figure 34. Vegetation map of Keru Island, Suomi Island, Easter Group. For Suomi Island, x of xFi denotes mixed forbs (species not specified).

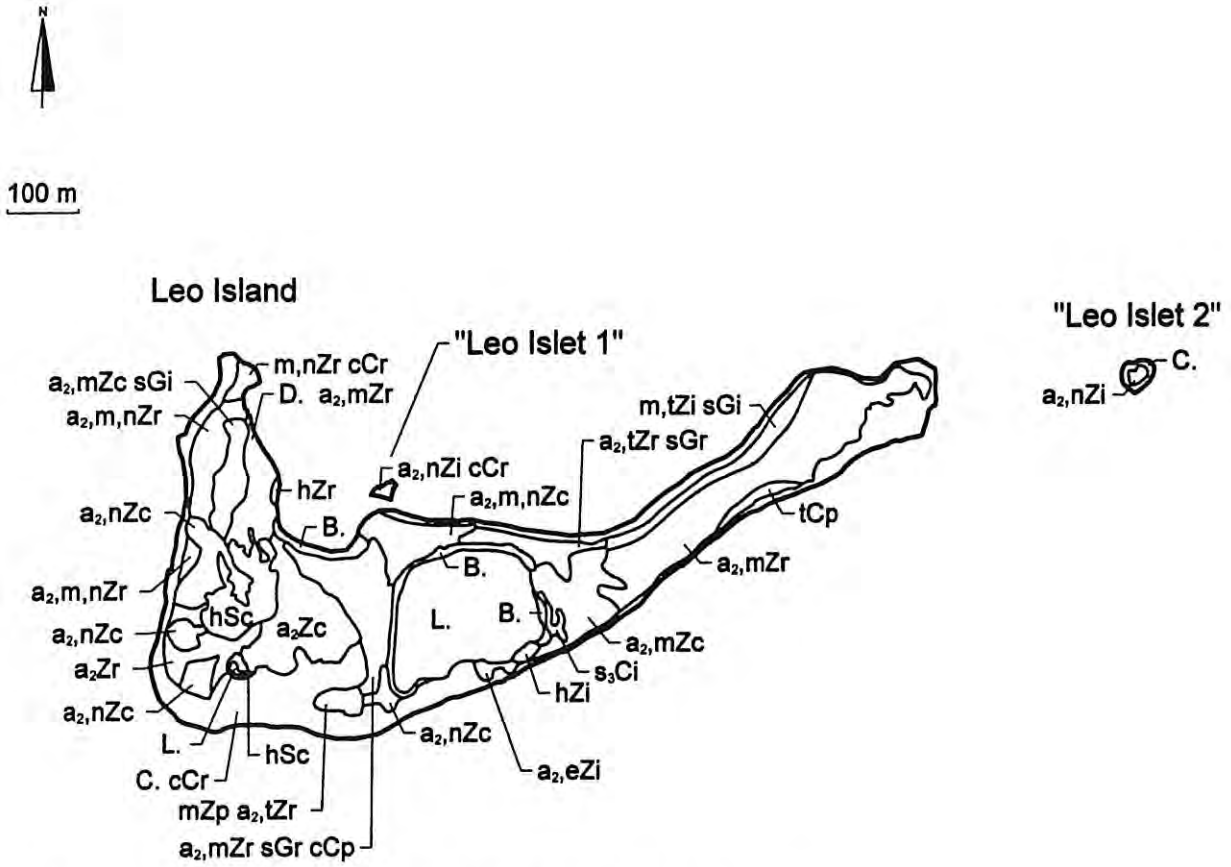

Figure 35. Vegetation map of Leo Island, "Leo Islet 1", "Leo Islet 2", Easter Group.

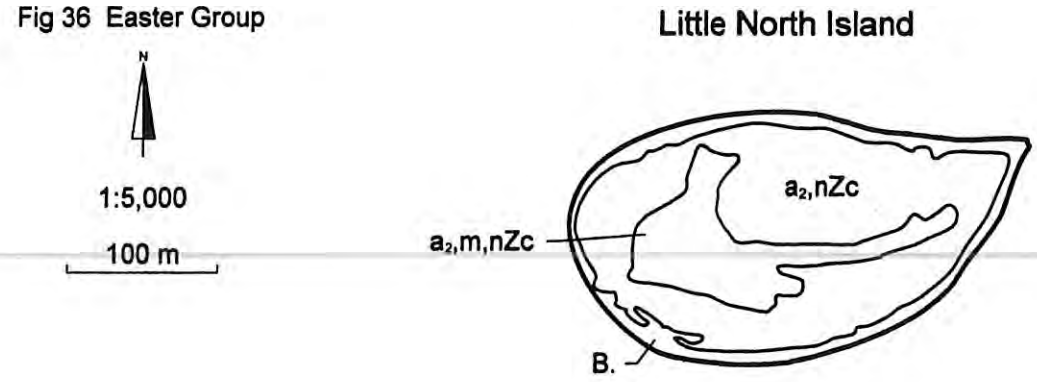

Figure 36. Vegetation map of Little North Island, Easter Group.

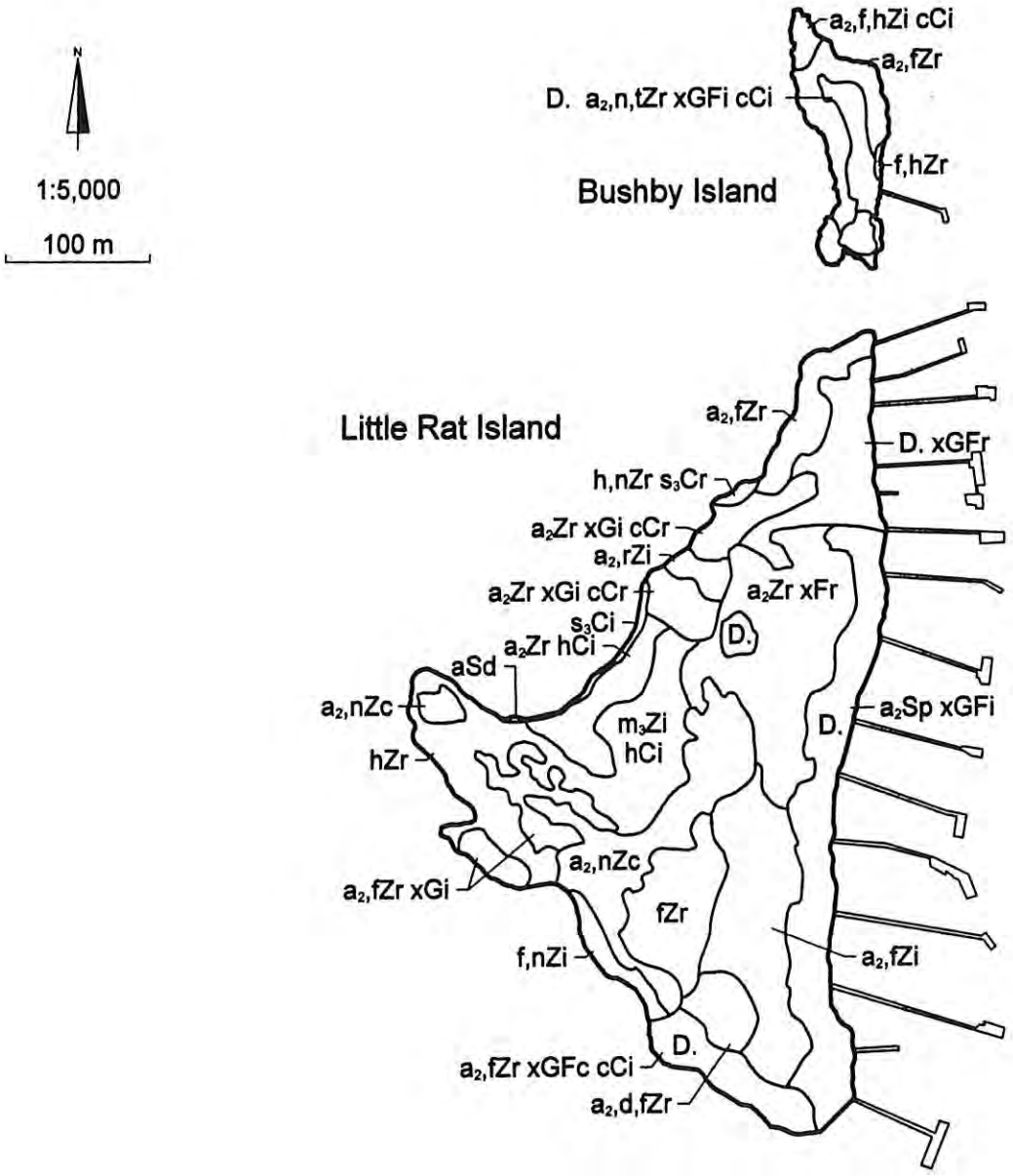

Figure 37. Vegetation map of Bushby Island, Little Rat Island, Easter Group.
For Bushby Island, x of xGFi denotes native and introduced grasses, garden plants and weeds, including *Anagallis arvensis, *Avena barbata, *Conyza bonariensis, *Ehrharta longiflora, *Melilotus indicus, Setaria dielsii, *Sonchus oleraceus, *Urospermum picroides.
For Little Rat Island, x of xGi, xGFi and xGFc denotes native and introduced grasses, garden plants and weeds, including *Conyza bonariensis, *Ehrharta longiflora, *Euphorbia *spp.*, *Ipomoea cairica, Lavatera plebeia, *Melilotus indicus, *Petroselinum crispum, *Pseudognaphalium luteoalbum, *Raphanus raphanistrum, Setaria dielsii, *Sisymbrium orientale, *Solanum nigrum.

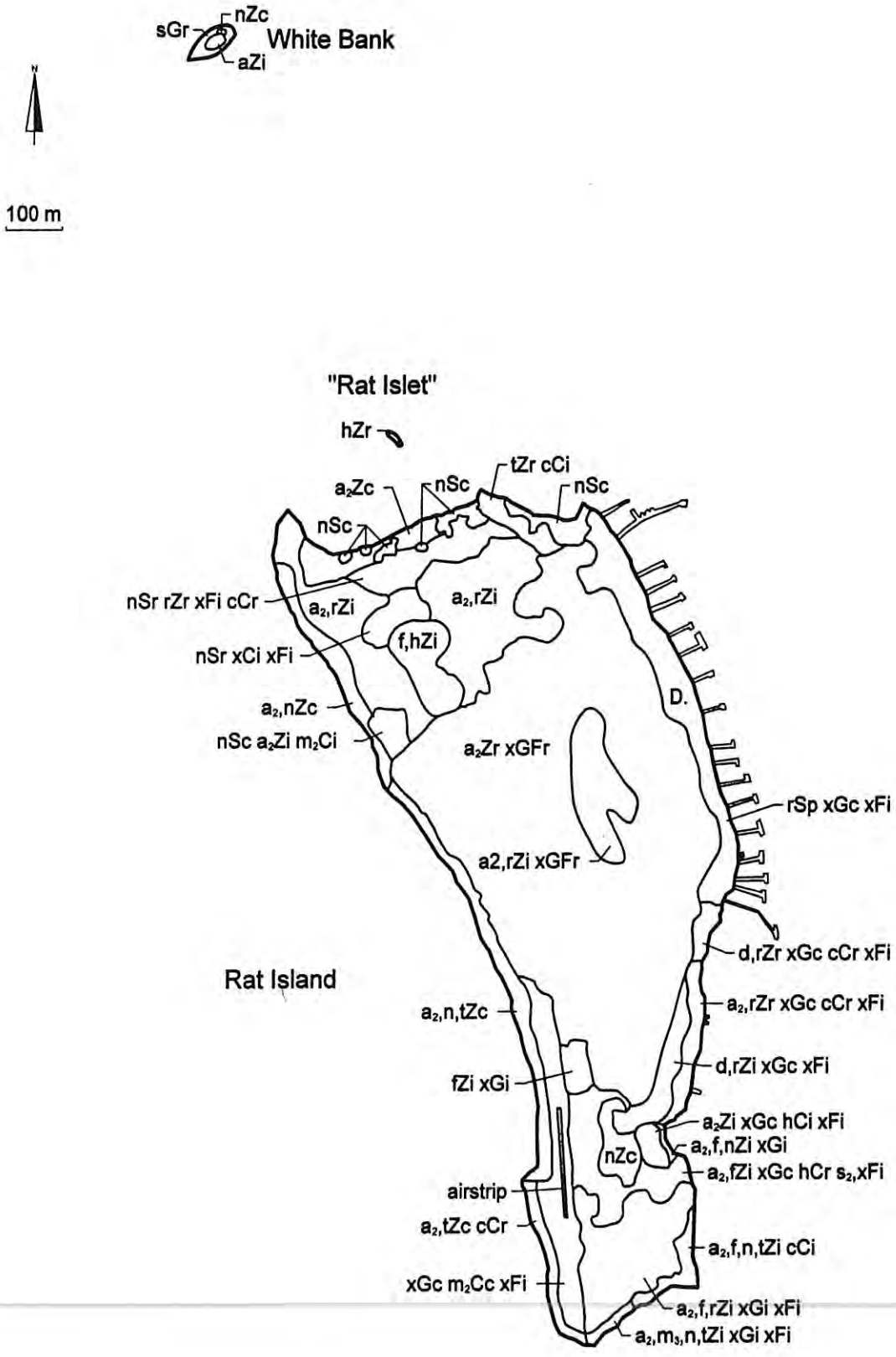

Figure 38. Vegetation map of Rat Island, "Rat Islet", White Bank, Easter Group.
For Rat Island, x of xFi, xGi, xGc, xGFr denotes native and introduced grasses, garden plants and weeds including *Aster subulatus, *Bryophyllum *sp.*, *Euphorbia terracina, *Malva parviflora, *Melilotus indicus, *Pseudognaphalium luteoalbum, *Raphanus raphanistrum, Setaria dielsii, *Solanum nigrum.
For Rat Island, x of xCi is mixed succulents (species not specified).

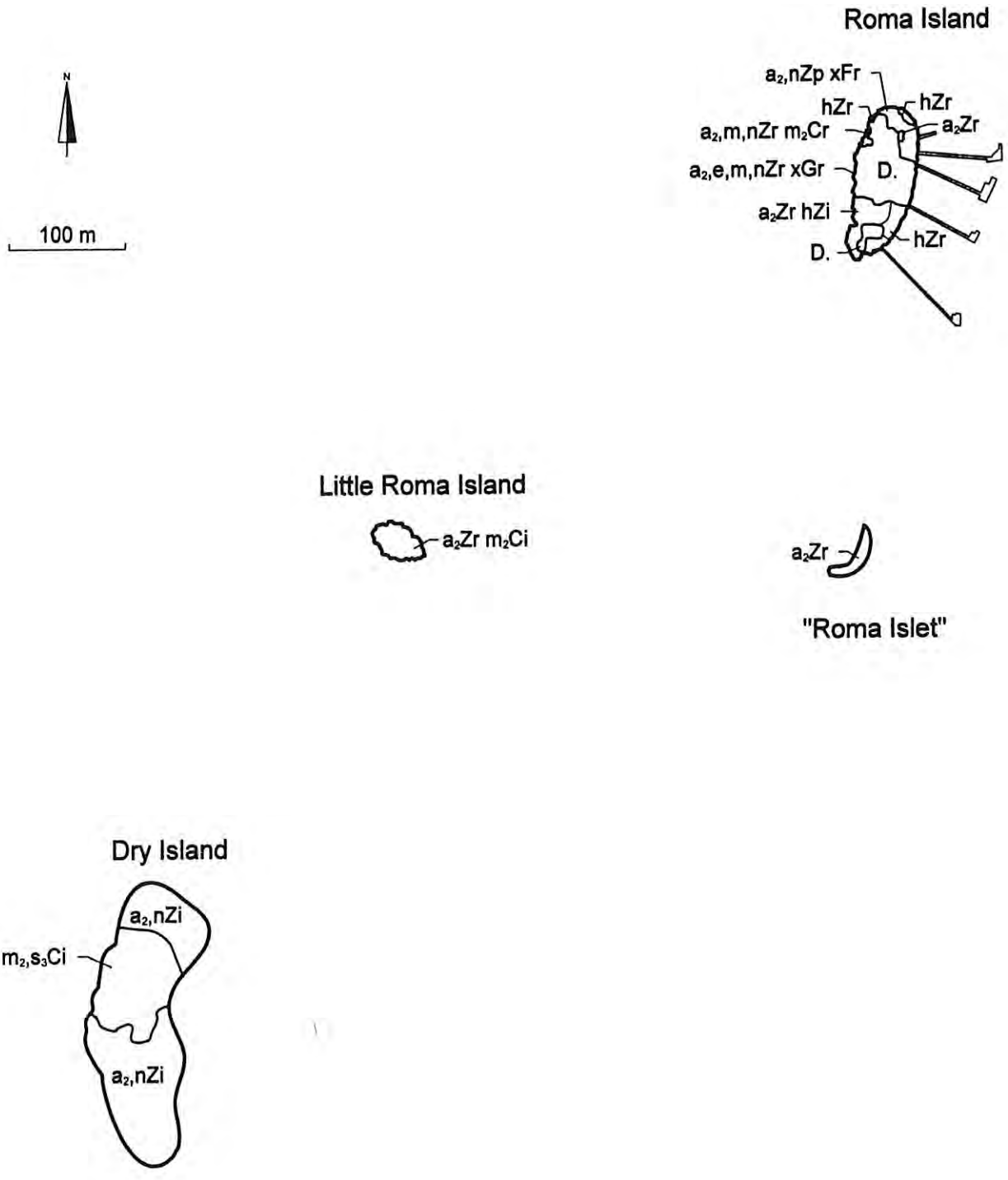

Figure 39. Vegetation map of Dry Island, Little Roma Island, Roma Island, "Roma Islet", Easter Group.
For Roma Island, x of xFr, xGr denotes introduced grasses, garden plants and weeds, including *Conyza bonariensis, Lavatera plebeia, *Lycopersicon esculentum, *Petroselinum crispum, *Sonchus oleraceus.

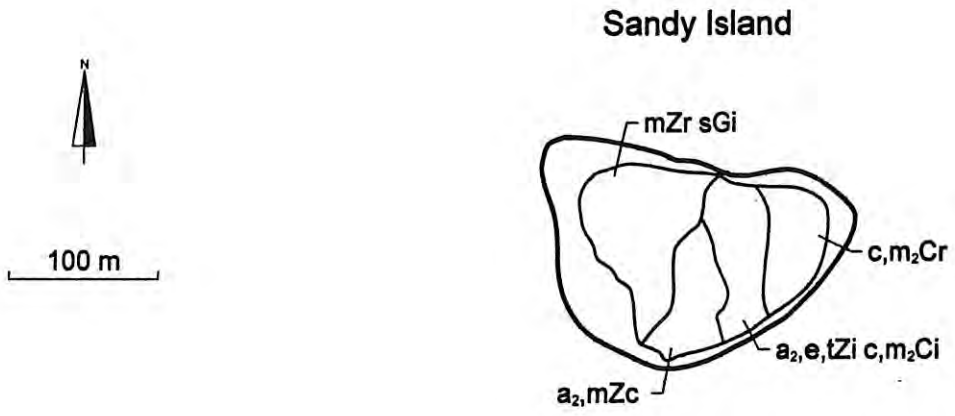

Figure 40. Vegetation map of Sandy Island, Easter Group.

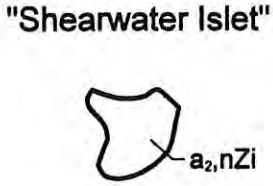

Figure 41. Vegetation map of Shearwater Island, "Shearwater Islet", Easter Group.

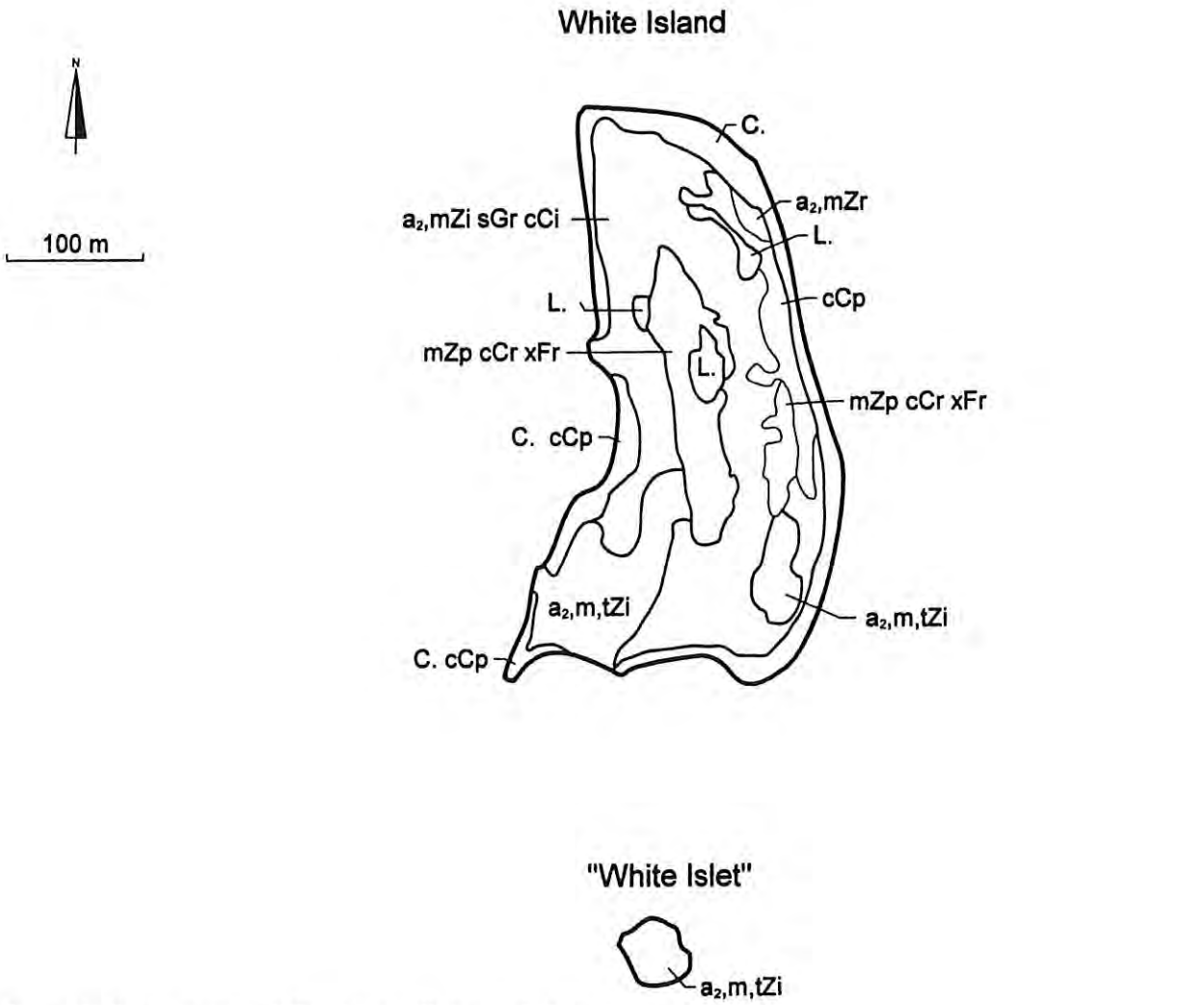

Figure 42. Vegetation map of White Island, "White Islet", Easter Group. For White Island, x of xFr denotes mixed forbs (species not specified).

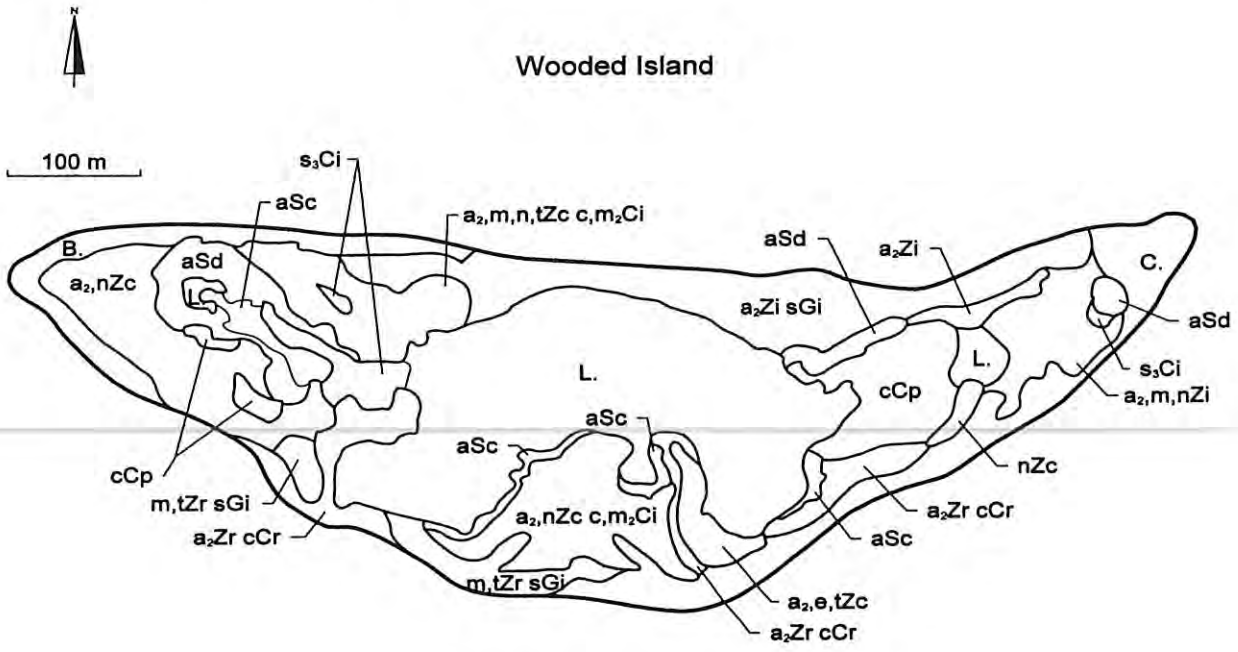

Figure 43. Vegetation map of Wooded Island, Easter Group.

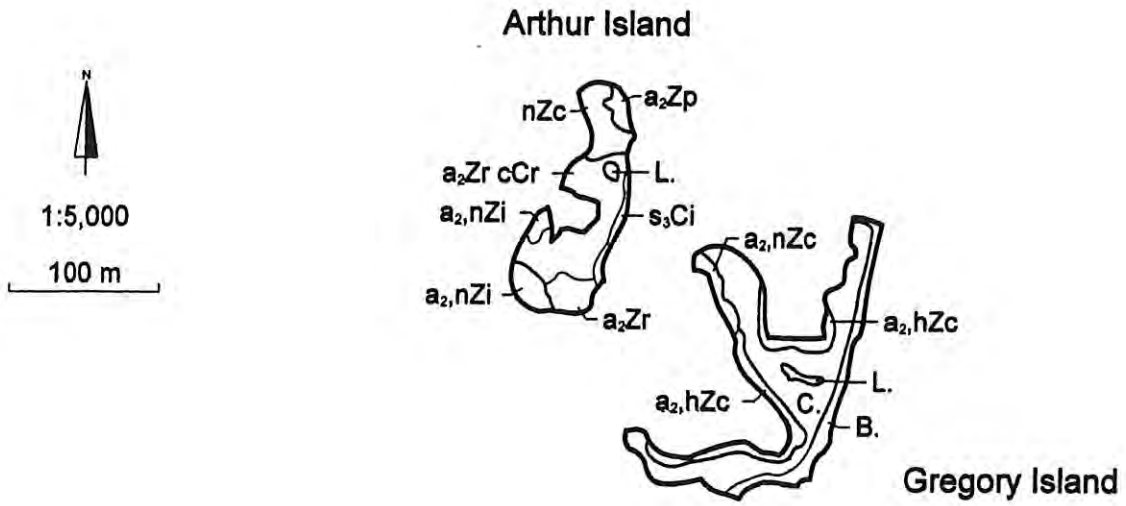

Figure 44. Vegetation map of Arthur Island, Gregory Island, Pelsaert Group.

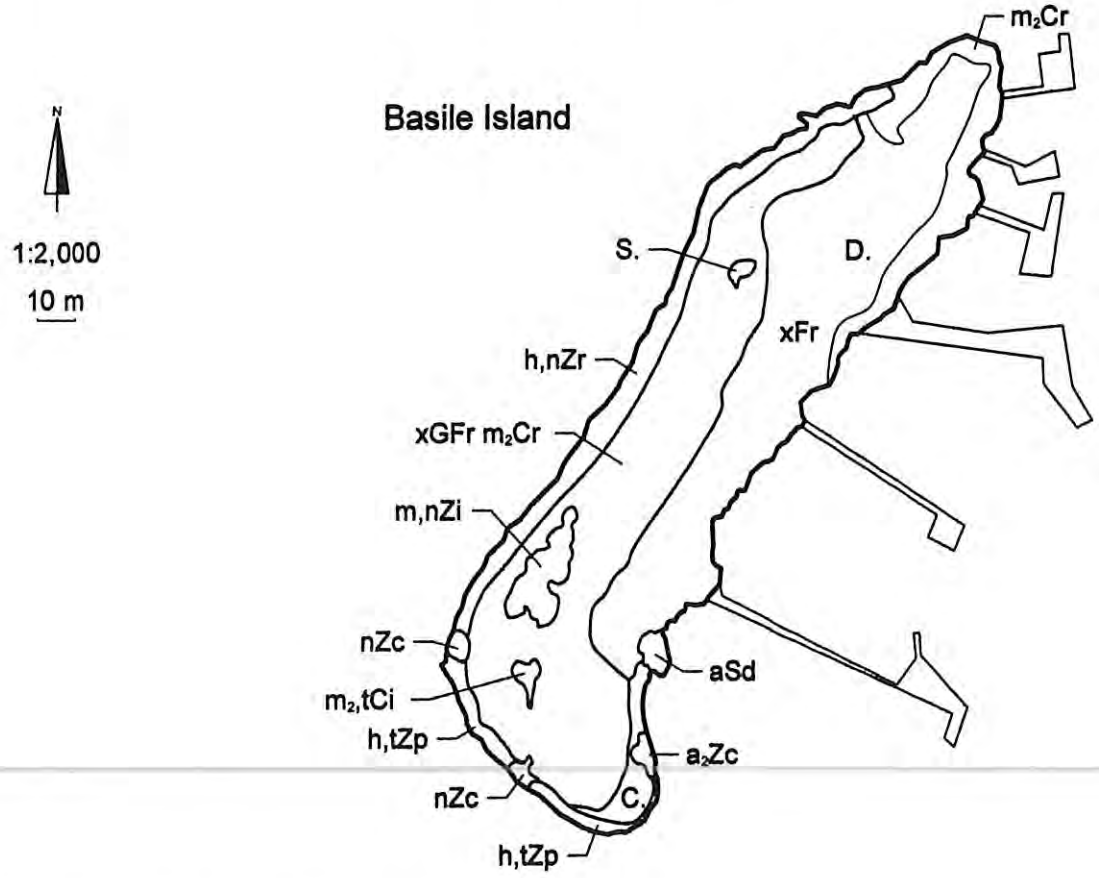

Figure 45. Vegetation map of Basile Island, Pelsaert Group.
For Basile Island, x of xFr and xGFr denote native and introduced grasses, garden plants and weeds including *Avena *spp.*, *Bromus *spp.*, *Ehrharta *spp.*, *Hordeum leporinum, Lavatera plebeia, *Melilotus indicus, *Phalaris minor, *Raphanus *spp.*, *Sonchus oleraceus, *Ursinia anthemoides.

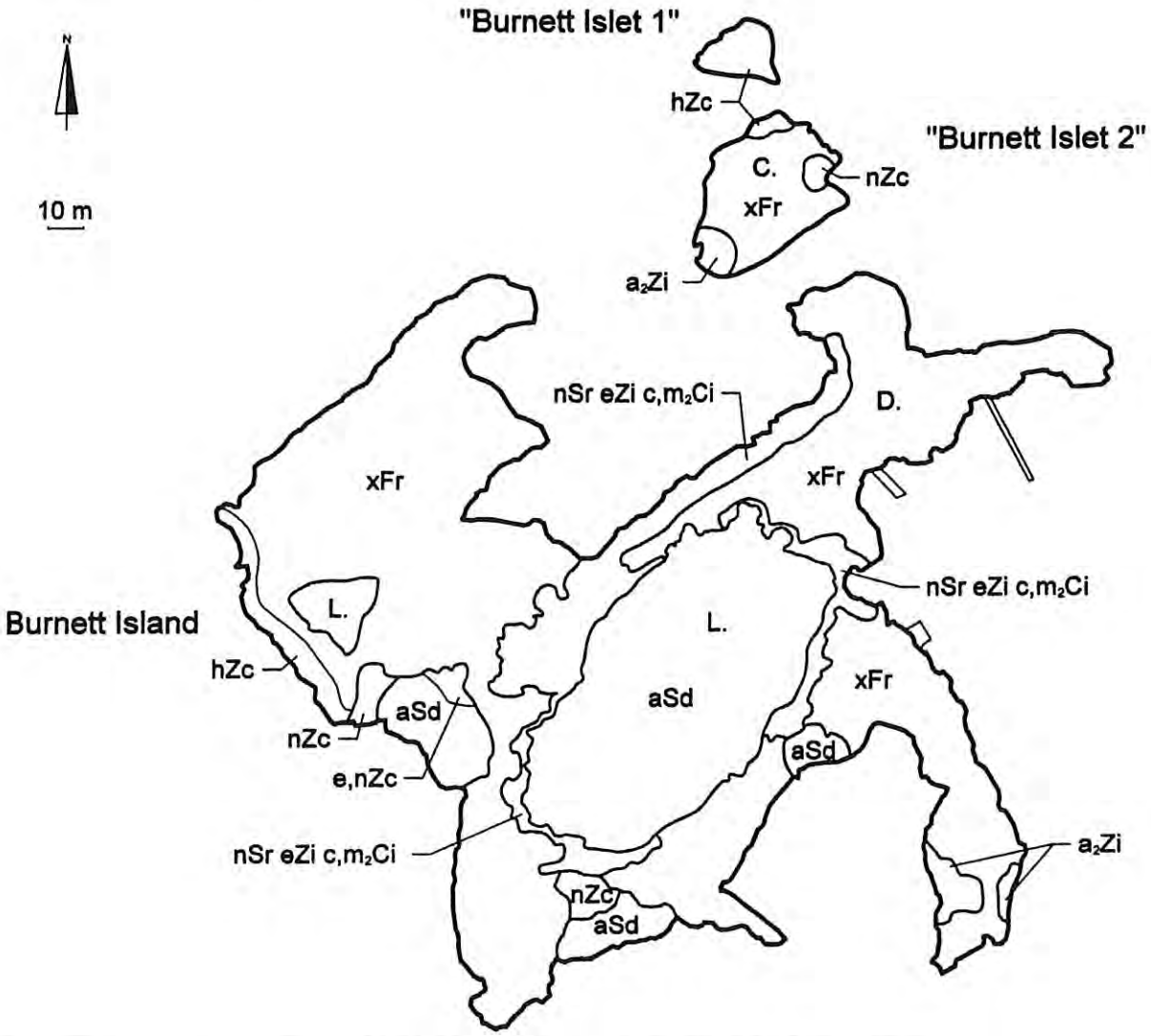

Figure 46. Vegetation map of Burnett Island, "Burnett Islet 1", "Burnett Islet 2", Pelsaert Group.
For Burnett Island, x of xFr includes Parietaria debilis, *Raphanus sativus, Senecio lautus, *Sonchus oleraceus, *Urospermum picroides.
For "Burnett Islet 2", x of xFr denotes mixed forbs (species not specified).

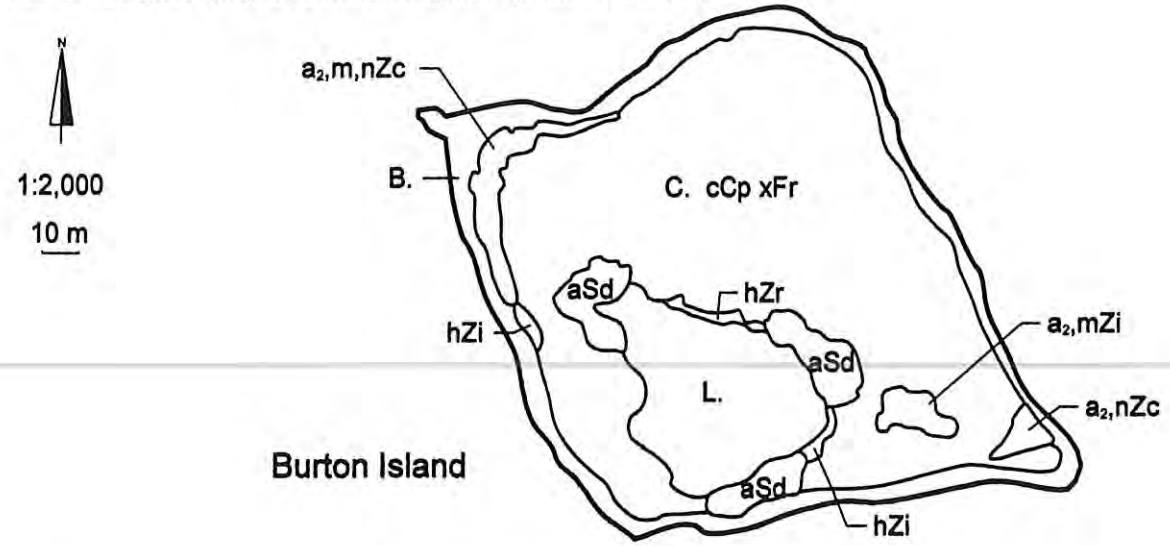

Figure 47. Vegetation map of Burton Island, Pelsaert Group.
For Burton Island, x of xFr includes Lavatera plebeia, Parietaria *spp.*, Senecio lautus, *Sonchus *spp.*, *Urospermum picroides.

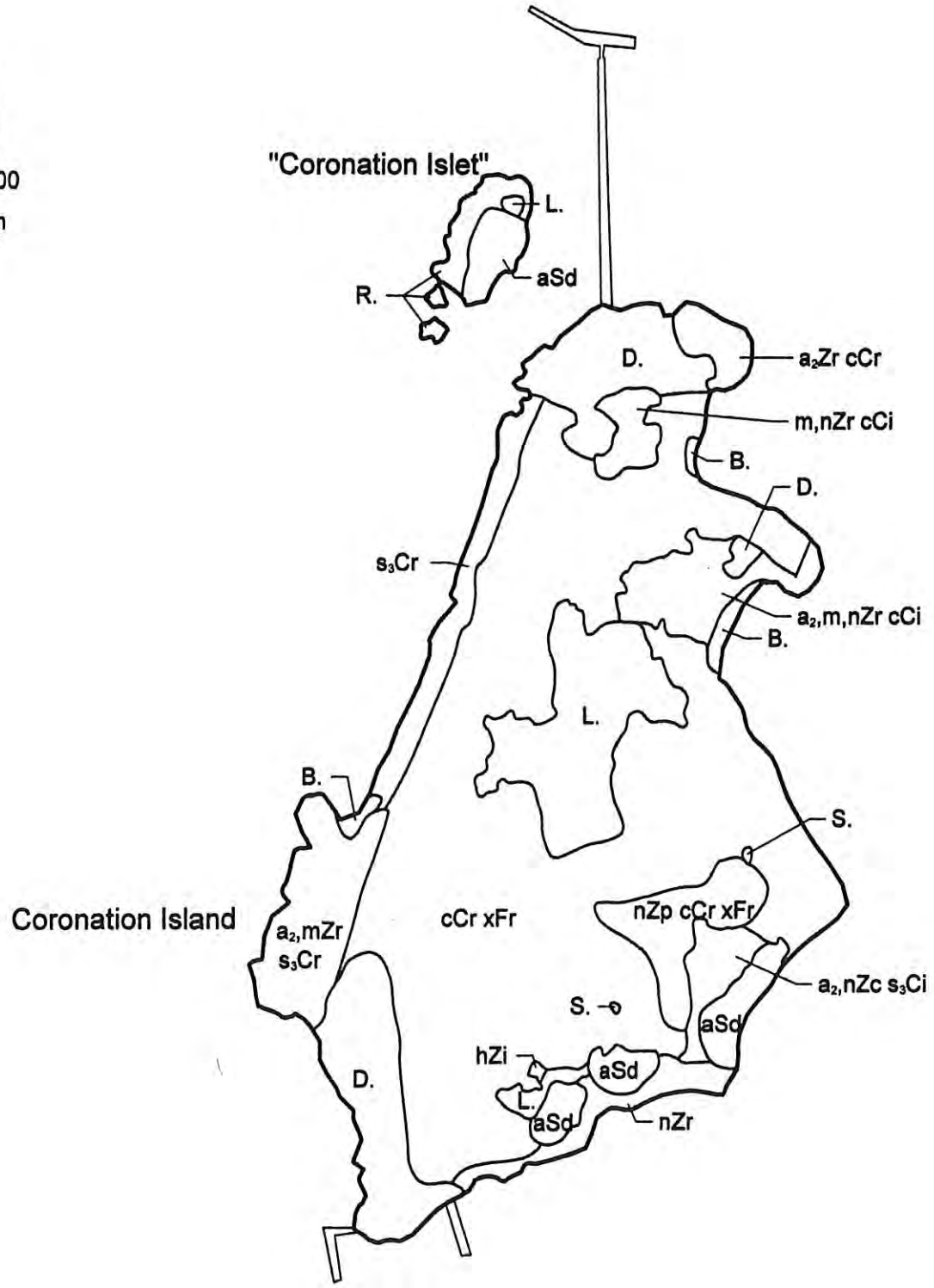

Figure 48. Vegetation map of Coronation Island, "Coronation Islet", Pelsaert Group.
For Coronation Island, x of xFr includes Parietaria debilis, Senecio lautus, *Sonchus oleraceus.

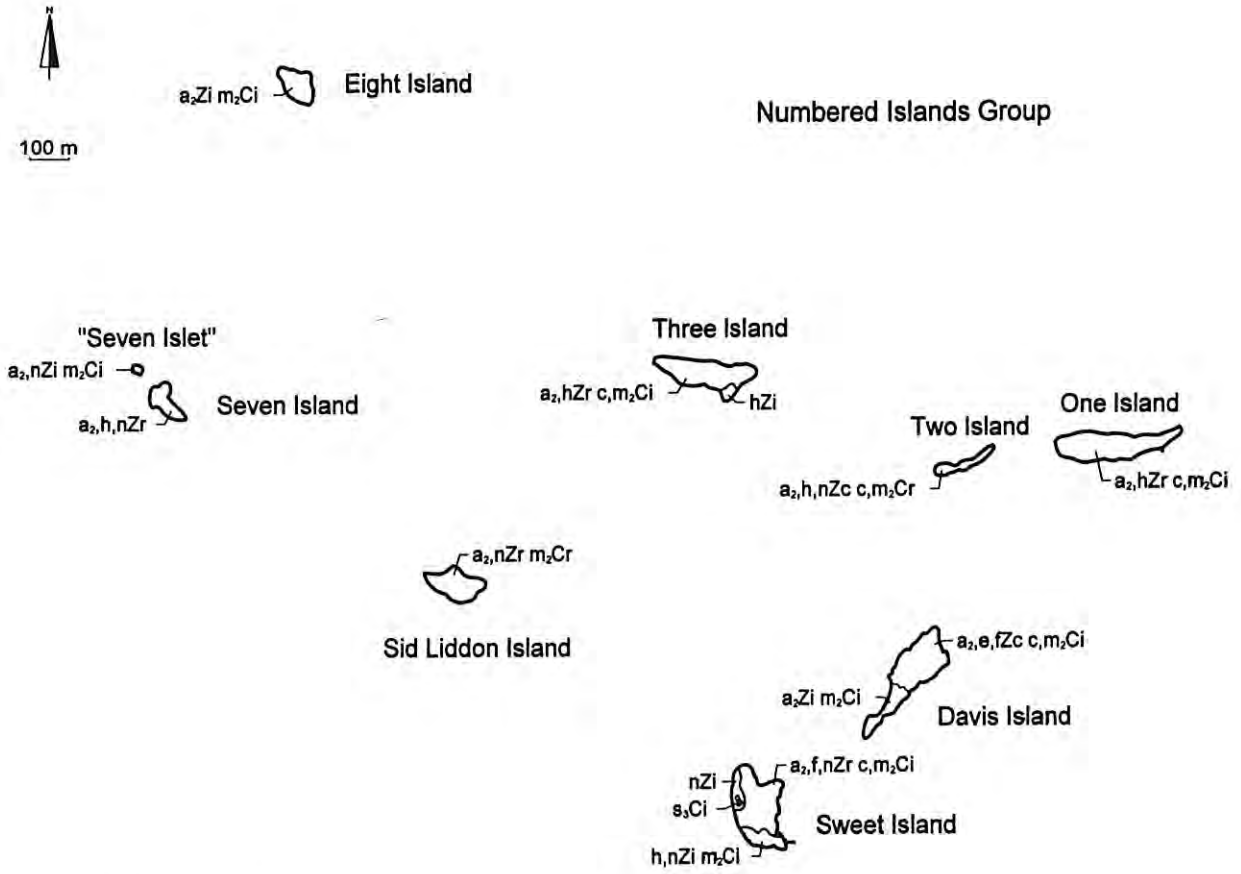

Figure 49. Vegetation map of Davis Island, Eight Island, One Island, Seven Island, "Seven Islet", Sid Liddon Island, Sweet Island, Three Island, Two Island, Pelsaert Group.

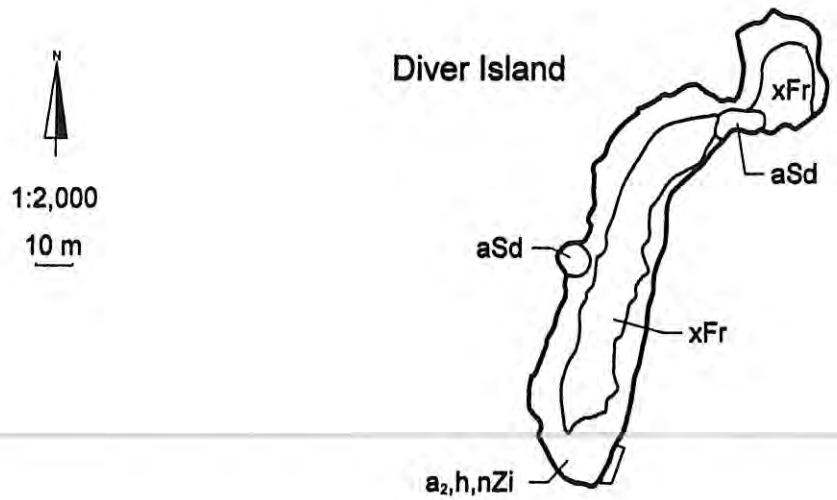

Figure 50. Vegetation map of Diver Island, Pelsaert Group.
For Diver Island, x of xFr denotes mixed forbs (species not specified).

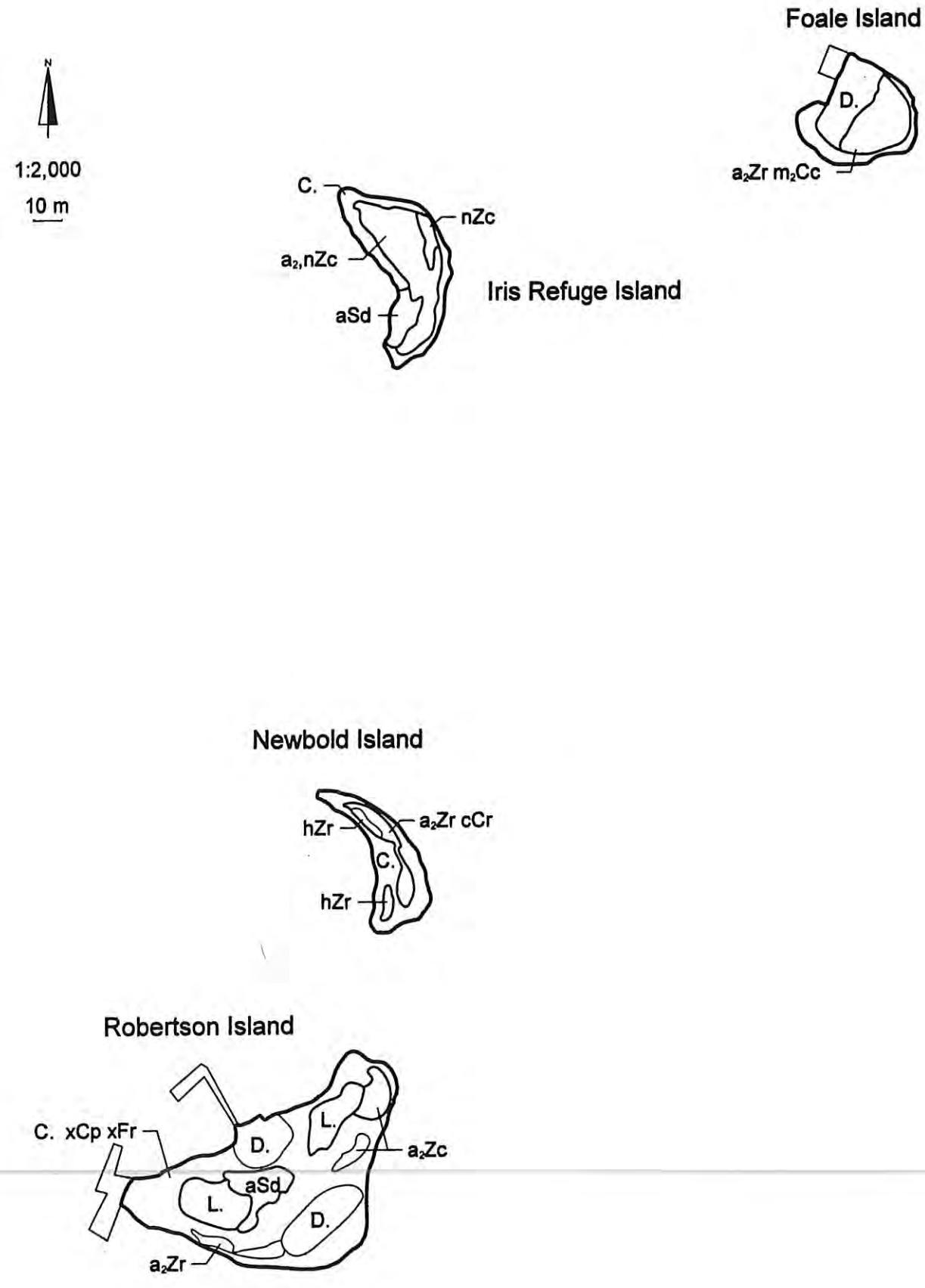

Figure 51. Vegetation map of Foale Island, Iris Refuge Island, Newbold Island, Robertson Island, Pelsaert Group. For Robertson Island, x of xCp and xFr are mixed succulents and forbs (species not specified).

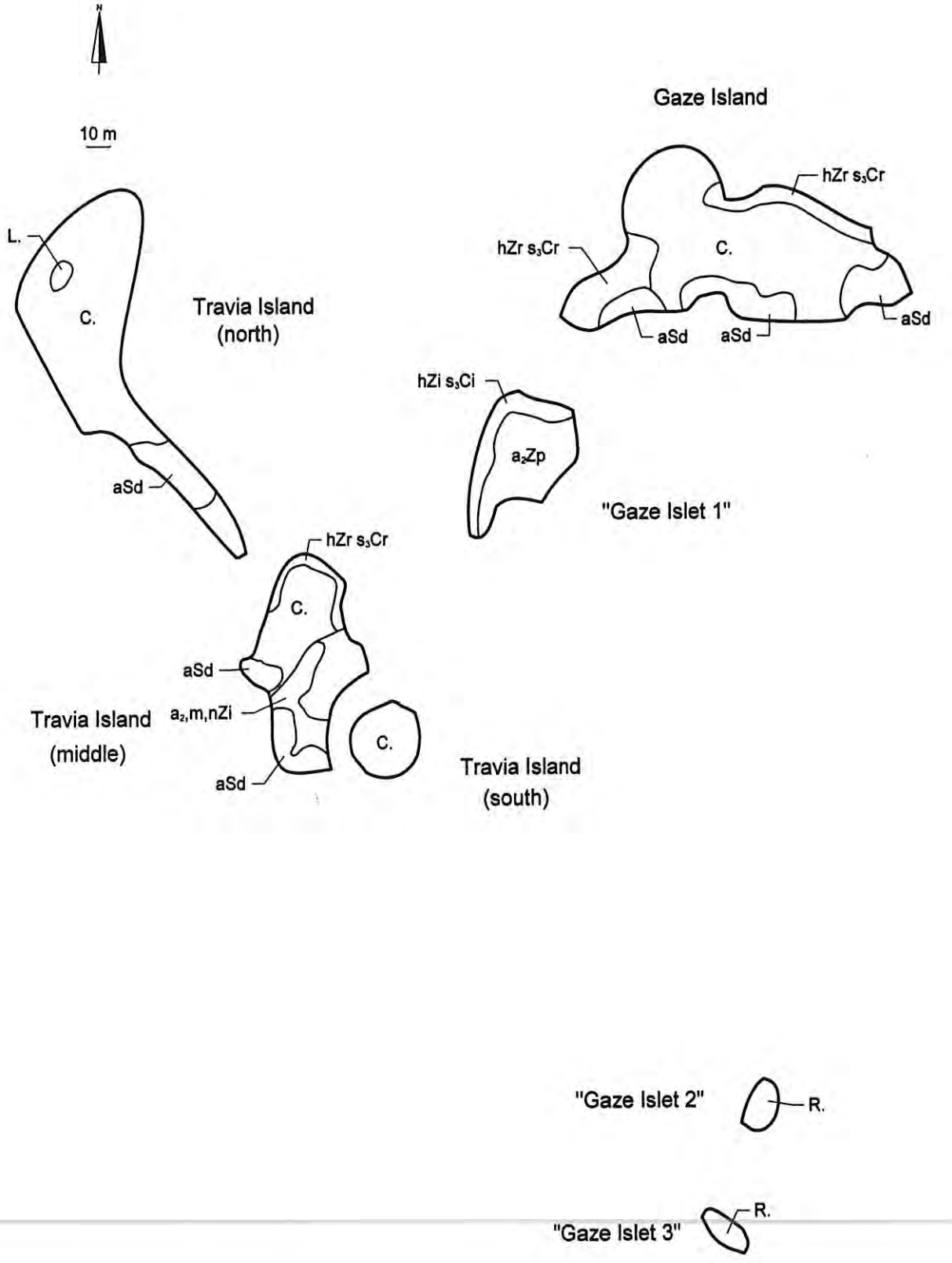

Figure 52. Vegetation map of Gaze Island, "Gaze Islet 1", "Gaze Islet 2", "Gaze Islet 3", Travia Island, Pelsaert Group.

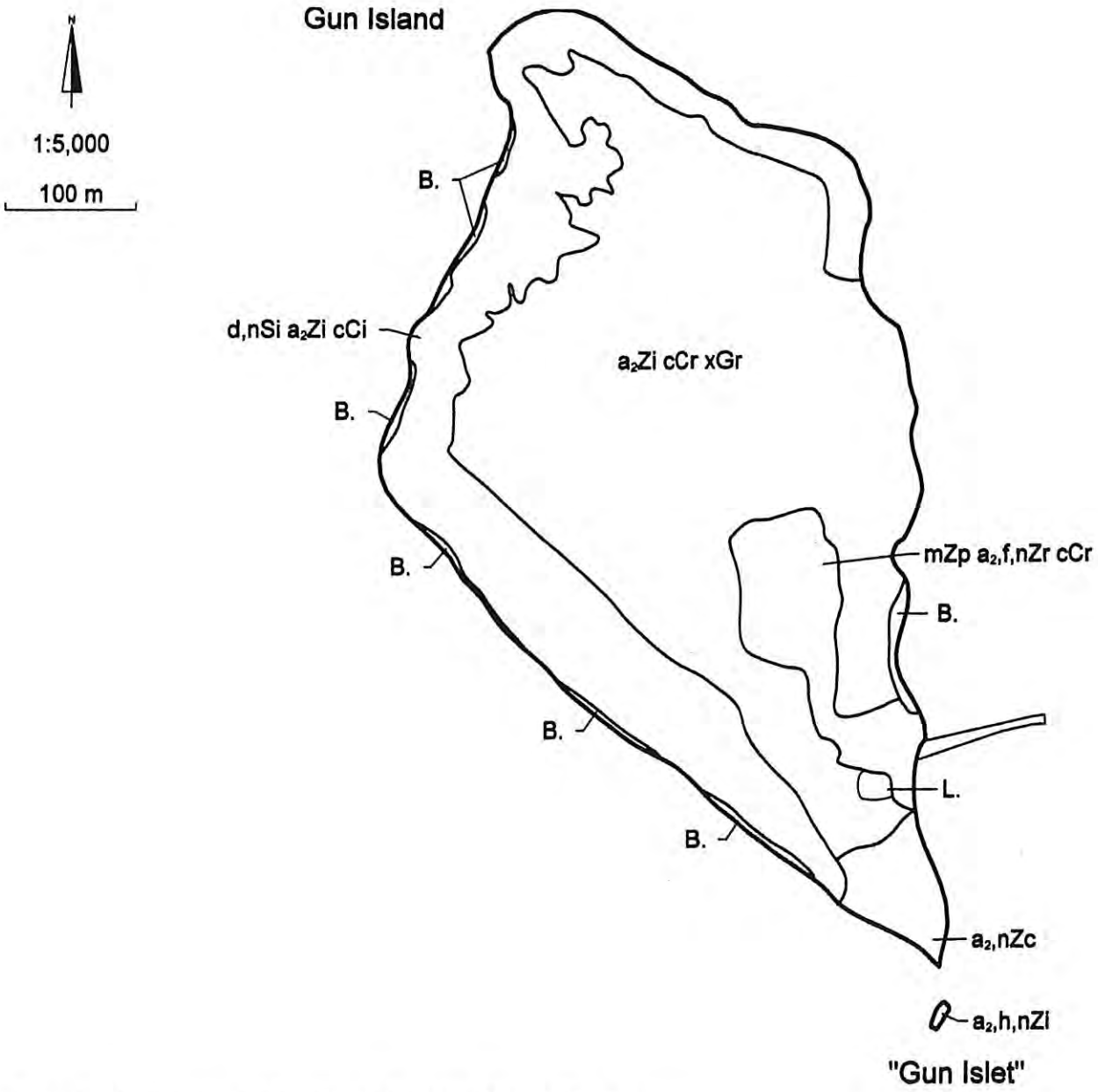

Figure 53. Vegetation map of Gun Island, "Gun Islet", Pelsaert Group.
For Gun Island, x of xGr includes Bromus *sp.*, *Phleum pratensis, Setaria dielsii.

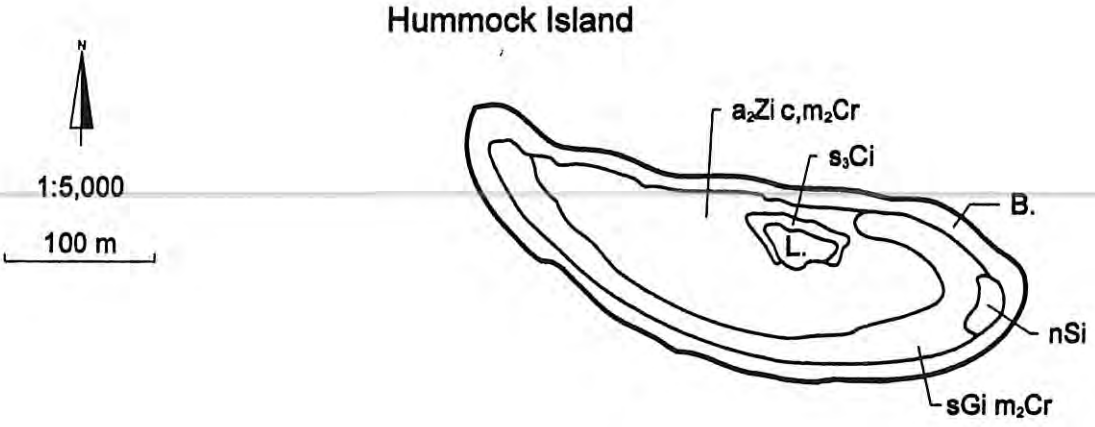

Figure 54. Vegetation map of Hummock Island, Pelsaert Group.

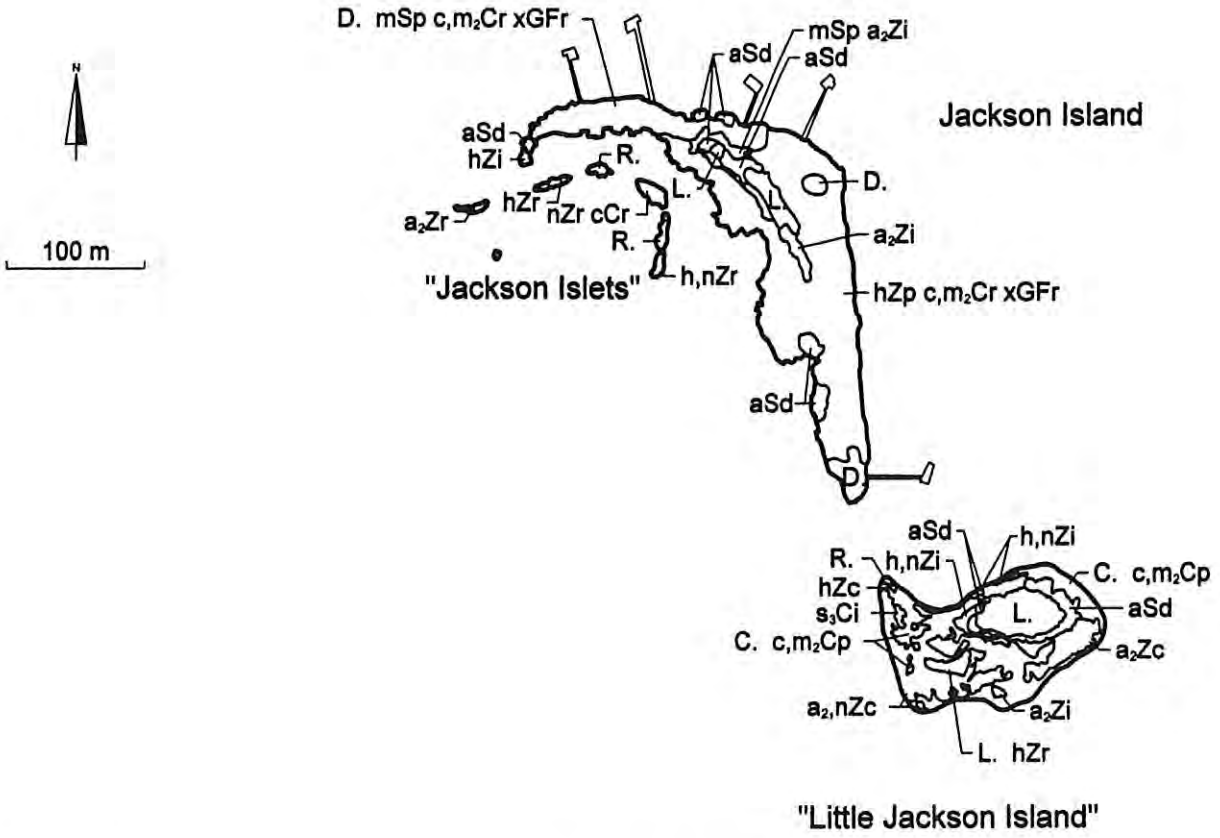

Figure 55. Vegetation map of Jackson Island, "Jackson Islets", "Little Jackson Island", Pelsaert Group.
For Jackson Island, x of xGFr includes *Ehrharta longiflora, Lavatera plebeia, *Lycopersicon esculentum, Parietaria debilis, Senecio lautus, *Sonchus oleraceus.

Figure 56. Vegetation map of Jon Jim Island, Pelsaert Group.

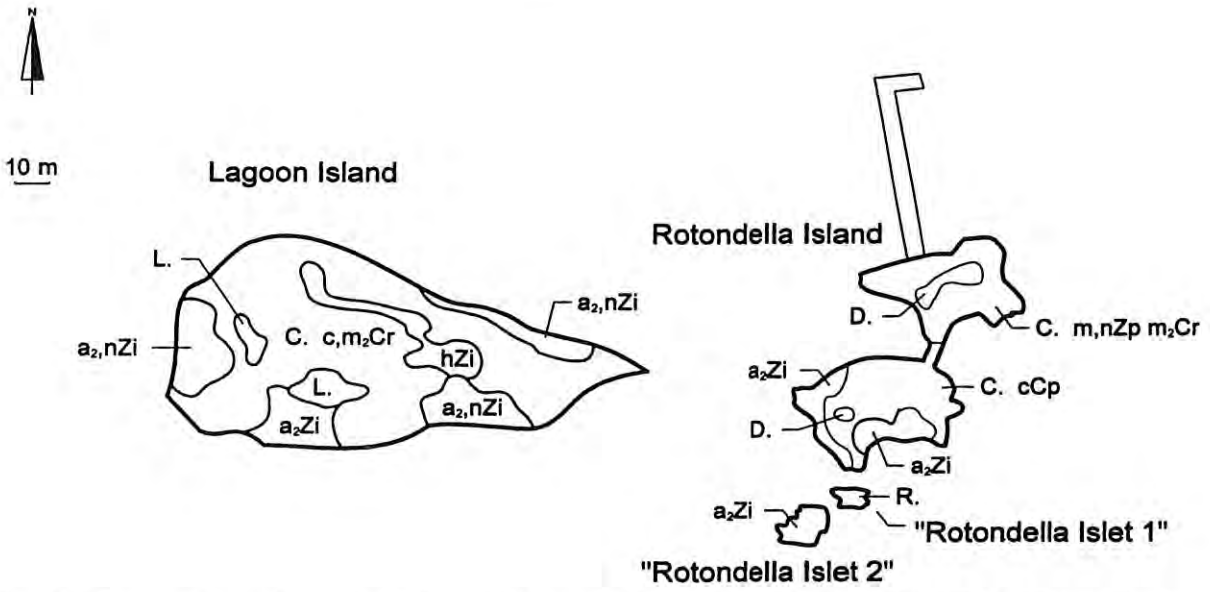

Figure 57. Vegetation map of Lagoon Island, Rotondella Island, "Rotondella Islet 1", "Rotondella Islet 2", Pelsaert Group.

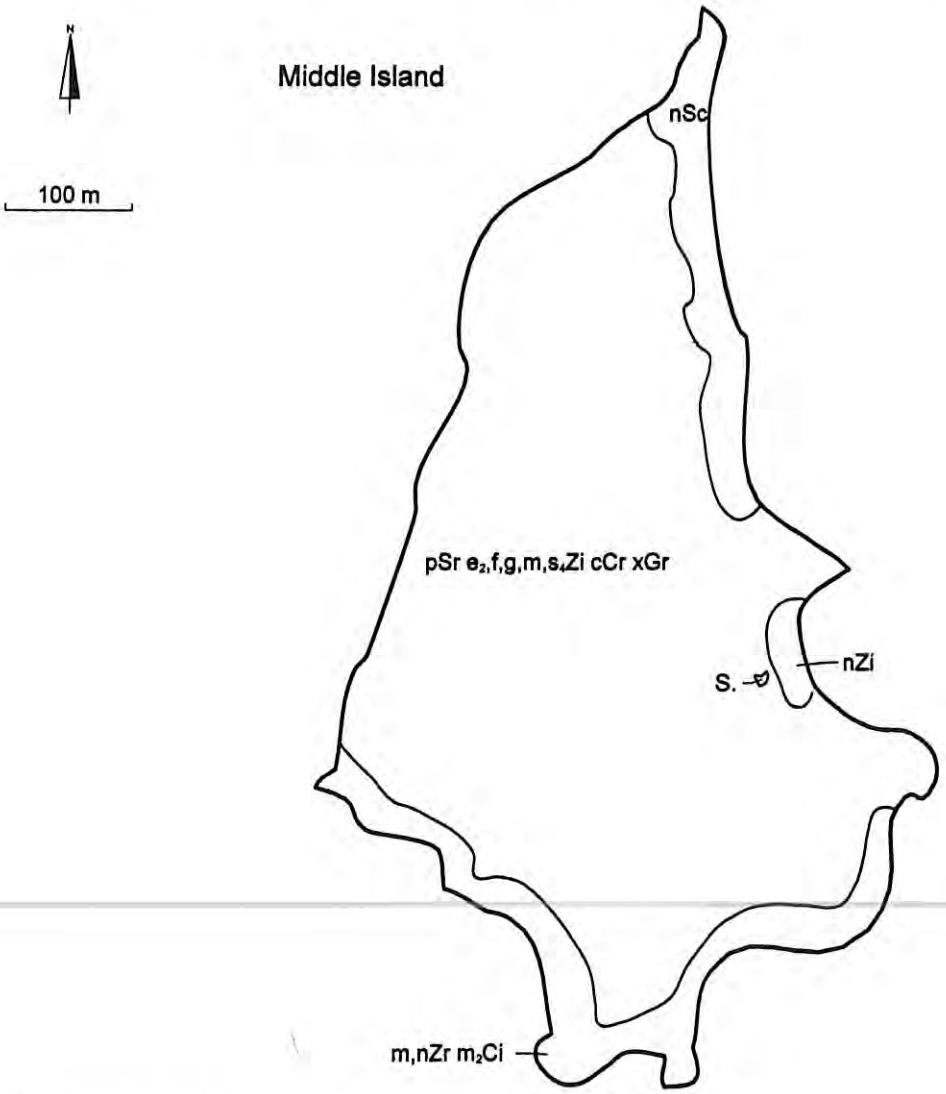

Figure 58. Vegetation map of Middle Island, Pelsaert Group.
For Middle Island, x of xGr includes Austrostipa elegantissima, *Bromus *sp.*, Setaria dielsii, Sporobolus virginicus.

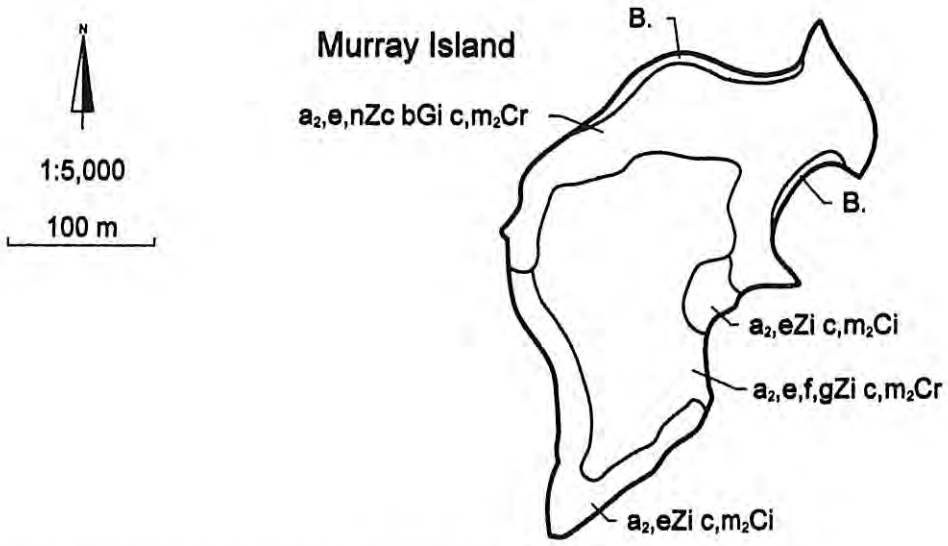

Figure 59. Vegetation map of Murray Island, Pelsaert Group.

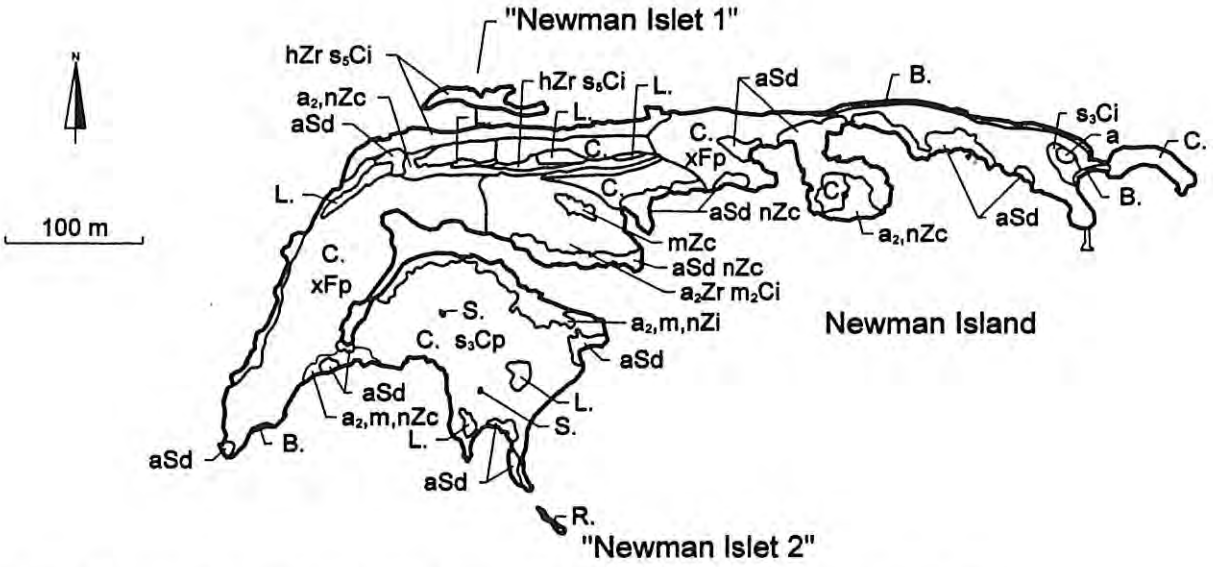

Figure 60. Vegetation map of Newman Island, "Newman Islet 1", "Newman Islet 2", Pelsaert Group. For Newman Island, x of xFp includes Senecio lautus, *Sonchus oleraceus, *Pelsaert Group.*

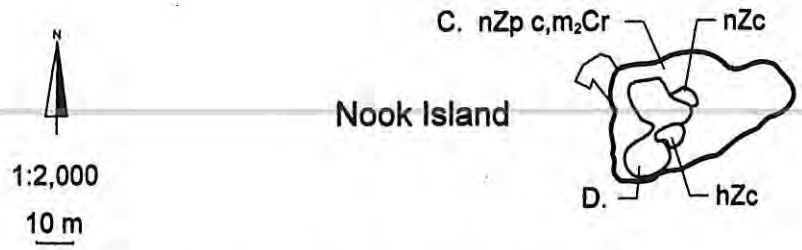

Figure 61. Vegetation map of Nook Island, Pelsaert Group.

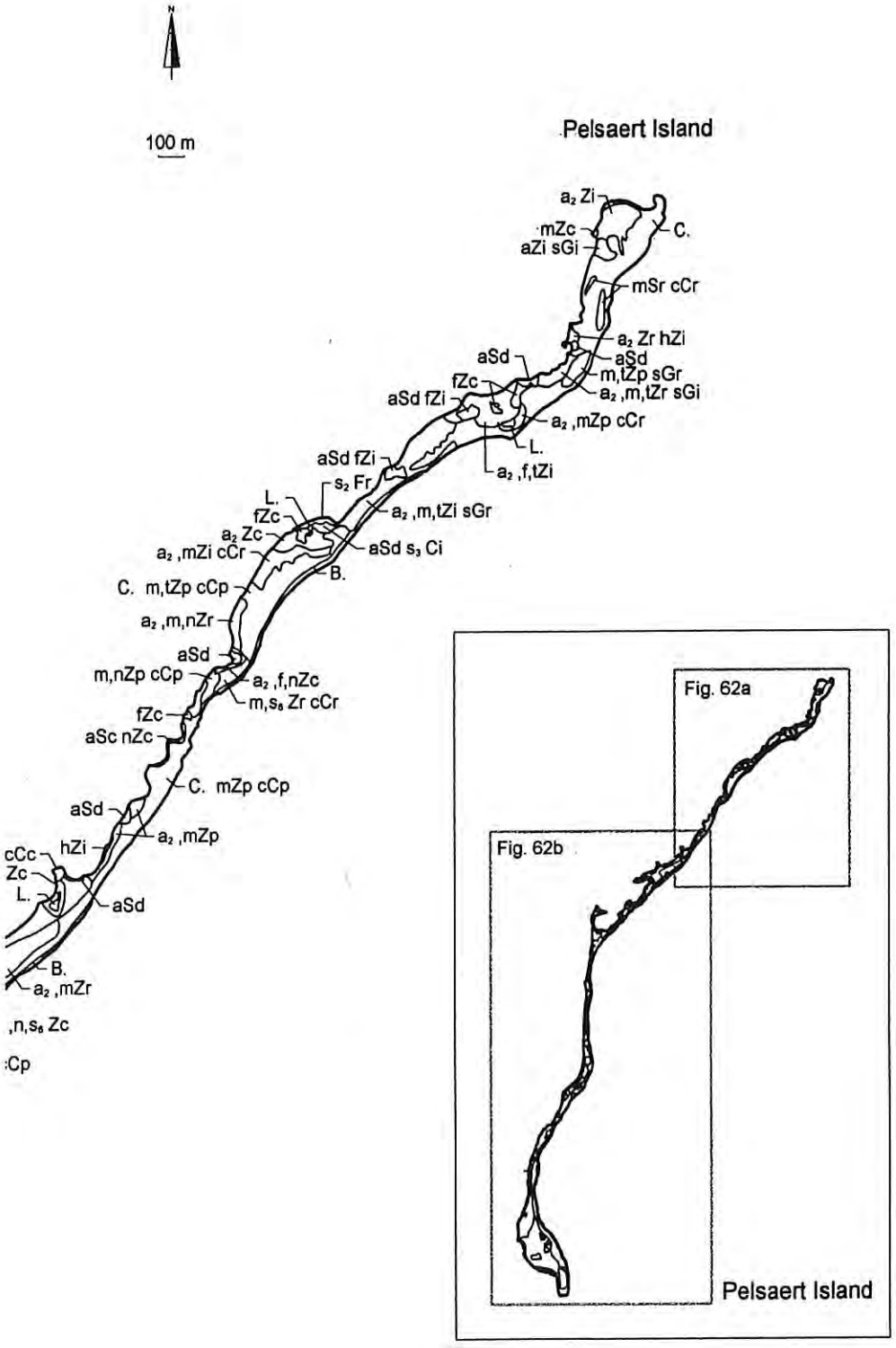

Figure 62a. Vegetation map of Pelsaert Island (north), Pelsaert Group.

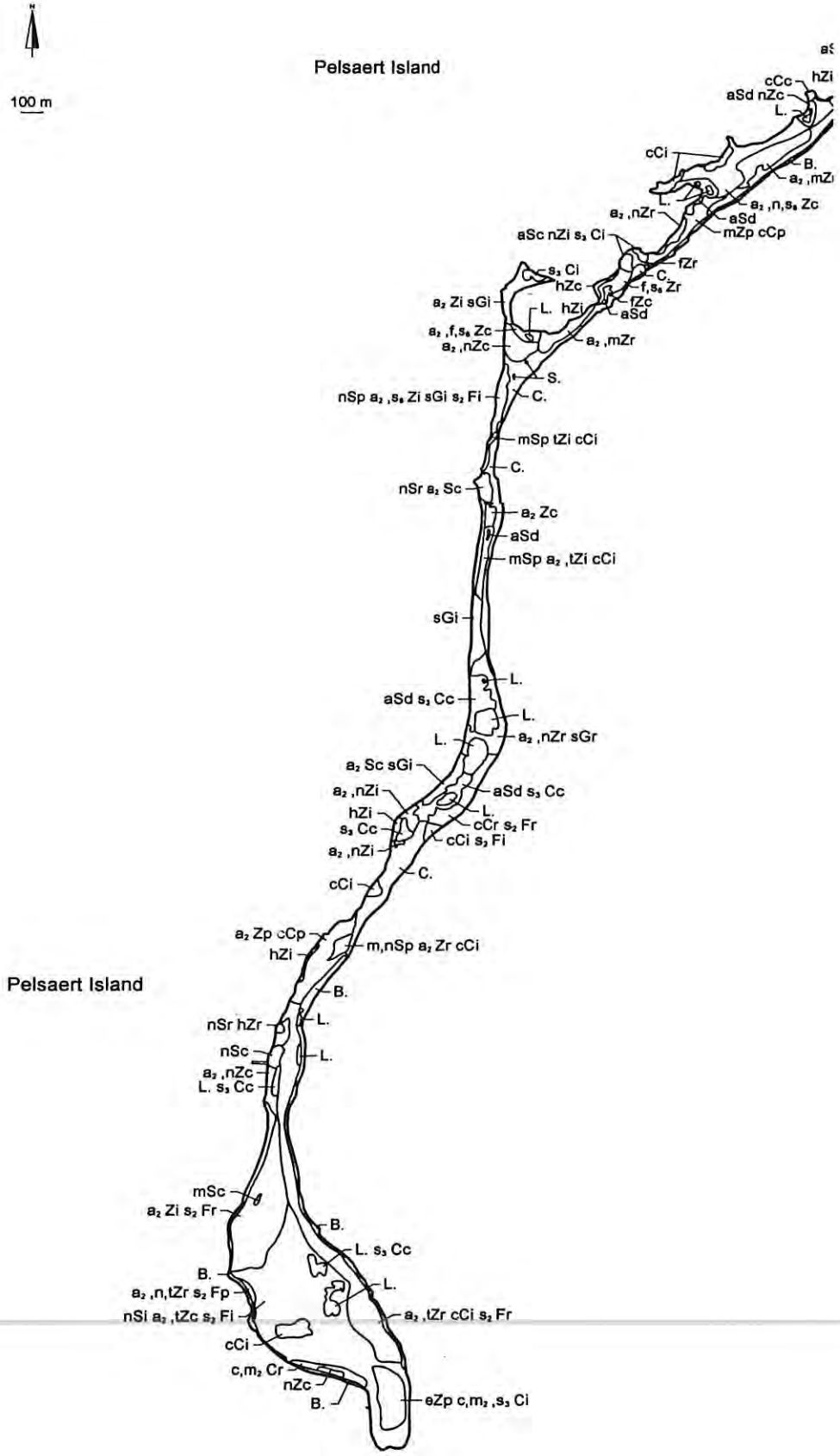

Figure 62b. Vegetation map of Pelsaert Island (south), Pelsaert Group.

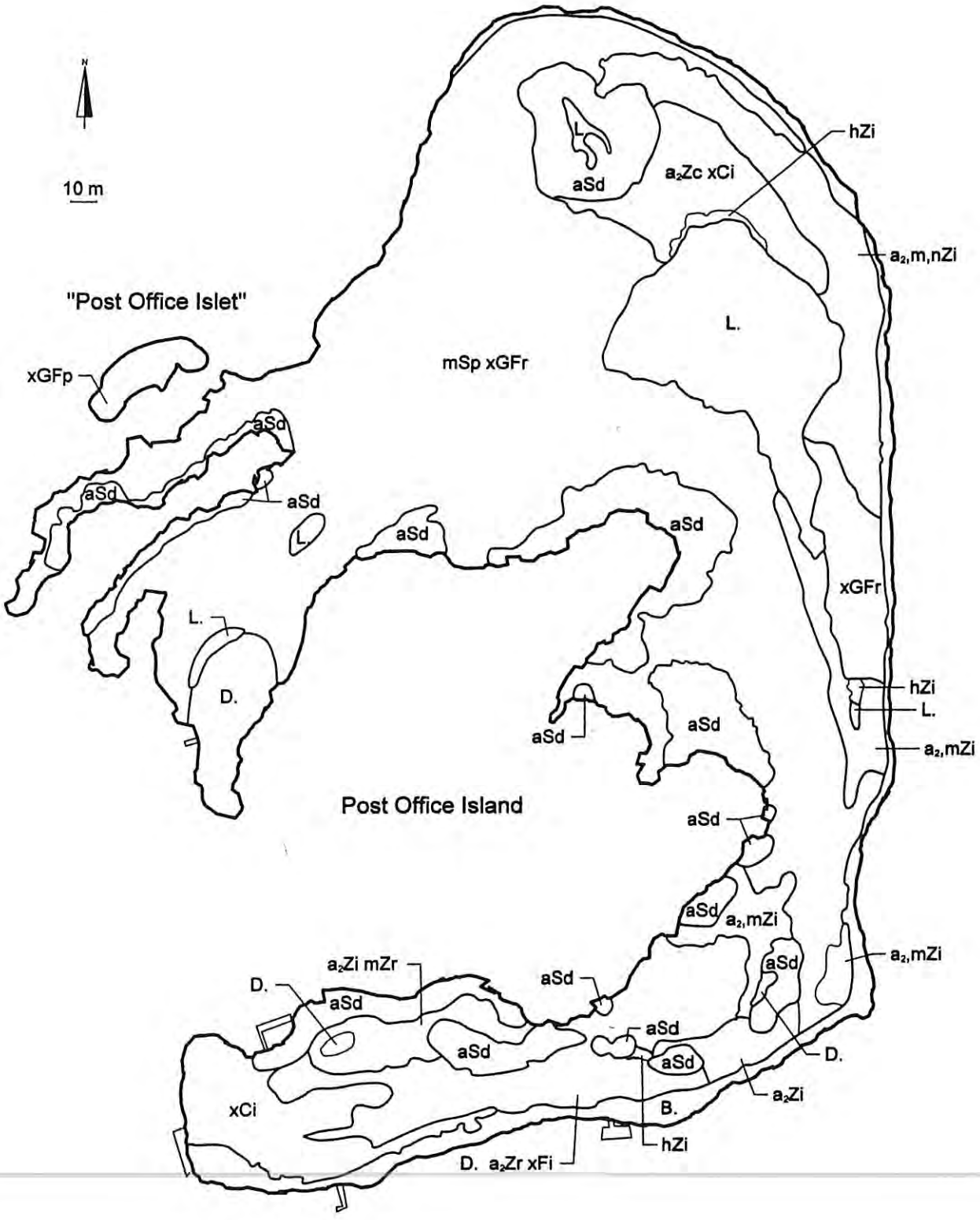

Figure 63. Vegetation map of Post Office Island, "Post Office Islet", Pelsaert Group.
For Post Office Island, x of xCi is mixed succulents (species not specified).
For Post Office Island, x of xFi and xGFr include Bromus arenarius, *Melilotus indicus, Parietaria debilis, *Phalaris *spp.*, *Raphanus raphanistrum, Senecio lautus, *Sonchus oleraceus, *Urospermum picroides.
For "Post Office Islet", x of xGFp includes mixed grasses and forbs (species not specified).

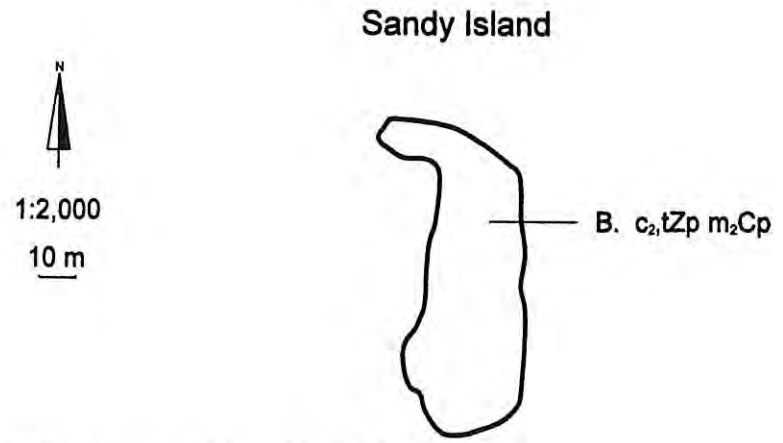

Figure 64. Vegetation map of Sandy Island, Pelsaert Group.

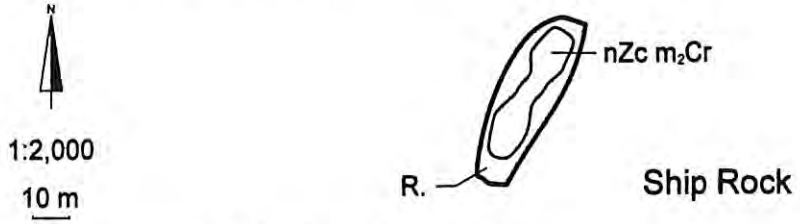

Figure 65. Vegetation map of Ship Rock, Pelsaert Group.

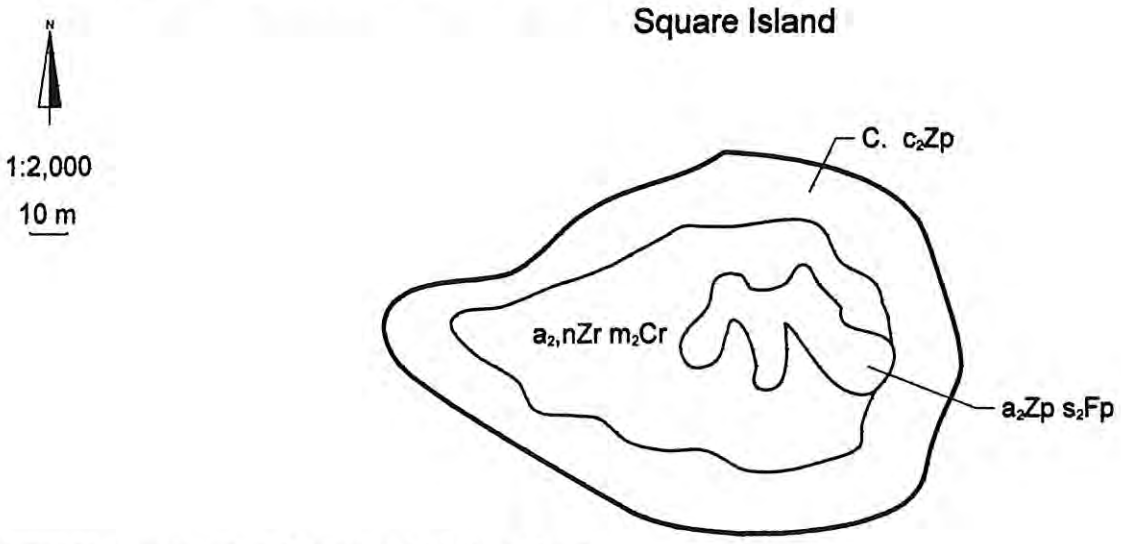

Figure 66. Vegetation map of Square Island, Pelsaert Group.

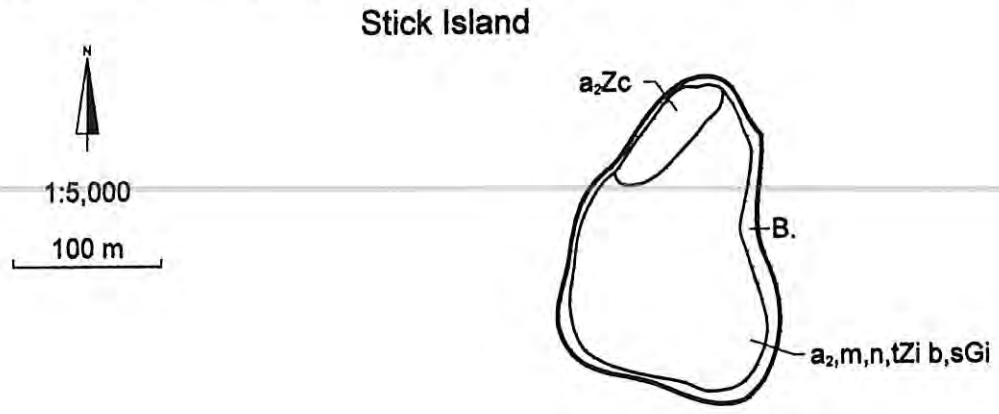

Figure 67. Vegetation map of Stick Island, Pelsaert Group

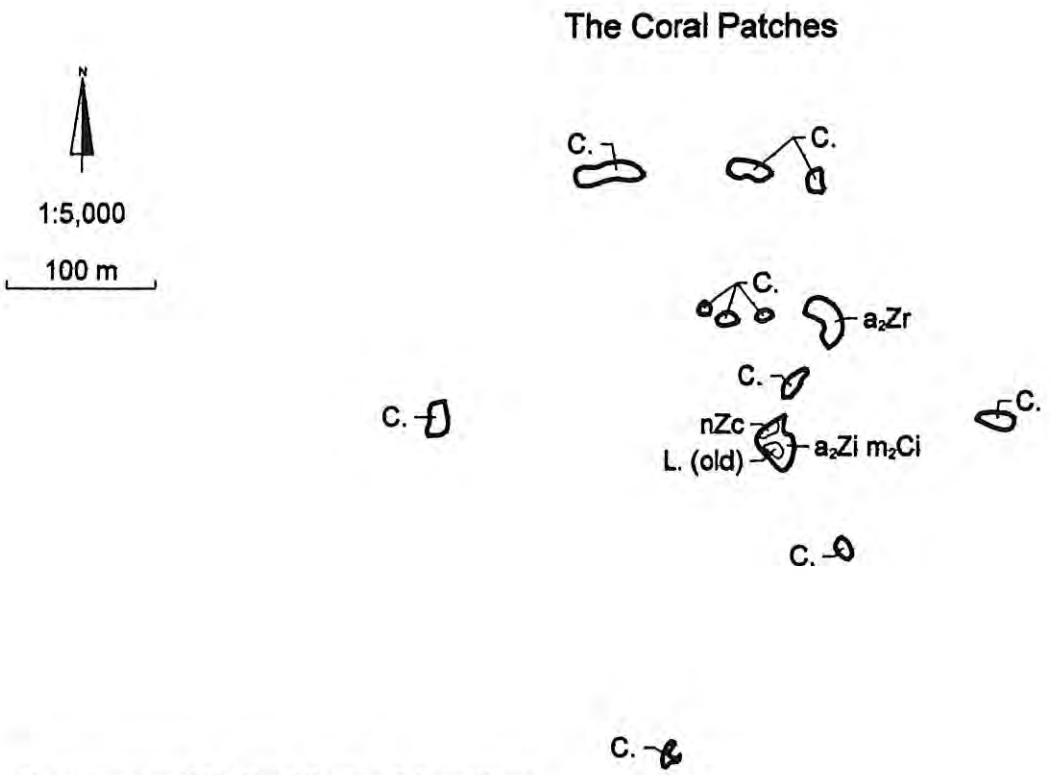

Figure 68. Vegetation map of The Coral Patches, Pelsaert Group.

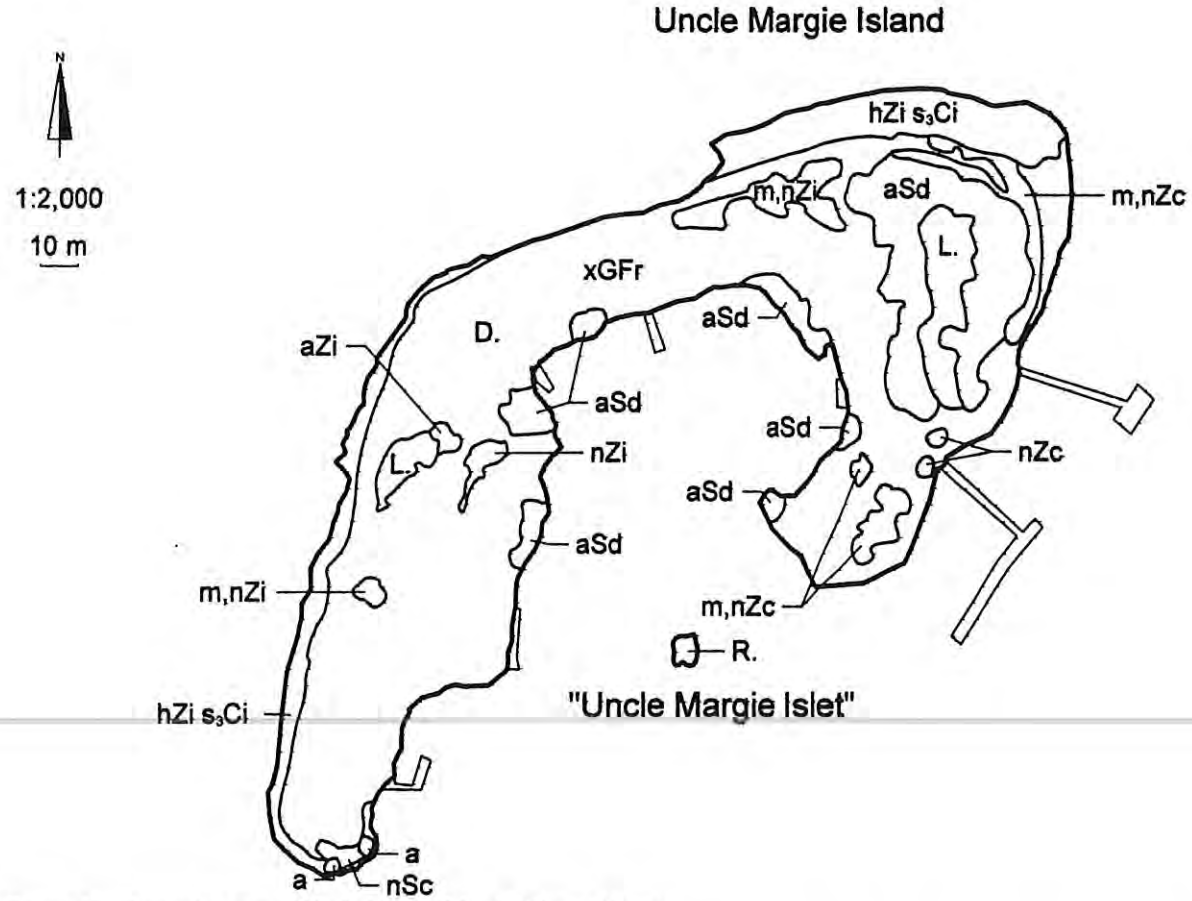

Figure 69. Vegetation map of Uncle Margie Island, Pelsaert Group.
For Uncle Margie Island, x of xGFr includes *Avena *sp.*, *Bromus *sp.*, *Ehrharta longiflora, *Parapholis incurva, *Phalaris minor, *Sonchus oleraceus, *Urospermum picroides.