

1. Introduction

The Northern Territory historian, the late Barbara James, lamented that zoning laws in Darwin did not allow for any natural park or wilderness areas (James 1972).¹ Fortunately, by an accident of history rather than by foresighted town planning, an opportunity remains to create a wilderness park in the heart of Darwin which would be the envy of any capital city and worthy of world heritage listing. Although describing the area as ‘wilderness’ this report does not detract from the past and present uses of the land by its indigenous inhabitants. In contrast, this report recognises the primacy of Aboriginal interests, in particular the interests of the Larrakia Nation in all future planning of the lease.

This report suggests how the Kulaluk lease can be developed for the benefit of all Darwin citizens in harmony with the preservation of the environment, the flora and fauna and towards the furtherance of interracial understanding while providing sustainable employment opportunities for Aboriginal people and the building of self worth in the Aboriginal community. Regrettably, the potential of the Kulaluk lease since 1979 as an area set aside for community use has never been realised. 2008 may be the last chance, before the unique opportunity is lost forever.

In 1988 a proposal was made for the creation of a ‘Bicentennial Park’ by combining two ecologically interdependent regions, the East Point Reserve and the adjoining 301 hectare Kulaluk lease, both bounded by the tidal Ludmilla Creek system. Such a park would ensure a green belt reaching from the sea, through the RAAF Base to the rural areas, broken only by major arterial roads. The management of the Kulaluk lease by an independent Trust in sympathy with this concept would be in keeping with the ideals of the Lease’s founders (see Woodward 1973, 1974; Ward 1975, *Bunji*).

Few people seem to be aware of the priceless gift a small group of dedicated men and women have left to the City of Darwin. Their story is told in Bill Day’s book, *Bunji: a story of the Gwalwa Daraniki Movement*, published by Aboriginal Studies Press in 1994. The machinations of bureaucracy in the granting of a lease over Darwin’s last expanse of coastal monsoon forest are described in greater detail elsewhere (Henderson 1984; Wells 1995). However, despite the vision of the founders and the priceless unspoilt quality of the environment, development proposals since the lease was granted have included a McDonald’s restaurant, wetland drainage, motels, a golf course, aquaculture ponds, transient housing, earth moving and a canal housing estate. Only the airport flight path, public protest and good fortune have prevented most of these schemes from going

¹‘Towards a better planned Darwin,’ Talking Point, *NT News* June 24, 1972, p.13.

ahead. The need to be true to the founders' vision has never been more urgent, before irreparable environmental damage is done.

The Kulaluk ecology ranges from tidal flats and mangrove creeks, through relatively untouched coastal monsoon forest to freshwater reedy wetlands fringed by eucalypt savannah. The northern end the lease has been highly degraded due to a high ratio of boundaries that have been developed for private housing almost to the high tide level and inside the cyclone surge contour; however, the major part of the lease survives much as it has since World War II. This accident of history has occurred mainly because the land is located under the International Airport flight path and was additionally inside the greater Bagot Aboriginal Reserve as it existed from 1938 to 1965.

Objections to proposals for ad hoc development in partnership with business interests on the Kulaluk lease have been criticised for opposing Aboriginal financial independence. However, this report suggests that there need not be conflict between conservation, sustainable Aboriginal employment and profitability while catering for the traditional activities that inspired the land claim in the first place. In contrast, recognising the wilderness aspect of Kulaluk as its most enduring and priceless asset will guarantee that the land will never be alienated. 'Community use' is for the whole community, not an Association with limited membership.

Air chiefs fear park could be dangerous

N.T. News Sunday 5/12/93

ByCHERIE BEACH

Darwin air authorities are campaigning against the possible development of a multi-million theme park because they fear it could cause a disaster.

RAAF Squadron Leader Frank Iwanowski and Federal Airports Corporation Darwin general manager Bruno Santalucia said lights under the flightpaths to the airport might confuse pilots at night. They also warned development might interfere with navigation equipment.

"We're not scaremongering. It's a possibility and that is one of the major concerns," Sdn Ldr Iwanowski said.

Mr Santalucia said: "It's happened in Melbourne where there's development near the airport and a plane crashed."

The pair were speaking after meeting Lands Minister Steve Hatton and the NT Planning Authority over the development of the McDonalds restaurant on the corner of Fitzler Drive and Bagot Road last week.

The McDonalds restaurant has been approved. But plans to build a huge commercial, tourism and leisure park on vacant Aboriginal land bounded by Bagot Road and Dick Ward Drive are yet to be approved.

The proposed theme park includes a motel-restaurant, a nine-hole golf course, including a driving range, a go-kart track and a water recreation park.

Sports venues for indoor cricket, volleyball, badminton, basketball and netball would also be developed.

Sdn Ldr Iwanowski and Mr Santalucia said they would detail their safety concerns at a hearing to rezone of the land for the development.

Weapons

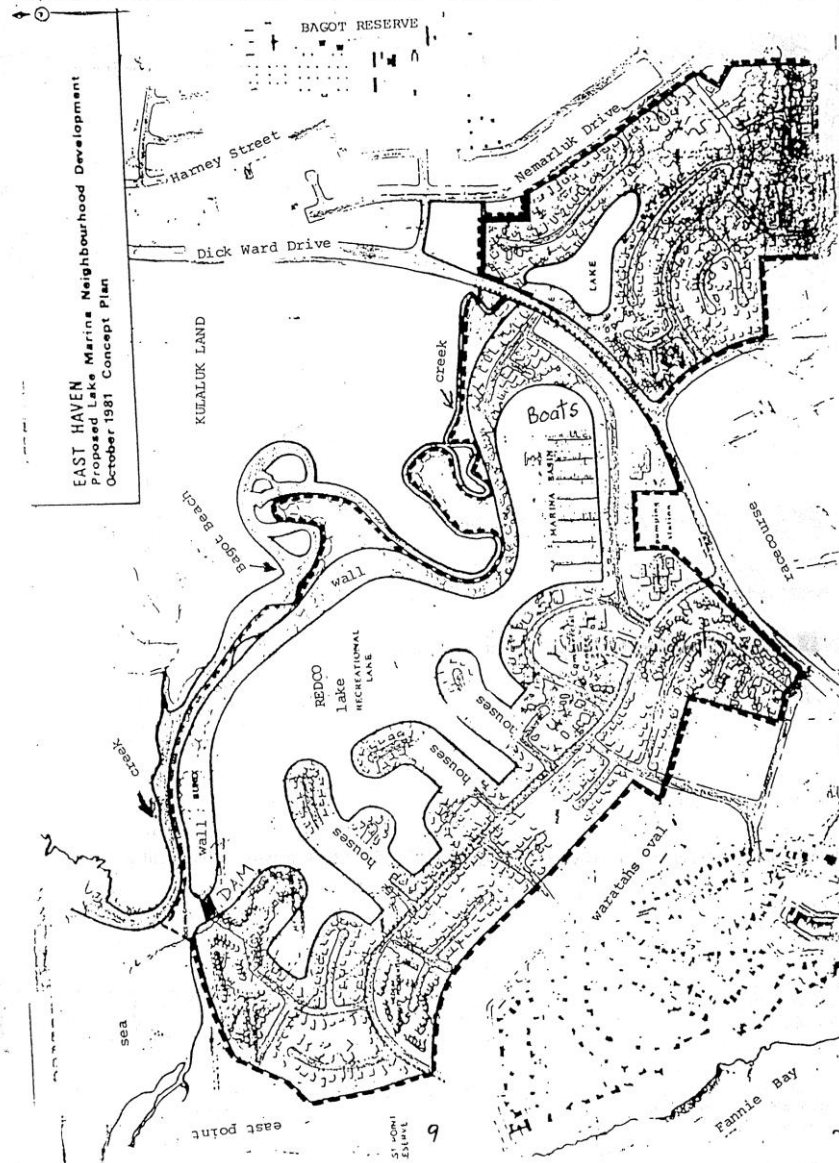
The land is one kilometre from the touchdown point where 80 000 aircraft – ranging from light planes to fighter aircraft carrying weapons – flew in and out of Darwin in the past 18 months.

Another major concern was that complaints about noise might escalate into demands the airport be shifted.

Left: In 1992 the RAAF opposed the proposal by Vysrose Pty Ltd and the Gwalwa Daraniki Association for a theme park on the Kulaluk lease in the flight path of the Darwin airport. The plans for the theme park included a nine-hole golf course, motel-restaurant, and sports venues (See Appendix 9.8 and 9.9)

SAVE OUR MANGROVES!

Aborigines in Darwin united to fight the use of black land for a "canal housing estate" for rich white people around the Ludmilla creek. The plan by REDCO would have destroyed a good creek and Mangrove area. As a result of our fight against REDCO, they have agreed not to touch Kulaluk. But the revised plan would still destroy important mangrove areas where fish and crabs breed. Here is REDCO's latest plan.



Above: Redco proposed to construct a canal housing estate in the Ludmilla Creek system. Plans were made with the approval of the Kulaluk management (From *Bunji*, November 1982; See also Day 1994:107)

2. A brief history

In May 1971 a Larrakia man named Bobby Secretary was pictured on the front page of *The NT News* at his camp behind the Paspalis Drive-in Cinema in Coconut Grove, under a heading, 'Land Claim.' Mr Secretary was concerned that his camp was threatened by the city's rapid expansion and the subdivision of semi-rural lots in Coconut Grove.

After two years of public protests under the banner of ‘the Gwalwa Daraniki Movement,’² Larrakia elders and supporters from other fringe camps met the newly-appointed Aboriginal Land Rights Commissioner at Kulaluk in June 1973 to present their claims (Woodward 1973). A month later a conflict occurred between the Kulaluk residents and workmen surveying an extension to Ostermann Street. Within a year the final report of the Woodward Aboriginal Land Rights Commission (1974) recognised the Gwalwa Daraniki claim to coastal land from Totem Road to Nightcliff as well as all the land within the original boundaries of the Bagot Reserve. In nine pages, the judge documented the deceptive manner in which the old Bagot Reserve was revoked and reduced to a twelfth of its original size.

In 1975 the Interim Aboriginal Land Commissioner, Mr Justice Ward, agreed with Woodward and recommended that the coastal lots be acquired and added to the old Bagot boundaries into a lease to be granted for ‘Aboriginal Community use’ (Henderson 1984; Wells 1995). Following Cyclone Tracy in 1974 most of the land had been deemed unsuitable for housing, being below the cyclone surge line. Plans showing proposed future use of the Kulaluk land were then requested from the claimants by Darwin town planners. Photocopies of the original roughly drawn concept plans and the original lease agreement are attached to this report (Appendix 9.11).

Finally the Chief Minister, Hon Paul Everingham, handed over the lease to the GDA in a ceremony at Kulaluk in August, 1979. However, the Kulaluk lease and other leases granted in the same year at Knuckeyes Lagoon and One Mile Dam were not specifically in recognition of Larrakia land claims because under the *Aboriginal Land Rights Act 1976* Aboriginal land claims could not be recognised within town boundaries. Later judgements in the Federal Court found that the Larrakia group could not prove a traditional connection to land in Darwin under the *Native Title Act 1993*.



Above Left: An aerial view of Coconut Grove in the 1960s showing the drive in cinema (NT Library). Right: Bobby Secretary's camp (ABC) pictured on the right, was between the drive in cinema and the beach.

² Gwalwa Daraniki means ‘Our Land’ in the Larrakia language.

3. Land use

Although Larrakia elders, since deceased, confirmed that the Kulaluk camp in Coconut Grove was an important site for Larrakia people, a creek running parallel with the shoreline from a spring behind the old drive-in site was later diverted into drains dug to the ocean and partly filled by earthworks for housing subdivisions between Nightcliff and the Bakhita Village lease. A sewerage main through the coastal forest behind Bakhita Village did more damage (see *NT News* 13 August 1975).

A narrow beach which runs from Nightcliff to Ludmilla Creek acts as a pathway between the mangroves and the monsoon forest. Judge Dick Ward recommended that this beach be gazetted as a public right-of-way, excluding the beach corridor from the Kulaluk lease. However, the judge recognised the importance of the mangrove environment to Aboriginal people when he recommended that the lease boundaries extend to the west to include tidal flats beyond the mangrove fringe. This region is used by Aboriginal people to gather shellfish and fish on the incoming tide, using lines and spears. The tidal flats are a crucial part of the marine ecology and a feeding and roosting site for many species of migratory birds. Shady sites along the beach are used as 'sit down' camps where shellfish and fish are cooked on the fires. The plentiful hermit crabs on the beach are used for food and bait.

The importance of the mangroves that extend along Ludmilla Creek to Dick Ward Drive has been well documented in studies of Darwin Harbour. Despite pollutants from the Ludmilla sewerage works, the area is a refuge and breeding ground for crabs, shellfish, mangrove worms and fish and numerous species of birds (see Thompson 1981, 1983). The tides that rush up the creek twice daily replenish life in the mangroves while Aboriginal people fish from popular sites along the creek bank.



Above left: Aerial view of the Kulaluk camp in 1974, showing area of mangroves cleared for the Ostermann Street subdivision at Coconut Grove. Right: A feed of 'Long bums' (*telescopium telescopium*). Photo B Day.



Above: Len Stewart fishing in Ludmilla Creek with cast net at low tide (left) and Dulcie Malimara with line at high tide (right). Photos B Day.

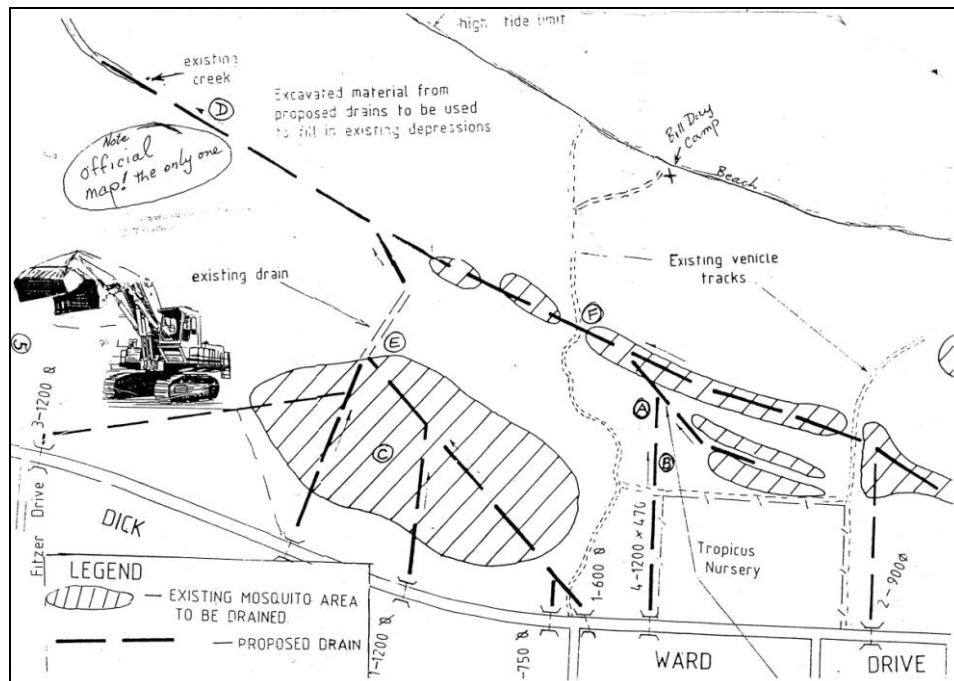
Berries, seeds and nuts in season are gathered from bushes and trees in the monsoon forest. Yams are found by following the dried vines and digging the tubers from the sandy soil. Spear shafts are made from the native hibiscus and pandanus leaves are used for weaving. Various timbers are also used for carving. As well as the varied plants and trees, many species of birds and animals are found in the jungle, which is a favoured nesting site for jungle fowls. The Kulaluk lease is also noted as a refuge for long neck turtles, pythons, tree snakes and other reptiles. The wetlands, know locally as the 'rice fields' are used by magpie geese, burdekin ducks, jabiru and numerous wading birds (see Thompson 1983, Appendix 2).

Between Dick Ward drive and Bagot Road is an area of eucalypt savannah woodland which combines with the airport reserve to provide a continuous corridor from the Rapid Creek freshwater system to the sea. However, the construction of Dick Ward Drive and associated fences obliterated foot and bicycle tracks that intersected the eucalypt forest, providing access to the northern suburbs and fishing grounds. Barks, timber and pandanus were gathered in this region by urban Aboriginal artists while ceremonies have also been held amongst the trees and zamia palms near Fitzer Drive. Similarly the degraded bush behind houses in Harney Street was used for important rituals in living memory. This section of the Kulaluk lease has been particularly isolated by the construction of Dick Ward Drive, although a little used pedestrian underpass was installed in recognition of the importance of the traditional foot paths from Bagot down to Ludmilla Creek.

When Totem Road formed the northern boundary of Bagot Aboriginal Reserve, Aboriginal people were permitted to bury their dead on the edge of the monsoon forest. After Aboriginal concerns at the dumping of rubbish near the burial ground, it was surveyed and roughly fenced in 1972. Until they decayed in the 1980s, pukamini burial poles marked some graves, but a wooden cross on the grave of an Elcho Island man has survived. After 1985 the old cemetery was reopened and many Larrakia people have since been laid to rest there. Although people naturally avoid the graves and

treat the area with respect, the location of the cemetery would not customarily prevent the use of the nearby track.

When a network of mosquito drains were being excavated across the Kulaluk lease in 1984, one objection raised was that pathways to recreational, fishing, and hunting and gathering sites were being cut by deep trenches. In particular, a drain cut across a well-worn pathway led from Bagot and Fitzner Drive through the mangroves to the banks of Ludmilla Creek with a branch leading across the salt pan to the beach (illustrated below). There were other 'short cut paths' worn through the forest and at various strategic points in the mangroves. The use of a regular pathway makes access easier for the elderly and children and for newcomers not familiar with the area. Minimum damage to the vegetation is done by following single file along the paths, as was done traditionally. With development such as the crab farm restricting access, as discussed in this report, most these paths have become overgrown.



Above: Official map of mosquito drains excavated on the Kulaluk lease. Note drains cutting through burial ground and the wetlands (shaded area) allowed salt water intrusion and expansion of mangroves into an area previously a freshwater dominated habitat. (Map from *Bunji* November 1983).

The importance for Aboriginal mental health and self-esteem in having areas where traditional ceremonies can be held has been overlooked in Darwin town planning. At Knuckeyes Lagoon Basil Sansom (1982) documented the holding of initiation ceremonies in an area of urban bush set aside by the residents for the purpose. Smoking and other mortuary ceremonies at Kulaluk are mostly held near residences; however, quite elaborate ceremonies have been held at other sites within the Kulaluk lease (illustrated below). Attendance at these rituals provides an opportunity for shared grieving and socialising, no less important than rituals held in suburban churches. While the value

of churches to the social well-being has traditionally been recognised by the allocation of land in town plans, Aboriginal religious needs have never had equal recognition. Unfortunately there are fewer and fewer suitable places in Darwin where Aboriginal people can participate together in ceremonies important in the maintenance of their culture.



Above: Ceremonies held on the Kulaluk lease in 1997. Areas need to be available for ritual activities that are vital for cultural continuity and mental health. Photos B Day.

Traditionally children are educated by participating in hunting and gathering and ceremonies with adults. There are incalculable social benefits for children and mothers in getting away from overcrowded houses and spending the day fishing, gathering shellfish or digging for yams. Exercise, being in the open air and eating healthy bush foods are additional benefits gained by Aboriginal people using the Kulaluk lease. Older boys learn tracking skills or make fish wire spears and learn to use them to hunt fish and stingrays. The bushland also makes a natural adventure playground for all ages. The many and varied opportunities that the Kulaluk lease offers for educational purposes will be discussed in another section of this report.

This report proposes that vehicular access in the Kulaluk lease be restricted to work vehicles. Other access should be by walking trails or by boat in the tidal creek. The health benefits of walking are well-known. As stated above, there will also be benefits for mental health by providing a place for ceremonies, education and the eating of bush foods. While hunting and gathering has been unrestricted in the past, in the future, as usage increases these activities will need to be controlled and possibly limited to an educational role. However, education about bush foods would be beneficial to health. Employment opportunities presented by this master plan will increase Aboriginal self-esteem and inter racial relationships in Darwin.

4. Heritage

While the history of the struggle for land rights at Kulaluk has been recorded, the earlier land usage of the area is not so well known. When Bobby Secretary began the land claim, Coconut Grove was divided into farming lots for vegetables, mangoes and as the name suggests, coconut plantations.

There was a fenced grave of an early settler with a headstone near where Ostermann Street is today. Apart from the Aboriginal cemetery discussed above, little other material heritage remains on the lease. The Retta Dixon Homes which was excised from Bagot Reserve at the corner of Bagot Road and Totem Road has been demolished, with a stone memorial marking the site, now known as 'Karu Park' (see Bauman 2006). However, with approval of ex-residents, the Retta Dixon site should be regarded as an integral part of the planned Kulaluk land use.

During World War II the monsoon forest was used to conceal aircraft taxied via runways from the main airstrip. In the 1980s old cartridge shells could still be found around firing mounds on wartime rifle ranges. Elsewhere, dense coffee bush may conceal evidence of past usage, including old dumps that may be worth excavating. Unfortunately earthworks for mosquito drains and aquaculture in 1984 and 1997 did not consider the heritage value of these and similar sites. For example, the only pre-1971 stand of casuarina trees on the lease was destroyed, including a campfire site where an old penny had been found.

Beside the old rice fields there is a concrete trough and a well lined with concrete overgrown by introduced grasses. Again, earthworks in recent years have come perilously close to destroying these relics of the agricultural usage of the Kulaluk lease. (Until construction of Dick Ward Drive, Sheila Clarke was grazing her cattle on the lease). Also the cutting of a drain from the wetland to the tidal creek has allowed high tides to encroach into the freshwater wetland, converting a third of the area into bare salty mud interspersed with mangroves. The rice field has a history and ecology that is worth preserving for its heritage value and as a scenic wildlife refuge visible to passing vehicles on Dick Ward Drive. Flocks of magpie geese feeding amongst the emerald green reeds were an iconic Top End sight for tourists who might not get the chance to visit Kakadu.

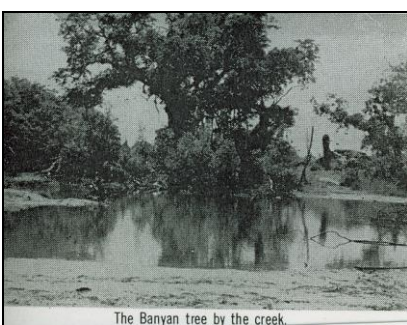
Along the beach there are the ruins of a World War II concrete bunker (illustrated) with servicemen's names and numbers still visible where they were scratched into the walls. In the 1980s, in an inexplicable act of vandalism, the top of the bunker was damaged by a blast of some force. However, despite the lack of protective measures, the structure has been protected by its remote location and the dense mangroves growing around it. As a result, the site is in better shape than other similar bunkers built around the Darwin coast in the 1940s.



Left: A surviving WWII army bunker on the beach. Right: One of Fred Fogarty's signs that have survived on the foot track to Ludmilla Creek fishing ground. Photos, B Day

Near the old fort is a dense grove of tamarind trees that were planted thirty years ago at 'Billday's camp' and have survived as evidence of the hardiness of this tree with its long association with Macassan coastal traders. The seed pods of these trees yield a tasty flesh that is popular with Aboriginal people. On an island in the tidal creek running parallel with the beach there is an older tamarind tree with an unknown history that provided the seed for the later grove of trees. Other tamarind trees are growing amongst the coffee bush. Their preservation is discussed below.

As well as the tamarinds, many trees in the lease have heritage value. Sadly the old banyan tree that was a landmark for generations was burnt to the ground in a wildfire in 1979. There are other banyans and old milk wood trees on the lease worthy of protection. Tall eucalypts, a weeping fig and raintrees mark the site of Fred Fogarty's 'revegetation project' in the late seventies. Until recent times, some of Fred Fogarty's signs survived nailed to trees along the track to the creek (illustrated). Other signs have been salvaged by concerned historians.



The Banyan tree by the creek.



Above: Fire hastened the death of the landmark old banyan tree on the lease in 1979. Photos B Day. Perhaps the most significant tree on the lease in modern history was the Indian beech that grew on the mound where Bobby Secretary built his camp and was later symbolically used as the central insignia on the 'Larrakia Flag' (see Bauman 2006; Day 2008). Although the mound is still visible in the centre of the village that has been built at the original camp site, there is no indication that it is regarded as a significant site. A re enactment of the court house flag-raising to claim Darwin was held on the mound at Kulaluk on the twenty-fifth anniversary in November, 1996 (Day 2008).

Remembering that Kulaluk was founded as a self-built Aboriginal camp, it is regretful that there are no examples of the buildings of the time. In particular, the house that Fred Fogarty and his partner Violet Adam built on an island in the mangroves down from Fitzner Drive was a significant heritage site. Naming the area 'Fish Camp,' Fred and his Malak Malak wife, Violet Adam, built a substantial home from material salvaged from the council dump where Minmarama now stands. The building had lined walls and ceilings with raised timber flooring covered by linoleum and an internal toilet attached to a septic tank made from a 44 gallon drum. There was also an external shower and tap for visitors who appreciated filling their water bottles from the only water outlet available on the southern end of the lease. Bookshelves held a library that was an irreplaceable record of the period. Many visitors have pleasant memories of hours or sometimes days spent as guests at Fred and Violet's house. After his sudden death in March 1985, his house was pointlessly demolished. This report advocates the rebuilding of Fred and Violet's home as an example of Aboriginal self – sufficiency. Only scraps of metal fittings and evidence of the septic system remain at the site.

Ideally, the burial grounds should be closed and no further burials be conducted there. However it is understandable that close relatives may wish to be buried alongside their family and this should be respected. In the wet season of 2007-8 the graves were completely underwater, proving the area to be unsuitable for burials. Present graves should be identified by GPS and fenced and the area maintained as a cemetery. If the families agree, post-1984 graves could be marked by small plaques or headstones.

5. Planning for the Future

5.1 The leaseholders

Judging by the past record, it is unlikely that the proposals in this report would be put into effect under the present leaseholders, the Gwalwa Daraniki Association (GDA) who have a narrow interpretation of 'community use.' As one of the founders of the Kulaluk lease, the writer believes this report is a true representation of the reasons for the original land claim made against the threat of encroaching subdivisions. Also the governing body is unrepresentative of people with a genuine interest in the land and the public good. Therefore intervention by government is needed to establish a Trust to administer the Kulaluk lease according to these principles. As a compromise, the GDA could continue to administer the Kulaluk living area in Coconut Grove and perhaps Minmarama Village.³ If so, these two developed areas could be excised from the lease.

³ It should be noted that Minmarama was built as a solution to the 'transient problem.' Instead, most people who now live in the village could as comfortably live in any Darwin suburban home, at far less expense to the public purse.

5.2 Fire control

Apart from inspiring the new governing Trust with a vision for the future, perhaps the most urgent recommendation of this report concerns fire control. The wet season of 2007-08 has greatly encouraged introduced tall and clumped grasses that have added fuel to fires that encroach on the monsoon forest. Spear grass has also spread into some areas, particularly on the peninsula of land where Fish Camp is situated. Fortunately the latter area is effectively an island, cut off from other high risk fire areas by mangroves and a drain. Using this natural barrier, this strip of land can be managed without the threat of the wildfires that have engulfed the lease in the past.

To control fires, firstly firebreaks are needed early in the dry season along all road boundaries, particularly Bagot Road. The avenue of trees and mown grass along Dick Ward Drive offers some protection. Internal firebreaks are also needed using the present vehicle access tracks that should be maintained for the purpose. For the present, controlled burning early in the dry season may be the best preventative measure. The alternative is the type of fierce and destructive fire that invariably occurs on the worst fire-risk day, fanned by a hot dry easterly wind and fed by the unburnt dried grasses that send flames high into fringing trees and even through the dry leaves on the forest floor. Unlike eucalypts, pandanus and cicads, the monsoon forest does not quickly recover from such fires, allowing the further spread of introduced grasses.

5.3 Revegetation

The aim on the lease should be to restore the area as near as possible to its original vegetation cover. This is not an impossibility given Darwin's climate, the amount of native flora that has survived and the natural firebreaks provided by areas of wetlands and mangroves. The damage to vegetation caused by the aquaculture projects will be discussed in a separate section.

Even amongst the grasses, stands of remnant forest remain that create their own micro climate and grass-free zones under their canopy. Reafforestation should begin from these stands and work outwards, using plantings of native species and some clearing of clumps of grass. However, too much ground disturbance encourages further grass growth.

Replanting without fire control is a waste of time. For example, for several years Greening Australia planted many trees in the degraded areas near the beach but very few of these trees have survived the fires.



Left: Bill Day and Fred Fogarty at Fred's tree planting project in 1978 (photo by Val Noone). Right: Fred and Violet at their Fish Camp house on an island in the mangroves

Coffee bush has taken over large areas of the Kulaluk lease. The spread of this introduced plant was hastened by moving soil from one part of the lease to the other to fill low-lying hollows that were said to be mosquito breeding areas. However, coffee bush is not regarded as a weed in all countries. The leaves are nutritious stock food and the dense shade prevents the spread of grass, hence its name as a sheltering plant for coffee plants on plantations, or so the story goes.

Amongst the forest of coffee bush are remnant trees from the native forest that have been protected from fire. When these native trees of all sizes are individually flagged with fluorescent tape, after being identified, it will be surprising to see how much of the forest remains in what appears to be 'a coffee bush wasteland.' Once native trees and plants are flagged, the surrounding coffee bush can be cut back or harvested, allowing the forest to dominate the canopy. Further plantings can be made amongst the stumps of coffee bush which will quickly regrow before being trimmed again.

The two huge African mahogany trees at the entrance to the burial ground were planted in 1979 - their survival proves the value of coffee bush as a protection against fire. The straight trunks of coffee bush could be mulched or saved for activities on the lease; however, as a softwood timber they do not last long untreated. There may be a use for the foliage as stock food. However, *care must be taken not to spread the coffee bush seeds beyond their present range.*

Fortunately mangrove forests left alone regenerate themselves. When the proposed Palmerston Freeway was surveyed a survey line was cut through the mangroves across to East Point. This line has almost disappeared. Mangroves were also cleared at the end of Ostermann Street to give residents a better view of the sea (illustrated). Mosquito drains dug in 1985 were quickly vegetated by mangroves that thrived in the disturbed mud (illustrated). The abandoned aquaculture ponds were also in the process of being colonised by mangroves before being converted into a crab farm.

The most damaging event to mangroves was Cyclone Tracy in 1974 that left large areas denuded and uprooted. On the fringes of the open sea, the natural process of restoration has taken many decades. Experimental plantings of washed up seed pods, gathered by the bucketful, have successfully rapidly reafforested some areas of tidal mudflats where natural regrowth has been slow.

Concerning the spread of mangroves into the freshwater wetlands, it is recommended that old drainage patterns be restored by blocking the drain that allows salt water to flow through the natural sand dune barrier. Within a few wet seasons, the reeds should have recolonised the area by extending from the area unaffected by the tidal inflow. Judging from the attempts to fill the low lying wetland and the lack of concern at the salt water intrusion, the problem has been a lack of awareness that the wetlands are a productive region worth saving. Traditional Aboriginal people knew this in the past when the rice field was a favoured roost for waterbirds and home for freshwater turtles.

5.4 Education

The potential for the Kulaluk wilderness park to be a centre of education is one of the themes of this report. Apart from the passing on of knowledge through hunting and gathering activities on the lease, no formal educational activities are presently conducted. From 1979 to 1985 an alcohol-free camp was established for children from the Bagot community where vacation activities were held with some success (see Plater 1979). Amongst other activities held were cooking on a fire, swimming, crabbing, fishing, games, spear making, hermit crab races, water sliding and a flying fox (Day 2007).

5.5 Recreation

The Kulaluk lease offers an opportunity to escape the pressures of city life within walking distance of public transport along Bagot Road and Dick Ward Drive. There are varied and interesting walks along tracks leading from Totem Road and Fitzner Drive as well as the public right-of-way along the beach and a vast expanse of firm grey sand exposed at low tide reaching across the entrance of Ludmilla Creek as far as East Point. Some areas are suited to sports fields which would also act as a buffer zone and fire break.

After the Darwin City Council closed the rubbish dump where Minmarama Village now stands, proposals were made for an Aboriginal Club to be built on the land which was then ideal for sports fields. Instead, expensive filling and compacting earthworks prepared the site for housing,

supposedly for transient and homeless Aboriginal People. It is argued that these houses have not served their original purpose. It would have been far more cost-effective to have built them amongst the general community or on more stable land. The old dump site contains many pollutants and may still be subsiding. This is likely to cause problems at Minmarama in the future. It is recommended that no further housing be built in the area. Although the plan for sports fields was an opportunity lost, an area excavated into trenches for extensions to the dump between Minmarama and the rice fields could be levelled for sports fields and possibly a clubhouse. This area was used for an earth stockpile in 2007 (see letter to *NT News*, 19 October 2007).

5.6 Drainage

As stated, drains have been cut to the sea for housing subdivisions in Coconut Grove and into the lease from industrial sites along Dick Ward Drive. A network of drains was also dug in 1984 with little or no study of their effects to the environment (see map). Whenever possible the natural drainage patterns should be restored. This includes the closure of the drain from the rice fields and the levelling of the aquaculture ponds to reconstruct the inland tidal flats that once provided a roosting and feeding site for wading birds during high tides when the bay is inundated.

It is believed that the network of mosquito drains are now easements that give the authorities the right to clear and re-excavate when needed. After the earth works in 1985 the pattern of mangrove growth has changed as the drains have been colonised by species of mangroves that thrive on the freer tidal flow created, while other mangrove areas have suffered from less water flow.

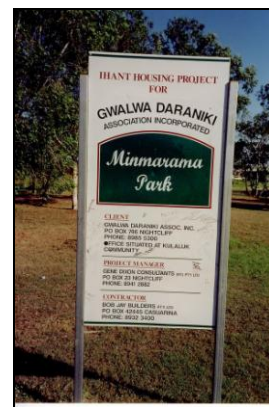
The deep drain across the tidal flat that blocked walking access to the beach should be diverted back into the mangrove creek parallel to it, where mangroves are dying as a result of changed flows. Otherwise, pedestrian bridges should be built at strategic points across the deeper drains. Sewerage overflow into Ludmilla Creek and from the Coconut Grove pumping station must also be monitored.



Above: Mosquito drain dug across the salt pan in 1985 (D Cooper). Right: The same drain in 1996, showing increased mangrove growth (B Day).

5.7 Access

One objection to the use of a lease allocated for 'community use' is that the aquaculture ponds/crab farm alienates the land from the Aboriginal public. Fences and signs discourage the usages described in this report. In the past uncontrolled usage was also a problem. Trail bikes used the area at their pleasure. Trailers were used to remove sand illegally. Rubbish was dumped throughout the lease with impunity. Tracks were even cleared to give access to four wheel drive vehicles that then became bogged and were towed out by even large vehicles. A RAAF Mirage jet was towed out along the beach after crash-landing in the bay. Marihuana plantations were discovered and for many years the inland tidal flat was used as an unofficial speedway. Until Fred Fogarty moved onto the lease, no ranger was present to supervise land usage. The story is told of how Fred accosted an English butterfly collector and chased him off the lease!



Above: Kulaluk signage along Dick Ward Drive (Photos: B Day, R Wesley-Smith and B Day).

Implementation of the recommendations in this report will prevent uncontrolled access and improve public relations without offence by the visible evidence of occupation and education that the land is 'not a wasteland.' For example, vehicular access will be restricted to car parks perhaps best situated in from the Totem Road entrance, at the proposed sports fields and off Fitzer Drive behind McDonalds. From these car parks, there will be a minimum of service tracks with narrow walking tracks branching off to points on the lease. If it is felt to be necessary the service track to the beach can be diverted further away from the cemetery area.

At the Totem Road entrance it is proposed that there be an interpretative centre, with most activities centred on a rustic education centre beside the beach, near the tamarind grove. An interpretative lookout will give a view of the bay across to East Point and Nightcliff and over Ludmilla Creek and the immense twice daily tidal flows. Under shelters with sandy floors, school classes will be

introduced to the area by uniformed Aboriginal guides, taken for walks and given project sheets to complete. Taps and ablution facilities must be provided.

Buses will drop the children at the interpretative centre car park near Totem Road and the groups can walk down to the beach, or be transported in a coaster bus, one class in the morning and one in the afternoon throughout the dry season. A caretaker will have to live on site all year round, so accommodation will be required. There is no location in Darwin better suited to this type of educational activity than the Kulaluk lease, with its ecological diversity, heritage value and cultural connections to the Larrakia 'saltwater people.' In fact there is such an ecological diversity that different themes on different days could be developed, including Aboriginal culture and bush foods, marine life and ecology, or simply an adventure experience such as orienteering and mapping.

At Ludmilla Creek, on the higher land where Fish Camp once stood, shade and some amenities should be provided for recreational fishers who are prepared to walk and have traditionally fished, crabbed and picnicked beside the creek. Access could be assisted by a walkway through the mangroves behind Minmarama Village. In connection with the school program, a canoe or kayak landing could be constructed for exploring the upper reaches of the creek at high tide.

There may be times when the creek area could be open to vehicles such as minibuses, for instance when ceremonies are held or for the elderly, but the ground is soft and cannot sustain heavy use without the expense of constructing roads. This area is far enough away from aircraft noise to be used for Aboriginal cultural activities when a secluded area is needed.

The popularity of the education programs on the lease could require extra catering for recreational-type activities at weekends and school holidays for Aboriginal children and youths. This sort of activity would be ideal for 'youths at risk.' As suggested for the Ludmilla Creek area, small scale boating facilities at the beach should be available for research and recreation purposes. A raft could be anchored off-shore. During the 1970s, clearing out a fish trap at low tide was an educational experience for many.

Land use in the bushland area bounded by Totem Road, Bagot Road, Fitzner Drive and Dick Ward Drive must take into account the noise levels from aircraft landing and taking off at the International Airport. While the flight path has severely limited development plans, it has ensured the bushland has otherwise been preserved apart from a cleared area used for an earth stockpile, gravel pit and unofficial dump. A plant nursery and administration centre could be situated in this area to administer and supply the reforestation project and decentralise administration from the

more environmentally sensitive and low lying seaward side of Dick Ward Drive. Activities in harmony with the preservation of the eucalypt bush and use of the cleared area are bike paths, walking paths, skate board park, and a secluded area for ceremonies and public performances. These parkland activities should be integrated into Karu Park with interpretative signage.

With secure fencing, the savannah area would be suitable for a free range wildlife park. However, the RAAF has expressed concern about encouraging bird life in the flight path. The Larrakia Nation could develop the corner of Totem Road and Dick Ward Drive behind Karu Park as a tourist-cultural business in keeping with the theme of conservation.

5.8 Aquaculture

Aquaculture is not compatible with the vision for Kulaluk. The land is worth far more for its social and conservation value. Aquaculture on the scale operating on the Kulaluk lease is harmful to the environment and bound to fail, as occurred with the prawn ponds in 2001 before being converted to a 'crab farm' in 2006. Public access has also been severely limited by the business enterprise and easements have been cut through mangroves for powerlines. Under the proposed conservation plan, the aquaculture ponds will eventually be closed, the infrastructure removed and the land restored to its former configuration. An appendix to this report and attached newspaper cuttings discuss the use of the Kulaluk lease for aquaculture in more detail.



Above: Two of the five ponds first excavated for an aquaculture business in 1997 on the site of a tidal salt pan on the Kulaluk lease. After prawn farming failed the ponds were converted to a 'crab farm' in 2005 (see Appendix 3). Photo B Day

6. Employment opportunities

6.1 Commercial developments

Behind the houses in Harney Street there is an area of degraded savannah that is in the Kulaluk lease. Although low-lying, the corner block could be filled to allow a shop to serve the Ludmilla and Bagot district as well as passing traffic. If access could be provided from Dick Ward Drive, the commercial complex could include a service station. Commercial development in this area of the

lease, whether the shops are Aboriginal owned and managed or not, will provide needed employment and income for the leaseholders as well as a convenience for Bagot residents. The so-called anchor lease given to McDonalds, believed to return only \$10,000 a year should incorporate a guarantee that a percentage of employees will be Aboriginal.

6.2 Coffee bush clearing and reafforestation

Workers are needed to begin the coffee bush control as outlined above. Firstly to flag and identify trees and bushes that are growing amongst the coffee bush, then to cut back the coffee bush using light chain saws, mulching the cut timber or trimming the straight poles for adventure activities. As the coffee bush is cut back, native species should be planted in the open areas, to eventually replace the introduced growth, which in the meantime will need to be periodically cut back.

In areas where the coffee bush is in isolated pockets, the bushes should be cut back and poisoned, again identifying and flagging native growth. Replanting in the wet season should be concentrated around groves of surviving trees and protected from fire in the dry. Increased land usage and associated management will further protect new plantings. Paperbarks and pandanus should be planted on the fringes of the wetlands. The Mimosa Pigra control program must be maintained. Minmarama Park should be landscaped with native flora and the area considered as a continuation of the conservation area in relation to revegetation. To facilitate revegetation, a plant nursery using seeds and cuttings gathered from the lease would provide further employment.

6.3 Education

Guides and instructors for school groups would be employed during the week. Funding arrangements could come through the Education Department and sponsorship. If the Kulaluk lease is seen to be benefiting the wider community, funding will be more forthcoming. There would be staff at the Totem Road Interpretative Centre which would also be open to the public during working hours, with a souvenir shop and refreshments employing other staff. Rangers would oversee the programs and patrol the whole area while maintaining facilities and monitoring wildlife. At least two vehicles would be needed as well as a transport with driver to ferry students to the beach area. A caretaker would live on site. If sports fields are incorporated, grounds staff would be needed.

Other work would include building of rustic amenities, barriers, pathway construction and clearing, raised walkways, construction of nature and heritage trails, signage and restoration of heritage sites. As noted, it is recommended that Fred Fogarty's house be rebuilt and maintained as a part of a

nature and heritage walk and study centre. Continued research assisted by sponsorship will be a high profile feature of the lease - raising local, national and international awareness. If artefacts or historical items are unearthed they should be excavated by an archaeologist with Aboriginal involvement.

6.4 Mosquito and Feral animal control

Random spraying and haphazard drainage has been used in the past to control mosquito breeding on the lease. In the future this should be conducted safely and scientifically with minimum environmental damage. Rangers should be involved in the setting and monitoring of mosquito traps.

In the past, Kulaluk was infested with feral pigs that were brought to the area to breed and be hunted when fully grown. The animals did a lot of damage before they were eliminated. No feral pigs or other feral animals should be tolerated on the lease in future. Dogs should be barred from the area if it is to be a flora and fauna sanctuary. Regretfully, cane toads will inevitably populate the lease. Their effect could be an object of study and the population kept to a minimum.

6.5 Flora and fauna inventory

Studies should be done on the number and names of plant species found on the lease, and information booklets printed. Animal, reptile and bird species should also be identified. There are also many species of snakes on the lease. Signposting should warn visitors of snakes and other hazards and advise that all species are protected. Research could include studies of bird migration and breeding (see Thompson 1983), seasonal bush tucker crops and shellfish viability, amongst many topics.

6.6 Weed control

Apart for woody plants, the major concern is the spread of introduced grasses. These form dense clumps that are very difficult to dig out. The tall grasses increase fire intensity with harmful effects on native vegetation. The grasses also hinder human and animal access. Teams of workers will be needed to cut back the stands of grass around monsoon forest remnants before seeding occurs. In the early dry season before the grass is too dried out, controlled burns may have to be conducted. If the fires are lit in the evenings, they will die out at night with minimum of damage to surrounding trees. Other research on weed control is available from the NT Government.

7. Conclusion

This report attempts to demonstrate that conservation of the environment on the Kulaluk lease is compatible with economic development for Aboriginal people, inter cultural understanding, maintenance of cultural identity and the building of self-esteem. Although it may be far easier to sublease the land to a commercial developer and sit back to collect the rent, this management style is a betrayal of the ideals of the founders and will lead to alienation of the land. Most importantly, the value of the land as a wilderness park in a unique location is far greater in an era of carbon credits than any short term commercial developments which can just as easily be conducted elsewhere.

The plans presented here are not new. The gestation of the concept began with Bobby Secretary in 1971 and was further developed by Fred Fogarty in later years (see map in *Bunji* No. 1, 1978; Appendix 9.12). Bill Day's camp at Kulaluk Beach is also worth a mention as an attempt to demonstrate the boundless opportunities to use the lease as a centre of education. As Darwin loses more and more of its heritage to high density development, there are reasons to believe the time may now be right to make the dream of a Kulaluk Wilderness Education Park a reality.

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