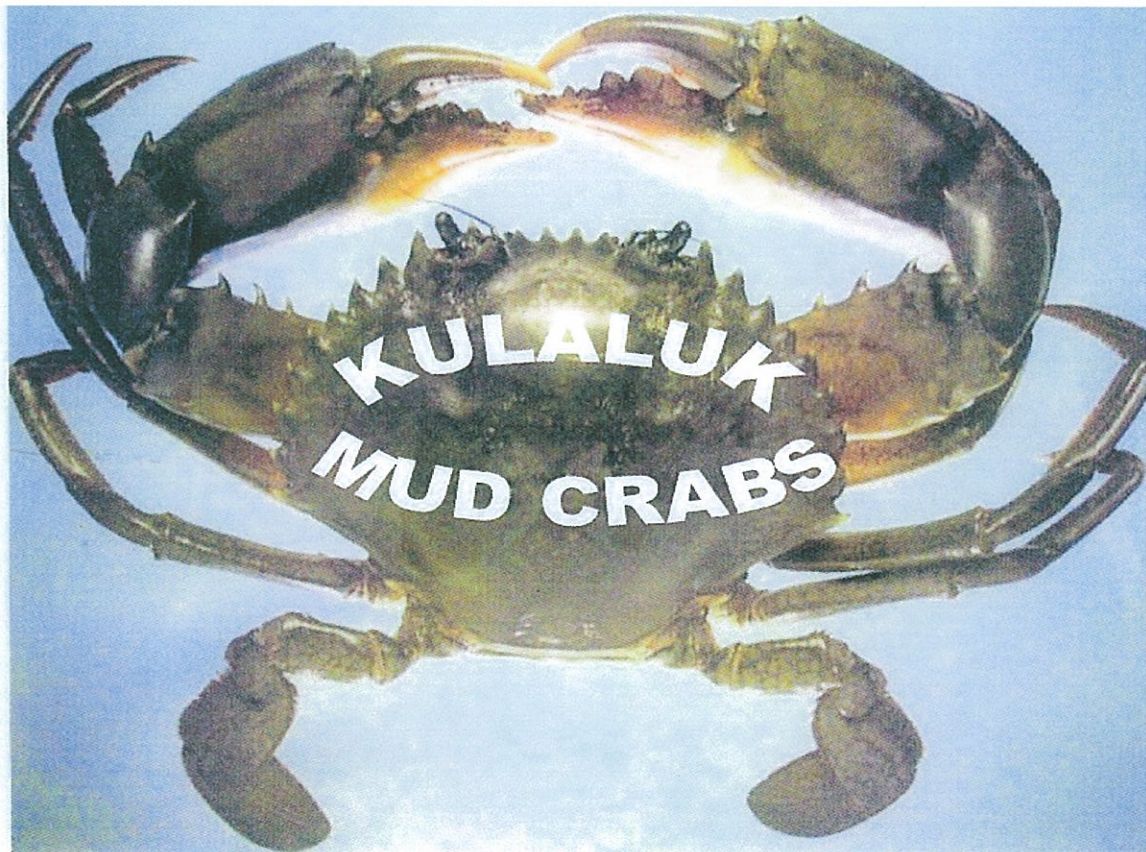


"CRABGATE"

An illustrated History of the Kulaluk Crab Farm Debacle.

Compiled by Dr Bill Day
Consulting Anthropologist
2011.



More than \$433,000 for Kulaluk Mudcrab Farm in Nightcliff

28 Mar, 2007 10:45 PM

WHILE some aquaculture businesses are looking to move away from the Territory, the Federal Government has given one operation a considerable boost to establish there.

Federal Member for Solomon, David Tollner MP, announced the Australian Government has given approval for funding of up to \$433,180 under the Regional Partnerships programme for the development of stage two of the Kulaluk Mudcrab Farm at Nightcliff.

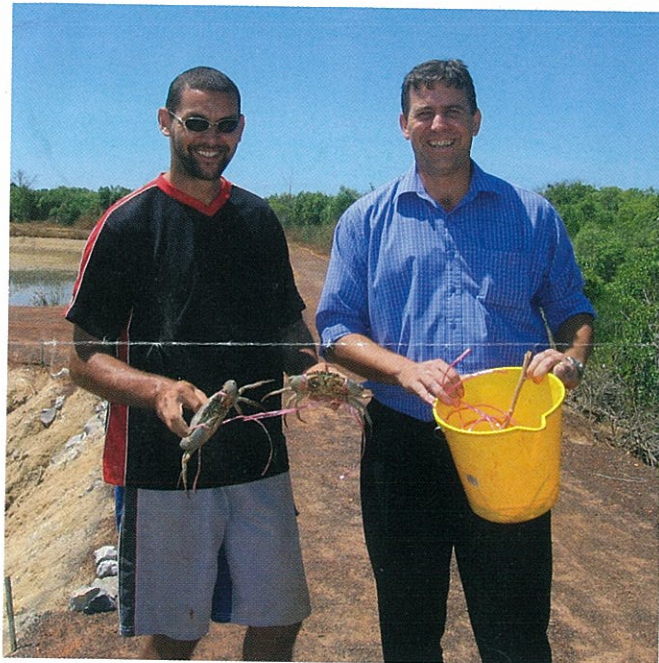
Mr Tollner said the Australian Government funds will assist Gwalwa Daraniki Enterprises Pty Ltd to expand the pond area, complete capital works and purchase materials.

CREATING JOBS TO HELP OUR COMMUNITY

Kulaluk Mudcrab Farm in Nightcliff has gained funding of \$433,000 from the Howard Government's Regional Partnerships program. It's another example of the Howard Government working with local communities to support their ideas.

The Gwalwa Daraniki people will develop the 2.5 hectare mud crab farm into a business venture. Apart from providing economic benefits to the Indigenous community it will provide youth with vocational training in areas like aquaculture, which can be used by other communities.

Under the same program, Larrakia Nation Aboriginal Land Council received \$190,000 to permanently display Larrakia art in the new suburb of Lyons. These types of projects will deliver benefits to our community through higher levels of economic activity.



David Tollner and the Howard Government are working with local communities to support local ideas and create local jobs.



Above: A sign at the Totem Road entrance to the Kulaluk lease.

THE KULALUK LEASE:

FROM PRAWN FARM TO CRAB FARM TO MARINA.

By Dr William B Day

2011

Since the granting of the Kulaluk lease in 1979, the Gwalwa Daraniki Association who hold the lease have proposed schemes from quarries to canal housing estates, motels and golf courses, all of which have been prevented by public opposition. On Bagot Road a sublease has been granted for a McDonald's restaurant as 'an anchor lease' on the hope that one high profile business will attract others. However, no similar proposals have eventuated, because much of the land lies under the flight path of the Darwin International Airport or is in the cyclone surge zone - two factors which have hindered zoning approval.

Despite public concern for the future of the Kulaluk lease, hidden from public view between monsoon forest and mangroves deep within the lease, two attempted aquaculture projects have devastated the natural landscape since 1997 when excavation machinery began work in a tidal area draining into Ludmilla Creek, used by Aboriginal people for crabbing, fishing, shellfish gathering and general picnicking. Five ponds varying from 9000 square metres to 1300 square metres, bordered by levee banks, were being gouged from the salt flats to create a three-hectare 'prawn farm' with approximately 2000 to 4000 cubic metres of seawater flowing through the system daily. The three-hectare area being excavated was also a roosting site for migratory wading birds at high tides. At low tide the mud flats came alive with flashes of colour as red-clawed fiddler crabs darted from their burrows to feed.

The 1997 aquaculture project aimed to produce two crops of tiger prawns per year, to be sold through SAFCOL. As the work proceeded 'keep out' signs, fences and gates appeared. Obviously, recreational crabbers and fishers would no longer be welcome in this part of the lease. At the same time, new access roads were bulldozed and mangroves cleared for powerlines. A project spokesperson stated that objectors to the prawn farm were 'condemning Aboriginal and Islander people trying to pursue sustainable economic and social progress.'

Within four years the \$150,000 ponds lay as an abandoned mosquito-breeding haven. Beside the cleared but unused power line easement, dumped steel poles lay rusting in the mud while a Darwin headstone for the instigator of the project was to be tragically inscribed, 'Aquaculture was his dream. He died doing what he loved.' No restoration work has ever been attempted, although Schedule 10 of the Development Permit DP97/0077 states, 'upon cessation of the use, the area used for ponds shall be rehabilitated to the requirements and satisfaction of the Secretary, Department of Lands, Planning and Environment.' Despite a defence of the project that its construction had 'cleared a lot of coffee bush,' in fact the earth works had actually spread the seeds of this woody weed.

Ignoring the fact that the prawn farm had been a colossal failure, in 2005 the Howard Government signed a Shared Responsibility Agreement (SRA) with the Gwalwa Daraniki Association to provide 'the foundations for a mud crab business to provide employment and develop business skills 'amongst indigenous communities in Darwin harbour' (www.indigenous.gov.au/sra/nt/fact_sheets/nt06.pdf). The SRA provided \$450,000 for the conversion of the failed prawn farm to a crab farm by providing 'specialist aquaculture support as well as a project officer to coordinate business development.' A media release stated that the SRA funding was to be coordinated through Community Development Employment Projects (CDEP) and Structured Training and Employment Projects (STEP), providing for six aquaculture trainees and two administration trainees. Meanwhile, it was announced that a steering committee made up of representatives from the Gwalwa Daraniki Association, Northern Territory and Federal Government agencies and the Charles Darwin University would oversee operation of the new development.

Earlier statements claimed that the crab farm would be restricted to the original 'footprint' of the prawn ponds; however, media reports later claimed that the application had been held up by the NT Environment Protection Authority (EPA) because of plans to double the farm's size to 5.25 hectares by clearing more mangroves at Kulaluk. The *NT News* reported (March 20, 2006): 'Although [the crab farm] is yet to be approved, the Territory Planning Department said small-scale operations have already started.' Earlier, a NT Government media release stated that the new venture was proceeding 'following years of negotiations with the NT Government's Department of Business, Industry and Resource Development (DBIRD). According to the media release, fifteen tons of mud crabs a year will generate around \$235,000 in the first three years before expanding in future years.

By 2007 the much heralded crab farm had failed and the expensive infrastructure and equipment lay abandoned on the Kulaluk lease. Dense coffee bush had colonised the levee banks and mangroves were growing amongst crab pots in the drained ponds. No attempt has been made to restore the area as required under the permit. Then in April 2009 came the announcement that a caveat had been signed over the Kulaluk lease encompassing Ludmilla Creek tidal areas, including the abandoned aquaculture ponds. As predicted by critics in 1997, it seemed the excavations for a prawn farm were the preliminaries for future canal housing and marina. Indeed, plans exhibited by the developers had deftly converted the failed aquaculture project into a 200-metre 'rowing course', thereby once again turning failure into lauded pipedreams. The 'Arafura Harbour' proposed by Hans Voss and the Gwalwa Daraniki Association would conveniently cover over the scandal of 'Crabgate', just as the announced crab farm was a distraction from the potential scandal of 'Prawngate'. Neither of these disastrous schemes was ever investigated, much to the relief of NT Politicians. In 2011, the Arafura Harbour scheme remains alive while the Kulaluk leaseholders continue to receive payments from the caveat holders.

Don't come raw prawn

IN the 1980s, developers, in a deal with the Kulaluk management, proposed to excavate the Ludmilla Creek mangroves for a canal housing estate.

That mad scheme was stopped by public reaction. The message got through that mangroves have value for Aboriginal people.

But developers don't give up that easily.

Now they have proposed something called "aquaculture ponds" for the old rice fields to the west of Dick Ward Dve between Totem Rd and Fitzler Dve.

I can smell a dead mullet or two. Don't tell me that people who see bush and wetlands as wasteland are really interested in breeding fish. Don't come the raw prawn.

For "aquaculture ponds" read "excavations for canal housing of the future". Whatever happened to environmental impact statements?

Bill Day, University of WA

December 21, 1996

Time to wake up, Darwin

THE disastrous aquaculture projects on the Kulaluk lease would be farcical under any name, if it were not for the environmental damage being done.

Ten years ago, five huge ponds were excavated on the tidal flats beside Ludmilla Creek for a prawn farm.

When the project predictably failed, instead of the ponds being rehabilitated as required, a federal government shared responsibility agreement provided \$450,000 for their conversion to a crab farm, with Aboriginal participation through the Community Development Employment Projects scheme.

A 2005 media release endorsed by Minister Dr Chris Burns, said 15 tonnes of mud crabs a year would generate around \$235,000 in the first three years.

Now that the crab farm has failed, where is the accountability? Who is responsible for the taxpayers' money that has been washed down the creek? As an alternative, a report worthy of the vision of the founders of the Kulaluk lease has been prepared for the Larrakia Nation Aboriginal Corporation setting out a plan for the future management and preservation of the priceless 301ha of urban bushland on the Kulaluk lease. Wake up Darwin and appreciate this unique opportunity before it is too late!

Bill Day, Maylands, WA 23 7-08

Signs of ruined life

THE residents of Ludmilla are right to protest against the destruction along Nemarluk Dve in the name of "mosquito eradication".

For over a decade these unscientific misusers of heavy machinery have been wreaking havoc in the Kulaluk special purpose lease without being accountable for their actions.

The results have been salt water intrusion, massive erosion and disruption of walking trails by deep drains.

Signs have now been erected describing the work as "mosquito breeding control and rehabilitation of disturbed land. A combined project by the Darwin City Council, Greening Australia and Territory Health Services".

The only "greening" obvious to replace the destruction of nature trees is the wholesale spread of coffee bush seeds throughout Aboriginal land.

June 26, 1997 Bill Day
Casuarina

Marina idea 'nonsense'

LAST October the EPA held a symposium on Environmental Impact Assessment.

Guest speaker Dr Angus Morrison-Saunders told us that the benefit of good laws and procedures for assessing the likely environmental impacts of new proposals is often hidden.

According to him, this value goes unseen, because the very existence of adequate laws and processes discourages "nonsense proposals" from presenting for assessment.

So how does this expert's theory reconcile with the proposed Arafura Marina? For Gwelo's plan to decapitate East Point and destroy the mangroves of Ludmilla Creek to make a canal estate is a nonsense proposal if ever I saw one.

The NT is growing, but to ensure that ours is healthy, planned growth we must strengthen our capacity for habitat protection.

Justin Tutty, Tiwi

Fact is now fiction

IN reference to Bill Day's letter (Northern Territory News July 19 1997), it would appear Mr Day has replaced fact with fiction once again.

Six months ago he claimed that an aquaculture project planned for a site on Kulaluk land was in fact a canal housing development.

Wrong. Now he claims that mangroves are to be dug up to provide access. Mr Day should be aware that the access road through Kulaluk has been in existence for many years and no addition or alterations are planned or suggested.

If he had bothered to ask he would be aware of this. I would suggest he spend less time condemning Aboriginal and Islander people trying to pursue sustainable economic and social progress and more time doing something useful himself.

Now, if Mr Day has a problem with Aboriginal development for community benefit he should say so and leave out all the nonsense.

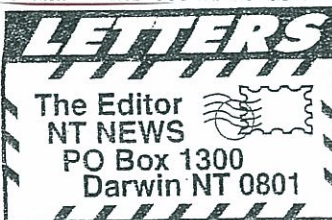
In future, deal with the facts, don't create fiction.

26-07-97 R Nagas, Darwin

No place for prawns

WHILE it may be too late to stop the digging of prawn breeding ponds on the Kulaluk special purpose lease, it is not too late to stop the bulldozing of access roads through the mangroves. Gradually the lease is being alienated from its intended purpose of community use. Aborigines who fish, crab and live in the area will be affected by the large ponds and access roads.

The rationale for digging up the tidal flats seems to be that



this is a wasteland. In fact, the saltpan comes to life after each spring tide as tiny crabs and creatures scurry about in the wet mud. Wading birds feed as the tide comes in, bringing larger fish and crabs to feed in the submerged mud.

Using urban land for prawn breeding ponds is a waste of resources and is bound to fail.

19-07-1997 Bill Day
Casuarina

Where will it end?

IT IS good to see magpie geese returning to the old rice fields, the wetlands to the west of Dick Ward Dve between Totem Rd and Fitzler Dve.

Sadly most of the reeds have been killed by salt water rushing up the "mosquito eradication" drains. Most of the freshwater reeds have been replaced by grey mud dotted with mangroves.

Further back, the huge excavations continue for the financial, engineering and environmental disaster known as the "prawn ponds". Original plans claim the work would be done in two months. Eight months later they are still digging.

B Nagas (Northern Territory News 26/7/97) promised there would be no new access roads into the ponds. So far two roads have been bulldozed through the forest.

Where will it end and who is going to pay?

16-12-1997 Bill Day
Ludmilla

Bulldozing disaster

WHEN bulldozers moved onto the mud flats of Kulaluk, down from Totem Rd, I predicted the proposed aquaculture scheme would be an environmental, financial and engineering disaster.

The people who fought hard for the land had a vision when they made it a condition of the lease "that no living native tree be destroyed".

If these people were alive they would be sad to see what is being done to their country.

After almost 12 months, the excavations are bogged down and money is going down the drain. I can only conclude that the purpose is to send the landowners into debt so that the banks and businesses can take over.

When this happens, the land will be alienated from Aboriginal people forever.

13-03-98 Bill Day
Mt Hawthorn, WA

Who is to pay for 'aquaculture' failure?

IN MAY 1997, bulldozers began excavating huge ponds for an "aquaculture" development in the Ludmilla Creek system on the Kulaluk Aboriginal lease.

Until 1964, the land from Ludmilla Creek to Totem Rd was a part of Bagot Aboriginal Reserve.

In 1979, 301ha of this coastal land was returned for "Aboriginal community use".

The area has a potentially

unique value as a recreational and education space.

The mangroves are widely used by Aboriginal people from Bagot Community and elsewhere in Darwin to gather bush tucker.

In response to my complaints when the prawn ponds began, the Kulaluk management claimed it was to provide income and jobs for the Kulaluk community.

Roads, powerlines and pro-

cessing sheds were constructed in the tidal regions under the flight path of the international airport although it was obvious to many the project was an environmental, economic and engineering disaster.

Within three years the huge and expensive scheme has failed, as I predicted. The devastated site is now abandoned and the infrastructure removed, apart from power-

lines leading nowhere. According to the planning approval, which should never have been given, if the lease is no longer used for aquaculture the land must be restored. Who is going to pay for the restoration, and whose money has been flushed down the creek on this foolish scheme?

13-08-01 Bill Day
Fannie Bay

New Darwin crab farm

Following years of negotiations with the NT Government's Department of Business, Industry and Resource Development (DBIRD), a new Indigenous owned and operated mud crab aquaculture venture is to be set up by the Gwalwa Daraniki Association (GDA) in Darwin.

A Shared Responsibility Agreement (SRA) has been signed with the Australian Government ensuring funding for the operation which is to be located using salt water pods on land at the Kulaluk community. After a two year period, GDA will continue to operate as a fully commercial venture.

In 2003 the Association approached the NT Government after hearing about the Fisheries Group's success in rearing crablets at the Darwin Aquaculture Centre. The new venture will grow out these hatchery crabs to initially produce around 15 tons of mud crabs a year of a minimum size of 350 grams, generating around \$235,000 in the first 3 years and expanding after this.

The GDA wants to establish a long-term sustainable business enterprise that will entail capacity building within the communities of Kulaluk and Minmarama by supporting training and promoting real employment.

DBIRD aims to use the Darwin facility to create appropriate models for the commercial farming of mud crabs on Indigenous land in regional and remote communities. The Kulaluk mud crab farm will also serve as a demonstration site for other interested communities.

A steering committee made up of representatives from the GDA, NT and Australian government agencies and the Charles Darwin University will oversee the development and a farm manager will be employed during the first two years of operation to run the farm and oversee training outcomes for the community.

"In 2004 DBIRD specifically focused on getting up some Indigenous economic development and this has been backed with new funding of \$1 million by the NT Government," Bo Carne, DBIRD's Indigenous Fisheries Liaison Manager told *Common Ground*.

"Crab farming is one of the avenues we're chasing. We've been really



Setona Shields (front) and Tim Angeles with a couple of crabs.

Pic: David Hancock, SkyScans.

happy with the negotiation process and the outcomes that this has brought. Fisheries are keen to extend research into 'grow-out' of mud crabs so other communities can benefit and we have a communications strategy to ensure people all across the Top End will get access to this information."

DBIRD has also set up a partner pilot project for the Kulaluk venture at Maningrida where Bawinanga is growing mud crabs sent from the Darwin Aquaculture Centre in a cage in a mangrove creek.

"We're testing different technology

to see what will work best for bush communities, so we're looking at food sources for the crab farms that can create more employment, like getting local people to catch bait fish for the project," Mr Carne said. "It's a very positive move and credit goes to the people of Kulaluk and Minmarama for taking the initiative and getting behind this new and exciting venture." ●

Coastal communities interested in getting more info on mud crab farming can contact Bo 89999 2164 or look at the Fisheries website: www.fisheries.nt.gov.au robert.carne@nt.gov.au

Aboriginal crab farm claws at own future



DINNER: Wayne Alum with one of the four-month-old crabs ready for harvesting this month. Picture: FIONA MORRISON

By ERIC TLOZEK

AN ABORIGINAL community in Darwin hopes to become financially independent through a mud crab business.

People from the Kulaluk community have developed a mud crab farm on their land at Coconut Grove.

The farm, using ponds from a failed prawn venture, will produce its first sale-sized crabs in three weeks.

More than 40,000 crablets were introduced to the ponds this week.

Workers from the community have been developing the venture since August. The farm, worth \$1.5 million, is a joint venture between the NT Government and the Gwalwa Daraniki Association.

Its eight staff are receiving training in aquaculture and business from Charles Darwin University.

‘We want to create a viable business so we don’t have to rely on government money’

Gwalwa Daraniki Association president Helen Secretary said the project had the potential to make the community self-sufficient.

“We want to create a viable business so we don’t have to rely on government money,” she said.

“The people working on this project are doing well.”

Crab farm manager Bob Rose said 5000 crabs would be harvested later this month. The 40,000 crablets will be harvested in September.

Mr Rose said several buyers were interested in the crabs produced at the farm, which he expected to sell for at least \$15kg.

From this...



Above: Tidal flats on the Kulaluk lease in 1978. The sign states: 'Bird Sanctuary – Don't destroy the bushes.' Red line indicates 7.5 metre high tide level.

To this...



Above: Overgrown prawn ponds on the Kulaluk Lease in 2005.

To this...

Right:
Marina and
Canal Housing
proposed for the
Kulaluk lease at
Ludmilla Creek.



Figure 1. Service Road to easement

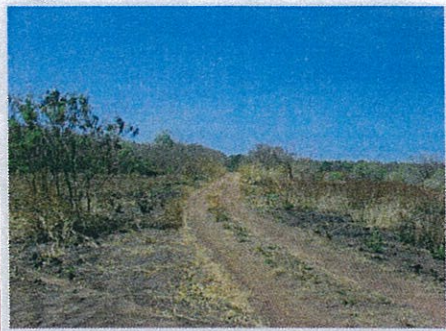


Figure 2. Service Road along easement



Figure 3. Partially cleared vegetation

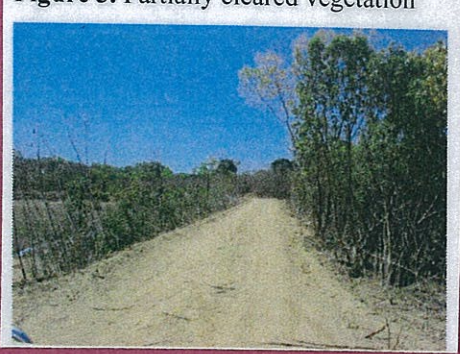


Figure 4. Cleared vegetation

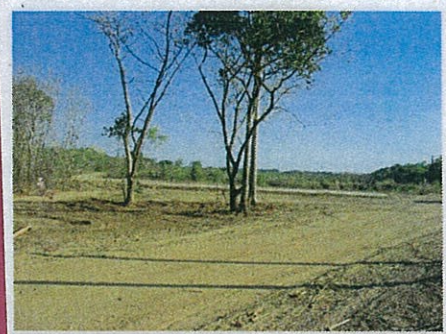


Figure 6. Sept 05. View SW from base Camp.



Figure 7. Sept 05. Pond 1 from SE corner of pond near easement.



Figure 8. Sept 05. Construction of Drain/Intake for Pond 1 on creek side.



Figure 9. Sept 05. Re-enforcement Pond 2 dikes.



Figure 10. Sept 05. Pond 3



Figure 11. Sept 05. Pond 4



Figure 12. Sept 05. Pond 3



Figure 13. Sept 05. Pond 3



Figure 14. Oct 05. SW view from Pond 1



Figure 15. Oct 05. Settlement pond 1



Figure 16. Oct 05. Second power pole with a junction box between settlement ponds 1 and 2.



Figure 17. Oct 05. Construction of SW dike viewed SW of base camp (white PVC pipe protecting valve).

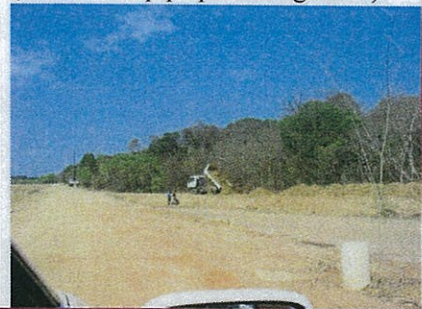


Figure 18. Oct 05. NE view of base camp showing work vehicles parked around cement slab.



Figure 19. Oct 05. NE view from pond 3 with seawater seepage from pond monk on the creek side of farm.



Figure 20. Oct 05. Brooding mud crab place in moat of pond 3 filled with seawater.



Figure 21. Oct 05. Crab shelters made from up-rooted mangroves growing inside dike walls (pond 3).



Figure 22. Nov 05. SW view with wet road base on main farm road that runs between the grow-out ponds (left) and settlement ponds (right).



Figure 23. Nov 05. Dry road base on top of dike walls of Pond 1 (NW corner view where electrical cable will run to base camp).



Figure 24. Nov 05. SW view from base camp showing ponds 2, 3 and 4 (note moat filled with rainwater).



Figure 25. Nov 05. Concrete collar to support drains between settlement Ponds 1 and 2 (note red road base).



Figure 26. Nov 05. Concrete drain on creek-side of pond 2 monk (note pipe just below water surface).



Figure 27. Nov 05. Demountable delivered to base camp and positioned directly over foundation footings.



Figure 28. Nov 05. North view of base camp from farthest end of pond 1 showing demountable, shade structure, toilet, and 20 ft container.



Figure 29. Nov 05. Rain-filled Pond 3 showing moat partially filled (note red road base soil on top of dike).



Figure 30. Nov 05. Waterfowl in pond 2 partially filled with rainwater.



Figure 31. Nov 05. Delivery seawater Pipe to be connected to intake pump.



Figure 32. Nov 05. Monk walls cut for inserting sluice boards.

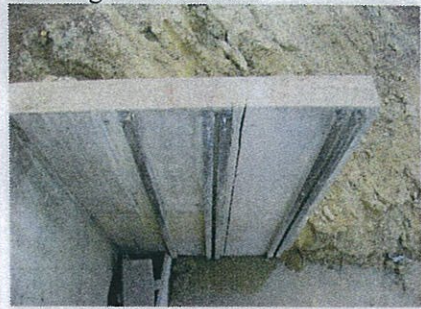


Figure 33. Sept 05. East view of easement from pond 1 near tidal creek.

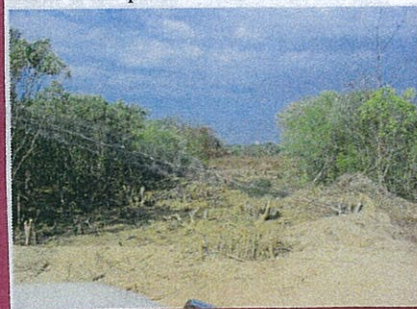


Figure 34. Oct 05. East view of easement showing soil stabilisation structures made of hay/coffee bush logs.



Figure 35. Nov 05 soil stabilisation with black poly pipe freshwater line (note mangrove regrowth).



Figure 36. Oct 05. Soil stabilisation of easement on Dickward Drive side of Farm (frontal view).



Figure 37. Nov 05. Soil stabilisation of easement on Dickward Drive side (side view showing hay and logs).



Figure 38. Nov 05. Rope 100mm above cleared topsoil stretched between stakes to measure the occurrence of erosion along foreshore of saltwater tidal creek (note black poly water pipe).



Figure 39. Abandoned pond at the Kulaluk crab farm in 2009.



Figure 40. An empty and abandoned pond and infrastructure at Kulaluk, 2009.



Figure 42. Abandoned pond and gear in 2009



Figure 41. Abandoned generators at the crab farm.



Figure 43. Mangroves growing in abandoned ponds at Kulaluk crab farm in 2009.



Figure 44. Vines grow on abandoned powerlines leading to Kulaluk crab farm.



Comment on the Evaluation of Kulaluk Crab Farm Employment Program, “Our Vision to Economic Independence and Employment and Educational Opportunities for our Community.”

According to Sharon Hewitt’s report, *“Our Vision to Economic Independence and Employment and Educational Opportunities for our Community”*, the one “valuable asset” the Gwalwa Daraniki Association members have is “*their land as a bargaining tool to build economic independence*”. The report claims that money-making opportunities were “*somewhat limited due to some parts of the area being mainly mangrove swamp lands and also being in the flight path of the Darwin International Airport*”.

The report adds that today Kulaluk is “*seen as prime real estate by the wider Darwin community for commercial ventures and is **very much sought after** which may result in further economic independence for the community in the near future*”. [The so-called ‘wider community’ might disagree!]

Under the brief heading, “*Social*”, the report describes how Kulaluk is near shopping centres, and “*within walking distance to the sea and beautiful beaches*”. The report sounds like an advertisement with no mention of why the land is important to Aboriginal people, except that the crab farm will “*provide participants with scientific farming skills as well as incorporating their own natural skills as hunters and gatherers*”. Unfortunately because of the prawn/crab farm, large parts of the Kulaluk land have been locked away since 1997 with signs saying “**No Trespassing - Private Property**” stopping the families who gather yams, mangrove crabs and shellfish or go spearing or fishing on the tidal flats or along the beach.

The report does not mention why the land was returned to Aboriginal people after eight years of struggle or discuss how the commercial ventures will affect the people who have traditionally used the land. Hewitt’s report only discusses the land as a money making asset, never as a social and culturally asset. Nor does her report mention why many people struggled to win back the land in the 1970s.

At least the report tells us who are the “*stakeholders*” responsible for the financial, social and environmental crab farm disaster. However, no one has accepted responsibility for this waste of public money, although NT politician Dave Tollner was happy to endorse the spending of \$433,000 of Federal funds in 2007. By 2009 valuable equipment lay around the abandoned transportable buildings at the crab farm site, with papers scattered over the floor of the vandalised office. Powerlines covered in vines lead to nowhere. No attempt at restoration has been attempted, although restoration is a condition of the development permit.

Sharon Hewitt’s report (cover on next page) suggests why the Kulaluk crab farm project was bound to fail and the stakeholders who are implicated, leaving the reader to ask, “Shared responsibility agreement, or no responsibility?”

“Our Vision to economic independence and employment and educational opportunities for our Community”



*An Evaluation of Gwalwa Daraniki Enterprises
Mud Crab Farm Employment Program*

“How effective is the delivery of the Employment Program”

Prepared by Sharon Hewitt
To meet course requirements of
3rd year Project
Bachelor of Applied Science
Indigenous Community Management & Development
Curtin University, Perth WA

NORTHERN TERRITORY PLANNING AUTHORITY

Planning Act

Section 52

DEVELOPMENT PERMIT

DP97/0077

DESCRIPTION OF LAND THE SUBJECT OF THIS PERMIT

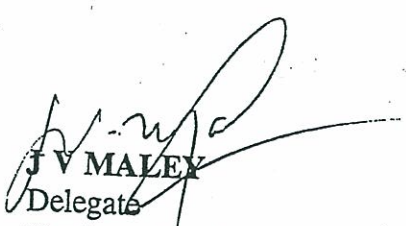
Lot No: LOT 5182
Town/Hundred: TOWN OF DARWIN
Street Address: DICK WARD DRIVE

PURPOSE

Consent is hereby granted, in pursuance of section 52(1)(a)(i) of the *Planning Act* for the purpose of a prawn farm, subject to the conditions in the Schedule and for the reasons set out in the attached statement of reasons.

This permit is issued by JOHN MALEY and PATRICIA DAVIES, as delegates of the Northern Territory Planning Authority.

Dated this 12 day of February 1997


J V MALEY
Delegate
Northern Territory
Planning Authority

P DAVIES
Delegate
Northern Territory
Planning Authority

SCHEDULE OF CONDITIONS

DEVELOPMENT PERMIT

DP97/0077

1. Works carried out under this permit shall be in accordance with drawing number 96/1131 and endorsed as forming part of this permit.
2. Waste sediment should be deposited into a bunded area separated from other operations, until sufficient leaching has occurred. Leachate should not be released into the environment except via discharge channels, where concentrations will be subject to discharge licence conditions.
3. The applicant shall, prior to commencement of operations, obtain all relevant licences under the *Water Act* and comply with the conditions of such at all times.
4. A monitoring program should be incorporated into the proposed operation to the requirements and satisfaction of the Secretary, Department of Lands, Planning & Environment to ensure that water quality is not affected by the proximity of the Ludmilla wastewater treatment plant..
5. Kerb crossovers to and driveways to the site shall be provided and disused crossovers removed, public footpath/cycleways shall be provided, stormwater shall be collected and discharged into Council's drainage network, and reinstatement works completed, all to the requirements and satisfaction of the Technical Services Manager, Darwin City Council at no cost to Council.
6. Nature strips shall be reinstated, landscaped and maintained to the requirements and satisfaction of the Technical Services Manager, Darwin City Council.
7. Electrical reticulation to the site to be provided to the requirements and satisfaction of the Power and Water Authority, at no cost to the Authority.
8. Water reticulation to the site and sewage disposal from the site to be provided to the requirements and satisfaction of the Power and Water Authority, at no cost to the Authority.
9. Any easements or reserves required for the purposes of electricity, sewers, water supply, stormwater drainage, roads, telecommunications, or for any other purpose, shall be made available free of cost to the Northern Territory of Australia, the Commonwealth of Australia and, if relevant, to the local authority under whose jurisdiction the subdivision proposal falls.
10. Upon cessation of the use, the area used for ponds shall be rehabilitated to the requirements and satisfaction of the Secretary, Department of Lands, Planning & Environment..

...continued...



P.O. Box 54
Berrimah N.T. 0828
Phone: 019 102 632
0419818106
Fax: (08) 8981 1462

PRAWN FARM PROJECT

A project has been developed to construct and operate 3 hectares of prawn ponds built of earth on a mudflat on Lot 5182 Town of Darwin, leased to the Gwalwa Daraniki Association and indicated on the accompanying aerial photograph and plan.

The site has been surveyed for water quality, soil quality, salinity and accessibility and has been found to be particularly suitable for aquaculture use.

PRODUCTION

The small-scale farm will produce two crops per year of tiger prawns (*Penaeus monodon*) for the local and domestic market.

The majority of product will be sold through SAFCOL on the bouyant domestic market.

The farm will also serve as a training ground to provide Aquaculture skills to Aboriginal people within the local community and provide a working model for potential farmers in isolated communities to gain some insight into the potential for Aquaculture projects on Aboriginal land throughout the Northern Territory.

The farm will be operated by a manager and one full time farm worker as well as casual harvest labour.

The farm, in the future, may also carry out research on other viable potential aquaculture candidates including Spiny lobsters, Rock cod, Oysters and Coral trout.

Environmental Assessment

The Ludmilla Bay and Creek system serves as an aquatic habitat and food source for a wide variety of fishes. Ludmilla Creek and Bay are also used for recreational fishing and boating.

Assessment has been made of the likely impact of the prawn farm on the local habitat, and the potential impact of other land users in the immediate area on the Aquaculture operation.

The effect of prawn farms on their environment in Australia is typically a healthy and flourishing natural marine life in the area, through added nutrients released from the farm ponds.

No pesticides, herbicides or industrial pollutants will be used on the farm and the operation is focused upon environmentally clean, sustainable aquaculture causing no disruption or foreseeable hindrance to other occupiers or future users of the area.

Additionally, the farm will not be in view of the general public due to the location behind vegetation and distance of over 400 metres from the nearest public street, Dick Ward Drive.

The farm will be aesthetically pleasing and operate harmoniously within the natural habitat in the region.

Wastewater Treatment Plant:

The Wastewater Treatment Plant on Dick Ward Drive was investigated for any potential impact it may have on the farming operation.

Commissioned in 1977 the plant operates on a lime assisted sedimentation process where raw sewage influent enters the building and is processed.

Solid matter is separated and passed to a furnace, burnt, and the ash matter deposited as land fill. Fluid passes through the building and is treated.

A portion of effluent is diverted for irrigation use. The remaining treated fluid effluent is pumped through piping to the outfall pipe situated off East Point, to be diluted within the harbour.

During the wet season, in times of heavy rainfall a high volume of rainwater is bypassed through the plant to join urban runoff and stormwater drainage into Ludmilla Creek.

Comprehensive analysis and dye testing in the creek have revealed the tidal current and drift to dispel the discharge of Ludmilla creek to the west following East Point and further into the harbour away from the property.

To ensure a supply of good quality seawater year round the farm will draw water from a point Northeast of the mouth of Ludmilla creek, 1.8 kilometres from the effluent outfall and avoiding sudden salinity changes or inconsistent water quality parameters in times of heavy rain.

CONSTRUCTION

Construction will consist of earthen ponds, pump, 12 x 10m shed & demountable accomodation. Ponds should be quite easy to construct with a small dozer and scraper. The construction and establishment of the farm to turn-key stage ready for stocking is expected to take around two months.

There is little chance of expansion on the block therefore the farm will be designed and built with a high degree of efficiency in mind to demonstrate commercial viability in a small scale Aquaculture farm.

Construction of the farm will cost around \$100,000 with a further \$40,000 to equip. No permanent infrastructure is planned and the farm will be capable of being dismantled and removed entirely in the future if necessary.

Electricity Supply

Electricity will be connected approx. 300 metres to the site from the existing 100kva transformer on the property, which has ample capacity in reserve. The farm will draw a maximum of 30 kilowatts.

A diesel generator of 25 kva capacity will be used in the event of mains failure, to provide smooth uninterrupted power supply to the farm site.

Water supply

The farm will draw seawater on high tides via a 200mm centrifugal pump and HDPE piping, supplying the ponds with a partial exchange of seawater daily (5-10%). Seawater will be discharged into the existing tidal drainage canal on the property. Approximately 2000-4000 cubic metres of seawater will flow through the system daily.

A freshwater supply pipe will be installed to provide household needs.

Equipment

A ute, Quad bike, trailer, pressure pump, paddlewheel aerators and feeder will be used in the day to day running of the farm.

Test Equipment

Full water quality test instruments will be used to monitor pond conditions including electronic dissolved oxygen meter, ph meter and temperature and salinity guages.

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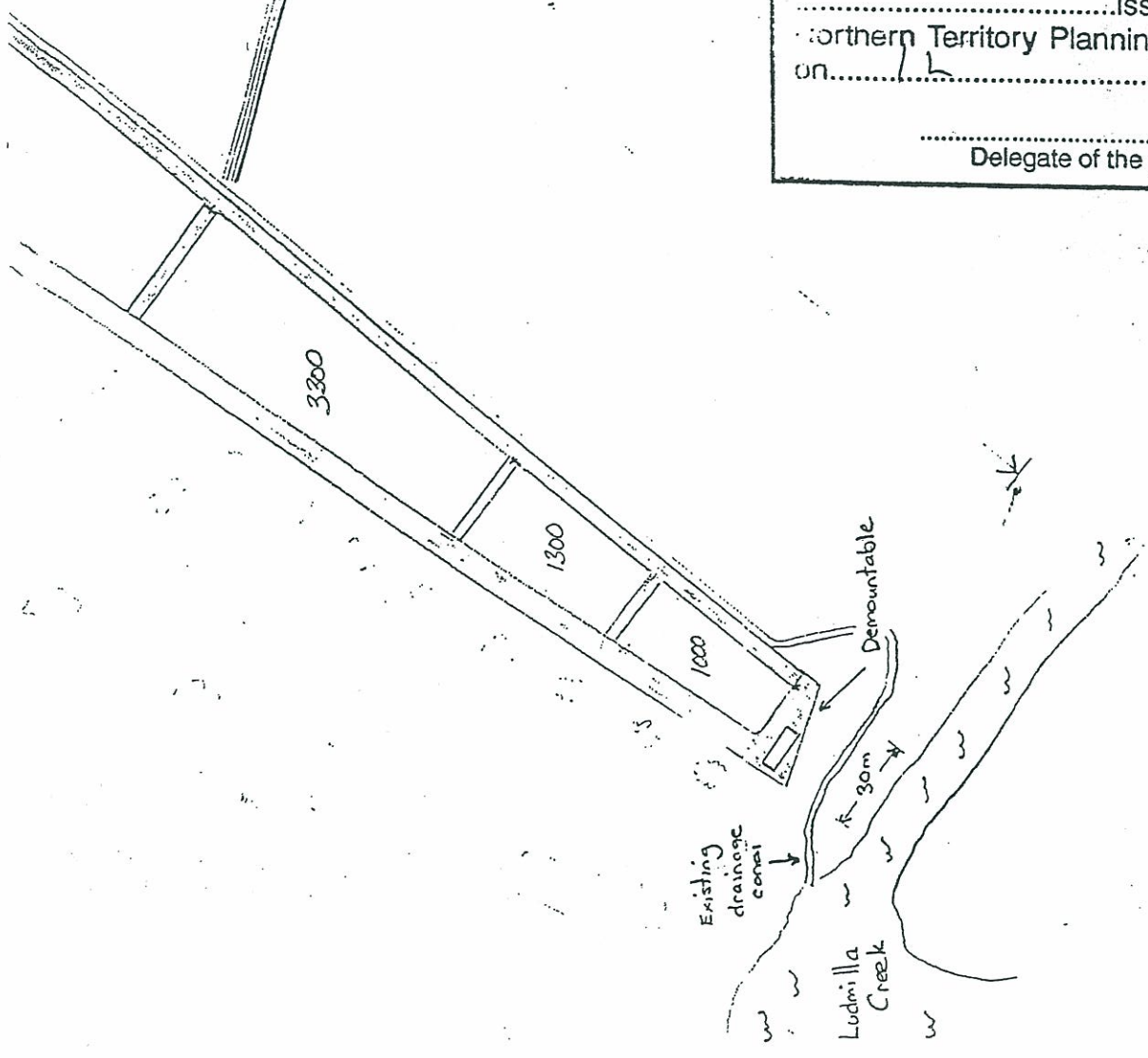
- 1. Electricity supply line
- 2. Freshwater supply pipe (poly pipe)

This is the drawing referred to in Development Permit No. DP97/0077 issued by the Northern Territory Planning Authority on 12-2-97

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Delegate of the Authority

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Delegate of the Authority



Site Plan / Krawn Roads

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