

# Big business, barnacles and barra boofing

Heather King

Fish farm manager Steve Matthews sports a big grin as he says, “it’s called barra boofing, because that’s exactly what it sounds like.” It’s the end of the day, and as the sun is setting over the steel cages of the first tropical sea farm in Australia, the prize barramundi (the Australian term for Asian seabass) attack another school of sardines that have made the mistake of swimming through the steel mesh.

“It’s like dessert for them” says Steve, who speculates that the caged barramundi’s diet is supplemented each day by “literally thousands of sardines.”

The ten steel cages form Nutreco’s Northern Territory Sea Farm. The farm is located in a large pristine inlet called Port Hurd, on the western side of Bathurst Island. Bathurst and Melville Islands are two of Australia’s largest islands located 100 kilometres north of Darwin.

The islands are owned by the Tiwi,

*Top photo: The farm consists of ten pens, this will be increased to 12 to achieve 100 tonnes production per year. The pens are 24 by 24m with a volume of 3500 cubic meters each. One of these pens has been split into 4 x 12m x 12m pens for nursery use. The fish come from the hatchery in Darwin at around 100mm and go into a nursery pen. After 3months they are then transferred to the grower pens.*

an indigenous community that has been proactive in attracting business to their islands in an effort to release their people from dependency on the welfare system. The relationship between Nutreco and the Tiwi Land Council was established in 1998 when Dr Craig Foster, Nutreco’s Australian manager, progressed an idea to farm finfish in tropical waters.

Dr. Foster had extensive involvement with the development of the salmon industry in Tasmania. His vision involved transferring salmon sea cages technology to tropical waters where growth rates are high. He considers that the selection of Bathurst Island as the optimum environment for a pilot project was relatively simple. Port Hurd offered



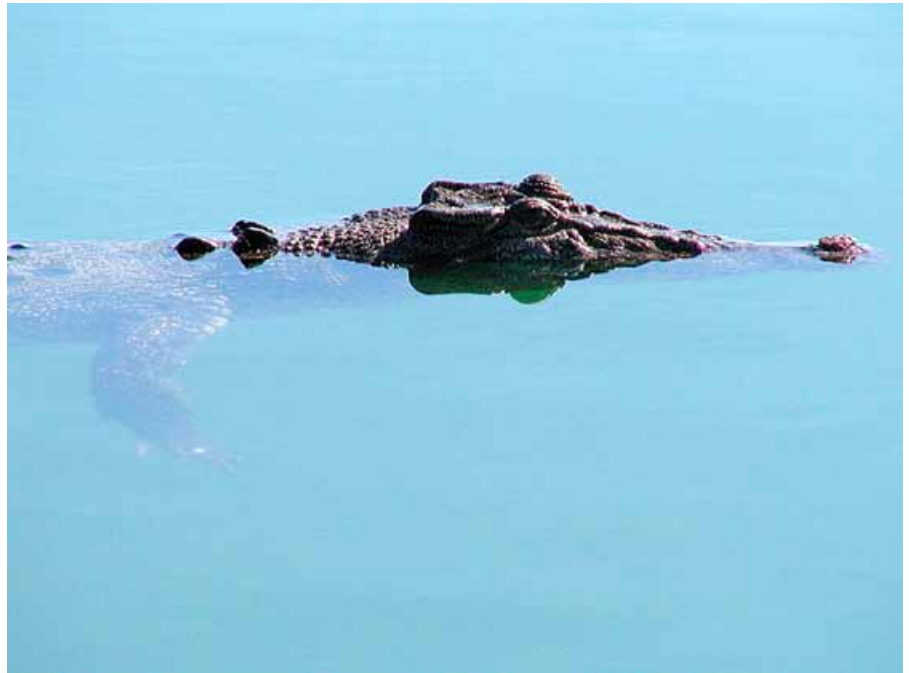
Feed being loaded onto the work barge.

year round water temperatures of 28 degrees, masses of tidal water, proximity to Darwin as a major service centre, and the support of the Tiwi Land Council who were cooperative with an established land base available for lease.

## The Tiwi warn seafarers about “Elvis” a 4.5 metre salt-water crocodile...

The Northern Territory Government embraced the Nutreco initiative as it provided a catalyst to further develop the Darwin Aquaculture Centre. At that time the centre was primarily a research facility, but with the establishment of the sea farm a 4 year contract was signed for the centre to supply enough fingerlings to meet the projected target of 1000 ton of harvested barramundi each year.

The journey to the sea farm takes the fingerlings 14 hours by road and barge in a modified milk tanker. Cohorts of 100,000 fish are put to sea every two months, and as at February 2002 the farm houses 350,000 barramundi ranging in size from 20 grams to 3 kilograms. The transport system works well, with fingerlings adapting quickly to their new environment. Health issues of nodavirus, enteritis and blood fluke have been identified, but have been managed successfully to date.



One of the resident saltwater crocodiles. A 4.5 metre specimen called “Elvis” lives in the vicinity.

Even before the first fish were put to see in March 2001, Nutreco staff were abruptly reminded that systems needed to be specifically adapted to deal with the environmental conditions of the site. The area is exposed to monsoons for 5 months of the year, and cyclones can occur. In addition to this, Northern Territory Manager Jim Smith says that the bay has “extremes of tide and current.” While this water flow is fantastic for fish health and vigour, it was the power of these currents that resulted in the initial mooring system being inadequate. The system was completely overhauled, and reinstalled with support

that will hold in extreme cyclonic conditions.

The net system too has evolved in response to site conditions. The Tiwi warn seafarers about “Elvis” a 4.5 metre salt-water crocodile that is regularly sighted off Cape Helvetius at the mouth of Port Hurd. Elvis hasn’t been seen near the sea farm to date, but many of his relatives have. It was these crocodiles, as well as the presence of tiger sharks, that dictated the need for the fibre nets to be modified with a steel mesh system. “The predator nets weren’t predator nets,” said Smith, relaying a story about a 3 metre shark that was caught inside the pens.

Rapid fouling of nets was another issue that was not anticipated. The ecosystem that has taken up residence in and around the farm comprises sea creatures of all shapes and sizes. At the smaller end of the scale are barnacles and amphipods, which rapidly took up residence and muddied the nylon netting. “The nets were fouling within a week period, and creating enormous workload for staff”, says Smith. The evolution to steel nets has addressed the rapid fouling problem, and made net management a simpler and less time consuming task. The sea farm is serviced from Barra Base. The leasing of this land station is the key formal agreement binding Nutreco and the Tiwi Land Council, although there are options in place for further



The farm’s workboat.

involvement by the Tiwi once the project has been proven. From the outset of the project it was clearly understood by Nutreco that employment and training of Tiwi was a priority.

At the current time, five Tiwi and four European Australians are employed. Smith says, "The company does what ever it can to support the community, particularly in relation to vocational training, island services and coastal issues."

Barra Base is an open troppo style building on stilts nestled on a white sandy beach, surrounded by coconut palms. The constant hum of the generator and equipment noise belies the isolation of the place. Accessible only by water, it



*Tiwi ceremonial Pukimani' pole in front of the lodge where staff live while working on the farm.*



*Staff feeding fish in one of the steel nets. The feeder is driven by a 5HP Honda 4 stroke engine coupled to a firefighting pump. The feeder has the capacity to feed up to one tonne of pelleted feed in 20 minutes.*

takes the farm staff that work week on, week off, an hour by air and sea to reach their destination.

Visitors to the Base are often in awe of the worker's environment. Barra Base was previously a fishing resort, and in this idyllic environment, Nutreco provides all meals, cleaning and laundry. "We need to look after our staff," says Smith, "they work long hours in a harsh environment." Indeed, staying overnight exposes you to a bevy of biting insects, relentless heat, an endless stream of ants invading all things sweet and wet, and sets of the spooky red eyes of Elvis's relations watching quietly from the water line.

The work on the farm is dictated by the tides. The extreme currents associated with spring tides dictate that most water work needs to be done during the neap tides, when 12-hour days are not uncommon. Such long hours and physical work are challenging for the farm staff. Despite this, the farm has a stable workforce, and Steve Matthews says that the Tiwi workers find "pleasure in working on the water, particularly in witnessing the impressive food chain attracted to the outside of the pens". "They are quiet, polite, amicable people," says Steve, "who never complain when mundane tasks are expected of them."

The Tiwi Land Council is involved in the selection of workers, and priority is given to Tiwi from the local clan, in the hope that the affinity they traditionally have with their land will be invigorated. "Whenever they get the chance they go off doing their thing," says Paul Basher, leading hand, "looking for turtle eggs, pig shooting or fishing." Farm worker Josh Pautjimi says he spends most of his spare time mud crabbing or fishing in a place he describes as "his home."

All this happens under the watchful eye of traditional owners, who were contracted during the developmental stage of the project to provide a part-time presence at the Base in order to assist in bridging any cultural differences. The traditional owners are extremely supportive of the sea farm, as they believe that the establishment of "big business" on their islands will provide a way forward for the younger generation.

The sea farm is currently making the transition from a pilot project to a commercial operation. Full scale weekly harvesting is due to commence with the



*Staff moving feed on the pens*

3 kg fish in May 2002, after a grow out period of 15 months. The systems for grow out continue to evolve, but Smith says that the "main focus of the operation is now on development of harvesting processes, and marketing of the product." A trial harvest was conducted in November 2001, and this process resulted in product being marketed in all Australian states. Feed back from the wholesalers was extremely positive, and "Marine Harvest Barramundi", with the identifiable taste of the sea, is already being sought after.

Day to day life for farm workers at Port Hurd is at the mercy of Mother Nature. For most of the year the workers go about their daily routine, sometimes oblivious to the majesty of the tropical environment around them. On a few days however, with 50-knot winds roaring through the cages, the farm is unapproachable and the fish don't get fed. Or do they, as that extensive ecosystem in the turbid water is left to nature and the peculiar sound of "barra boofing" is lost somewhere between the howls of wind.

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