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The wash up from QLD's big clean – part two

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A series of events on the scale that Queensland experienced early this year, which saw floods and an ensuing cyclone affect up to 75% of the state, created a clean up job beyond comprehension. While many Queenslanders were still in shock and trauma over the loss of life and livelihoods, governments, waste operators and people power were mobilised to manage what essentially became a massive mulching exercise in the north of the state.

To read the first part of this story click [here](#).

While Townsville was lucky to be spared major loss of life and significant structural damage from cyclone Yasi, there was an estimated 65,000 trees blown down by the 200kph+ winds providing council with an estimated three to four years' worth of green waste to clean up and dispose of in the space of months.



Townsville City Council's Mayor Les Tyrell referred to the clean up effort, in a statement released in April, as a "military style operation".

One regional council reported that Yasi generated the equivalent volume of 14 years' worth of waste for them, according to Christine Blanchard, principal advisor council support at the Local Government Association of Queensland (LGAQ).

"A cyclone presents quite a different waste management task than a flood," she said, "in cyclones more green waste can be recovered but in a flood it's often covered in toxic sludge".

"In north Queensland...managing asbestos proved to be an issue and the DERM (Department of Environment & Resource Management) worked with local government in those areas to manage the material properly," said Blanchard.

In the first two weeks of the clean up the priority in Townsville was clearing trees from major arterial roads and thoroughfares as well as busy public areas to get the city moving again and to help with the restoration of power.

The next phase was the systematic collection of green waste street-by-street from Rollingstone to Magnetic Island and all points in between.

"Trees are a community asset and we had specialists inspect just about every street in the city to assess trees and earmark those that could be saved and those that required removal," Tyrell said.

At the height of the clean-up, the council had 190 trucks collecting and off loading green waste, almost 100 bobcats, loaders and backhoes in use, as well as chippers and specialist stump grinders.

This response was the result of engagement with the community and waste operators which resulted in some 450,000 cubic metres of bulk tree waste being collected and processed at nine bulk disposal sites to create 260,000 cubic metres of mulch.

Matthew McCarthy, waste operations manager in Townsville, who was tracking special waste collection volumes, noted that after one month of collections (24 days) there had been 375,000 cubic metres of green waste collected from 70% of sidewalk frontages - enough to fill a football stadium up to twelve stories high.

When the clean-up operation was in full swing, there were around 1,000 truck movements each day in and out of the temporary green waste dump site at Lou Litster Park.

"Every truck load of green waste pumped money into the local economy," said Tyrell, "Local contractors were given first priority in the clean-up work and were engaged in about 95% of hired in plant and equipment coming from local companies".

The council consulted with Simone Dilkara among others, who was most recently involved in the

Groundswell City to Soil program. She told *Inside Waste*, "Townsville did an amazing job...as a result of what Townsville City Council were doing a number of other councils in far north Queensland took a similar approach".

She said that due to the climate in north QLD, large stockpiles of green waste can present a fire risk unless they are managed correctly, but the resulting material is "beautiful stuff" due to the feedstock being relatively free of contamination.

Ken Bellamy from VRM is the man responsible for managing the biology of stockpiles in the areas of Townsville, Ingham, Hinchinbrook and the Cassowary Coast. He said some places are still chipping their green waste and that by the end of this process the region will have dealt with around a million tonnes of material.

"I think it's a real credit to the authorities how quickly and well they managed the process," said Bellamy.

He explained the reason none of the piles have caught fire, despite being up to ten metres deep in some instances at licensed collection sites, is due to a set of biological processes that essentially promote fermentation rather than just composting, allowing piles to maintain relatively stable temperatures. Additionally, the piles have not sustained significant loss of volume through carbon emissions despite evidence that there has been quite rapid digestion.

One of the most remarkable aspects of the green waste clean up operation was the leachate was able to be treated, and odours substantially contained, on each site.

"That was an amazing victory given the volume of material...the initial stage of collection and mulching was all done in the rain making it very difficult to control the odour as soon as the sun came out.

"We used a range of biological processes in the airspace around the mulch processing zones and above leachate containment zones which are completely non-toxic but can break down H₂S (rotten egg gas) the main odour culprit," said Bellamy. "As the job went on, workers on the sites nicknamed us the 'yoghurt patrol' because we used some of the same processes found in yoghurt to help keep the air clear.

"We knew from our experience that this process could do some amazing things with odour and leachate management but with the sheer size of this job and the on-going bad weather conditions – all of which favour odour and leachate production—to have any sort of containment of odour and leachate quality was a challenge," he said.

Bellamy said they are still monitoring several sites in Townsville and another five on the Cassowary Coast which still has thousands of tonnes yet to be mulched.

Fortunately, Townsville's clean up was covered by the State of Disaster declared by the Government and a large percentage of the clean up cost will be part of its claim for Natural Disaster Relief Funding.

Now that the clean up is in its final phase, council workers have redeployed to key priorities of roads and mowing, and removing the last remaining damaged trees in parks and gardens.

To read the first part of this story click [here](#).

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