



BIG HANNA JOINS THE NAVY

By Jenny Marshall, Sector Group Co-ordinator,
WasteMINZ

◀ Leading Chef Zylen Thomas and Able Chef Logan McKay
 photo courtesy of Mr Chris Weissenborn, Devonport Naval Base
 Photographer - Defence Public Affairs, HQ NZDF



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With over 1500 personnel and staff on site at the Royal New Zealand Naval Base in Devonport, it's no easy task serving upwards of 400 meals each day. An even greater challenge has been to minimise the estimated 95 tonnes of food waste that has traditionally been sent to landfill each year.

REDUCING FOOD WASTE

The Navy has taken significant steps over recent years to minimise the amount of food that is wasted. In the past, the menu was heavy on stews, casseroles and the like, and there was consequently a lot of wastage. Now as a result of a directive from Galley Manager Petty Officer Chef Simon Gillbanks, the emphasis is on healthy eating and fresh food with much less bulk cooking and more 'made to order' meals. By using more fresh produce there is actually less waste, as the chefs are able to combine the ingredients in many different ways.

Numbers served on a daily basis in the Vince McGlone Galley (one of two galleys on the base) for instance, can vary from 180 up to 250 people. "Sometimes we can have up to 50 extra people on any one day. So that's when we use up leftovers and get creative with ingredients to make the food go further. We now look for opportunities to use any leftovers

appropriately. For example, the staff operating the night watch on ships which have come into port, are now sent over hot meals, if there is an excess from the dinner service" says Able Chef McKay.

These initiatives have reduced the amount of avoidable food waste to around 20 percent of the total food waste stream, with the vast majority of this being plate waste. Even there the Navy chefs have been taking a proactive approach. The galley operates on a supervised, self-service basis with staff serving themselves, however "if they take too much, we ask them to put some back. This is in part because too large a meal can make the staff feel lethargic during the day, and it also ensures that there is enough food for everyone and reduces plate waste" says Leading Chef Thomas.

Sarah Strong, the New Zealand Defence Force's Senior Environmental Officer was also keen to tackle the unavoidable portion of food waste, and adopt a 'closed loop' approach to waste management consistent with principles of wairua, kaupapa Māori and kaitiakitanga.

FEEDING BIG HANNA

Together with Shaun Bowler from the sustainable business consultancy Bluefin, the Navy identified that a Swedish commercial in-vessel composting technology could provide an appropriate solution.

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Then with funding support from the Government's Waste Minimisation Fund "Big Hanna" was purchased.

Big Hanna, which has now been operating at the naval base for six months, is just the second unit of its kind in the southern hemisphere. However, this solution is used in a variety of applications across the globe.

The process begins with the food being chopped by a machine into small pieces, which takes out approximately 80 percent of the moisture and enables the feed stock to be processed faster. These food scraps are then emptied into Big Hanna together with wood pellets, which provide the correct carbon to nitrogen ratio for efficient composting. Galley staff weigh each bucket of food waste before putting it into Big Hanna; they then add the required amount of wood pellets at a ratio of 80 percent food to 20 percent pellets. Temperatures inside the vessel are also logged to ensure Big Hanna is at the optimal level for bug munching! Just eight weeks later the food waste has completed

the composting process. However, at this stage the resultant compost still contains large quantities of nitrates and soluble salts, so it is stored onsite to mature for another six to eight weeks, before being mixed with soil and used on the base's grounds.

MEASURABLE OUTCOMES

At least five tonnes of compost are utilised on the naval base's gardens each year and Big Hanna is projected to meet this demand in the first year of operation. In addition to the financial savings related to purchasing compost and avoidance of landfill charges, another significant benefit has been that fewer waste collections are required resulting in a reduction in truck traffic through Devonport. This has the very real potential to enhance the safety of the roads for cyclists and pedestrians and also enhancing amenity value for residents.

One of the main challenges the project team faced when commissioning Big Hanna was the rate at which chefs and kitchen staff are posted to or rotated off the base. To help overcome this, several training workshops were scheduled and rolled out to capture all relevant personnel, standard operating procedures were developed, and daily tasks and responsibilities were added to the galley's watch bill.

Feeding Big Hanna is also being incorporated into the task book that every chef carries, which records their work, ensuring that composting is a key part of their daily routine. This task book is also used when staff are being considered for promotion through the Navy ranks.

Already Big Hanna is processing up to 100kg of food waste each day from the Vince McGlone Galley. The next step is to incorporate food waste from the second galley on the Base. There is also the potential to incorporate waste from satellite sites, such as those at Narrow Neck and Torpedo Bay, in the future.

For more information contact Shaun Bowler at sbowler@bluefin.co.nz, phone +64 21 800 690 or Lieutenant Commander Eric Chapman at eric.chapman@nzdf.mil.nz.



Jenny Marshall is the Sector Group Co-ordinator at WasteMINZ. She has a Post Graduate Diploma in Environmental Management and has a particular interest in behaviour change and encouraging collaboration across the waste sector.