

SUBREGIONAL COLLABORATION - A CASE STUDY OF SHARED SAMPLING AND LABORATORY SERVICES

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ABSTRACT

Building on an already strong relationship between the councils, Waipa and Waikato District Councils and Hamilton City Council developed the Sub Regional Waters Group – Shared Services in 2011.

The vision of this group was to deliver integrated, sustainable and well managed services for the Waikato Sub Region. This would ensure the protection and, where possible, the enhancement of public health and sensitive receiving environments, today and into the future.

The Sampling and Analysis initiative saw all three councils share one space at the existing Hamilton City Council laboratory, with the service going live in July 2012.

With definite potential for other shared services to be implemented in many areas across New Zealand councils, the significant learnings gained by Sampling and Analysis over the past two years could greatly assist other teams in planning for and implementing shared service success.

KEYWORDS

Shared Services; Case Study

1 INTRODUCTION

When Waipa and Waikato District Councils and Hamilton City Council developed the Sub Regional Waters Group – Shared Services, the objectives of any Shared Service undertaking were defined as:

- **Economies of Scale**
Ensure that value is obtained by combining service delivery.
- **Strategic capacity**
Provide opportunities to build strategic capacity, the ability to view issues and challenges in a strategic manner and deliver tangible outcomes.
- **Operational excellence**
Allow the pooling of ideas and resources as well as attracting talented staff to develop a centre of excellence.
- **Service delivery**
Create a ‘one-stop shop’ for customers across the sub region, providing consistent delivery of expectations and excellent customer service.
- **Environmentally, community and culturally focussed**
Allow a sub-regional approach to the issues of importance to our communities, ensure that environmental issues are addressed consistently and appropriately, and allow us to speak with one voice on water matters that are of a cultural nature within our respective communities.

The delivery of a number of shared initiatives across the sub region began with two major work streams:

1. Trade Waste
2. Sampling and Analysis

Highlighted as ‘easy targets’ for pioneering the Sub Regional Shared Services initiative, both these work streams represented not only an opportunity for enhancing knowledge, staff skills and compliance across the sub region, but introduced the potential for cost savings and revenue recovery for all three councils.

More recently, a Smart Water work stream has been added to the Shared Services business which focuses on education and the sustainable use of water.

This paper focuses on the Sampling and Analysis part of the Shared Service business.

2 DISCUSSION – SAMPLING AND ANALYSIS CASE STUDY

2.1 OPERATIONAL SCOPE

The Hamilton City Wastewater Treatment Plant has always had a functioning laboratory since its construction in the mid-1970s. The laboratory became accredited by IANZ (International Accreditation New Zealand) against the ISO recognised standard 17025 in 1984 and was listed by the Ministry of Health as a recognised Drinking Water testing laboratory in 2002.

The Laboratory team collected around 350 samples each month of varying types within the city limits including natural source waters; treated drinking water both during the treatment process and in reticulation; wastewater throughout the treatment process; storm water; landfill leachates; and trade waste discharges.

Approximately 1200 analyses were performed each month on these samples, including field tests like pH, temperature, chlorine, turbidity, conductivity and dissolved oxygen; microbiological lab tests such as e.coli, total coliforms and heterotrophic plate count; and a range of water chemistry tests like suspended solids, alkalinity, biochemical oxygen demand, nitrogen, phosphorous, ammonia, nitrate, nitrite, fluoride and chemical oxygen demand. These results are used for resource consent compliance, drinking water standards compliance, trade waste bylaw compliance and process control monitoring.

Waipa District Council’s requirements would add an additional 800 tests on 150 samples per month from the seven townships that make up the Waipa District – Cambridge, Karapiro, Kihikihi, Pirongia, Ohaupo, Te Awamutu and Pukerimu.

Waikato District Council requirements would add 1000 tests on another 160 samples per month from a much larger area – the two western coastal towns of Raglan and Te Akau; eastern townships Matangi and Tauwhare; northern townships Te Kowhai, Huntly, Ngaruawahia, Taupiri, Te Kauwhata and Meremere; as far north east as Maramarua; and the far northern ex-Franklin District towns of Pokeno, Tuakau, Onewhero and coastal Port Waikato.

2.2 IMPLEMENTATION

The Hamilton City Council laboratory consisted of one vehicle and a team of five staff – two laboratory technicians, two field technicians and one team leader. The business case for Sub Regional Sampling and Analysis outlined three vehicles (one from each partner council) and a team of nine staff – four laboratory technicians, four field technicians and a team leader. The additional roles were to be fixed term during implementation, and permanent role requirements reviewed after one year.

The team began sampling and analysis for Waipa District Council on 1 July 2012 and for Waikato District Council on 1 October 2012. Both councils provided a vehicle permanently allocated to Shared Services.

One fixed term field technician was employed from 1 July 2012, and another in November 2012. A part-time employee from Waikato District Council responsible for some sample collection was transferred to the team as a fixed term casual field technician in October 2012, and made a permanent casual field technician in February 2013. One additional permanent laboratory technician was employed in April 2013.

2.3 CHALLENGES FACED

Even with an experienced and dedicated team leading the way, many things could and did go awry during the implementation of Sampling and Analysis. The aim of this paper is to cover the most significant challenges faced, and share the lessons that came out of them – the areas of key challenges that will be further analysed in this paper include:

- Staffing
- Applying skills and knowledge to new situations
- Communication
- Information overload
- Geographical logistics
- Asset resourcing
- Suitability of existing resources
- Psychological barriers to success

2.3.1 STAFFING

During the first year of implementation, only fixed term roles were authorised for recruitment. It is likely that the inability to recruit for permanent, full time positions reduced the number and quality of applicants applying for vacant positions within the team. As such, four people have been employed and subsequently resigned as fixed term field technicians since July 1st 2012, with three of the four terminating their employment for permanent employment offers elsewhere. The high turnover resulted in significant time and effort being repeatedly spent on recruitment, training and development by existing staff.

Considered and suitable recruitment of the right staff is important in any successful endeavour, and certainly a key aspect in the Shared Services' goal of becoming a regional centre of excellence – it is crucial that the right people are supported in putting enough time and effort into recruiting and training new staff, as well as developing existing staff.

In reflection, even without staff turnover, the team simply didn't have the amount staff needed to carry out the sampling and laboratory work required by all three partner councils. Fortunately, the nature of the Sampling and Analysis team's work allowed for a very convenient and simple contingency plan – with numerous IANZ and Ministry of Health accredited laboratories around the North Island, and several reputable local environmental consultancy businesses to assist with quality sample collection, lack or loss of staff could, with some expense, be buffered relatively easily. It is vital to have an effective contingency plan in place, for the continued delivery of any crucial tasks should the worst happen.

Key learning: Make your staff a priority (but always have a back-up plan).

2.3.2 APPLYING SKILLS AND KNOWLEDGE TO NEW SITUATIONS

Although the sampling and analysis that would be undertaken for all three partner councils were of a similar nature and in the same industry (water and waste treatment and management), the setup was different in many ways to what the Hamilton City Council laboratory team was familiar with.

Hamilton City Council's water network consists of one wastewater treatment plant, one water treatment plant that draws from the river and seven reservoirs across one supply scheme in a suburban setting. The laboratory service prior to Shared Services was to Hamilton City Council exclusively, and thus the team has a very thorough knowledge of both plants, the reticulation networks involved and the compliance monitoring required.

Waipa District has two wastewater treatment plants in Cambridge and Te Awamutu; five water treatment plants in Cambridge, Kihikihi, Ohaupo, Karapiro and Pirongia that draw from rivers, lakes, streams, bores and springs; and seven reservoirs over seven supply schemes in suburban, rural and semi-rural settings.

Waikato District has eight wastewater plants in Raglan, Huntly, Ngaruawahia, Meremere, Maramarua, Te Kauwhata, Matangi, Te Kowhai and Tauwhare; ten water treatment plants in Raglan, Te Akau, Huntly, Ngaruawahia, Pokeno, Tuakau, Onewhero, Port Waikato, Te Kauwhata and Hopuhopu that draw from rivers, bores, springs and streams; and 31 water reservoirs across 11 supply schemes in suburban, rural and semi-rural settings.

The team had absolutely no knowledge of these treatment plants or networks prior to implementation, no awareness of the resource consents, bylaws or grading requirements associated with each, and more than half the team had little to no experience with rural terrain or large animals. Initially there were a lot of routine decisions that couldn't be made independently by the team simply because of the lack of knowledge or experience. Even directing general enquiries from the public in Waipa and Waikato – problems with water flow, trash not being collected or a neighbour dumping paint down the drain – became aspects of customer service that couldn't easily be delivered.

The knowledgebase of the team has improved substantially since implementation, due to learning on the job, formal training, and regular sharing of information from staff at the partner councils, but it is important to acknowledge that being able to quickly get hold of key operational staff in Waipa and Waikato during these learning periods was instrumental to the continuous delivery of quality and timely service to each district.

Key learning: Knowledge and skills may be transferable, but give them time to adapt.

2.3.3 COMMUNICATION

The Shared Service initiative affected a lot of other teams in the partner councils, such as operational treatment staff, reticulation network staff and compliance monitoring staff. It was crucial to understand early on what those staff and their teams needed from Sampling and Analysis to ensure compliance with various regulatory requirements was not put at risk.

In the first week of July, key operational staff from Sampling and Analysis met with key operational staff from Waipa District Council in Te Awamutu. Consisting of between two and six people, these meetings continued to occur every Friday morning without fail for six months. The meetings started out as operational troubleshooting and information exchange – there were a lot of small things that needed to be answered, clarified or decided on, such as exact sampling point locations, result trigger or breach limits, resulting responses and interpretation of resource consents requirements.

Face to face meetings between those most immediately affected fostered a sense of collaboration and cooperation, and allowed for more collective and immediate brainstorming than emails or phone calls could allow. It also facilitated better understanding of the motivations, capacity and approach of people and teams involved.

Meetings were eventually pushed out to fortnightly, then monthly and finally quarterly as issues became more infrequent – the development of relationships also meant that phone and email communications had become far more effective and efficient. When Waikato District came on board October 1st, these meetings were instigated with their key staff also. However these meetings became less frequent far quicker than with Waipa, which can be greatly attributed to what had been learned and applied during the Waipa implementation.

Key learning: Find out who can answer your questions, and build collaborative relationships with them.

2.3.4 INFORMATION OVERLOAD

Sampling and testing for Waipa District Council went live on 1 July 2012, introducing 61 new sites with 107 new sampling points in over 1500 km² of new territory. Waikato District Council went live on 1 October 2012, this time with 63 new sites and 114 new sampling points over an area of 3200km².

The staggered addition of the two councils to Sampling and Analysis was not explicitly planned, but rather just the way things worked out – Waipa District’s contract with their existing sampling service provider concluded on 30 June 2012, whereas Waikato District’s contract with their provider concluded on 30 September 2012.

This turned out to be a very fortunate turn of events however, as the time between service implementation for the two new councils allowed the operational team to dedicate time and focus solely on each region as they came on board.

The team was already very familiar with requirements from Hamilton City Council, but had no prior knowledge of sites in Waipa or Waikato. Site locations were delivered to Sampling and Analysis for both the Waipa and Waikato areas, but with both documents lacking practical information like GPS co-ordinates, and most rural locations without accurate physical addresses, the field technicians were locating the new sampling sites and points on a day to day basis with verbal help from Waipa and Waikato operational staff. This was all documented on the go with GPS units and cameras.

With so many new sites to learn about over such large geographical areas, the three month gap between Waipa and Waikato allowed the team the much needed time to become familiar with the new aspects being introduced from Waipa District on 1 July. By the time Waikato District was added on 1 October, the sampling locations, test requirements and reporting expectations were routine for both Hamilton and Waipa, and the team could focus on developing the same for Waikato.

Key learning: Stagger implementation to allow new information and processes to stick.

2.3.5 GEOGRAPHICAL LOGISTICS

As the table below outlines, the number of samples to be collected and the distance to travel to collect them increased rapidly and substantially over a very short period of time.

Table 1: logistical details pre and post Shared Services implementation

(per month)	Pre 1 July 2012	1 July – 30 September 2012	Post 1 October 2012
Samples collected	350 samples	500 samples	660 samples
Ground covered	800 km	2500 km	6000 km
Analyses performed	1200 tests	2000 tests	3000 tests

Limited time, staff and vehicles meant the day to day sampling requirements were generally quite large, and required tactical division of areas and careful planning of routes. This planning had to take into consideration such aspects as peak traffic times and areas; road works; hours of site access; suitability of vehicles to sampling locations; when samples needed to be back at the laboratory for testing; if two staff were needed for safety concerns; what equipment was needed for the types of sampling; and if samples had to be taken at a specific time.

Drinking water samples were scheduled on specific days without a lot of room to move, whereas wastewater, source waters, trade wastes and landfills were assigned to a week, month or quarter. The flexibility around the days and weeks of sample collection, and the partner council staff trusting the team to collect the required samples within those greater timeframes, allowed the Sampling and Analysis team to maximise the productivity of their journeys around the sub region.

Waikato District Council wastewater and water treatment operators have also been collecting the samples in Raglan and Te Akau and delivering to the laboratory since October 2012, and will continue to do so until the Sampling and Analysis team is fully staffed.

Having the moral and operational support from teams across the partner councils has played an intrinsic part in the Sampling and Analysis Shared Services success thus far and truly embodies the idea behind sharing services.

Key learning: Teams need to develop trust in one another for Shared Services to truly succeed.

2.3.6 ASSET RESOURCING

The business case outlined clearly the number and types of samples and analyses required by each council, and how much those samples and tests would cost according to the existing Hamilton City Council Laboratory pricing. What wasn't taken into consideration was the physical capacity of the laboratory to process the increased sample numbers. Pre 1 July 2012, the laboratory was already at maximum chilled storage capacity with just Hamilton City Council's samples, and had no room to store the partner council samples as required. It was the same situation for the 400L 20°C incubator used to evaluate Biochemical Oxygen Demand (BOD), which would not have the capacity needed for the volume of BOD analyses requested by Waipa and Waikato District Councils. There was also the issue of insufficient field and sampling equipment, such as pH and temperature meters, chlorine analysers, bore pumps and sampling poles. With field technicians needing to go in different directions daily, at least three sets of everything was required.

Although the lack of capacity was identified quite quickly, there was no capital budget allocated to Shared Services to purchase additional resources. Hamilton City Council did have an equipment renewals program in place for all existing laboratory equipment, but new assets required a business case to apply for funds, and in any case, Hamilton City Council didn't want to shoulder the entire expense for equipment that would be used by all three partner councils. With restrictions around shared assets purchases as well, it was not a problem easily solved.

Some small pieces of field equipment purchased utilising the operational budget, along with the field equipment that Waikato District Council had supplied to their part time sample collector, bridged the immediate gaps in resourcing. Additionally, the Sampling and Analysis team was also fortunate to end their first financial year with a small surplus, and the partner councils agreed that this would not be refunded but instead used to buy the equipment required for Sampling and Analysis to deliver the level of service expected. But, the issue of future shared asset purchases and eventual renewals remains on the table, and is an aspect to consider for future Shared Services initiatives.

Key learning: Think about what you'll need and how you'll get it, before you need it.

2.3.7 SUITABILITY OF EXISTING RESOURCES

Another consideration that only came to light post-implementation was the suitability of the vehicles supplied from each council – there was no stipulations in the business case around size, capability or eventual replacement of vehicles. The vehicle from Hamilton City Council was provided previously as a specialty task vehicle, with both internal and external modifications specifically fitted for a variety of sampling requirements within a suburban setting. Waikato District Council supplied a similar but simpler vehicle that had been used by their part time sampling technician. But as Waipa District Council had been utilising a consultant up until Shared Services, they had no reason to have a suitable vehicle available and Sampling and Analysis was provided with a general pool car.

The team aimed to use the vehicle provided by each council in that council's district, but it became clear very quickly that the Waipa vehicle wasn't safe or suitable for the locations within the district that it needed to go, especially in winter – such as closed landfills and farming land. The team was fortunate to have the Waikato District van replaced with a four wheel drive vehicle when it came up for renewal in 2013, so the difficult locations around the sub regional are managed through the use of this vehicle and some creative scheduling. But for future initiatives, it is not only the purchasing of resources that needs to be considered, but also the suitability of those already existing.

Key learning: Consider whether what you have is what you will actually need.

2.3.8 PSYCHOLOGICAL BARRIERS TO SUCCESS

The implementation of Shared Services Sampling and Analysis generated huge changes that affected everybody whose work or job was impacted in some way. One of the two biggest issues observed in the staff who became the Sampling and Analysis team was that of loss of identity.

Shared Services staff were encouraged to think of themselves as part of all three councils. Minor aspects to do with the transition to Shared Services were changed quickly and easily, like email signatures; answer phone messages; and business and ID cards. But other discrepancies that weren't so quickly fixed caused some identity issues within the team, in the partner councils and amongst the public as well. These issues include the vehicles having only the provider council's logo being used in other districts; email addresses still ending in the Hamilton City Council domain (e.g. abc@hcc.govt.nz); and the hazy application of different council policies in different districts.

Sampling and Analysis staff were still legally employed and paid by Hamilton City Council. Their performances were reviewed and managed in alignment with Hamilton City Council policies, they attended Hamilton City Council staff meetings, and yet because those who were colleagues yesterday became customers overnight, the team suddenly felt no sense of belonging with any of the three councils. To combat this feeling of isolation, the Sampling and Analysis and Trade Waste teams sought solidarity within Shared Services itself – developing regular Shared Services team meetings, milestone celebrations and social activities.

The other big intangible concern that could have threatened the success of Shared Services was fear of failure. With such a large workload developing so suddenly, staff were concerned that crucial tasks would be missed – samples taken from the wrong place or not taken at all; workload pressure resulting in mistakes in testing; or simply not being able to do everything required. With this there was also the fear of being held to account for the serious consequences of those errors, such as impacting resource consent compliance, losing drinking water grading or compromising public health. It had to be considered that the fear of repercussions might cause staff to 'fudge' or hide undesirable results.

There were two aspects that helped alleviate this major concern: along with the unwavering support of the Shared Services Governance Committee (represented by members of all three partner council's operational waters teams) and their absolute confidence in the Sampling and Analysis team, the original business case stated very clearly that the risks and liabilities for each council as a result of the merger would remain with each council.

This statement allowed the operational staff to remain objective and focus on producing accurate and quality results, and not on what those results could mean for each council in terms of compliance. Such a statement may be common practice in legal agreements between parties, but the unambiguous recording of it in this case had the added benefits of both giving operational staff confidence that they would be working in a no-blame environment, and empowering partner council staff by keeping ownership and responsibility within their teams.

Key learning: A supportive and inclusive culture allows staff to produce accurate and quality work.

3 CONCLUSIONS

The vision of Shared Services is to deliver integrated, sustainable and well managed services for the Waikato Sub Region, which will ensure the protection and, where possible, the enhancement of public health and sensitive receiving environments, today and into the future.

The two years since the implementation of Sampling and Analysis Shared Services have not been without their issues, as outlined in this paper – but with a dedicated core team, support and cooperation from staff across the sub region, and robust systems in place, the implementation phase was an overall success – both financially and operationally.

In hindsight, the decision to establish the sampling and analysis function under a Shared Services model was clearly the right thing to do and the model has consistently delivered great outcomes for the sub-regional as a whole. Looking forward, there is scope to build on the significant successes and further consolidate the role of sampling and analysis in a growing sub region.

It is hoped that other Shared Services initiatives both in the Waikato Sub Region and throughout New Zealand can utilise the valuable learning outcomes of this team in planning for and implementing shared service success.

The Sampling and Analysis team will continue to grow and develop in the years to come, dedicated to maintaining an environment where opportunities for enhancing knowledge, skills and procedures are common place – enhancements that will ultimately lead to the strategic capacity, operational excellence and outstanding customer service that make up the objectives of Shared Services.

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