



# **Growcom Reef Rescue Case Study Series**

**Whole-of-farm Nutrient Budgeting, Recording and  
Water Quality Monitoring**

**Terrain NRM**

**George Russell**



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## Reef Rescue - Horticulture

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- Gavin Mackay from Mackay Estates sought funding in 2008-2009 Reef Rescue transition for a Whole-of-farm Nutrient Budgeting, Recording and Water Quality Monitoring project.
- The project involved recording nutrients entering the farm (fertilizer applications), nutrients removed from the farm in banana yields and waste and nutrients in farm runoff from productive areas.
- Through this continuous monitoring and recording of nutrient inputs and outputs it is anticipated that efficiencies can be achieved to minimize nutrient loss off farm whilst maximising nutrient uptake into crops.

# Reef Rescue - Horticulture

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- **Why you chose to implement the nutrient budgeting and recording tool?**
- Currently using a budget tool for decision making and found value in the knowledge it provided however the tool required modification.
- The Reef Rescue funding provided the opportunity to redevelop the software enabling us to track nutrient inputs in direct comparison to production (weight of harvested banana fruit) which the current tool did not have the capacity to do.

# Banana Bunch Scales

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- Scales weigh and record banana bunches entering the sheds
- Bananas packed for retail sale and waste bananas are recorded to estimate nutrient removal rates per production area

# Banana Bunch Scales Recording Device



- The recording device feeds info back to central computer
- Weight data is collated in nutrient budgeting and recording tool along with fertiliser information

# Water Quality Monitoring

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- **Why you chose to purchase and implement the Water Quality sampling equipment?**
- We had previously used an external service provider for water testing but due to data turn over time and associated costs sampling was conducted less often.
- By being self sufficient we have the ability to sample water at any time on any of our farms and have immediate results saving time and money. Due to these savings sampling will be more frequent and focused when needed.

# Water Quality Sampling Equipment

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- The water sampling equipment is used to measure the quality of run-off water from our farms.
- Management decisions are expected to change where there are adverse or beneficial results found from both the water sampling and nutrient budgeting/recording tools.

# Reef Rescue - Horticulture

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- **Any comments on the Reef Rescue process? – Was it difficult, did it take a long time, was it complex or simple?**
- The Reef Rescue process was relatively simple and thanks to assistance from Growcom officer George Russell was made even easier.
- We consider that it was well worth spending a little time on because of the potential benefits of the project.



# Reef Rescue - Horticulture

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- **Are there any recommendations you can make to other growers?**
- We would recommend that other growers take the opportunity to apply for funding as farming sustainability is assured when we can monitor our outputs and effects. We have become much more self sufficient by having our own water sampling equipment rather than having to wait for transport to a laboratory and for reporting back. We expect the benefits to come from knowing in detail our production compared with our inputs will be enormous and without funding from Reef Rescue we would not have this system in place.

Growcom is pleased to acknowledge and thank our funders and project partners in the delivery of the Caring for our Country Reef Rescue program



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