

Stories

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Macadamia growers keen to act on soil erosion



“ This project created a lot of momentum. 46 growers spent about \$640,000 of their own money on reducing runoff and more than 100 orchards have drainage plans. That will provide a public benefit. ”

Kel Langfield, North Coast Local Land Services

Macadamia growers on the wet north coast of NSW have found that a picture is worth a thousand words when it comes to predicting soil runoff from their orchards.

Living in a region that receives on average 1800mm per year, much of it in short, heavy rainfall events, makes erosion a key challenge for their industry and one that the NRM Clean Coastal Catchments project was keen to resolve.

Project partners the NSW Department of Primary Industries used LiDAR (light detection and ranging) digital modelling to show growers the likely erosion from a macadamia orchard that doesn't have an effective drainage plan — an average loss of 25.5 tonnes of soil per hectare, per year.

That loss drops to a predicted 0.9t/ha/yr when diversion drains, new watercourses and slope-specific groundcover have been installed in and around the orchard.

Measuring slope in a macadamia orchard using a level and a smart phone.



It's a message that 46 macadamia growers have enthusiastically taken on board. They've spent \$640,000 of their own money combined with incentives from the project to reduce runoff.

“The size of the orchards ranged from 6.5ha to 105ha so the scale of work being undertaken differed but the project created a lot of momentum, and farmers paid for extra work to be done while the earthmovers and contractors were on site,” says project manager, Kel Langfield from NSW Local Land Services.

EROSION MANAGEMENT WIN-WIN FOR FARMERS AND CATCHMENTS

“Runoff is such a difficult thing to measure and so is its overall impact on water quality and the catchment, but anecdotally growers are telling us there's less erosion. And their productivity improves as they collect more nuts that haven't washed down the drain.”

Growers were encouraged to adopt an integrated approach, trimming the tree canopy to bring in light and allow groundcover to grow between rows; using grassed banks to break up slope length and stop runoff accumulating; and installing sediment traps to reduce the amount of soil moving out of the orchard.

LiDAR modelling also enables operators to model what happens when interventions and changes are made, and Kel is hopeful that another round of funding will be made available to continue to reduce erosion in the region.

North Coast LLS is proud of the strong working relationships with the NSW DPI's Macadamia Development Officer and local growers which have helped to reduce runoff from farms and ensure cleaner catchments in the Northern Rivers region.

Funding: NSW Government Marine Estate Management Strategy.

LEARN MORE

- ➔ www.dpi.nsw.gov.au/agriculture/water/clean-coastal-catchments/news-and-events/news-and-events/cleaner-water-on-farms-creates-a-cleaner-catchment-ccc-project-making-a-difference-on-the-north-coast
- ➔ www.dpi.nsw.gov.au/__data/assets/pdf_file/0005/731462/macadamia-integrated-orchard-management-drainage-2017.pdf
- ➔ www.marine.nsw.gov.au/strategy-implementation/water-quality-and-litter/clean-coastal-catchments

