Restricting water run-off will be a priority as the property converts from sugar cane to macadamias.

Creating the world's largest single macadamia orchard – for all the right reasons.

Over the next 18 months the Australian Macadamia industry will see the development of not only the world's single largest macadamia orchard, but one which is biodiverse and environmentally sustainable.

The site 20km south of Bundaberg in Queensland, will convert high-density mono-cultured sugar cane land into a biodiverse native macadamia orchard. Much of the clearing of sugar cane has been completed and the first of 830,000 macadamia trees will be planted from May of this year.

The project is an investment by London-based Climate Asset Management's Natural Capital Fund, its first in Australia. The operating partner, Macadamia Farm Management (MFM), is a Bundaberg based company which will have over 5,000 hectares of macadamia orchards under its management when the project is planted out.

Stretching for eight kilometres and across three kilometres, the land is bordered by the Bingera and Burrum Coast National Parks and had been operating as a sugar cane farm for more than 40 years.

The Managing Director of MFM, Scott Allcott, says the project is unique in Australia, with its aim to grow macadamias while at the same time devoting energies to planting species endemic to the region, and employing a range of sustainable practices to improve soils and manage the orchard.

Climate Asset Management's commitment on behalf of the fund's investors is that up to 10% of the land area, about 150 hectares, will be dedicated to natural habitat restoration and conservation and will form a corridor for bird and wildlife between the two National Parks.

"MFM will manage the propagation and planting of plants and trees including endangered species in conjunction with local Landcare groups. First Nations people in the region are being invited to participate as well," says Scott. Red Ash Consulting has also been engaged to help with the biodiversity. Red Ash will help with environmental approvals and ecological assessments.

Other community involvement will be with WYLD Projects, a not-for-profit organisation which focuses on connecting Indigenous youth in the Bundaberg/ Fraser Coast regions to community and culture, while also delivering qualifications in conservation land management and rural operations.

"The intention is to bring back flora which has been lost or is endangered in the adjoining national parks and to work with the Queensland Government to plant out these species in particular.

The soil has been somewhat depleted by years of continually being used for sugar cane so regenerative practices will be put into place.

"It is a sandy loam and the pH is near perfect for macadamias, but we will be adding considerable organic matter to it to rebuild soil health. This will also help meet our target of a reduction in the use of chemical fertilisers", says Scott.

"We will be planting 555 trees to the hectare, so it will be a semi-high density planting and we expect to have all trees planted by Christmas 2025. We are selecting smaller cultivars and we believe that we can manage the canopy for 15 plus years."

Water management crucial

Another requirement of the investors is that water conservation must be best practice.

Bore water on allocation and overland catchment had previously been used for the sugar cane, but a private pipeline is being built to deliver a newly purchased allocation from the Burnett system.

"We are converting well-priced land short of water to high-value permanent tree crop with sufficient (four to five megalitres) water to the hectare. Irrigation practices are important, but we will also be catching the first 25ml of rainfall to minimise any nutrient loss through water leaving the property.

"We don't want any of that initial runoff reaching the Great Barrier reef which starts off Bundaberg. The property will have 20 megalitre sumps on the property to capture the initial runoff and then pump into above ground tanks or 'turkey nests'."

Grasses and other plants will be planted in the inter-rows to reduce run-off and break up the mono-culture of macadamia.

When it comes to the investors' requirement to reduce pesticide use, Scott says they have been doing that already in managing other orchards.

"This is achieved through reducing the canopy by using smaller cultivars – we don't use as much spray, and we also use electrostatic sprayers."

Electrostatic spraying is a high-tech technology that forms charged droplets of pesticide liquid to improve the adsorption effect and accuracy. Its advantages are high deposition efficiency, plus comprehensive and uniform adhesion, thereby reducing the quantity of pesticide used for the benefit of both operator and the environment.

The project aims to achieve net zero for Scope 1 and 2 emissions by 2030 and to generate additional carbon removal units through increasing carbon storage in above and below ground biomass.

It also aims to advance the understanding of carbon removal by perennial agriculture systems to inform the development of appropriate methodologies in both the international voluntary and Australian compliance markets.

"We are excited to have the opportunity to partner with Climate Asset Management and be involved in this large-scale conversion of land use to macadamias," says Scott.

MFM now represents 60 client investors managing 55 orchards. It has a staff of over 170 people who manage the whole process for absentee investors from land purchase and planning, from planting to harvesting, and from accounts to marketing.

Australian Nutgrower looks forward to following the development of this project in the years ahead.

Climate Asset Management – a new breed of investor

Climate Asset Management represents a new breed of investor – those who are looking to invest in natural capital, that is projects that are grounded in nature-based investments including sustainable forestry, regenerative agriculture and nature-based carbon projects.

Its website says "We believe natural capital represents an opportunity for investors not only to generate long-term value from the finite and essential resources that support life on our planet, but also to manage them in a way that enhances those assets for future generations."

This acquisition has been financed by Climate Asset Management's Natural Capital Fund and is the fund's third large-scale land transformation project and its first in Australia.

Chief Investment Officer of the Natural Capital Fund, Ben O'Donnell, says they are excited to have made their first Australian acquisition.

"This native macadamia project complements the fund's existing projects in Spain and Portugal producing almonds and olives, and demonstrates the viability of our model across geographies.

"We are experiencing increasing appetite from investors for opportunities in natural capital to help diversify and rebalance investment properties targeting net zero."

Cleared sugar cane land soon to be planted with macadamia and native vegetation