From:	Corro DES Min and DG
To:	"environment@ministerial.qld.gov.au"
Cc:	DLO DES
Subject:	ONE NOTE - DS - Title: Reef Assist Program Evaluation - CTS 07416/22
Date:	Thursday, 23 June 2022 11:16:00 AM
Attachments:	image001.png CTS 07416-22 - Brief.pdf CTS 07416-22 - Brief - Attachment 1.pdf CTS 07416-22 - Brief - Attachment 2.pdf image003.png

Hi Dave -

Please find attached the following documents which need to be assigned/allocated to Dan in One Note:

- Briefing Note
- Attachments

Note that all formal briefing notes are provided in PDF only. Only letters are provided in 'word'.

For Advisor/Chief of Staff

Should you need additional information or fact checking, please send through to the ECU inbox desminanddg.corro@des.qld.gov.au.

Please do not hesitate to contact the ECU team on (07) 3338 9328 should you have any issues viewing the attachments or need assistance.

Kind regards

Executive Correspondence Unit
Department of Environment and Science

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SECURITY CLASSIFICATION: OFFICIAL

BRIEFING NOTE – MINISTER

Subject Reef Assist Program Evaluation

There is no specific timeframe required.

This brief is not contentious

RECOMMENDATION

It is recommended that the Minister:

- **note** the key findings and recommendations of the EY (previously Ernst and Young) evaluation of the Reef Assist program (the Program) and how they have been considered into the development of the Reef Assist 2.0 program
- **approve** the development of options for a new Statewide Catchment Assist program.

BACKGROUND

- In July 2020, the Queensland Government committed $10 million (GST excl) to the Program, led by the Office of the Great Barrier Reef (OGBR) in the Department of Environment and Science (DES), as part of its Unite and Recover COVID-19 pandemic response measures.
- The core objective of the Program was to provide urgently needed short-term employment opportunities in the Great Barrier Reef catchment regions, which had been proportionally more adversely impacted by a loss of tourism income as a result of COVID-19.
- The Program had a strong focus on achieving employment generation and capacity building, with a particular focus on unemployed, underemployed, First Nations people and youth, while also delivering environmental restoration and management outcomes in those regions.
- The Program generated over 230 jobs across the 11 projects in the Wet Tropics, Burdekin and Mackay-Whitsunday-Isaac natural resource management (NRM) regions; projects were delivered between September 2020 and April 2022.
- The Program was unique in that it allowed for program funds to go to employee wages and training, as well as covering a broader round of environmental objectives than a typical NRM program.
- The December 2020 Minister's Charter Letter and supporting Portfolio Priorities Statement released by the Premier tasked the Minister to evaluate and adapt Reef Assist as a template for the delivery of conservation and land management jobs across Queensland.
- In July 2021, DES commissioned EY to undertake an independent evaluation of the Program, covering aspects relating to the procurement phase and those relating to project and Program-level achievements.
- This independent evaluation has now been completed, with the full report available in **Attachment 1**, and case study summaries for individual projects in **Attachment 2**.

KEY ISSUES

- The EY evaluation key findings are as follows:
  - most procurement phase aspects were rated as effective to highly effective, with the main area for improvement in Program risk management, reflecting the short time to develop the Program
  - most Program objectives were rated as either achieved or exceeded, with the exception of the training objective rated partially achieved, due to issues accessing regional training providers
  - Reef Assist project proponents and delivery partners reported that they very much appreciated the strong engagement with the OGBR program management team and the speed at which department was able to go to market for the Program.
- EY reported to the Program Steering Committee that the Program is cutting edge, provided a strong evidence-based narrative to other agencies, and responded well to the upswell in interest in natural capital from both government and the private sector.

- Key recommendations for future rounds of the Program, or programs of a similar nature include:
  - retain the highly valued jobs and training aspects of the Program, which increased regional NRM capacity and had a significant, transformative socio-economic effect for employees involved and their communities
  - extend the allowable project delivery timeframes over multiple years to: allow projects to cover revegetation maintenance tasks; provide employees with greater job security and career experience; and better manage project risk
  - continue to encourage partnerships with Indigenous businesses, Indigenous Land and Sea Ranger organisations and Aboriginal Corporations
  - incorporate continuity plans into future programs to allow for a smoother transition to other employment for workers delivering on-ground environmental works
  - encourage the incorporation of employee training programs that satisfy both the requirements of the on-ground works to be delivered and the skill set requirements of local businesses or Indigenous Land and Sea Rangers programs
  - develop more consistent metrics for measuring program success, in terms of employment and environmental outcomes.
  - increase awareness about future programs to catalyse public and private in-kind support.
- EY's recommendation relating to project timeframes justifies the extension of seven of the projects until June 2022, with DES providing an additional $2 million (GST excl) in late 2021.
- EY's recommendations have been considered and incorporated into the development of the Reef Assist 2.0 program, which is expected to be released to market in July 2022.
- The department has provided the evaluation report and case study summaries to other agencies delivering similar NRM programs through the Program Steering Committee.
- It is proposed that the department develop options for a Statewide 'Catchment Assist' program.
- The findings of this report suggest that this type of program could have benefits to local employment, investing in upskilling and training, and involving local communities on a broad scale.
- Currently, there is no Statewide program to proactively identify, assess and undertake on-ground works for degraded riparian and catchment areas to increase resilience of waterways, protect environmental assets, support biodiversity and improve water quality, while also focussing on upskilling, training and job creation.
- While there is a Natural Resource Investment Program (administered by the Department of Resources (DoR)), funding has been reduced and the new program scope focuses on sustaining agricultural land uses and the rangelands, leaving a major gap that could be filled by a 'Catchment Assist program based on the Reef Assist model.
- The Disaster Recovery Financial Arrangements program does allow for recovery work for rivers. However, it is a reactive repair program that is only stood up following disaster events, is only available in affected local government areas, and is subject to high levels of control by the Commonwealth.
- Restoring the resilience of Queensland's riverine systems and landscapes will have short term and ongoing benefits including biodiversity outcomes, water quality improvement, reduced impacts on water treatment as well as improving waterway health and protection of State assets, farmland and communities from flooding and erosion under typical and disaster circumstances.
- Large-scale revegetation in catchments could also attract carbon credits which could offset some of the upfront investment.
- The department proposes to consider options for a Statewide program that could deliver the benefits of the Reef Assist program and achieve multiple government objectives for the community throughout Queensland.

ELECTION/CABINET/PUBLIC COMMITMENTS/LEGISLATION

- GEC2088 (2020) - $10 million in the Program which will include 11 projects in partnerships with local government and NRM organisations.
- GEC 1039 (2020) – Continue the Great Barrier Reef Water Quality Program.

FINANCIAL IMPACTS

- Funding for Reef Assist 2.0 is available from the Queensland Reef Water Quality Program approved by the Minister on 30 May 2022.
- Funding for other programs of a similar nature will need to be determined.

HUMAN RIGHTS IMPACT ASSESSMENT

- There are no implications for human rights under the *Human Rights Act 2019*.

CONSULTATION

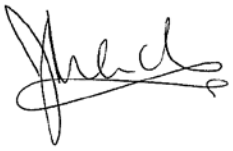
- Through the Program Steering Committee, OGBR has consulted with DES business units and the Department of Agriculture and Fisheries and DoR throughout the evaluation process, and regarding the EY evaluation study findings.

COMMUNICATIONS/MEDIA OPPORTUNITIES

- An opportunity exists to announce the overarching Program's achievements.

FUTURE STEPS

- Department to develop options for a Statewide Catchment Assist program (based on the Reef Assist model).

Endorsed	**Noted / Approved / Not Approved**
	
Jamie Merrick	Meaghan Scanlon (or Chief of Staff on behalf of)
Director-General	**Minister for the Environment and the Great Barrier Reef** **Minister for Science and Youth Affairs**
23 / 6 / 2022	/ /

Minister or Director-General comments

Electorates: Cook, Barron River, Cairns, Mulgrave, Hill, Townsville, Mundingburra, Traeger, Burdekin, Dalrymple, Whitsunday, Mackay, Mirani

RA1 Boots on the Ground
Wet Tropics Management Authority

Objectives

- This project sought to tackle on-ground threatened species and climate resilience work in the Barron, Mulgrave and Johnstone river catchments
- The project employed 39 locals in projects that delivered substantial environmental outcomes, increased economic stimulus in the region, and instilled a sense of pride and social integrity with individuals and organisations in their communities. The project comprised of four sub-projects which engaged four sub-contracted delivery agents
- It also targeted ecosystems in high biodiversity regions including the Southern Cassowary habitat, Mabi forest and numerous threatened and endemic frog and possum species

Location of project in the Wet Tropics, Queensland

Key outcomes

- The project embraced traditional ecological knowledge and expertise of First Nations peoples, melding this with contemporary landscape rehabilitation techniques to pave the way to better manage and protect the Wet Tropics of Queensland World Heritage Area and its values

> *"The ancestral spirits will appreciate laughter in the Minjilji area"*

> *"It is showing us and other young Indigenous kids that there are other possibilities and it doesn't just have to be cutting down trees or in the mines or in shops. Working on-Country has really helped me a lot and I have learned a lot, and we are setting an example for them"*

> *"The project has also built good relationships with partners, government departments, local suppliers and academic institutions"*

Jobs supported

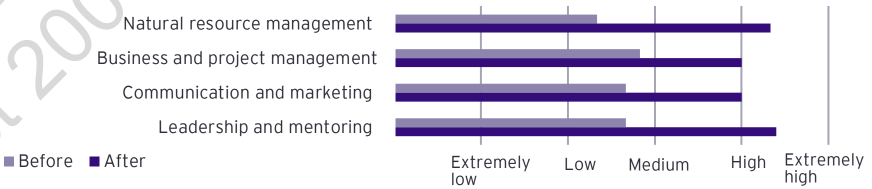
39 people employed, with **27** First Nations, **14** youth and **7** women

Local partners, businesses and contractors supported

Supported **81** local businesses, partners and contractors, including Abriculture, Dulabed and Malanbarra Yidinji Aboriginal Corporation, Mamu Aboriginal Corporation, NQ Land Management Services and Rainforest Reserves Australia, and retail businesses such as Bunnings and BCF

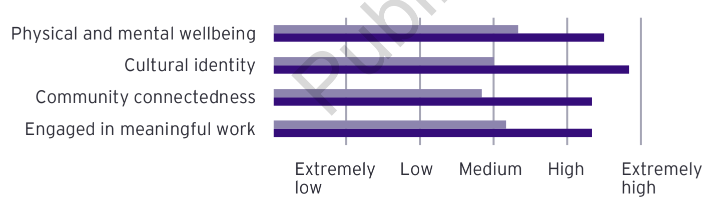
Skills and training

31 of **39** participants received some form of accredited training including first aid, chainsaw operation, weed control, transport and store of chemicals, 4WD, defensive driving and work, health and safety processes. Towards the end of the project, surveyed participants were asked to score their level of skill in the following areas before and after involvement in the program:



Social outcomes

Participants surveyed reported an increase in physical and mental wellbeing, cultural identity, community connectedness and engagement in meaningful work. Participants reported that the project has instilled a sense of pride and achievement across all the organisations, project partners and participants involved



> *"Before this, I was in a really rough spot, I wasn't employed often, I used to sit in my room a lot, and now I feel I'm doing really well and definitely will continue in this industry"*

Environmental outcomes

Activities included weed removal, vegetation maintenance and planting seedlings in close proximity to creeks including:

Weed removal over **11 Ha** and planting of almost **14,400** seedlings across the Misty Mountains Nature Refuge and Barrine Park Nature Refuge.

Weed removal and maintenance over **13 Ha** at Dirran's End Nature Refuge.

Survey and removal of Kosters Curse populations at Wooroonran across **50Ha**

4 surveys at Curtain Fig National Park for **60 Ha** of survey effort, including weeds removal

Planting **12,000** seedlings in endangered rainforest west of Cooktown.

Collection and propagation of **20,000** seedlings for future projects.

These activities support reduction in the impact of weeds, improved extent of native vegetation, improved water quality and improved species biodiversity and ecosystem function

> *"The team has done a magnificent job on all three nature refuges which has substantially benefitted our projects to restore the endangered rainforest and improve connectivity. The plantings and weed control that the team has done at Misty Mountain have meaningfully increased the area that we have been able to replant in this nationally significant wildlife corridor"*

RA2 Creating a Sustainable Environmental Economy
Wet Tropics Management Authority

Objectives

- This project sought to create a sustainable environmental economy that will support First Nations employment and training in the Wet Tropics region
- The project created sustainable environmental and employment outcomes for the Gunggandji and Mandingalbay Yidinji Peoples within the Gunggandji-Mandingalbay Yidinji Peoples Prescribed Body Corporate (GMYPPBC) Trustee Area

Location of project in the Wet Tropics, Queensland

Key outcomes

- Creation of meaningful employment and training for long-term unemployed and underemployed Yarrabah community members, resulting in 7 trainee Rangers completing Certificate III in Conservation and Land Management (CaLM) with TAFE Queensland, with a wide range of complementary and relevant training to meet the work plan requirements and outcomes
- The establishment of this ranger program, and employment of Yarrabah community members has built the capacity of the GMYPPBC Aboriginal Corporation. The project has left a legacy as the team have successfully received further funding through the Reef Assist extension project and the Queensland Indigenous Land and Sea Ranger Program

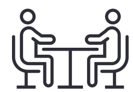
> *"To wake up and come to work feels good and deadly to work on my country. I have enjoyed the training and learning new skills. I'm proud of myself for completing the Certificate III in Conservation and Land Management and my family are proud of me too"*

> *"I was initially scared and shut in because of COVID and now I'm out of the house and meeting new people and doing things"*

Jobs supported

16 people employed, with **12** First Nations, **6** youth and **3** women

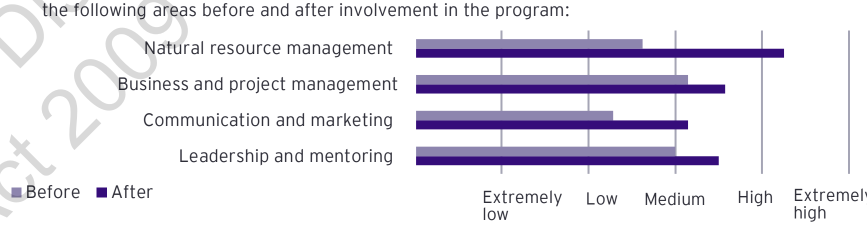
Local partners, businesses and contractors supported



Supported **60** local businesses, partners and contractors, including GMYPPBC and James Cook University

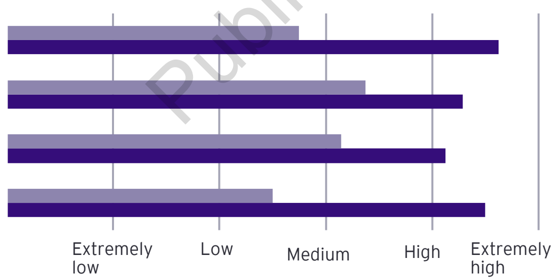
Skills and training

12 of **16** participants received some form of accredited training including Certificate III in CaLM and first aid. Towards the end of the project, surveyed participants were asked to score their level of skill in the following areas before and after involvement in the program:



Social outcomes

Participants surveyed reported an increase in physical and mental wellbeing, cultural identity, community connectedness and engagement in meaningful work. This is significant noting Yarrabah's particularly high unemployment rate

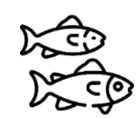


Environmental outcomes

230kg reduction in marine debris entering the Great Barrier Reef through regular clean-up activities over **12 hours**, supporting the reef clean project being delivered by Tangaroa Blue in the Great Barrier Reef. These activities support improved water quality across the Great Barrier Reef

Installation of new bins with educational signage at the main beach access point to tackle the local littering issue at Ganyjira. Nearly **76m²** area of bank stabilised through structural modifications (stone and mattin placement) and planting native trees.

Over **11Ha** removal of high priority weeds found in the GMYPPBC area including the Class 1 weed pond apple and large infestations of lantana. Snakeweed, allamanda and Singapore daisy are also present across most of the GMYPPBC Trustee Area. These activities support the improved condition and extent of native vegetation



Almost **270Ha** of burning programs were carried out at five locations identified as high priority areas to reduce fuel loads and the risk of bush fires. These activities supported improved resilience to bushfire natural disasters

RA3 Dune Rehabilitation
Douglas Shire Council

Objectives

- The Douglas Shire is an environmentally important area at the meeting point of two World Heritage Areas, where the "Rainforest meets the Reef", and an internationally renowned tourism destination that was severely impacted by COVID-19.
- Annual monsoons and cyclones can cause significant erosion and run-off into the Great Barrier Reef. This project sought to rehabilitate coastal dunes to improve their resilience and effectiveness as a buffer to natural disasters, while targeting unemployment in the region.

Location of project in the Wet Tropics, Queensland

Key outcomes

- The extensive community consultation involved in the creation of 5 Foreshore Management engaged and empowered the community to recognise and protect the culturally and environmentally important coastal landscapes and significant sites.
- Through the skills and experienced gained during the project, 4 of 8 previously unemployed individuals secured longer-term local employment.
- The environmental improvements may support social, economic and environmental benefits into the future, for example through improved aesthetics and reduced risk of storm tide inundation and reduced coastal erosion, respectively.

> *"I felt terrible because I wasn't doing anything and now that I've got a job and I'm earning money, I can buy my own food and I'm more motivated – just better off in general"*

> *"It was good to not only have employment but it was also actually satisfying to be making a bit of a difference and working in a team"*

> *"We have lost most of the team to better long term employment – a lot came from the skills obtained in this program"*

Jobs supported

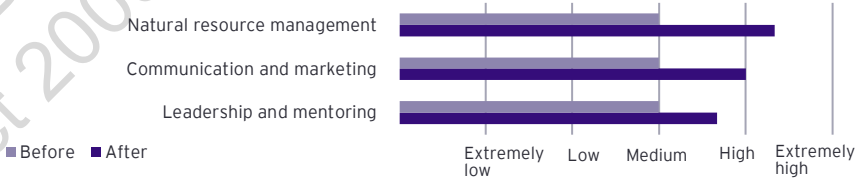
13 people employed, including **5** youth and **3** women

Local partners, businesses and contractors supported

Directly supported **27** organisations including local business, and sub-contractors, such as Papillon Landscaping, Mossman Hardware, and James Cook University, as well as My Pathways employment agency as a project delivery partner.

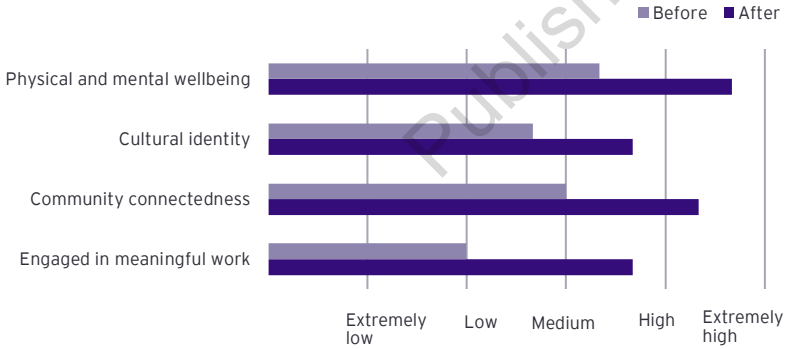
Skills and training

11 of **13** participants received some form of formal training, such as plant identification, chainsaw operation, chemical use and transport, and first aid, and three staff also completed courses for a Certificate III in Horticulture. Towards the end of the project, surveyed participants were asked to score their level of skill in the following areas before and after involvement in the program:



Social outcomes

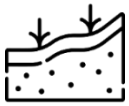
Participants surveyed reported an increase in physical and mental wellbeing, cultural identity, community connectedness and engagement in meaningful work



Environmental outcomes

Fulfilling actions set out in the Resilient Coast Strategic Plan 2019-2029, and creating Foreshore Management Plans, involving extensive and community consultation.

Revegetation and maintenance of over **9,000** native plants in foreshore areas as well as propagating, growing and supplying over **42,000** native plants to community groups and private landholders. These activities support stabilisation and improved natural disaster resilience of coastal foredune areas and improved condition and extent of native vegetation.



4 Ha of weeds were treated, including Singapore Daisy, Guinea Grass, Rhoeo, Agave, Prickly Pear, Mother-in-law's Tongue, Yucca Plant and Tecoma. These activities support reduced impact of weeds on natural ecosystems.

Nearly **250m** of foredune fencing and **10m** of recycled plastic decking installed as vehicle and pedestrian barriers, as well as 2 solar powered cameras and 12 motion sensors installed for monitoring and enforcement. These installations support reduced traffic and consequently, reduced coastal erosion and runoff, and improved water quality.

RA4 Environmental Restoration in the Russell River Catchment Jaragun Ecoservices

Objectives

- This project sought to stabilise stream banks on Babinda Creek and McPaul Creek, protect wetlands and improve wildlife corridors that link Bellenden Ker Range, the Wet Tropics World Heritage Area and the Great Barrier Reef
- Participants gained substantial land management and employment skills, and restored priority areas of the river catchment
- Significant cultural and community connection benefits were achieved, through the Wanjuru Traditional Owners (TOs) working on-Country

Location of project in the Wet Tropics, Queensland

Key outcomes

- The project provided a vehicle to promote Wanjuru people and culture within the community. It was significant that operations were based in Babinda, which allowed TOs to work on-Country, foster knowledge of their connection to Country within the broader Babinda community and contribute to the local economy. This is in a historical context where families had been removed either to the fringes of the township or to other locations where, as a result, the broader Babinda community were unfamiliar with some family connections to Country
- The sense of place and personal growth was a positive experience for TOs. The team illustrated this by taking responsibility for planning and executing their participation in school NAIDOC celebrations and Babinda Harvest festival, where they organised a dance troupe, made their costumes and artefacts and represented themselves through song lines, story lines and dance

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Jobs supported

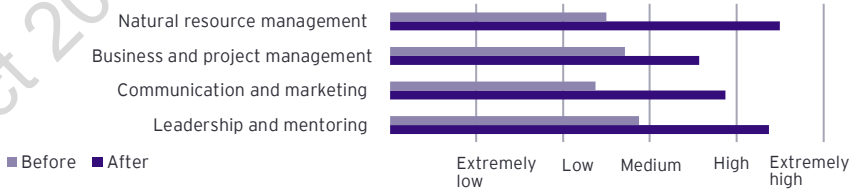
14 people employed, with **8** First Nations, **3** youth and **3** women

Local partners, businesses and contractors supported

Supported **94** local businesses, including the Babinda Taskforce and TropWATER James Cook University

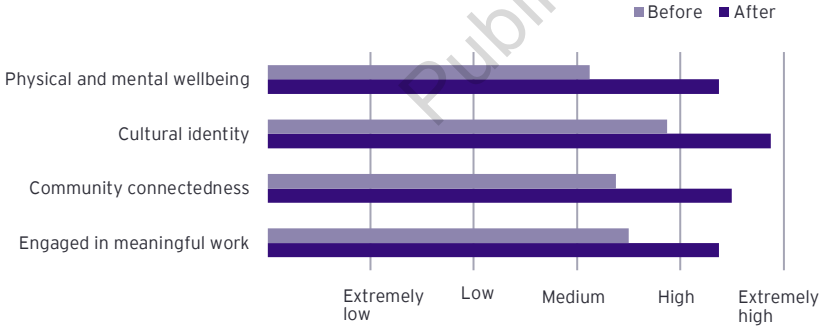
Skills and training

13 of **14** participants received some form of accredited training including Certificate III in Conservation and Land Management and the United Nations Development Programme and Convention on Biological Diversity training modules. Towards the end of the project, surveyed participants were asked to score their level of skill in the following areas before and after involvement in the program:



Social impacts

The project achieved significant social benefits for participants, including First Nations, youth and women, captured through survey data of participant experiences



Environmental impacts

Over **8Ha** revegetated with endangered and vulnerable plants, to establish habitat for native species, such as the iconic Southern Cassowary, an endangered but important long-distance seed disperser

Control of pond apple, harungana and candle bush across **122Ha** and over **7km** of waterway to protect source water in the catchment's largest wetland filtration system (Eubenangee Swamp), providing a fish nursery and habitat for water birds

Revegetation of **4km** stream bank to provide stabilisation, improve water quality, natural disaster resilience (e.g. cyclones, flooding) and provide wildlife corridors across the floodplain

Reinstated over **650Ha** of aquatic species habitat and controlled invasive weeds to reduce nitrogen fluxes in flood plumes to the Great Barrier Reef, supporting improved water quality. Also provided long-term reinstatement of stream hydrology and reduced sediment

RA5 Business Activation and Environmental Restoration
Townsville City Council

Objectives

- This project aimed to improve riparian vegetation buffers, remove weed waste and debris, and investigate opportunities for ecotourism trails across the region
- It also supported a wide range of socio-economic benefits alongside those of primary job creation and economic stimulus, supporting local business in the wake of the Covid-19 pandemic
- The project and partnership with Three Big Rivers fostered on-Country learning and skills development that combined historical cultural knowledge and best practice land management

Location of project in Burdekin, Queensland

Key outcomes

- The project has created and built many community and business relationships. In particular, the range of collaborations and engagements with local schools has been a key outcome. The close involvement of community with rehabilitation sites has helped foster a sense of pride and ownership in both students and employees
- Collective Social Learning workshops with employees and business leaders helped build a collective vision and actions into the future for environmental restoration in Townsville
- The business activation and capacity building approach has supported a wide range of additional benefits, namely the commercial viability of soil humification processes and exploration of other ecological products and services on-Country

> *"It allowed me to create a deeper connection to Country by keeping the connection and being out on-Country, learning what you can and healing where you can"*

> *"When you are healing Country, you are healing yourself"*

Jobs supported

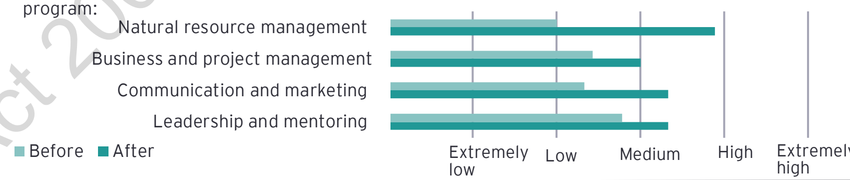
35 people employed, with **30** First Nations, **26** youth and **9** women. This included **10** youth casual staff (2 women) engaged through an arrangement with Youth Justice.

Local partners, businesses and contractors supported

Supported **29** local businesses, partners and contractors, including Three Big Rivers, Biodiversity Australia, Ausfield Services and the Magnetic Island Community Development Association

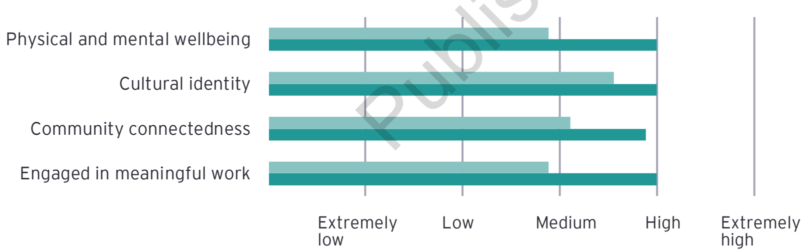
Skills and training

25 of **25** participants (and **10** out of **10** casual staff) received some form of formal training including Certificate III in Conservation and Land Management and Rural Operations, protected area management, weed identification, seed collection and propagation, humification processes, boat licensing and skid steer and excavator courses. Towards the end of the project, surveyed participants were asked to score their level of skill in the following areas before and after involvement in the program:



Social impacts

The project achieved significant social benefits for participants, including First Nations, youth and women, captured through survey data of participant experiences:



> *"it was meaningful to be working on-Country, learning about the ecology, native plants and medicines and to have the opportunity to meet new people."*

> *"I have significantly improved my confidence and am now able to speak to many people about this important work"*

Environmental impacts

Collected, geospatial tagged and stored over **8,700** native seeds for emerging restoration projects, and collected data on remnant vegetation to support timing of future seed collection

Stabilised **850m** of riverbank through soil erosion, sediment and drainage controls and enhanced riparian buffers, supporting improved water quality, ecosystem function and resilience to natural disasters

Removal of **260 tonnes** of weeds, and planting of over **14,700** native species across key ecological landscapes, supporting improved condition and extent of native vegetation and improved species biodiversity and ecosystem function

Removed **360kg** flood debris and biologically converted it through soil humification into high value commercial soil additives. Application of probiotic formulations to almost **34,500m²** of depleted soils. These activities support improved soil health and ecosystem function, as well as demonstrating new market growth

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EY

RA6 Healing Country
NQ Dry Tropics

Objectives

- This project sought to partner with First Nations job seekers to undertake landscape works in the region
- The project targeted promotion of First Nations employment and qualifications, as well as improvement of unsustainable agricultural practices and water quality
- The project supported First Nations jobs and training while also protecting the Great Barrier Reef and helping boost the Burdekin region's economic recovery from the effects of the pandemic

Location of project in Burdekin, Queensland

Key outcomes

- The partnership between First Nations employment group Three Big Rivers and NQ DT has facilitated effective and impactful engagement with First Nations Australians, capacity building for Three Big Rivers, and a foundation for future collaboration.
- The environmental outcomes support disaster resilience and protection of endangered Beach Scrub ecosystems and the threatened species within. These outcomes are linked to several national and regional goals, such as the Reef 2050 Long-term Sustainability Plan, and contributed additional value to NQ DT's existing investment programs.

> *"The investment from Reef Assist has helped Three Big Rivers to grow its capability and manage its start-up program well, and it may lead on to other TO areas that need start-up capability"*

> *"Participation in the program has improved my physical and emotional wellbeing. Being on-Country has been a much more satisfying way to spend time, rather than watching TV"*

> *"I loved the work and the opportunity to build greater connection to Country. I also enjoyed informally taking the role of a mentor for the younger men involved in the program"*

Jobs supported

6 employed, with **5** First Nations, **5** youth and **1** woman

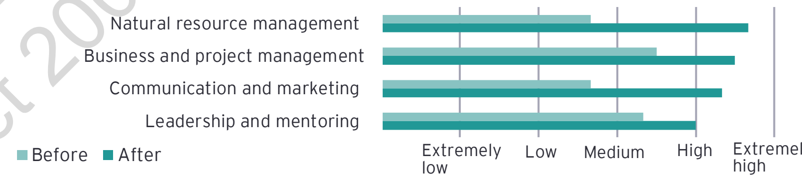
Local partners, businesses and contractors supported

Supported **31** partners, local businesses and contractors, including Three Big Rivers, Coastal Dry Tropics Landcare Inc. and Lower Burdekin Landcare

Three Big Rivers is a start-up community-led organisation launched in 2020, focused on closing the gap for First Nations peoples. Three Big Rivers reported that through the support they received, they were able to evolve their own maturity and capability as a business.

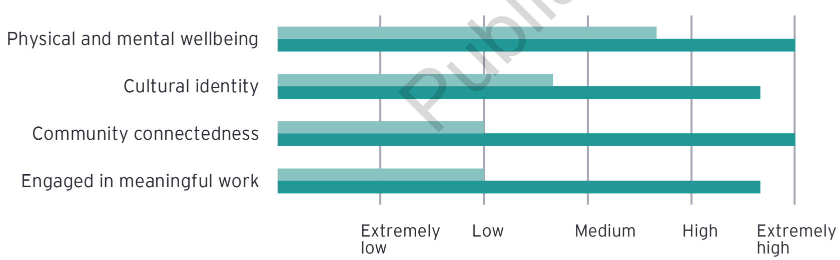
Skills and training

5 of **6** participants received some form of accredited training including civil safety, Certificate III in Conservation and Land Management, agricultural chemical distribution and control, first aid, chainsaw, 4WD and defensive driving. 6 of 6 participants received informal training, such as CV training, Wildlife conservation training and Gully remediation training. Towards the end of the project, surveyed participants were asked to score their level of skill in the following areas before and after involvement in the program:



Social impacts

The project achieved significant social benefits for participants, including First Nations, youth and women, captured through survey data of participant experiences



Environmental impacts

Nearly **40Ha** of erosion control, gully remediation including installation of **125** disaster resilient leaky weir & stick dam structures, supporting improved water quality and soil health, and resilience to natural disasters

Weed control across almost **190Ha**, planting over **1,500** native stems across almost **1 Ha**, and revegetation and maintenance of nearly **3Ha** was completed, supporting reduced weeds and pests, condition and extent of native vegetation and threatened species habitat restoration

Almost **4m^3** of marine debris and nearly **30Ha** of heavy waste was removed, supporting improved water quality and habitat condition

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RA7 Rehabilitation of Sediment and Weed Infested Areas
Palm Island Aboriginal Shire Council

Objectives

- This project sought to achieve remediation works on two culverts on Clump Point Road to prevent sediment run-off to the Reef lagoon and rehabilitation of Frances Creek, which has been impacted by sedimentation and weeds
- It also targeted unemployment and sediment and weed infested areas of Palm Island

Location of Palm Island and the Burdekin region, Queensland

Key outcomes

- The environmental works undertaken are expected to support improved stormwater management on the Island into the future, reducing damage to the transport network and island waterways, aquatic ecosystems and the nearby Great Barrier Reef.
- A key social outcome of this program is the number of Traditional Owners that were engaged in work on country, and supported to gain skills and experience and contribute to resilience of their communities.

> *"Lots of Traditional Owners do traditional hunting, gathering and walking the reef flat collecting shells....the cultural connections and the importance of the reef needs to be understood...and water quality is essential to main the health of the reef."*

Jobs supported

15 people employed, including **12** First Nations people, **5** youth and **1** woman.

Local partners, businesses and contractors supported

Supported **6** organisations including local business and sub-contractors, such as Eddie Prior Plumbing, Palm Island Barge Co, Jenagar Pty Ltd and Cardno as well as Rainbow Gateway (CDP) employment agency as a project delivery partner.

Skills and training*

12 of 15 participants received some form of formal training, including but not limited to:

- Certificate III in Agriculture,
- chemical preparation,
- transport and storage,
- weed control,
- trim and cut felled trees, and
- forklift licence.

Social impacts*

Additional socio-economic co-benefits include the improved wellbeing associated with meaningful and gainful employment.

A number of participants involved in this project were long-term unemployed, and likely faced associated challenges such as impacts to self-worth, sense of place in their communities. Before the project, a number had been involved in Career Development Programs, work-for-the-dole programs typically involving tasks that require a relatively basic knowledge and experience base, such as litter collection.

The transition from this state of unemployment, to paid work that provided skills and experience that could be applied to wider roles in the future, was reported to have promoted a sense of pride and hope in the participants.

Environmental impacts

Removal of invasive plants, particularly from stormwater channels, supporting reduced impacts of weeds, improved health of riparian zones and improved habitat condition. The project also developed council and community driven strategies to continue to promote healthy riparian zones/buffers on Palm Island.

Significant activities were undertaken to maintain culvert integrity, reduce sewage overflow into wetlands and improve bank stability, supporting reduced flood and storm-water run-off and flow velocity, sediment and nutrient flows, and improved water quality.

As ultimately, these flows enter aquatic habitats on Palm Island, as well as the adjacent Great Barrier Reef, these activities also contribute to protecting the associated flora and fauna from sediment and nutrient discharge.

**No survey data obtained for this project*

RA8 Leading Economic Stimulus through Land Management Action Reef Catchments (Mackay Whitsunday Isaac) Limited

Objectives

- The project supported immediate jobs and income, as well as delivering priority land management projects in Great Barrier Reef catchments in the Mackay Whitsunday Isaac region
- The program targeted projects that create practical, on-ground jobs working on meaningful projects such as streambank rehabilitation, gully remediation, wetland restoration, tree planting, landscaping and pest and weed management. It was also to develop training and employment opportunities for the First Nation community

Location of project in Mackay-Whitsundays, Queensland

Key outcomes

- The Reef Assist Program has greatly increased opportunities for Landcare, business and Traditional Owners (TOs) to expand their skills in natural resources. Training (e.g. chainsaw and water quality sampling) provides opportunities for participants to seek further employment with public and private organisations felling invasive tree species or water monitoring
- TO engagement has supported upskilling and personal development within the local community Koinmerburra, Yuwibara, Ngaro, Gia, Juru, Barada and Wiri groups. This upskilling has built capacity both within the individual First Nations groups and corporations to perform activities carried out on-Country and supporting the practical training needs of conservation, land management and workplace health and safety

> *One of the big advantages of the program was access to equipment, i.e. a chainsaw and a trailer. It supported capacity to learn the skills and then deliver on other jobs*

> *I went straight from school to retail and had no experience in this industry. I struggle to learn in a classroom and the hands on experience is a better way for me to learn. With the experience and qualifications I have gained I do feel confident that I will take these skills with me into the industry*

Jobs supported

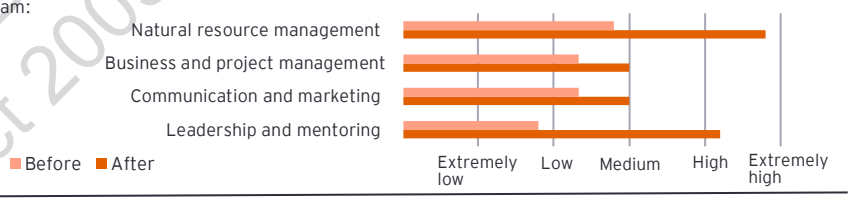
20 people employed, with **3** First Nations, **2** youth and **9** women. An additional TO component involved 10 TO trainees.

Local partners, businesses and contractors supported

Supported **46** local businesses, partners and contractors, including Landcare, Carmila State School and retail businesses such as Mackay Toyota

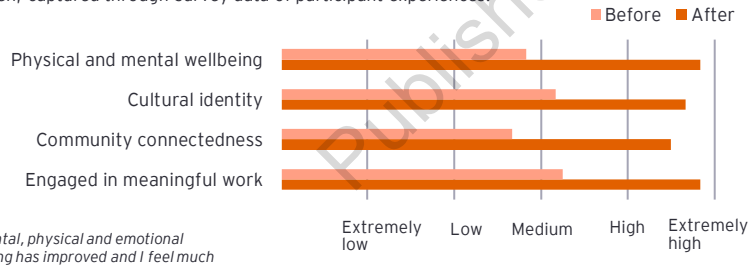
Skills and training

14 of **20** participants received some form of accredited training including Certificate III in Conservation and Land Management, chemical distribution and control, first aid, chainsaw and construction white card. The TO component also provided 9 of 10 participants with four similar accredited competencies. Towards the end of the project, surveyed participants were asked to score their level of skill in the following areas before and after involvement in the program:



Social impacts

The project achieved significant social benefits for participants, including First Nations, youth and women, captured through survey data of participant experiences:



> *My mental, physical and emotional wellbeing has improved and I feel much more appreciated and happier in this role*
>
> **Project Participant**

> *I absolutely feel more community connectedness – I'm not very social but finding the people with those likeminded ways and making those connections…. talking to these people you can find other contracts so that once this contract is over we move on and find them*
>
> **Project Participant**

Environmental impacts

Almost **200Ha** across **80** sites benefited from conservation works, planting of almost **2,400** native tree species and weed control. These sites included areas with critically endangered species, significant wetlands, habitat for a wide range of wildlife, areas of major sediment movement into waterways and weeds of national significance. These activities support reduced impact of weeds, improved water quality and improved species biodiversity and ecosystem function

Delivered a landholder support program that will assist **30 landholders** to protect areas of remnant vegetation and create wildlife corridors, supporting ongoing environmental benefits. Supported peri-urban landholders to **map weeds, plant trees to improve habitat connectivity** and undertake revegetation works for riverbank stability and sediment control

RA9 Whitsunday Tourism and Environment Taskforce
Reef Catchments (Mackay Whitsunday Isaac) Limited

Objectives

- The project sought to engage the Whitsunday marine tourism industry in island and coastal environmental protection and rehabilitation works
- The project targeted significant job losses in marine tourism as a result of COVID-19 and degraded environmental resources that underpin marine tourism
- The project also sought to improve coastal ecosystem habitats relied upon by the ecotourism industry in the area

Location of project in Mackay-Whitsundays, Queensland

Key outcomes

- Reef Assist has given operators the confidence and capacity to engage in enhanced stewardship of the natural capital that underpins their industry as an integral component of their day-to-day operations
- The project delivered significant benefits to the Whitsunday tourism vessel charters, providing operators with the confidence and capacity to engage in enhanced stewardship of the natural capital that underpins the industry and pathways to new ecotourism products, and the agility to diversify operations during future periods of economic downturns beyond the life of the project

> *"It has kept the crew ticking over in a graveyard of boats. The worst thing for a boat is inactivity so keeping the engines used and the hulls clean through the program funding really worked for us"*

> *"With internationals making up 95% of our clientele, our prospects and viability were not bright without serious changes. The program was a lifeline when we needed it most as we were able to get some of our crew back into gainful employment"*

> *"The program gave the crews time to reconnect with their industry, networking with peers, building community resilience and learning more about the environment"*

Jobs supported

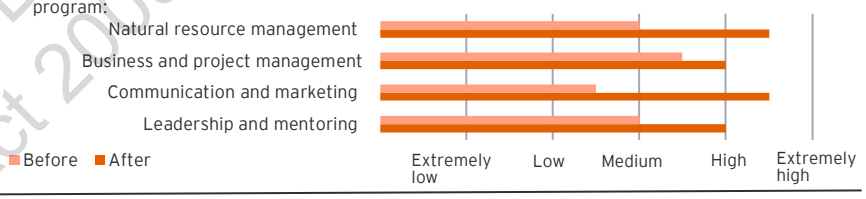
701 paid charter vessel crew days

Local partners, businesses and contractors supported

Partnered with **7** Whitsunday tourist charter vessel companies, **1** local program co-ordinator and **2** training providers (4SEAS Environmental Consulting and James Cook University)

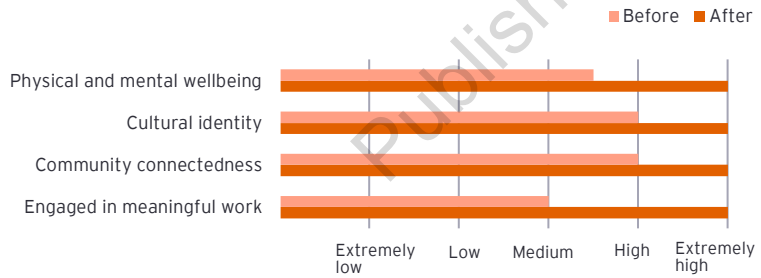
Skills and training

47 participants received some form of accredited training including marine debris and collection, coral monitoring, weed identification, mangrove and island ecology (including sea turtle nesting and coral reef restoration) and water quality monitoring. Towards the end of the project, surveyed participants were asked to score their level of skill in the following areas before and after involvement in the program:



Social impacts

The project achieved significant social benefits for participants, including First Nations, youth and women, captured through survey data of participant experiences



Environmental impacts

Over **700** crew days and over **980** volunteer days were supported for marine debris removal & habitat monitoring and restoration activities, with examples listed below. These activities support improved water quality, species diversity and ecosystem function

Over **110** supporting crew days and **110** volunteer days for nesting sea turtle surveys, and over **160** supporting crew days and **360** volunteer days for coral reef surveys, supporting understanding and protection of these species and ecosystems

35m³ of marine debris collected and removed. Another **11x130L** bags of marine debris were collected and audited and **30x130L** bags of invasive weeds were also removed. These activities support reduced impact of weeds on the native vegetation and improved habitat for endangered species (e.g. marine turtle nesting habitat)

Nearly **50** charter vessel days, over **90** supporting crew days and **25** volunteer days for coral seeding and restoration. **5** charter days, **15** supporting crew days and over **15** volunteer days for Crown of Thorns Starfish and Drupella snail control.

Almost **50** participants received training in foreshore weed identification and removal, as well as promoting greater resilience of coastal and island ecosystems against natural disasters

RA10 Riparian Revegetation - Johnstone, Murray and Russell Catchments Terrain NRM

Objectives

- This project aimed to revegetate riparian sites in the Johnstone, Murray and Russell catchments
- The project also targeted significant job losses and environmental degradation in the Johnstone Murray and Russell catchments adjacent to the Great Barrier Reef and Wet Tropics region of North Queensland
- Social benefits targeted employment, in particular for youth and First Nations people in the three regional centres of Innisfail, Tully, and Babinda in the Cassowary Coast Region. Environmental benefits focused on condition and extent of native riparian vegetation

Location of project in the Wet Tropics, Queensland

Key outcomes

- This project has delivered direct on ground improvements to riparian stream zones in three catchments, improving the condition and extent of native riparian vegetation
- Positioning of increasingly experienced partner organisations and their workforce to launch into further revegetation projects and opportunities that may arise
- Building capacity for environmental restoration and project management. Providing legacy maintenance and support for previous environmental restoration projects. Opportunities for Traditional Owners to work on their Country and in their communities. Unique on-the-job training opportunities for youth and First Nations people in the region. Raising the profile of riparian restoration in the region, with more landholders expressing interest in revegetation

Jobs supported

27 people employed, with **16** First Nations, **13** youth and **8** women

Local partners, businesses and contractors supported

Supported **19** local businesses, partners and contractors, including the Johnstone River Catchment Management Authority, Johnstone Region Landcare Group and their nursery and retail businesses such as Bunnings and Supercheap Auto

Skills and training*

13 participants received some form of formal training including cultural awareness, riverine and ecological processes, species and weed identification.

19 participants received some form of informal training including plant propagation, chemical use and storage and workplace, health and safety

Social impacts*

Additional socio-economic co-benefits include increased flexibility for unemployed people to seek and gain employment in other industries, having received an introduction to the benefits of paid employment and reinforcement of confidence from this project.

Informal on-the-job training from experienced and well-respected leaders, specifically subjects such as work ethics, work-life balance and health, cross-cultural understanding, and mentoring which are often neglected in many workplaces, was considered by the project's employees as not only important but complementary to the practical skills gained.

> *"What we've achieved in this project is really amazing! I have really enjoyed working on it and feel proud to have been given the opportunity to be a team supervisor at the age of 23. I'd love to do this work every single day!"*

> *"Knowing that I'm making a difference and improving the health of the environment - this job gives me a huge amount of satisfaction"*

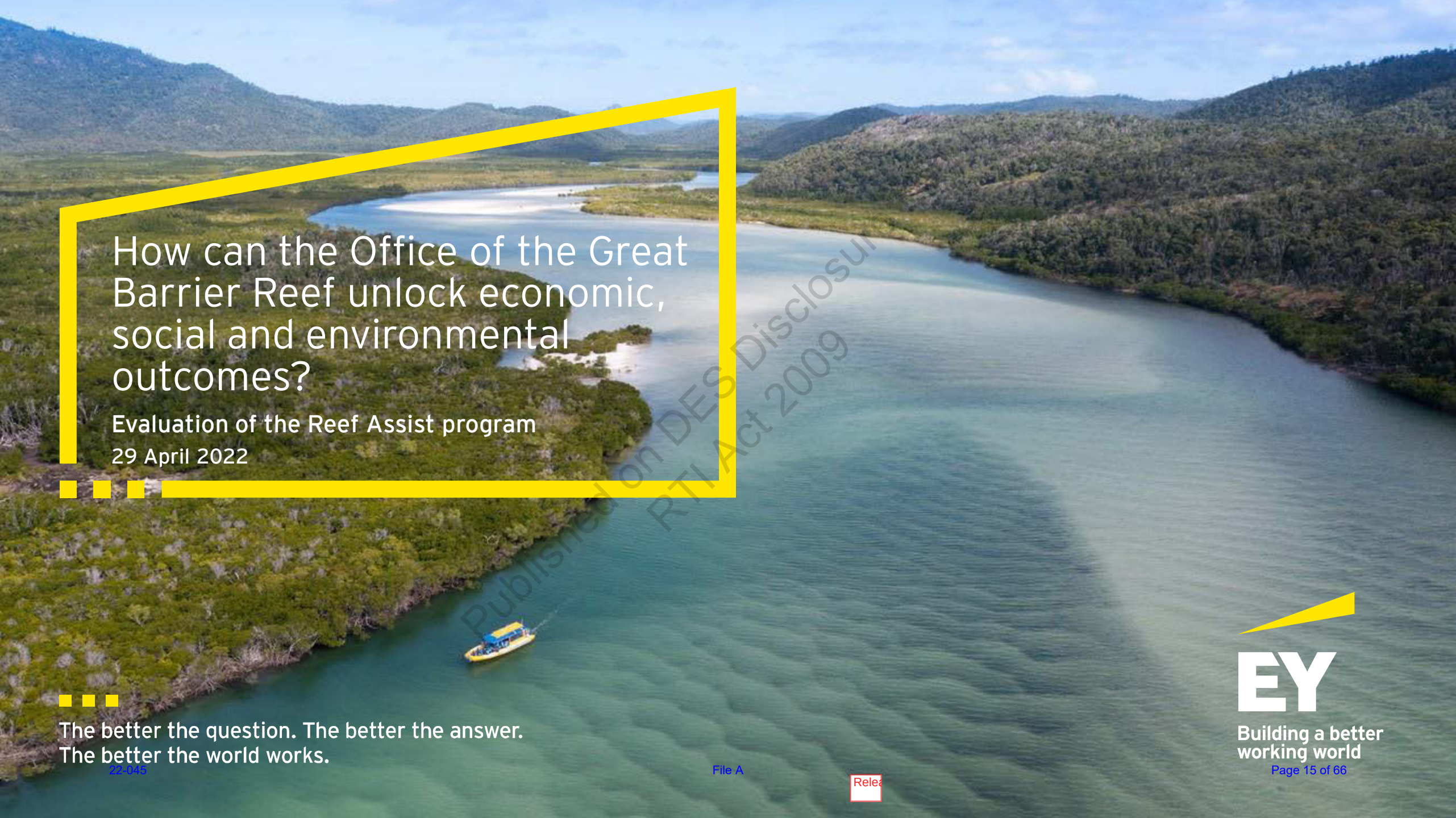
*No survey data obtained for this project

Environmental impacts

Over **8Ha** of weeds controlled, supporting reduced weed impact on native ecosystems

Over **8Ha** of native riparian vegetation planted, along **5km** of streambank, supporting improved water quality and resilience to natural disasters. Notably, riparian zones are important for stream bank resilience, especially after significant flooding and cyclones, as well as being important corridors providing habitat and safe migration for native species

> *"We can be proud that together we put 8.4 hectares of trees into the ground"*



How can the Office of the Great Barrier Reef unlock economic, social and environmental outcomes?

Evaluation of the Reef Assist program

29 April 2022

The better the question. The better the answer.
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Building a better working world

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Building a better working world

Ms Bernadette Hogan
Director
Office of the Great Barrier Reef
Department of Environment and Science

15 March 2022

Evaluation of the Queensland Government Reef Assist program

Dear Bernadette and team

Thank you for engaging EY to undertake an independent evaluation of the Reef Assist Program.

This report has been prepared for the Department of Environment and Science in accordance with our engagement agreement dated 30 July 2021.

EY was engaged to undertake an independent evaluation of the Reef Assist program's economic, social and environmental outcomes. This report is the final report within the scope of our engagement, and EY's interim report evaluating the strengths and improvement opportunities related to the Reef Assist program design was delivered on 10 December 2021.

The objective of this final report is to evaluate the Reef Assist program delivered by the Office of the Great Barrier Reef and its impact in generating employment opportunities, along with environmental and natural resource management outcomes. In particular, the report seeks to evaluate the impact of the creation of employment opportunities in regions impacted by the COVID-19 pandemic to inform future investments. It also seeks to evaluate the program's impact in generating environmental benefits and elements of the program that led to the greatest or least impact, including identification of any barriers and transferable learnings for future programs.

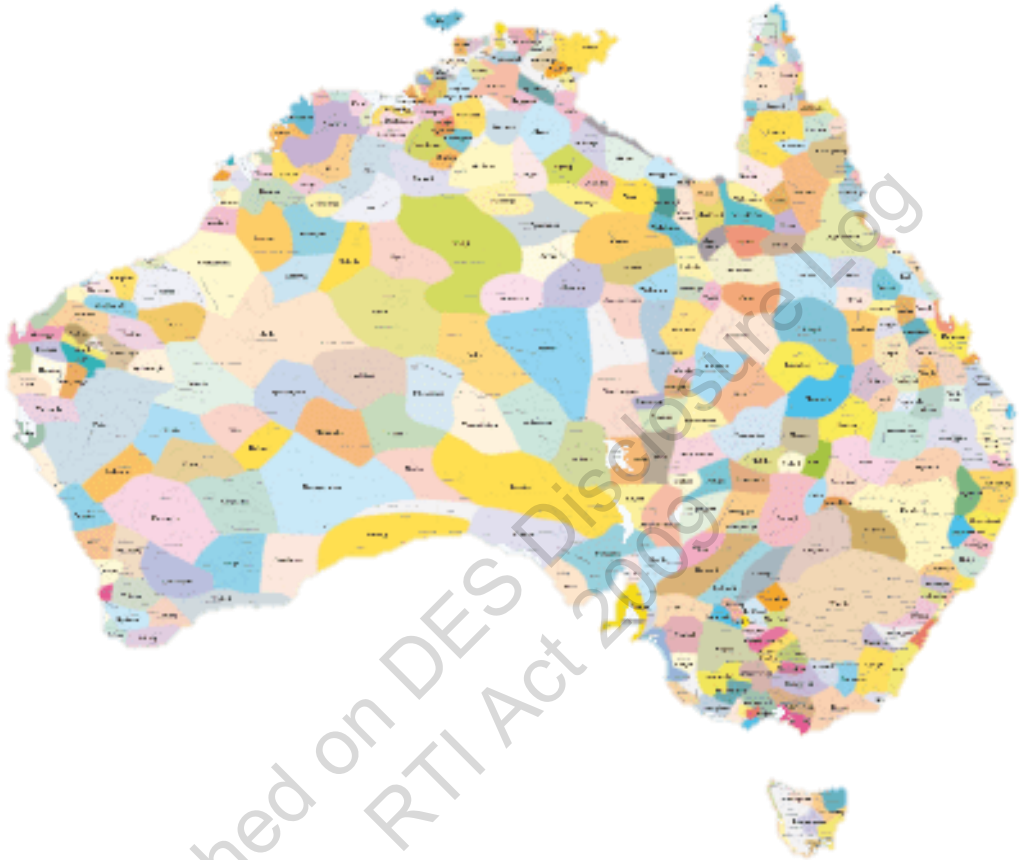
The report has been prepared following a detailed assessment of Reef Assist project documentation and reporting, consultation with stakeholders involved in each of the projects, and economic modelling of the impacts of the program.

We would like to thank you and the wider team for the assistance provided to us during our engagement. Your involvement was instrumental in enabling us to meet your milestones and expectations.

I would be delighted to discuss our findings and next steps with you. Please feel free to contact me on (07) 3011 3111 or Emily Davies on (07) 3243 3795.

Yours sincerely

Elizabeth Rose
Partner, Climate Change and Sustainability Services, Brisbane



EY acknowledges Aboriginal and Torres Strait Islander people as the first peoples of Australia and Traditional Custodians of this land and its waters.

We pay our respects to Elders, knowledge holders and leaders past, present and emerging.

We respectfully acknowledge Traditional Owners living within Queensland. We respect Traditional Owners' relationship, connection and association to Country and that it is an integral part of their identity and cultural expression.

Contents

“

The Reef Assist program delivers priority environmental projects and creates regional jobs for unemployed and underemployed Queenslanders in the Wet Tropics, Burdekin Dry Tropics and Mackay Whitsunday Great Barrier Reef catchment areas

Department of Environment and Science

1 Executive summary

Reef Assist context and program set-up

Context

- The COVID-19 pandemic placed significant socio-economic pressures on the Mackay Whitsunday, Burdekin and Wet Tropics regions of Queensland, through the loss of jobs and tourism revenue. As a result, these regions were selected as a key part of the Unite and Recover Queensland Government COVID-19 Economic Recovery Plan to receive $10 million under the Reef Assist program. A maximum of $2 million was made available per project with a limit of $4 million to be invested in each of the regions.
- The Reef Assist program ('the program') was managed by the Department of Environment and Science's (DES) Office of the Great Barrier Reef program management team (OGBR).

Program set-up

- Due to the urgent nature of the program as a COVID-19 response, the OGBR program management team developed the Reef Assist program over a period of three weeks from July 2020.
- Applications were received between July and August 2020 from Local Governments, natural resource management groups, Traditional Owner (TO) groups and other organisations with relevant experience.

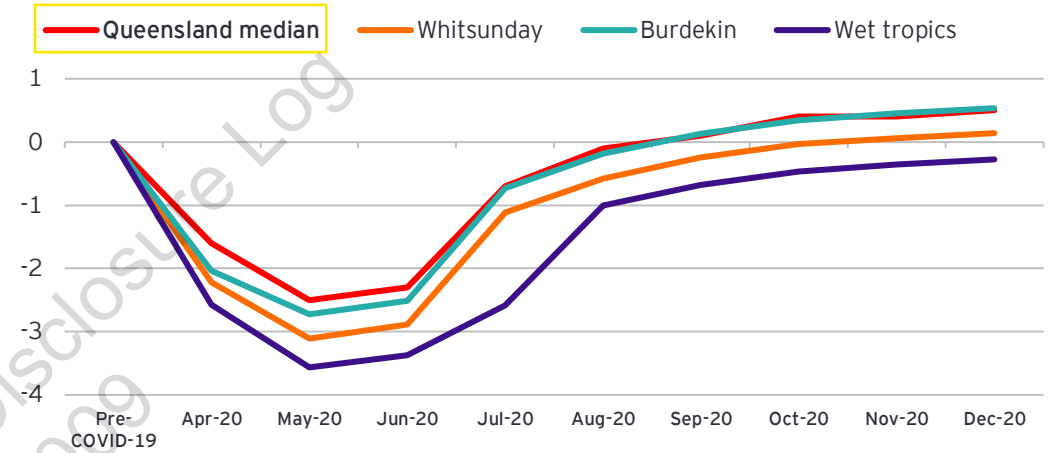
- The program allowed for local groups to partner with eligible applicants to deliver projects. For example, Three Big Rivers partnered with NQ Dry Tropics and Townsville City Council to support TO engagement.
- In total, 27 applications were received from 17 different organisations. Eleven (11) applications were successful, with projects commencing in October 2020 and concluding between November 2021 and April 2022. Two (2) applications in the Palm Island Aboriginal Shire Council were amalgamated into one project, meaning that the scope of EY's evaluation covers 10 projects, instead of the original 11 approved.
- The Reef Assist program has now provided an additional $2 million to extend 7 of the 11 projects, located across the three regions. The subject of this evaluation is the initial $10 million Reef Assist funding only.

A seedling nursery in the Wet Tropics region. Image sourced from the OGBR's Reef Assist program photo collection.

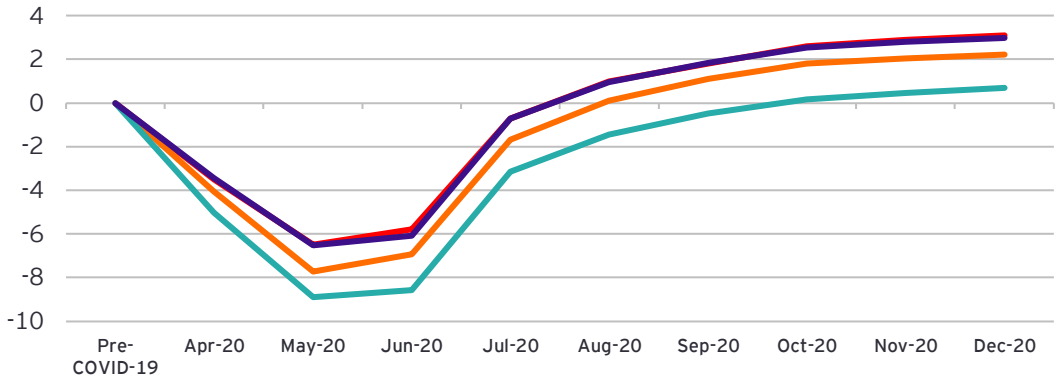
Economic impact of COVID-19 on value-added and employment

Economic impact

- The estimated economic impact of decreased employment and value-added to the economy as a result of COVID-19 is summarised on the right for Queensland (median) and each of the Wet Tropics, Burdekin and Mackay-Whitsundays regions for the period of April 2020 to November 2020, grouped by local government area.
- The graphs demonstrate the immediate economic impacts of the pandemic and the need for the Reef Assist program stimulus in these regions. While recovery placed by late 2020, at the time of RAP development, the temporal extent of impacts was unknown and the large downturn justified the additional stimulus through the RAP.
- Employment (no. of people): The employment metric represents the change in employment averaged across each region during the relevant period. Notably, all regions experienced greater reduction in employment than the Queensland average reduction with the Wet Tropics region experiencing the greatest decrease.
- Value-added ($ million): The value-added metric represents the marginal economic value that is added by each industry sector in a defined region. Value-added can be calculated by subtracting local expenditure and expenditure on regional imports from the output generated by an industry sector. It is the major element used in the calculation of Gross Domestic Product (GDP). Notably, all regions experienced greater average reduction in value added compared to the Queensland median, with the Burdekin region experiencing the greatest decrease.



Unemployment impact (% change in average employment)



Value-added impact (% change in average value added)

COVID-19 impacts on employment and value added to the economy across Queensland, REMPLAN

Reef Assist purpose and objectives

Purpose

- The purpose of the initial $10 million Reef Assist program funding was to create employment opportunities in Great Barrier Reef regions that had been significantly impacted by COVID-19 through the loss of tourism-related economic activity, while delivering environmental benefits such as protecting the Great Barrier Reef.

Objectives

- The objectives of the program were stated in the Queensland Government Reef Assist Program Guidelines as:
  - Skill development and job opportunities for people whose employment had been impacted by the COVID-19 pandemic, including youth and First Nations people
  - The generation of local economic activity in related businesses such as heavy machinery operation, landscaping material suppliers, quarries and plant nurseries
  - The provision of employment opportunities, greater land restoration skill base in these regions, and longer-term career opportunities for job participants
  - Improved resilience to natural disasters such as flooding, cyclones and bushfires, restored threatened species habitat, improved water quality, improved soil health and improved condition and extent of native woody and non-woody vegetation.
- EY has evaluated the extent to which the program achieved outcomes against OGBR's key evaluation criteria (KEQ) developed as part of the final reporting phase, aligned to the above objectives.
- Notably, not all projects set targets for each objective. Where projects did set initial targets, EY has included details of whether these targets were achieved. Otherwise, EY has evaluated outcomes based on the extent to which it considers that a change or benefit occurred. The methodology section on page 14 provides further detail on this evaluation process.

OGBR's key evaluation criteria for the Reef Assist program

KEQ1: How many jobs have been directly supported (inc. Traditional Owners, First Nations people, youth and women)?

KEQ2: How many businesses (inc. delivery partners and contractors) have been supported?

KEQ3: What training have participants undertaken? Specify the type of training and the number of participants.

KEQ4: To what extent were environmental targets achieved, as specified in the project plan and/or project proposal?

KEQ5: How has the project supported or benefited regional environmental and social objectives?

Evaluation findings

KEQ	Evaluation finding	Outcomes achieved*
KEQ1: How many jobs have been directly supported (inc. Traditional Owners, First Nations people, youth and women)?	EY evaluated the projects determining that outcomes included: ► Achievement of employment targets across the majority of projects. ► Improved access to employment for TOs, First Nations, youth and women for the duration of the program. EY noted that this employment supported participants to reduce reliance on Centrelink, pay for living expenses, and even overcome barriers to employment, such as being able to obtain a drivers licence or a car. ► Stable and meaningful employment opportunities and improved financial independence, particularly for some participants who found longer-term employment as a result of participation in the program. For example, some participants found work as nursery technicians with delivery partners and ranger opportunities with Queensland Parks and Wildlife Services (QPWS). It was noted that delivering projects across a longer term would provide greater legacy through more staff retention, better outcomes and stable future employment opportunities.	Achieved
KEQ2: How many businesses (inc. delivery partners and contractors) have been supported?	EY evaluated the projects determining that outcomes included: ► Achievement of partner, contractor and local business targets across the majority of projects. ► Increased supply chain stimulus to businesses in need during the program timeframe. The program not only provided significant supply chain funding, but it also built the capacity of organisations such as the Johnstone Region Landcare Group to deliver and provision larger scale restoration works, Three Big Rivers to facilitate Indigenous recruitment and charter boats to explore adaptive business strategies. ► Greater resilience and diversification of the local economy over the longer term, through commercialisation of new soil humification techniques, continued engagement with networks and adaptive strategies such as marine ecotourism. However, it was noted that support is required, particularly for Indigenous groups, to maintain the capacity of these partners and businesses.	Exceeded

Continued on next page

**Reference to outcomes achieved relates to project specific targets (i.e. any jobs targets set at a project level in relation to KEQ1) and extent of change where no target is set. Results are aggregated to a regional level. See Section 2 for further methodological detail.*

232 Jobs* directly supported across all projects

**Jobs is defined as the number of people employed at some point during the duration of the program. Total based on final report data provided to EY*

113 First Nations people

79 Youth

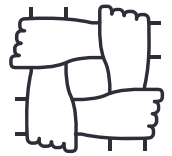
44 Women

**Note overlap in categorisation, e.g. a First Nations youth*

$9.06M

Total spend on delivery partners, local businesses and contractors.

Note that this includes wages associated with delivery partners in some instances (e.g., charter boat operators). The remaining spend was allocated to other activities such as wages paid directly and administration.



38 Delivery partners

&

365 Local businesses and contractors engaged

Evaluation findings

KEQ	Evaluation finding	Outcomes achieved
KEQ3: What training have participants undertaken? Specify the type of training and the number of participants.	EY evaluated the projects determining that outcomes included: ► Achievement of training targets across the majority of projects. ► Increased skills and knowledge through land management, conservation, landscaping, project management and other training. On average, all participants surveyed indicated an increase in natural resource management, business and project management, communication and marketing, and leadership and mentoring skills. ► Increased NRM-based educational attainment. The majority of projects delivered accredited formal training through the Certificate III in Conservation and Land Management (CaLM) or Certificate III in Rural Operations. However, it was noted that access to education was limited by the timeframe of the project and the corresponding challenges in aligning with formal training programs, and the lack of access to formal educational institutions on-Country (i.e. no TAFE access in remote regions).	Partially achieved
KEQ4: To what extent were environmental targets achieved, as specified in the project plan and/or project proposal?	EY evaluated the projects determining that outcomes included: ► Achievement of the majority of environmental targets, where set across projects. ► Improved natural disaster resilience, biodiversity and ecosystem function, water quality, soil health, condition and extent of native vegetation and reduced weeds and pests. ► Environmental targets were not set for all projects, or for all environmental objectives. However of the targets set, most were achieved. The average percentage achievement across all target-setting projects, is presented to the right for the corresponding environmental outcomes. ► Longer-term targets are needed to maintain robust environmental outcomes. Failure to maintain these sites will see the return of invasive weed species and loss of environmental functions improved through the project (fire management, riparian vegetation buffer, bank stabilisation etc).	Achieved
KEQ5: How has the project supported or benefited regional environmental and social objectives?	EY evaluated the projects determining that outcomes included: ► Increase in wellbeing, cultural connection and community networks. This was a key achievement of the program, with participants noting a range of benefits such as improvements in self-confidence, mental and physical wellbeing, connection to Country and culture, and sense of identity within the community. ► Enhanced connection between community and nature. Participants commonly noted gaining an improved understanding and appreciation of nature that they then shared with families, friends, and neighbours. Some projects actively engaged with their communities, raising the profile of nature and their work through community volunteering days, media production, and knowledge sharing at community events and festivals. ► Participants and proponents noted however that the longer-term benefits may diminish over time for participants if not maintained through future employment opportunities.	Exceeded

134 courses completed

190 people received training

109%* of vegetation restoration targets achieved

184%* of native planting targets achieved

125%* of weed control targets achieved

389%* of soil health restoration and bank stabilisation targets achieved

93%

of participants surveyed experienced improved mental/physical wellbeing, community connectedness and/or sense of personal/cultural identity through Reef Assist involvement. The remainder noted no change.

*Percentages of extent of target achieved are the average across projects with initial targets

Recommendations on outcomes and process (transferability)

KEQ	Recommendations
KEQ1: How many jobs have been directly supported (inc. Traditional Owners, First Nations people, youth and women)?	Based on its evaluation, EY recommends the following to inform future program design: ▶ Delivering similar programs over a longer 2-3 year period to help mitigate impacts on staff retention and promote better training, partnership and environmental outcomes. ▶ Advocacy to update award conditions. Currently positions are classified under the Garden and Landscaping Services 2020 industrial relations award conditions. Updating the relevant award will support fair working conditions for participants. ▶ Projects should include flexibility in project design, including flexible working to accommodate seasonal challenges, culturally specific flexibility including 'Sorry Business', strong focus on on-Country training, access to pre-vetted First Nations recruitment pools through existing networks (noting additional governance requirements of Aboriginal Corporations) and on-Country mentoring sessions. ▶ Adaptive management should be encouraged, embedding flexibility between OGBR team and proponents to practically manage project issues as they arise. ▶ Job creation measurement should be quantified consistently across projects from the outset (e.g. application phase). It should also aim to include both a quantitative and qualitative component, to achieve comparability against broader employment initiatives, and account for the target social outcome of this employment, respectively. One quantitative metric example would be to use state or national employment metrics such as FTE aligned to the ABS parameters (e.g. 35 hrs/week) by recording the hours worked for each participant. Qualitative metric examples for the Reef Assist program could include recording participant characteristics such as recent employment history, work satisfaction levels before and after the program, or the reason for early exit of the program where this occurs (e.g. other employment opportunities, etc).
KEQ2: How many businesses (inc. delivery partners and contractors) have been supported?	Based on its evaluation, EY recommends the following to inform future program design: ▶ Strong and trusted business relationships across delivery partners, particularly Indigenous groups and Aboriginal Corporations should continue to encourage more coordinated, integrated and strategic natural resources outcomes. Engaging with Local Councils was a particularly successful way to leverage local networks and partnerships with business to create environmental and economic outcomes. ▶ Partnering with businesses to improve environmental stewardship can provide greater resilience and diversification of the local economy, such as engaging with charter boat operators to offer more diverse and in-depth ecotourism experiences for their guests. This attitudinal change can further improve already commercial enterprises, resulting in better economic and environmental outcomes. ▶ A flexible, tailored approach, which takes advantage of each partners' individual capacities and strengths. For example, factoring in the need to build the capacity of Three Big Rivers as a start-up Indigenous recruitment agency. ▶ Continuity plans should be leveraged to support businesses as they leave the program, i.e. support partners to find other opportunities, apply for grants and tenders where they wouldn't have previously had capacity.
KEQ3: What training have participants undertaken? Specify the type of training and the number of participants.	Based on its evaluation, EY recommends the following to inform future program design: ▶ Training should be achievable within the timeframe and be designed so that courses can be completed on-Country, rather than having to travel away. Longer-term programs would allow for bespoke offerings of TAFE courses to be negotiated and training to be maintained (i.e. first aid refresher courses). Program management could also engage with training organisations ahead of time to develop bespoke programs. ▶ Training programs should also be flexible to participants needs, noting that some unemployed, underemployed and school-leaver participants benefited from learning basic employment and IT skills.

Continued on next page

Key
▶ Outcomes focused ▶ Process (transferability) focused ▶ Both outcomes and process focused

Recommendations on outcomes and process (transferability)

KEQ	Recommendations
KEQ4: To what extent were environmental targets achieved, as specified in the project plan and/or project proposal?	Based on its evaluation, EY recommends the following to inform future program design: ▶ Better long-term environmental outcomes could be achieved through longer maintenance periods. EY noted that regular and ongoing scheduled maintenance of replanted areas for 2-7 years (e.g. until canopy closure) is required to promote natural recruitment and maintain environmental outcomes. ▶ Existing sites that require maintenance should be prioritised for short-term programs based on their conservation value, connectivity to larger areas of bushland, soil conservation and water quality improvement potential. ▶ Leveraging innovation and market growth opportunities can provide ongoing funding for environmental restoration works. For example, biologically active, humified material was used for restorative application across the landscape and could also be used as a commercially viable material for erosion and sediment control, grassland restoration and catchment-scale water quality improvement. Other growth opportunities include carbon and biodiversity markets, noting the Taskforce on Scaling Voluntary Carbon Markets estimated that carbon credits market could be worth $50 billion by 2030. ▶ Standardised approaches to environmental targets, metrics and data will also improve environmental outcomes, supported by initiatives such as the Taskforce for Nature-Related Financial Disclosures and the United Nations System of Environmental Economic Accounting. ▶ Alignment of short term programs such as the RAP with longer term programs, both temporally and strategically, could better facilitate the continuation of environmental, social and economic outcomes, development of the NRM career pipeline in these regions, and alignment to long-term regional strategies. ▶ Environmental outcomes are extremely reliant on ongoing consultation and communication with the site owners and adjacent landowners, as well as early communication with TOs. Community-based partner organisations are well placed to handle these needs. ▶ Greater flexibility, extension dates and planning is required to avoid impacts of weather and site access issues on project deliverables. One project focused on geospatial seed mapping during wet weather, which optimises future wet season activities by offering filterable time of year harvesting opportunities.
KEQ5: How has the project supported or benefited regional environmental and social objectives?	Based on its evaluation, EY recommends the following to inform future program design: ▶ Active engagement on-Country with participants, neighbouring residents, contracting teams, community groups and members of the public can help foster great pride and a culture of engagement across similar programs. In particular, partnering with First Nations peoples and communities provides the opportunity for First Nations peoples to fully participate in land management and draw on their valuable knowledge and skills on-Country. First Nations land management partnerships are key to skills growth in the regions given that First Nations peoples are responsible for land management across 58% of Northern Australia. ▶ There is a growing need to scale up environmental restoration work in the regions to increase natural resilience to climate change impacts, and also to become a real driver of economic growth by creating numerous environment and sustainability career pathways. Future programs should look to involve both public and private sector funding and financing opportunities, in partnerships. Avenues for further funding include Landcare grants, Land Restoration Fund and the Queensland Indigenous Land and Sea Ranger Program (QILSRP). ▶ Given the socio-economic impact generated from environment jobs, there are emerging opportunities to grow sustainability jobs through similar programs targeting the energy, waste management, transport and education sectors. In addition, emerging environmental markets such as carbon and biodiversity markets are likely to present significant opportunities to channel private funding to environmental activities.

Approach

Scope of work and methodology

Scope of work

- OGBR's scope of work for EY's evaluation of the Reef Assist program includes:
  - **Government application and assessment processes:** the effectiveness of the program application and assessment process
  - **Jobs supported:** creation of employment opportunities in regions impacted by the COVID-19 downturn in the tourism industry
  - **Environmental outcomes:** generation of environmental benefits and any barriers
  - **Legacy:** ongoing impact of the program beyond its 13-month duration
  - **Transferability:** if and how the design, application, assessment and implementation processes of the program can be utilised and enhanced by other programs
- EY evaluated the application and assessment process in its interim report.
- In this final report, EY has evaluated the jobs supported, environmental outcomes, legacy and transferability of the Reef Assist program against OGBR's using a theory of change to guide its evaluation method.
- EY's evaluation assessed both the outcomes and process of the Reef Assist program, providing recommendations across both either individual or combined as relevant (i.e. some recommendations relate to outcomes, process or both). EY's evaluation of process focuses on transferability of program implementation and builds on analysis in the interim report.

Outcomes | Process | Both

Methodology

1 Document review and theory of change

EY reviewed project reporting data to obtain context on the program.

EY developed a theory of change for the program (details on next page), with causal pathways leading to economic, social and environmental outcomes.

2 Stakeholder engagement and data collation

EY conducted stakeholder interviews including project visits and participant surveys. Survey data collected represents only a sample of available participants at each site, and so is a proxy rather than complete reflection of participants views.

EY collated project data from reports and interviews, aligned the data to the evaluation framework, KEQs and theory of change.

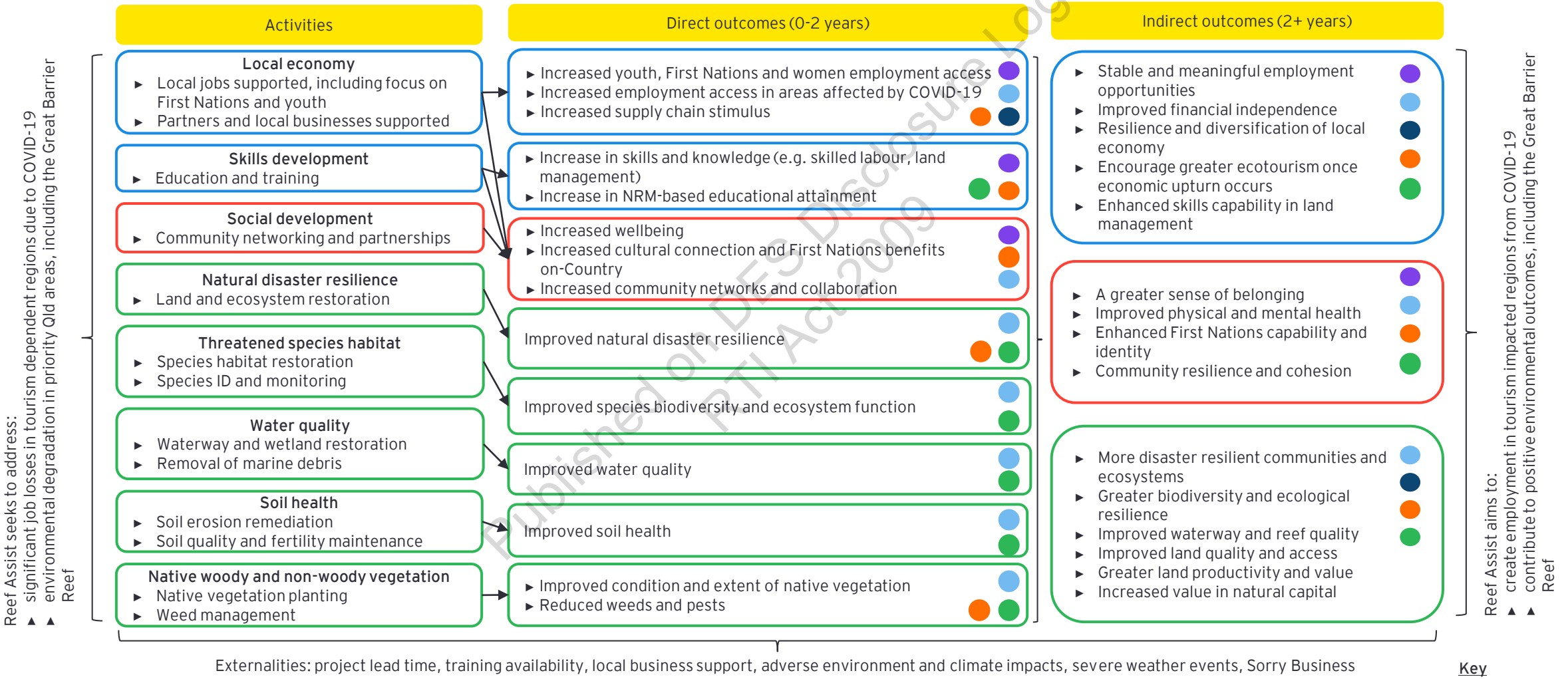
3 Evaluation and findings

EY used project data to evaluate economic, social, and environmental outcomes for each region, using the evaluation framework, KEQs and theory of change. For projects that set initial targets corresponding to the KEQs, EY was able to calculate the extent to which the target was achieved for that project, and on average for the region. EY noted that not all projects set initial targets. Accordingly, regional outcomes were evaluated based on both the outcomes achieved by projects that set initial targets, as well as projects with no initial targets.

EY's evaluation incorporated the social survey data, and performed spend and employment modelling for economic outcomes.

Theory of change for Reef Assist program

To inform its evaluation, EY developed the below theory of change to represent how the Reef Assist program operated at a program and project level, and to understand the change and outcomes achieved.



Evaluation steps

Scope of evaluation

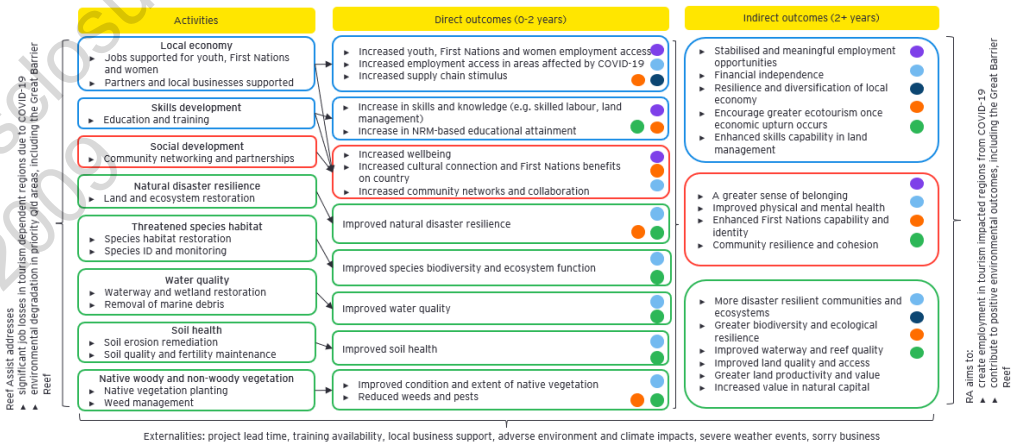
EY used the following scope of work, as defined by OGBR, for its evaluation:

1. Jobs created
2. Environmental outcomes
3. Legacy
4. Transferability

In evaluating the framework, EY has been guided by OGBR's KEQs.

KEQ1: How many jobs have been directly supported (inc. Traditional Owners, First Nations people, youth and women)?
KEQ2: How many businesses (inc. Partners and contractors) have been supported?
KEQ3: What training have participants undertaken. Specify the type of training and the number of participants.
KEQ4: To what extent were environmental targets achieved, as specified in the project plan and/or project proposal?
KEQ5: How were regional environmental and social objectives supported and benefits achieved?

EY has been guided by its theory of change analysis on what the program aimed to achieve for each project.



Findings and recommendations

- EY evaluated the above framework using OGBR's KEQs and the theory of change, and made recommendations on whether project outcomes had been achieved.
- EY has also assessed implementation processes associated with the program, and provided recommendations as relevant. EY's evaluation builds upon the information provided in its process evaluation included in the interim report, which focused on the program application and assessment process (i.e. rather than implementation).

Outcomes | Process | Both

Project descriptions

EY's evaluation has been undertaken on a regional basis. Descriptions of each project and its location within each region are included below.

Project	Description	Region
RA1 – WTMA #1	Tackle on-ground threatened species and climate resilience work in the Barron, Mulgrave and Johnstone river catchments	Wet Tropics
RA2 – WTMA #2	Create a sustainable environmental economy that will support Indigenous employment and training in the Wet Tropics	Wet Tropics
RA3 - Douglas Shire Council	Rehabilitate dunes in the area to improve their resilience to natural disasters such as flooding and cyclones	Wet Tropics
RA4 - Jaragun Pty Ltd	Stabilise stream banks on Babinda Creek and McPaul Creek, protect wetlands and improve wildlife corridors that link Bellenden Ker Range, the Wet Tropics World Heritage Area and the Great Barrier Reef	Wet Tropics
RA5 - Townsville City Council	Improve riparian vegetation buffers, remove weed waste and debris, and investigate opportunities for ecotourism trails across the region	Burdekin
RA6 - NQ Dry Tropics	Partner with Indigenous job seekers to undertake landscape restoration works in the Burdekin region	Burdekin
RA7 - Palm Island Aboriginal Shire Council	Remediation works on two culverts on Clump Point Road to prevent sediment run-off to the Reef lagoon and rehabilitation of Frances Creek, which has been impacted by sedimentation and weeds	Burdekin
RA8 - Reef Catchments #1	Use a variety of conservation and land management activities, including the control of invasive species, to improve natural habitat condition and build resilience of natural habitats	Mackay Whitsundays
RA9 - Reef Catchments #2	Engage the Whitsunday marine tourism industry in island and coastal environmental protection and rehabilitation works	Mackay Whitsundays
RA10 – Terrain	Revegetate riparian sites in the Johnstone, Murray and Russell catchments	Wet Tropics

Data analysis methodology

Economic analysis

To quantify the economic contribution of the Reef Assist program to these impacted regions, EY performed an economic analysis to estimate the monetary and employment benefits generated through the jobs supported, and partners and businesses engaged.

To achieve this, EY first collated direct economic impact data from the project final reports, including **Total project spend**, **Total spend on partners and businesses**, and the **FTE positions supported** for each project. To also account for the flow-on impacts arising from this direct stimulus, for example through generating subsequent rounds of economic activity, EY used an economic modelling tool *Remplan* to estimate the **Direct**, as well as the **Supply-chain** and **Consumption effects** of the program contributions.

Remplan incorporates data such as ABS statistical data on demographics and industry output, to perform an Input-Ouput analysis that estimates the effects of a particular economic impact (e.g., an investment), on a defined economy. The modelling is spatially and industry explicit, and so allows interrogation of impacts on a defined area and each industry in the economy.

Using Remplan's most recent 2020 dataset to account for the implications of COVID-19, EY defined three 'economies'; mapped spatial boundaries corresponding to the Wet Tropics, Burdekin, and Mackay Whitsundays regions. EY then identified the industries most likely to be impacted by the program based on the type of spend undertaken and the type of jobs supported, and combined these industries to generate a **Project Spend** industry variable and an **FTE** industry variable, respectively. EY then input the direct economic impact data (e.g. Total project spend) into the appropriate regional 'economy' and collated the respective outputs in terms of the increase in **output, employment,** and **value-added** in the economies. The corresponding industry variables, inputs and outputs used are summarised in the table to the right.

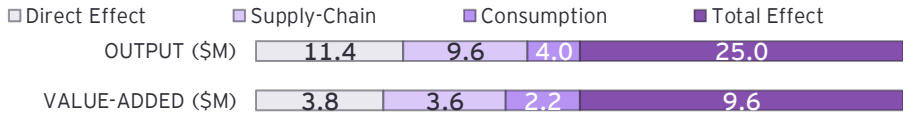
While the analysis was performed at a project level, the impacts were summed for presentation at a regional level as presented in the example bar graph to the right. This can be interpreted for example as, from the FTE generated in the region, an estimated 9.6$M in value-added has been contributed. See Appendix C for more detailed information on the mechanics and assumptions underpinning this modelling, and the output results for each individual project.

**Note: In some instances, the Total spend on partners and local businesses data reported by projects was greater than the Total project spend, suggesting that in-kind spend was incorrectly included, or other record errors existed. Accordingly, a limitation of this evaluation is that the flow on economic impacts relating to partner and business spend are expected to be overestimated.*

Customised industry variable	Input	Outputs
FTE variable, includes: ▸ Agriculture, Forestry & Fishing Support Services, ▸ Heritage, Creative & Performing Arts (to target the sub-sector 'Nature Reserves and Conservation Parks Operation') ▸ Construction services	FTE (number)	Output ($M) Value-added ($M)
Project spend variable, includes the above industries as well as: ▸ Tech, Vocational & Tertiary Education (undergrad & postgrad), ▸ Retail Trade ▸ Employment, Travel Agency and Other Administrative Services	Total spend ($M) on partners and local businesses	Employment (FTE) Output ($M) Value-added ($M)
	Total spend ($M) on project overall	Employment (FTE) Output ($M) Value-added ($M)

- **FTE** is the equivalent number of full time (35 hours/week) positions created over one year (365 days) based on the total days worked. Calculated by EY based on the project data reported
- **Supply chain effect** is the increased output generated by servicing industry sectors in response to the direct change in output and demand*
- **Consumption effect:** As output increases, so too does employment and wages and salaries paid to local employees. Part of this additional income to households is used for consumption in the local economy which leads to further increases in demand and output*
- **Employment (FTE)** is the number of full-time equivalent jobs generated, where full-time equivalent (FTE) is at 35 hours or more per week (i.e. two part time jobs equal one FTE)
- **Value-added** represents the marginal economic value that is added by each industry sector in a defined region*
- **Output** represents the gross revenue (total income or total sales) generated by businesses/organisations in each of the industry sectors in a defined region*

Example



Source: REMPLAN - Economic Modelling and Planning System, Training Guide

Data analysis methodology

Social analysis

To evaluate the social impacts of the Reef Assist program on the people and communities involved, EY performed a social analysis as a component of this evaluation, which also partially addresses KEQ5. Drawing upon preliminary interviews with proponents and the theory of change, EY designed a series of survey questions and discussion guides to attempt to capture and quantify the relatively intangible social impacts of the program that could not be directly measured.

In late October and November 2021, EY conducted site visits to 8 of the 10 projects. These visits included worksite walkthroughs, proponent and partner interviews, and participant discussions, in which EY provided each participant present a self-report survey and led an open discussion of their responses and reasoning. The survey results were the primary source of data in this evaluation, supporting a deeper understanding of project successes and impediments, calibration of interpretation across project groups and greater confidence in the expectations underpinning the theory of change. EY also researched benchmarks of social value to support evidence of the social outcomes achieved (e.g. the benefits of connection to Country in *Indigenous education and skills, Australian Institute of Health and Welfare 2021*).

For inclusion in this evaluation, the survey data was averaged on a project basis, and then averaged for on a regional basis. As surveys were undertaken during EY's site visits, the data faces a number of limitations that should be noted:

- The participant sample sizes for some projects were too small to be considered statistically representative of the broader project team. However, group discussions with participants and interviews with project proponents with good oversight of the participant experience provided greater confidence in the findings
- As EY were unable to survey participants before and after their involvement in the program, the survey relies on participant recollection of their experience this, which may result in less reliable results
- A number of participants that had successfully found longer term employment, were accordingly not present to complete the survey, which potentially created a selection bias against these successful participants
- Two project site visits (RA7 & RA10), were determined infeasible given time constraints. While proponent videoconferences were held, the participant experience for these projects was not captured in this evaluation

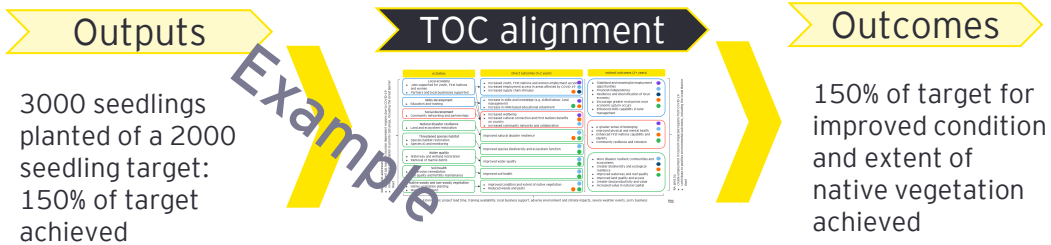
Environmental analysis

EY's environmental evaluation was aligned to KEQ4, in that it involved review and comparison of initial project plans / proposals and the final project reports to determine the extent of the environmental targets that had been achieved.

Where quantitative targets were set in the project plans (e.g. X Ha weeded), EY calculated a percentage achieved score for that activity or environmental output. For each type of environmental output (e.g. weeding, planting seedlings, etc) this data was averaged across the projects within each region for a regional percentage achieved. Where projects did not provide a quantitative target for environmental outputs, these were not added to the percentage achieved, but were noted as additional achievements.

Given the time frame and diverse nature of environmental activities undertaken, the environmental outcomes or benefits achieved as a result of these outputs were not directly measurable. Instead EY implemented the theory of change to identify the corresponding outcomes expected to arise from the outputs achieved. EY also relied on benchmarks of environmental value to support evidence of environmental outcomes achieved (e.g. benefits of interaction with nature including wellbeing, productivity, reduced stress etc. *Multiple Benefits of Landcare and Natural Resource Management, Final Report, 2013*).

Additionally, to quantify the expected economic benefits arising from these environmental activities, EY has undertaken comprehensive research to identify and apply appropriate benefit cost ratios (BCR) for these environmental activities to help understand the environmental outcomes achieved. This information may provide some guidance around which environmental activities can provide the greatest benefit for the purposes of future Queensland Government program design.



3 Evaluation

KEQ 1: How many jobs have been directly supported (inc. Traditional Owners, First Nations people, youth and women)?

EY evaluated all projects across each region and determined the following outcomes. Notably, all projects set targets for directly supporting jobs.

Projects in the region delivered 165% of jobs targets, with 109 rather than 78 people employed

RA2 and RA4 exceeded their First Nations targets for an average target achievement in the Wet Tropics Region of 117%. RA1, RA3, RA10 set no initial targets.

63 First Nations, 41 youth and 24 women* were employed across all projects

Projects in the region delivered 180% of jobs targets, with 56 rather than 36 people employed

RA6 was the only project in the Burdekin region to set a First Nations target, which was achieved by supporting employment of 5 people.

47 First Nations, 36 youth and 11 women* were employed across all projects

Projects in the region delivered 333% of jobs targets, with at least 67 rather than 23 people employed

RA8 set and exceeded a First Nations target by employing 3 persons rather than 1. RA9 set no target.

2 youth and at least 9 women* were employed across all projects

*Totals may include double-counting due to overlap in categorisation, i.e. women youth

Key findings

- Employment exceeded initial targets across all projects
- Significant amount of extension activity has taken place, with added benefits for direct engagement with First Nations, youth and women
- Flow-on impact in the regional economy achieved

Project legacy

- The program has led some participants to find future stable and meaningful employment opportunities
- However for others, sudden unemployment due to funding cessation could reverse the benefits of the program
- Longer-term projects will help mitigate impacts on staff retention and improve employability

Project transferability

The following should be utilised and enhanced for future program implementation:

- Learnings from flexible project design and implementation to manage events such as severe weather and cultural sensitivities
- Adaptive management and engagement from program management

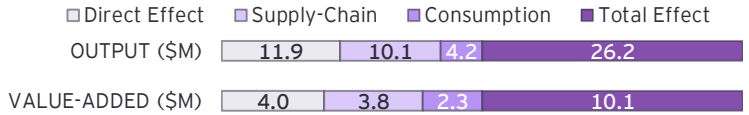
Continued on next page

KEQ 1: How many jobs have been directly supported (inc. Traditional Owners, First Nations people, youth and women)?

Wet Tropics

EY evaluated RA1-RA4 and RA10 noting direct outcomes included:

- Access to employment for First Nations people, youth and women. In particular, participants reported being able to get off Centrelink and pay for living expenses, a drivers licence or a car, noting transport can be a barrier to employment in these areas.
- RA1 and RA3 proponents noted respectively, "*maintaining a whole year of income has certainly helped them above the poverty line*" and "*for some of these people it meant they were able to eat properly*"
- Direct outputs (gross revenue generated) and value added to the economy from persons (FTE) employed:



Impact modelling Wet Tropics, REMPLAN

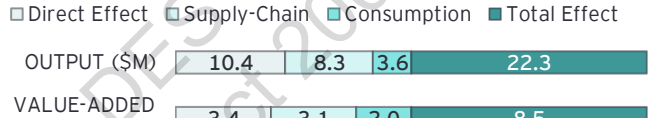
Longer-term indirect outcomes included:

- Stable and meaningful employment opportunities and financial independence for some participants. A RA3 proponent noted that at least 4 of a total 9 (44%) participants gained longer-term employment as nursery technicians, tree planters and in Papillon Landscaping (a local business partner). A RA2 participant also received a ranger opportunity with QPWS and 5 QILSRP opportunities were secured for participants through further funding. The RA2 participant noted:
  - *"The Reef Assist project has opened up new doors for me and I am looking forward to the next twelve months obtaining my coxswains licence and working with QPWS"*
- Despite this, the RA1 final report noted that intermittent funding may contribute to increased unemployment, social disengagement, return to poverty for some and reduction of skills and capacity within delivery agent organisations.

Burdekin

EY evaluated RA5-RA7 noting direct outcomes included:

- Access to employment for First Nations people, youth and women. Participants noted significant financial benefits, for example supporting ceased reliance on Centrelink, a higher quality of living, and for some, contribution to milestone purchases such as a car or permanent accommodation. Another participant was unemployed for 6 months prior to Reef Assist.
- Direct outputs and value added to the economy from persons (FTE) employed:



Impact modelling Burdekin, REMPLAN

Longer-term indirect outcomes included:

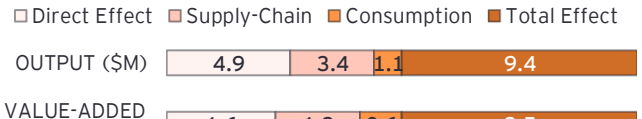
- Stable and meaningful employment opportunities and financial independence for some participants. RA5 proponents noted that a number of participants successfully found other employment as a result of the program. Two (2) RA6 participants secured employment in the mining industry and 3 have continued their employment with Three Big Rivers.
- However RA5 and RA6 proponents noted that sudden unemployment, as a result of intermittent funding (particularly before the holiday season), also jeopardises the important social benefits of meaningful work, gainful employment and positive reputation that Reef Assist developed.

Mackay Whitsundays

EY evaluated RA8-RA9 noting direct outcomes included:

- Access to employment for First Nations people, youth and women. In particular, RA9 charter operators noted that:

  "Even tomorrow and next week we have no day charters and we may have been laying those staff off. The funding has made a big difference for retaining that crew – the business uncertainty with the border closures has been a death"
- Direct outputs and value added to the economy from persons (FTE) employed:



Impact modelling Mackay Whitsundays, REMPLAN

Longer-term indirect outcomes included:

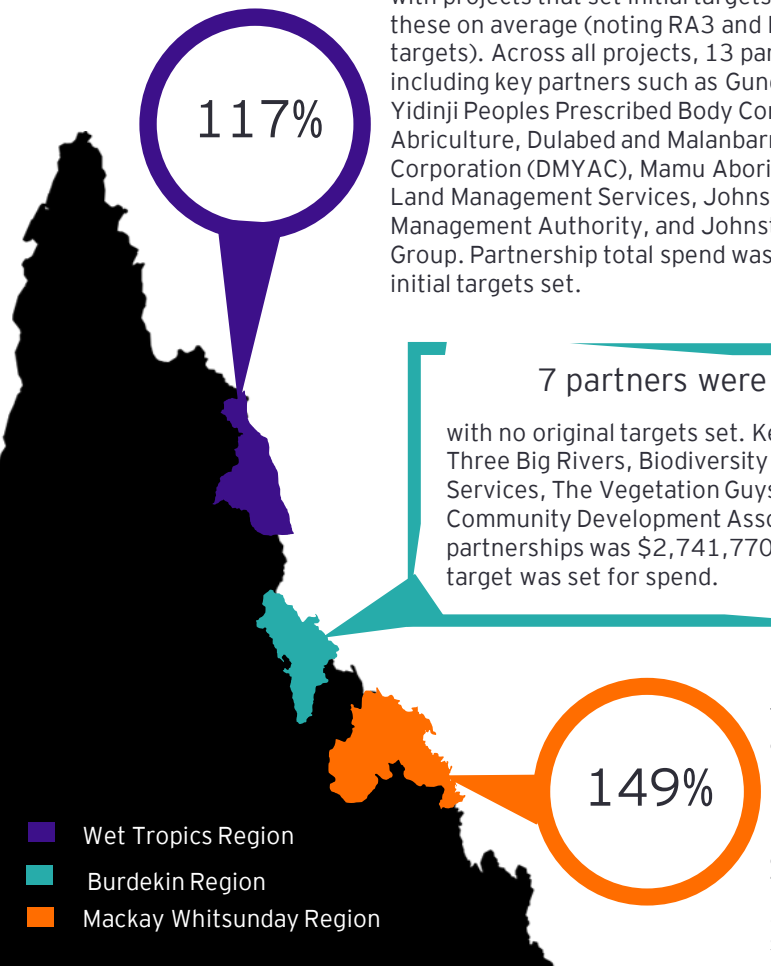
- Stable and meaningful employment opportunities and financial independence for some participants. RA8 participants interviewed felt confident and eager to find future work in this field, with participants noting:

  "in this town there isn't much except hospitality and tourism, so (this) has opened my eyes to what is possible and opened a lot of doors"

  "I will be looking for work in this field with another contractor or starting a business in this field... that is the confidence it has given me"

KEQ2: How many businesses (inc. Partners and contractors) have been supported?

EY evaluated all projects across each region and determined the following outcomes, including targets where possible.



Partner targets in the Wet Tropics region were exceeded, with projects that set initial targets achieving 117% of these on average (noting RA3 and RA4 did not set initial targets). Across all projects, 13 partners were engaged, including key partners such as Gunggandji-Mandingalbay Yidinji Peoples Prescribed Body Corporate (GYMPPBC), Abriculture, Dulabed and Malanbarra Yidinji Aboriginal Corporation (DMYAC), Mamu Aboriginal Corporation, NQ Land Management Services, Johnstone River Catchment Management Authority, and Johnstone Region Landcare Group. Partnership total spend was $2,947,862, with no initial targets set.

268 local businesses engaged

noting no initial targets were set. Total spend on local business including Faygen, Wugu Nyambil, Yalga-bindi Institute and many others was $1,189,533.

7 partners were engaged

with no original targets set. Key partners included Three Big Rivers, Biodiversity Australia, Ausfield Services, The Vegetation Guys, and Magnetic Island Community Development Association. Total spend on partnerships was $2,741,770, noting no original target was set for spend.

59 local businesses engaged

noting no initial targets were set. Total spend on local businesses, including On Common-Country, Lower Burdekin Landcare, Revere Projects, and many others was $353,587.

Both RA8 and RA9 exceeded their partner targets, with an average target achievement of 149% for the Mackay Whitsunday region. Key partners included Landcare groups, local Councils, and 7 charter vessel companies. Total spend on partnerships was $1,547,563 (noting this included some wages associated with delivery partners).

38 local businesses engaged

noting no initial targets were set for RA9, and RA8. Total spend on local business including Mackay Natural Environment centre, 4SEAS Environmental Consulting and many others was $276,435.

Key findings

- Partner, contractor and local business targets achieved across the majority of projects
- Increased supply chain stimulus, particularly in supporting the capacity and capability of businesses in the region

Project legacy

- Partnering with commercial businesses to improve environmental stewardship can provide ongoing environmental outcomes
- The long-term nature of these benefits will depend on broader economic considerations and, in the case of First Nations engagement, ongoing support

Project transferability

The following should be utilised and enhanced for future program implementation:

- Supporting capacity building of First Nations and commercial partnerships, i.e. support for Three Big Rivers and charter boat environmental stewardship
- Continuity plans should be leveraged to support partners transitioning from the program

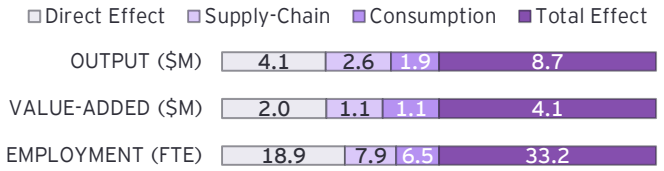
Continued on next page

KEQ2: How many businesses (inc. Partners and contractors) have been supported?

Wet Tropics

EY evaluated RA1-RA4 and RA10 noting direct outcomes:

- Increased supply chain stimulus, supporting those businesses most in need during the program timeframe. In particular, RA10 reported that stimulus to the Johnstone Region Landcare Group and its nursery enhanced the capability and experience to deliver larger scale restoration.
- Direct outputs, value added and employment generated in the regional economy from spend on partners and businesses, as follows.



Impact modelling Wet Tropics, REMPLAN

Longer-term indirect outcomes included:

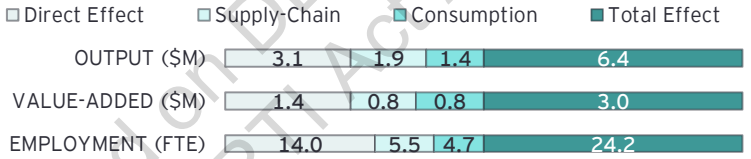
- Greater resilience and diversification of the local economy. For example, RA10 contributed to greater nursery skills in demand in the region.
- However proponents for RA10 also noted that improved coordination across economic stimulus initiatives would better sustain momentum and avoid detrimental peaks from intermittent funding programs. The RA1 final report also noted that whilst the capacity building, qualifications and experience increased the resilience of the partners and their employees, there remain risks associated with reduced ongoing support.

Burdekin

EY evaluated RA5-RA7 noting direct outcomes:

- Increased supply chain stimulus, supporting those businesses most in need during the program timeframe. In particular, RA5 and RA6's partnership with Three Big Rivers, enabled it to mature its operations in facilitating Indigenous recruitment and close the gap for Indigenous peoples. A Three Big Rivers participant relevantly noted:

  "Reef Assist has the capability to manage a start-up program like Three Big Rivers, and it may lead on to other TO areas that need that start-up capability"
- Direct outputs, value added and employment generated in the regional economy from spend on partners and businesses, as follows.



Impact modelling Burdekin, REMPLAN

Longer-term indirect outcomes included:

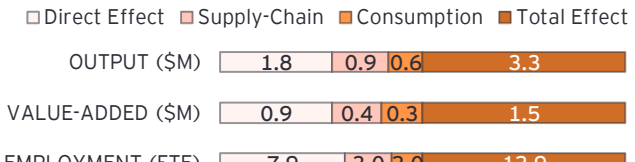
- Greater resilience and diversification of the local economy. The RA5 final report noted that the program provided a solid platform for collaboration between a wide range of expert individuals and businesses, creating greater diversity and resilience through engagement. Notably, NRM activities can generate an economic return in the order of 2-5 times the original investment through knowledge, skills and more resilient communities (Multiple Benefits of Landcare and Natural Resource Management, Final Report, 2013).
- However, it was noted by RA6 proponents that ongoing work is required to maintain capacity of Three Big Rivers.

Mackay Whitsundays

EY evaluated RA8-RA9 noting direct outcomes:

- Increased supply chain stimulus, supporting those businesses most in need during the program timeframe. In particular, RA9's engagement with the local charter boats has supported the resilience of the industry. One participant noted:

  "The opportunity to explore adaptive business strategies has allowed for greater product differentiation into ecotourism"
- Direct outputs, value added and employment generated in the regional economy from spend on partners and businesses, as follows.



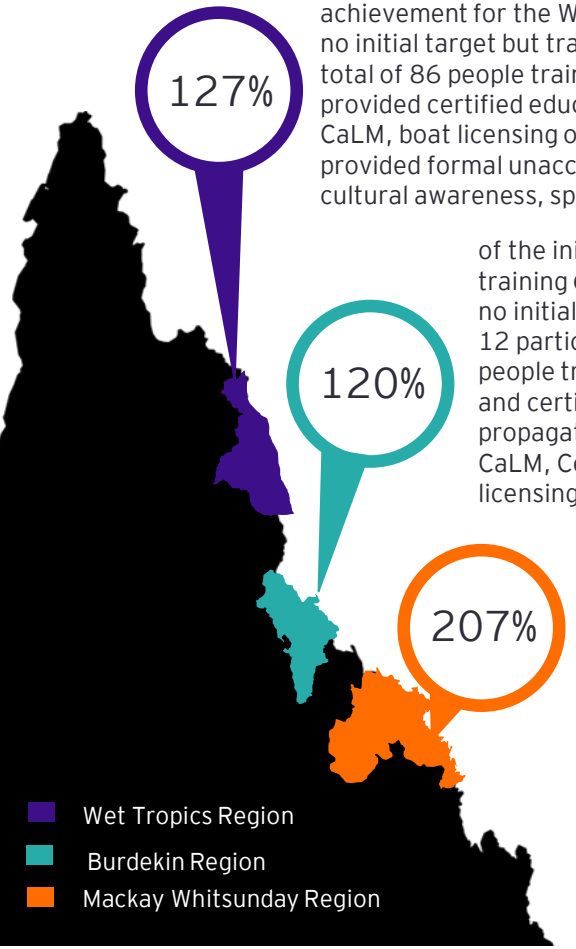
Impact modelling Mackay Whitsundays, REMPLAN

Longer-term indirect outcomes included:

- Greater resilience and diversification of the local economy and greater ecotourism following economic upturn. This is consistent with Queensland Government efforts to grow the $28 billion tourism industry for Queensland, which generates $54.2 million a day in visitor expenditure across the state, directly and indirectly employing 234,000 Queenslanders (What is ecotourism? | Parks and forests | DES, Queensland (des.qld.gov.au)).

KEQ3: What training have participants undertaken. Specify the type of training and the number of participants

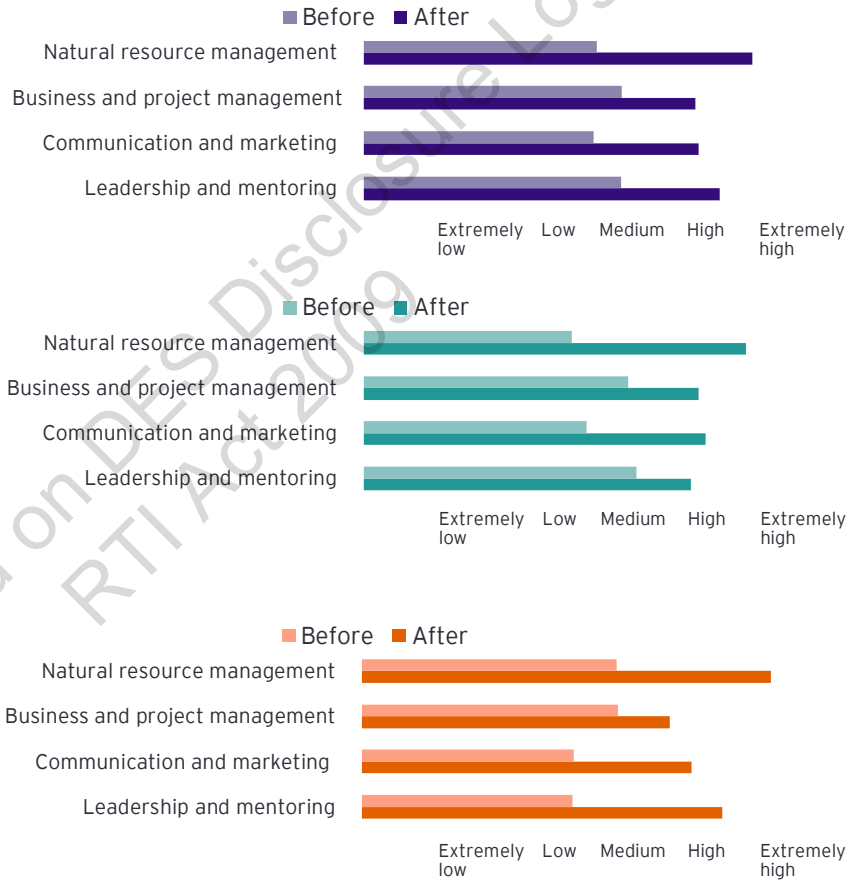
EY evaluated all projects across each region and determined the following outcomes, including targets where possible.



RA1,RA3 and RA4 exceeded their initial targets, while RA2 achieved 92% of its initial target. The average target achievement for the Wet Tropics region was 127%. RA10 set no initial target but trained an additional 19 participants, for a total of 86 people trained. 40% (2 of 5 projects) of the projects provided certified educational attainment, e.g. Certificate III in CaLM, boat licensing or drone accreditation. Other projects provided formal unaccredited or informal training including cultural awareness, species ID and plant propagation.

of the initial target 5 participants received training (6 participants) in RA6. RA5 and RA7 set no initial target but trained an additional 25 and 12 participants, respectively, for a total of 43 people trained. 2 of 3 projects provided informal and certified education, e.g. humification, seed propagation and resume training, Certificate III in CaLM, Certificate III in Rural Operations or boat licensing respectively.

RA8 achieved and RA9 exceeded the initial training targets set, with 61 participants trained and an average target achievement across projects of 207%. This large exceedance occurred particularly through RA9's wider community engagement in charter boat ecotourism projects. RA8 provided formal education including Certificate III in CaLM, and RA9 training was informal focusing on ecotourism skills such as coral monitoring and restoration.



Key findings

- Training and participant targets were achieved across the majority of projects
- Skills development was most successful when it was also in demand in the relevant regions, or led to direct employment

Project legacy

- Legacy was impacted by the need to keep training current in some instances, inhibited by the intermittent nature of funding

Project transferability

The following should be utilised and enhanced for future program implementation:

- Bespoke training programs achievable within program timeframes and ideally delivered on-Country
- Training flexible to participants needs and can support foundational learning and job readiness skills
- Training targeted to the overarching priorities of the program and the local and cultural context

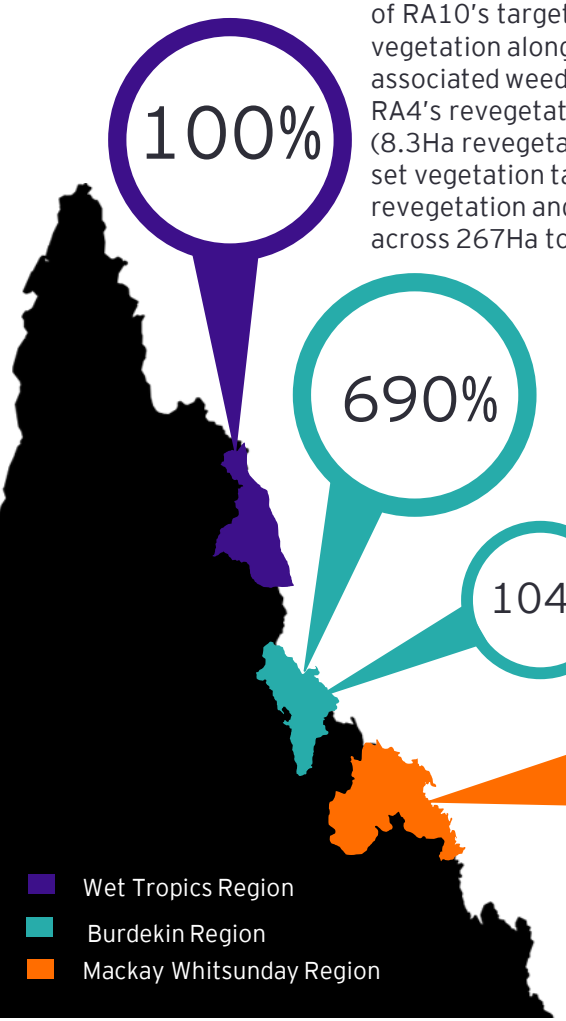
Continued on next page

KEQ3: What training have participants undertaken. Specify the type of training and the number of participants

Wet Tropics	Burdekin	Mackay Whitsundays
EY evaluated RA1-RA4 and RA10 determining that the direct outcomes included: ► Increased skills and knowledge (e.g. skilled labour and land management). Participant survey data indicated an increase in skills across natural resource management, business and project management, communication and marketing and leadership and mentoring from medium to high or extremely high. ► Increased NRM-based educational attainment. In particular, RA4 and RA10 participant training included Certificate III CaLM training, boat licensing, drone accreditation, weed identification, seed collection and propagation and United Nations Convention on Biological Diversity training modules, including ecosystem restoration, monitoring and evaluation and legal, policy and governance. Notably, RA3 and RA10 experienced the most significant challenges in enrolling participants in formal education noting: *"The short project timeline and a lack of local training providers meant that formal training was not able to be offered. More development time may have allowed for bespoke offerings of TAFE courses to be negotiated"* Longer-term indirect outcomes included: ► Enhanced skills and capability in land management, based on direct skills outcomes. In particular, higher levels of education have been linked with improved health and wellbeing, health literacy, income, employment, better working conditions and a range of other social benefits (Indigenous education and skills, Australian Institute of Health and Welfare 2021).	EY evaluated RA5-RA7 determining that the direct outcomes included: ► Increased skills and knowledge (e.g. skilled labour and land management). Participant survey data indicated an increase in skills across natural resource management, business and project management, communication and marketing and leadership and mentoring from medium/high to high/extremely high. One participant of RA5 noted: *"This program has given me a better understanding of weed management identification and other skills that will help us get a ranger or environmental job"* ► Increased NRM-based educational attainment. RA5 and RA6 participant training included Certificate III CaLM and Rural Operations training, boat licensing, skid steer and excavator courses, drone accreditation, weed identification, seed collection and propagation and soil humification. Longer-term indirect outcomes included: ► Enhanced skills and capability in land management (see Wet Tropics comments). However, RA6 proponents noted that it is necessary for participants to maintain professional development, i.e. undertaking first aid refresher courses, which are jeopardised by the intermittent nature of the employment provided. This suggests that the longer-term benefits of skills development may diminish over time for participants if not maintained through future employment opportunities. ► The RA5 final report also noted the importance of engaging with different educational institutions, including primary and secondary schools to nurture interest in growing enhanced skills and capability in land management on-Country.	EY evaluated RA8-RA9 determining that the direct outcomes included: ► Increased skills and knowledge (e.g. skilled labour and land management). Participant survey data indicated an increase in skills across natural resource management, business and project management, communication and marketing and leadership and mentoring from medium to high/extremely high. One RA9 proponent stated: *"Participants didn't have much knowledge on mangroves until a local expert spent the day providing education on mangrove ecosystems. The crew were like sponges, they loved and raved about it"* ► Increased NRM-based educational attainment. RA8 participants engaged in Certificate III CaLM training, construction white card accreditation, drone licencing, first aid training, workplace, health and safety training. RA9 participants engaged mostly in informal training including ecotourism skills, mangrove and island ecology, coral monitoring, weed identification and water quality monitoring. Longer-term indirect outcomes included: ► Enhanced skills and capability in land management, based on direct skills outcomes (see Wet Tropics and Burdekin comments).

KEQ4: To what extent were environmental targets achieved, as specified in the project plan and/or project proposal?

EY evaluated all projects across each region and determined the following outcomes, including targets where possible.



of RA10's target to improve 8.4Ha of riparian vegetation along 5kms of streambank and associated weed control was achieved. 119% of RA4's revegetation target of 7Ha was achieved (8.3Ha revegetated). RA1, RA2 and RA3 did not set vegetation targets, but RA1 achieved 5Ha revegetation and RA2 conducted burning programs across 267Ha to reduce bush fire risk.

of RA5's soil health improvement target achieved with application of probiotic formulations to 34,475m² of depleted soils, against a target 5,000m². 850m of riverbank was stabilised, against the target 500m.

of RA5's weed control targets were achieved, with 260 tonnes instead of 250 tonnes removed. 360kg of flood debris was also removed for flow path restoration, and both weeds and debris were biologically converted to soil additives.

Targets to improve biodiversity and land restoration were achieved, with 194Ha of conservation works undertaken by RA8 on critically endangered species, significant wetlands, and habitat for a wide range of wildlife. In addition, 2,360 local native species of trees were planted as part of RA8, despite there being no original target.

RA4 also achieved 113% of its water quality improvement target (655Ha, up from 578Ha), 89% of creek bank stabilisation and reduced sediment targets (4km, of the 4.5km planned), 88% of its native seedlings planted target (10,500 of 12,000 seedlings planned) and 101% of its weed control target (121.5Ha, up from 120Ha).

RA6 & RA7 did not set quantitative targets. However, RA6 achieved 188.4Ha of weed control, 1,550 native stems planted, 37.7Ha of erosion mitigation works and 28.5 Ha of water quality improvement, while RA7 supported water quality improvement, through activities to improve culvert integrity and reduce sewage overflow in aquatic environments and the GBR.

Targets to undertake 3 coral larval re-seeding operations were exceeded for RA9, with 32 charter vessel days for coral larval seeding projects undertaken. Targets to restore 5 coral habitats and clear 10% of beaches of marine debris were also exceeded, with 220 sites restored and 983 volunteer days of marine debris removal activity.

Key findings

- Where set, projects met the majority of environmental targets
- Substantial number of environmental activities undertaken across projects
- Flow-on benefits to regional economy and natural capital value

Project legacy

- Short-term approach inhibited legacy outcomes, noting longer maintenance periods required to promote outcomes
- Alternative financing models could lead to greater legacy outcomes, supported by improved data and metrics

Project transferability

The following should be utilised and enhanced for future programs:

- Early communication with landholders and TOs, leveraging delivery partners
- Greater flexibility and planning to avoid project delays, i.e. focusing on seed mapping computer skills in during the wet season

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KEQ4: To what extent were environmental targets achieved, as specified in the project plan and/or project proposal?

Wet Tropics	Burdekin	Mackay Whitsundays
EY evaluated RA1-RA4 and RA10 determining that key insights on direct outcomes included: ► Improved species biodiversity and ecosystem function for RA1 and RA10, noting that works for RA1 were undertaken in the Walter Hill corridor, one of the highest priority wildlife corridors in the Wet Tropics and sites recently listed as endangered under federal legislation. One RA1 partner noted: *"The plantings and weed control at Misty Mountain have meaningfully increased the area that we have been able to replant in this nationally significant wildlife corridor, restoring endangered rainforest and improve connectivity"* ► Improved natural disaster resilience. One RA1 partner noted: *"The project adds significantly to the future management of the World Heritage area with respect to conservation adaptation to deal with global climate change"* ► Improved water quality associated with RA2 marine debris removal initiatives. In particular, RA2 tackled the local littering issue at Ganyjira, through installing new bins with educational signage at the main beach access point. RA4 also noted wetland restoration and improved stream hydrology. ► However, the majority of proponents noted that if further funding is not obtained the consequences are that rehabilitated areas could regress, and require higher maintenance, at additional costs. The RA10 final report noted: *"There are no current grant funding schemes supporting a long-term view to native vegetation restoration in the Wet Tropics"* Based on the short-term nature of this project, longer-term outcomes were not able to be evaluated.	EY evaluated RA5-RA7 determining that the direct outcomes included: ► Improved soil health for RA5. In particular, RA5 used biologically active humified material for restorative application across the landscape, and explored commercially viable options for leftover material. The RA5 final report noted: *"Soil humification presents an excellent opportunity to further innovate and develop the use of these soil materials for environmental restoration across a range of situations, including; erosion and sediment control, grassland restoration and catchment-scale water quality improvement"* Despite this, the RA5 final report noted that failure to maintain these sites will see the return of invasive weed species and loss of environmental functions improved through the project (fire management, riparian vegetation buffer, bank stabilisation etc). ► Improved natural disaster resilience for RA6. In particular, the final report noted that disaster resilience was improved through protection against erosion in gullies and riparian areas, through installation of leaky weirs and stick dams, mulching, revegetation in riparian zones, and weed control to assist with native grass and woody vegetation establishment to bind soil. RA6 proponents noted challenges with the need for ongoing maintenance. Based on the short-term nature of this project, longer-term outcomes were not able to be evaluated.	EY evaluated RA8-RA9 determining that the direct outcomes included: ► Improved condition and extent of native vegetation and reduced weeds for RA8. In particular, RA8 selected existing sites with high conservation value, connectivity to larger areas of bushland, soil conservation, water quality improvement to maintain, supporting ongoing environmental outcomes. One RA8 proponent noted that the extra period of maintenance at these sites has enabled the revegetation to develop enough to form a canopy which will assist in naturally controlling invasive species. One RA8 participant noted: *"One of the biggest positives is to be able to go back again and maintain weed management. But we can't operate unless we have funding, and the weeds grow back between funding"* ► Improved water quality for RA9. One RA9 proponent noted that the program provided the confidence and capacity to engage in enhanced stewardship of the natural capital that underpins their industry as an integral component of their day-to-day operations, as well as interact with TOs. Based on the short-term nature of this project, longer-term outcomes were not able to be evaluated.

How can we better understand environmental outcomes?

Understanding benefit cost ratios

While projects reported on environmental activities and associated outputs of the Reef Assist program, the corresponding direct outcomes and benefits achieved were often difficult to identify given the short-term and diverse nature of environmental activities undertaken.

Despite this, we know that ecosystem services provide economic value to society through examples of filtration, provisioning services (e.g. timber) or through regulating, servicing and cultural services. To quantify the expected economic benefits that have come about through the Reef Assist activities, EY has undertaken comprehensive research to identify appropriate benefit cost ratios (BCR) for these environmental activities within literature to help understand the environmental outcomes achieved. A BCR is a calculation that identifies the ratio of benefit provided to society from any given cost.

BCRs are commonly used in assessing policy options and in capital budgeting to analyse the overall value of undertaking a particular intervention. The BCRs used in this analysis express a financial or quantitative outcome attached to an activity. A BCR greater than 1.0 represents an intervention that is expected to deliver a positive return on investment. Multiple studies were considered but EY has focused on Australian studies where possible due their greater contextual match. Despite this, it is worth noting that the activities undertaken in the study may differ in context to the activities of specific NRMs.

The aim of these studies is to provide a comprehensive evidence base to demonstrate the benefits of environmental activities as they relate to both economic, environmental and social benefits to society. Through these studies we can develop a picture of the benefits that the Reef Assist projects delivered against KEQ4, and provide a guide for OGBR around which environmental activities can provide the most benefit for the purposes of future program design. References are included at Appendix D.

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Improved natural disaster resilience, species biodiversity and ecosystem function

Environmental activities related to the above can include:

- Afforestation and habitat creation
- Carbon capture project support
- Habitat rehabilitation and protection (e.g. the provision of self sustaining habitats)
- Native vegetation and support
- Predator and pest control

Each of these activities provide a range of benefits to society and support positive outcomes within the environments that ultimately support communities on a local scale. Benefits can accrue privately or publicly, but studies have indicated that benefit cost ratios found for these activities can range from 1.28 to 6.4. The range of studies collected indicate a positive for society where money is invested in these activities. Activities related to the protection of biodiversity and carbon capture and management activities generate significant benefit to society with up to 6.4 times benefit relative to the level of investment based on the studies found.

Improved water quality

Environmental activities relating to improved water quality include:

- Removal of barriers impeding aquatic connectivity
- Soil conservation and land management activities reducing run-off
- Aquatic habitat restoration and protection

Water is often an exploited resource and protection of it will and does ultimately benefit society. The cost benefit studies reviewed illustrate this with most studies showing a positive ratio, ranging from 1 to 6.5.

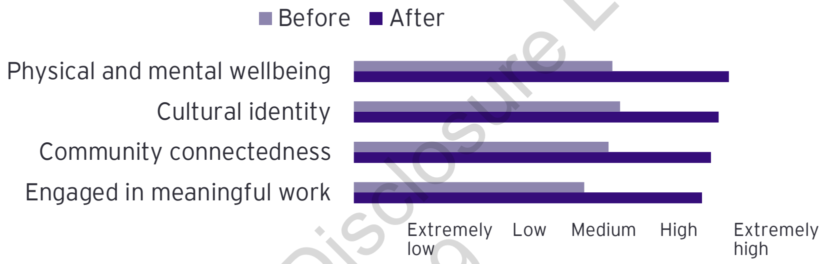
Improved soil health, improved condition and extent of native vegetation

BCRs identified related to the management of soil, land condition and vegetation range from 0.15 up to 5.8 or 24.6 in one specific instance. The benefits that were measured and quantified in these studies varied study to study but included productivity benefits, ecosystem services such as provisioning and regulating services, reduction in maintenance of public infrastructure (i.e. avoided cost), changes in land use and improved recovery from drought periods, among others.

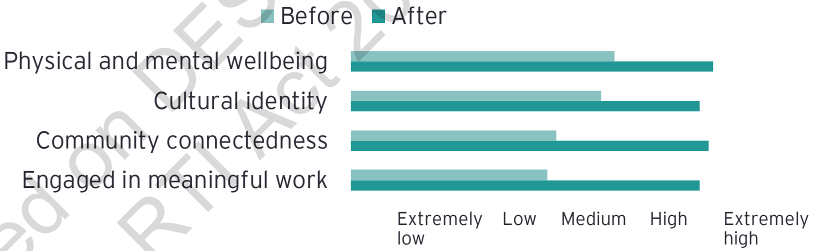
KEQ5: How has the project supported or benefited regional environmental and social objectives?

EY evaluated all projects across each region and determined the following outcomes, including targets where possible. Please note, environmental objectives addressed in KEQ4. Despite no initial targets, all projects focused on social and environmental development for participants, many of whom were new to the workforce.

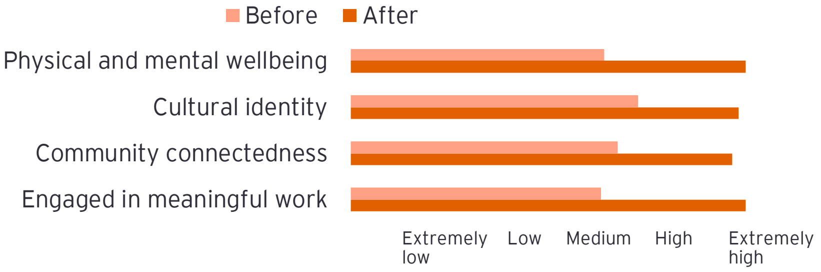
Activities included dance troupe participation in school NAIDOC celebrations and Babinda Harvest festival, with participants representing themselves as TOs and promoted Wanjuru people and culture to the Babinda community



Activities included business activation of ecosystem services through soil humification and catalysing the creative engagement of Australia's largest bulk recruitment of staff under the Youth Justice Program



Activities included upskilling and personal development within the local TO community Koinmerburra, Yuwibara, Ngaro, Gia, Juru, Barada and Wiri groups



Key findings

- Participants reported significant social and personal benefits including for wellbeing, mental health, cultural connection and community networks

Project legacy

- Short-term nature of program can impact the legacy benefits of broader environmental and social objectives

Project transferability

The following should be utilised and enhanced for future program implementation:

- Active engagement with First Nations and TOs on-Country to foster pride and a culture of engagement
- Catalysing public and private funding partnerships to further grow the sector

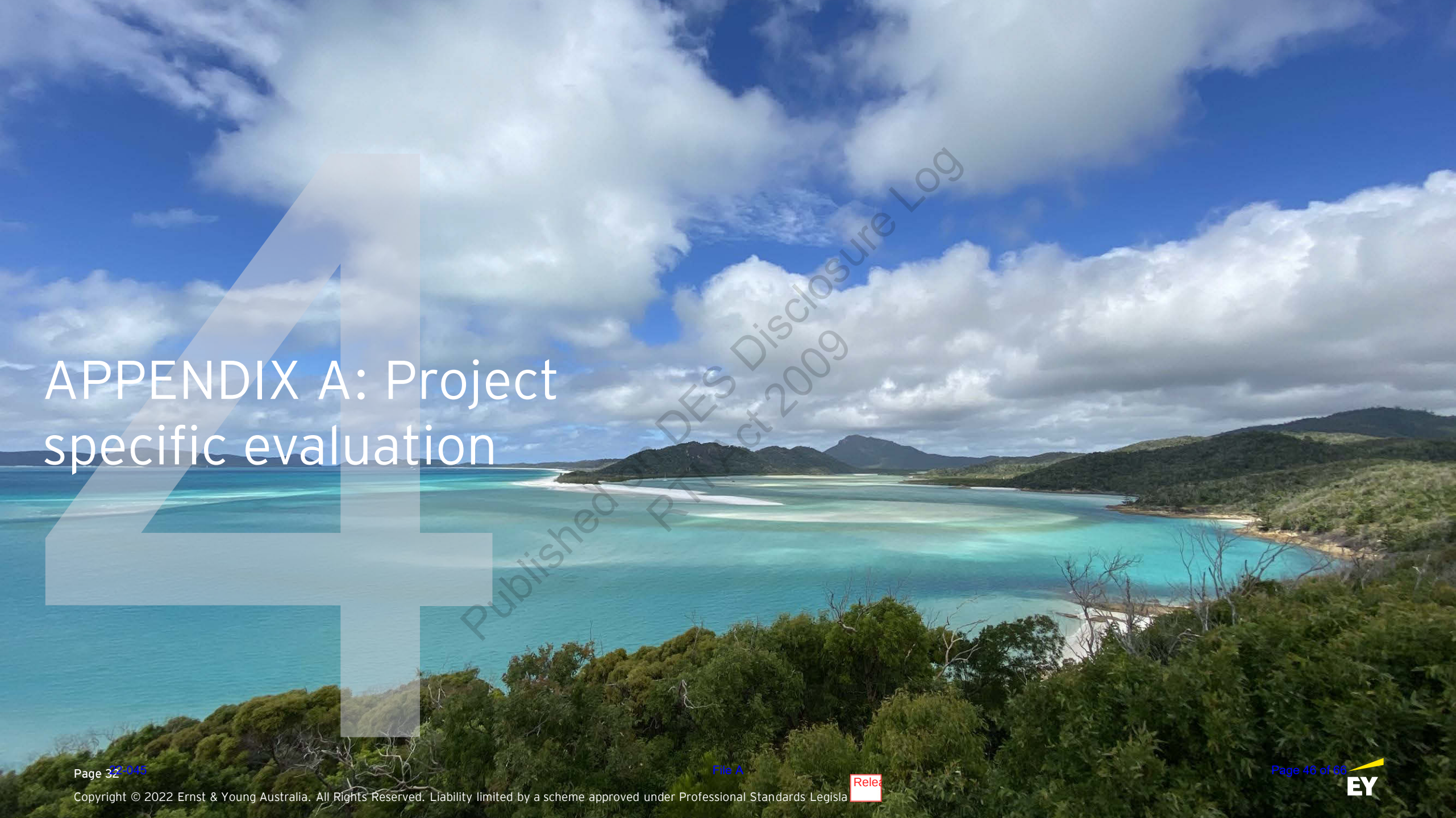
Continued on next page

KEQ5: How has the project supported or benefited regional environmental and social objectives?

EY has evaluated how regional environmental and social objectives were supported below. Notably, environmental objectives are largely addressed under KEQ4. Also, EY notes relevantly to all projects that:

- The benefits of engagement in natural resources activities on society and the environment. For example, human contact with green nature, such as parks, has a wide range of benefits including reducing crime, fostering psychological wellbeing, enhancing productivity, reducing stress, boosting immunity and promoting healing (Multiple Benefits of Landcare and Natural Resource Management, Final Report, 2013).
- In addition, connection with Country has significant benefits for spiritual, social, physical and mental health—particularly in Indigenous communities (Indigenous education and skills, Australian Institute of Health and Welfare 2021).

Wet Tropics	Burdekin	Mackay Whitsundays
EY evaluated RA1-RA4 and RA10 determining that the direct outcomes included: - Increased wellbeing, identity and cultural and community connection. In particular, participants of RA4 stated that participating in Reef Assist helped them be a good role model for their families and lead by example, working on-Country and in their communities. Further, RA4 participants in the Babinda Harvest Festival noted: *"they see us at the schools and the harvest festival and recognise us and it opens their eyes that we are the TOs of the area and the community respects us now"* - Increased participation and benefits for First Nations people on-Country, strengthening co-stewardship through combining traditional knowledge with western scientific methods. One RA4 participant stated: *"I now have the knowledge from uncles teaching us and can connect that feeling to cultural history. I feel a really powerful connection to this place – like I belong"* - In addition, the program has helped RA1 First Nations facilitate intergenerational continuation of caring for Country through being a catalyst for QPWS and DMYAC to enter into a Memorandum of Understanding for non-QPWS staff to manage sites on-Country. Based on the short-term nature of this project, longer-term outcomes were not able to be evaluated.	EY evaluated RA5-RA7 determining that the direct outcomes included: - Increased wellbeing, identity and cultural and community connection. In particular, a RA5 participant noted: *"Prior to the program, I knew only a few people in the community, but since I met my work team and landholders I feel my community network has expanded"* - Another participant reported that: *"Significantly improved his confidence and was now able to speak to many people about the important work he was involved in"* - Increased participation and benefits for First Nations people on-Country. One RA6 participant noted: *"In previous jobs I worked just for a pay-check. But, in this job I learned so much and am way more connected with Country. It's very rewarding"* Based on the short-term nature of this project, longer-term outcomes were not able to be evaluated.	EY evaluated RA8-RA9 determining that the direct outcomes included: - Wellbeing, identity and cultural and community connection. In particular, RA9 participants surveyed considered that the program had generated or renewed a sense of environmental stewardship within the crew and the local community, with an interest in continued environmental activities. - Increased participation and benefits for First Nations people on-Country. One RA8 participant noted: *"Finding likeminded people and making connections supported my involvement with the community"* Based on the short-term nature of this project, longer-term outcomes were not able to be evaluated.



APPENDIX A: Project specific evaluation

Project specific evaluation

A summary of EY's project-specific evaluation is listed below. The list is not exhaustive and based on the extent to which EY considers that outcomes were achieved (whether or not targets were set). The information included below is not exhaustive. For further details, please see EY's case study summaries for each project. Please note, environmental outcomes from KEQ5 have ben evaluated under KEQ4.

Project	KEQ1	KEQ2	KEQ3	KEQ4	KEQ5
RA1 – WTMA #1	**39** people employed, with **27** First Nations, **14** youth and **7** women	Supported **81** local businesses, partners and contractors	**31** of **39** participants received training	Weed removal over almost **25Ha** (e.g., Lantana, woody weeds), survey and weed removal across **60Ha** at Curtain Fig National Park (targeting a high priority invasive species), and **50Ha** at Wooroonooran National Park (targeting Kosters Curse). Revegetation and maintenance of **5Ha** of Misty Mountains Nature Refuge and planting of almost **26,400** seedlings across multiple sites.	Participant survey data showed increase in physical and mental wellbeing, cultural identity, community connectedness and engagement in meaningful work from **medium** to **high/extremely high**
RA2 – WTMA #2	**16** people employed, with **12** First Nations, **6** youth and **3** women	Supported **60** local businesses, partners and contractors	**12** of **16** participants received training	**230kg** reduction in Marine Debris entering the Great Barrier Reef. Nearly **80m²** area of bank stabilised through structural modifications (stone and mattin placement) and planting native trees. Over **11Ha** removal of high priority weeds. Almost **270Ha** of burning programs carried out across multiple sites.	As above.
RA3 - Douglas Shire Council	**13** people employed, with **5** youth and **3** women	Supported **27** local businesses, partners and contractors	**11** of the **13** participants received training	**8** revegetation sites prepared and revegetated, including planting of over **9,000** native seedlings (3770 planted during community revegetation events). **4Ha** treated for weeds. Installation of nearly **250m** of fencing and **10m** of recycled plastic decking as access barriers and for stabilisation of coastal foredunes. Installation of **6** bin stands to reduce litter entering the marine environment.	Participant survey data showed increase in physical and mental wellbeing, cultural identity, community connectedness and engagement in meaningful work from **low/medium to high**
RA4 - Jaragun Pty Ltd:	**14** people employed, with **8** First Nations, **3** youth and **3** women	Supported **94** local businesses, partners and contractors including the Babinda taskforce and TropWATER James Cook University	**13** of **14** participants received training	Over **8Ha** of restoration and revegetation, including Endangered, Vulnerable and Near Threatened (EVNT) species, and planting of 10500 seedlings. Pond Apple and Harungana control across **122Ha** and over **7km** of waterway. Glush Weed control across **36km** of waterway and more than **650Ha** of drainage areas, creek banks and floodplain. Stabilisation of **4km** of stream bank to improve erosion resistance and water quality.	Participant survey data showed increase in physical and mental wellbeing, cultural identity, community connectedness and engagement in meaningful work from **medium/high** to **high/extremely high.**
RA5 – Townsville City Council	**35** people employed, with **30** First Nations, **26** youth and **9** women. This included **10** youth casual staff (2 women) engaged through an arrangement with Youth Justice.	Supported **29** local businesses, partners and contractors, including Three Big Rivers, Biodiversity Australia and Ausfield Services	**25** of **25** participants (and **10** out of **10** casual staff) received training	Collected, geospatially tagged and stored more than **8,700** native seeds for emerging restoration projects. Stabilised **850m** of riverbank. Planted over **14,700** native species. Removed **360kg** of flood debris (flow path restoration) and **260 tonnes** of weeds from key ecological landscapes and biologically converted these through soil humification into high value commercial soil additives. Applied probiotic formulations to almost **34,500m²** of depleted soils to improve condition.	Participant survey data showed increase in physical and mental wellbeing, cultural identity, community connectedness and engagement in meaningful work from **medium to high**

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Project specific evaluation

Project	KEQ1	KEQ2	KEQ3	KEQ4	KEQ5
RA6 - NQ Dry Tropics	6 employed, with 5 First Nations, 5 youth and 1 woman	Supported 31 partners, local businesses and contractors, including Three Big Rivers, Coastal Dry Tropics Landcare Inc. and Lower Burdekin Landcare	5 of 6 participants received training	Nearly 40Ha of erosion control and gully remediation, including installation of 125 disaster resilient leaky weir & stick dam structures. Almost 190Ha of weed control and over 1,500 native stems planted, and revegetation and maintenance over nearly 3Ha. Removed almost 4m^3 of marine debris plus heavy waste over nearly 30Ha.	Participant survey data showed increase in physical and mental wellbeing, cultural identity, community connectedness and engagement in meaningful work from mostly **low to high/extremely high**
RA7 - Palm Island Aboriginal Shire Council	15 people employed, with 12 First Nations, 5 youth and 1 woman.	Supported 6 organisations including local business and sub-contractors, such as Eddie Prior Plumbing, Palm Island Barge Co, Jenagar Pty Ltd and Cardno as well as Rainbow Gateway (CDP) employment agency as a project delivery partner.	12 out of 15 participants received training	**Not quantified.** Key activities targeted water quality, included maintaining culvert integrity and reducing/preventing sewage overflow through structural and infrastructure improvements. Also, removed invasive plants from stormwater channels, and developed community and council strategies for healthy riparian zones on Palm Island.	**Not quantified.** Due to feasibility constraints, no participant survey performed
RA8 - Reef Catchments #1	20 people employed, with 3 First Nations, 2 youth and 9 women	Supported 46 local businesses, partners and contractors, including Landcare groups, Councils, Pandarunga permaculture farm and retail businesses such as Mackay Toyota	14 of 20 participants received training	Almost 200Ha across 80 sites benefited from conservation works, weed control, and the planting of almost 2,400 native tree species.	Participant survey data showed increase in physical and mental wellbeing, cultural identity, community connectedness and engagement in meaningful work from around **medium to high/extremely high**
RA9 - Reef Catchments #2	701 paid crew days, 17 Traditional Owner on country days (17 Ngaro TOs involved), and 983 volunteer days.	Partnered with 7 Whitsunday tourist charter vessel companies, 1 local program co-ordinator and 2 training providers (4SEAS Environmental Consulting and James Cook University)	47 participants received training including marine debris and collection, coral monitoring, weed identification, mangrove and island ecology. This was suitable training for the project	35m^3 of marine debris, and 30x130L bags of weeds removed from nearby islands. Another 11x130L bag of marine debris removed and audited. Nearly 50 charter vessel days, Over 90 supporting crew days and 25 volunteer days for coral seeding and restoration. 5 charter days, 15 supporting crew days and over 15 volunteer days for Crown of Thorns Starfish and Drupella snail control.	Participant survey data showed increase in physical and mental wellbeing, cultural identity, community connectedness and engagement in meaningful work from **medium/high to extremely high**
RA10 - Terrain	27 people employed, with 16 First Nations, 13 youth and 8 women	Supported 19 local businesses, partners and contractors, including Landcare and their nursery and retail businesses such as Bunnings and Supercheap Auto	13 participants received training. 19 participants received some form of informal training. Project was not able to access accredited TAFE training	Revegetation and weed control across over 8Ha of riparian zone, to improve condition and extent of native riparian vegetation.	**Not quantified.** Due to feasibility constraints, no participant survey performed

Outcomes key Partially achieved Achieved Exceeded

APPENDIX B: Stakeholder engagement list

Stakeholder list

Initial Consultations

EY held initial videoconference consultations with the project proponents to obtain report inputs relating to objectives and outcomes of each project, challenges and successes in implementation, and feedback on program strengths and areas of improvement in terms of program design. This consultation included:

- RA1 & RA2: Proponents from Wet Tropics Management Authority
- RA3: Proponents from Douglas Shire Council
- RA4: Proponents from Jaragun EcoServices
- RA5: Proponents from Townsville City Council
- RA6: Proponents from North Queensland Dry Tropics
- RA7: Proponents from Palm Island Aboriginal Shire Council
- RA8 & RA9: Proponents from Reef Catchments
- RA10: Proponents from Terrain NRM

Project Site Visits

Proponent and Partner consultations

EY held consultations with project proponents and select partnering local businesses on project process, progression against objectives, project challenges and outcomes achieved, as well as strengths and areas of improvements for the Reef Assist program.

- RA1 & RA2: Wet Tropics Management Authority
- RA3: Douglas Shire Council
- RA4: Jaragun Ecoservices
- RA5: Townsville City Council
- RA6: North Queensland Dry Tropics
  - Three Big Rivers (Indigenous employment services)
- RA8: Reef Catchments
  - Papillon Landscapes (maintenance & construction)
  - My Pathway (employment services)
- RA9: Reef Catchments

Participant consultations

EY conducted group discussions, interview-style questions, and participant surveys with a sample of the participants that were still engaged in the project and available during project site visits.

- RA1: North Queensland Land Management Services (NQLMS) participants, owner and lead supervisor
- RA2: Gunggandji-Mandingalbay Yidinji Peoples Prescribed Body Corporate (GYMPPBC) participants and owners/managers
- RA3: Douglas Shire Council project participants
- RA4: Jaragun project participants
- RA5: Biodiversity Australia participants, Ausfield Services participants, and Three Big Rivers participants
- RA6: NQ DT project participants (engaged via Three Big Rivers)
- RA8: Strathdickie Hire business participants, Whitsundays Catchment Landcare (WCL) participants, Pioneer Catchment Landcare (PCL) participants (at a later date by phone)
- RA9: True Sailing manager and crew member, Whitsunday Sailing owners/managers

Proponent consultations held online: EY held videoconference consultations for the following proponents as project visits and participant interviews were infeasible: RA7: Palm Island Aboriginal Shire Council, RA10: Terrain NRM

APPENDIX C: Input-output methodology and data

Input-Output methodology

- The method used in this report to estimate the economic impact from initial investment is Input-Output (IO) analysis. The basic premise is that each sector of the economy uses inputs from other sectors, along with labour, to produce their output. As an example, the agriculture sector requires inputs from agriculture itself (e.g. fertiliser), transport, construction, manufacturing, energy, wholesale trade, professional services, and accommodation and food services, all to varying extents to produce its output, e.g. grains or other broadacre crops. These inputs (resulting in outputs) are presented as transaction matrices in an IO model. They are often specified in dollar values. At a regional level, IO transaction matrices detail all the buying and selling interactions between industry sectors in a region, the value of sales to the household and government sectors, the value of imports, exports, payments of wages and salaries, payment of taxes and the value of industry sectors' gross operating surpluses. The IO transaction matrices used in this report is for Queensland and sub regions within Queensland
- The matrices are put together into a model where economists are able to study the impact of input 'shocks' to a sector of the economy to trace through the ultimate impact to other sectors and the wider economy.
- A useful feature of IO analysis is the ability to calculate indirect effects. In the case of employment, an indirect impact captures other jobs that are required to produce the output. An example of this is, to produce canola, transport and logistics are required to move supplies to and from the fields. Hence, the model allows for the calculation of scenarios such as: for every 1 agriculture job in a region, how many other jobs are created in the transport and logistics sector that are ultimately for the purpose of producing canola.
- It is common for the indirect effects to be classified into two categories. First, supply-chain flow on effects are generated by servicing (or supply chain) industries. Second, consumption flow on effects derive from income increasing as the result of the direct economic activity, and that income is used in spending in the local regional economy.
- Economic impact calculation parameters used in this evaluation:
  - Considered economic impacts over a period of one year (365 days), for the 2020 dataset, which is the most recently available data and includes the impacts of COVID-19
  - FTEs reported for each project were standardised to equivalence with one FTE of 35 hours per week in line with the operational ABS definition, over one year (365 days). While it is recognised that not every day would be worked, this was considered an appropriate method to standardise across projects with varied holiday periods and casual employees.
  - FTE impacts were determined using the input of standardised project FTEs, summed for a regional total
  - Business and partner impacts were determined using the input of actual project spends on businesses and partners summed for a regional total ($M)
  - Developed three industry category variables to encompass industries most aligned to the total project spend, business and partners spend, and activities completed within the FTE work undertaken. The variables included the following ABS industry sectors:
    - **Total Spend** and **Business and Partner Spend** encompassed the same categories: Agriculture, Forestry & Fishing Support Services, Heritage and Arts*, Construction services, Tech, Vocational & Tertiary Education (undergrad & postgrad), Retail Trade, and Employment, Travel Agency and Other Administrative Services
    - **FTE** encompassed industries related to the work being undertaken: Agriculture, Forestry & Fishing Support Services, Heritage and Arts*, Construction services

**Heritage and Arts has been included to capture the sub-sector 'Nature Reserves and Conservation Parks Operation'*

Project Economic Impact - FTE Impact

Wet Tropics Region Projects

RA1	Direct	Indirect		
FTE: 15.15	Output	Supply chain	Consumption	Total
Output ($M)	4.87	4.11	1.71	10.67
Value-added ($M)	1.63	1.55	0.94	4.10

RA2	Direct	Indirect		
FTE: 7.83	Output	Supply chain	Consumption	Total
Output ($M)	2.51	2.12	0.88	5.51
Value-added ($M)	0.84	0.80	0.48	2.12

RA3	Direct	Indirect		
FTE: 1.60	Output	Supply chain	Consumption	Total
Output ($M)	0.51	0.43	0.18	1.13
Value-added ($M)	0.17	0.16	0.10	0.43

RA4	Direct	Indirect		
FTE: 9.14	Output	Supply chain	Consumption	Total
Output ($M)	2.93	2.48	1.03	6.43
Value-added ($M)	0.98	0.93	0.57	2.48

RA10	Direct	Indirect		
FTE: 3.44	Output	Supply chain	Consumption	Total
Output ($M)	1.10	0.93	0.39	2.42
Value-added ($M)	0.37	0.35	0.21	0.91

Impact modelling Wet Tropics, REMPLAN

Project Economic Impact - FTE Impact

Burdekin Region Projects

RA5	Direct	Indirect		
FTE: 28.57	Output	Supply chain	Consumption	Total
Output ($M)	3.01	2.69	1.74	7.44
Value-added ($M)	9.11	7.27	3.16	19.54

RA6	Direct	Indirect		
FTE: 3.67	Output	Supply chain	Consumption	Total
Output ($M)	0.39	0.35	0.22	0.96
Value-added ($M)	1.17	0.93	0.41	2.51

RA7	Direct	Indirect		
FTE: 0.29	Output	Supply chain	Consumption	Total
Output ($M)	0.09	0.07	0.03	0.20
Value-added ($M)	0.03	0.03	0.02	0.08

Mackay Whitsunday Region Projects

RA8	Direct	Indirect		
FTE: 13.02	Output	Supply chain	Consumption	Total
Output ($M)	1.40	1.09	0.53	3.03
Value-added ($M)	4.21	2.87	0.94	8.02

RA9	Direct	Indirect		
FTE: 2.19	Output	Supply chain	Consumption	Total
Output ($M)	0.24	0.18	0.09	0.51
Value-added ($M)	0.71	0.48	0.16	1.35

Impact modelling Burdekin and Mackay Whitsundays, REMPLAN

Project Economic Impact - Business and Partner Economic Stimulus

Wet Tropics Region Projects

RA1	Direct	Indirect		
Spend: $2,286,774	Output	Supply chain	Consumption	Total
Employment (FTE)	10.42	4.34	3.61	18.37
Output ($M)	1.08	0.59	0.58	2.25
Value-added ($M)	2.29	1.44	1.06	4.79

RA2	Direct	Indirect		
Spend: $1,035,402	Output	Supply chain	Consumption	Total
Employment (FTE)	4.72	1.97	1.64	8.32
Output ($M)	0.49	0.27	0.26	1.02
Value-added ($M)	1.04	0.65	0.48	2.17

RA3	Direct	Indirect		
Spend: $344,157.95	Output	Supply chain	Consumption	Total
Employment (FTE)	1.57	0.65	0.54	2.76
Output ($M)	0.16	0.09	0.09	0.34
Value-added ($M)	0.34	0.22	0.16	0.72

RA4	Direct	Indirect		
Spend: $240,142	Output	Supply chain	Consumption	Total
Employment (FTE)	1.09	0.46	0.38	1.93
Output ($M)	0.11	0.06	0.06	0.24
Value-added ($M)	0.24	0.15	0.11	0.50

RA10	Direct	Indirect		
Spend: $230,919	Output	Supply chain	Consumption	Total
Employment (FTE)	1.05	0.44	0.36	1.86
Output ($M)	0.11	0.06	0.06	0.23
Value-added ($M)	0.23	0.15	0.11	0.48

Impact modelling Wet Tropics, REMPLAN

Project Economic Impact - Business and Partner Economic Stimulus

Burdekin Region Projects

RA5	Direct	Indirect		
Spend: $2,048,309	Output	Supply chain	Consumption	Total
Employment (FTE)	9.26	3.65	3.09	16.00
Output ($M)	0.96	0.50	0.52	1.97
Value-added ($M)	2.05	1.24	0.94	4.23

RA6	Direct	Indirect		
Spend: $931,429	Output	Supply chain	Consumption	Total
Employment (FTE)	4.21	1.66	1.41	7.28
Output ($M)	0.44	0.23	0.24	0.90
Value-added ($M)	0.93	0.56	0.43	1.93

RA7	Direct	Indirect		
Spend: $115,619	Output	Supply chain	Consumption	Total
Employment (FTE)	0.52	0.21	0.17	0.90
Output ($M)	0.05	0.03	0.03	0.11
Value-added ($M)	0.12	0.07	0.05	0.24

Mackay Whitsunday Region Projects

RA8	Direct	Indirect		
Spend: $1,011,538.00	Output	Supply chain	Consumption	Total
Employment (FTE)	4.39	1.64	1.09	7.13
Output ($M)	0.47	0.21	0.18	0.86
Value-added ($M)	1.01	0.51	0.31	1.83

RA9	Direct	Indirect		
Spend: $812,460	Output	Supply chain	Consumption	Total
Employment (FTE)	3.53	1.32	0.88	5.73
Output ($M)	0.38	0.17	0.14	0.69
Value-added ($M)	0.81	0.41	0.25	1.47

Impact modelling Burdekin and Mackay Whitsundays, REMPLAN

Project Economic Impact – Total Spend

Wet Tropics Region Projects

RA1	Direct	Indirect		
Total Spend: $1,697,450	Output	Supply chain	Consumption	Total
Employment (FTE)	7.73	3.22	2.68	13.64
Value-added ($M)	0.80	0.44	0.43	1.67
Output ($M)	1.70	1.07	0.79	3.56

RA2	Direct	Indirect		
Total Spend: $898,000	Output	Supply chain	Consumption	Total
Employment (FTE)	4.09	1.70	1.42	7.21
Value-added ($M)	0.43	0.23	0.23	0.88
Output ($M)	0.90	0.57	0.42	1.88

RA3	Direct	Indirect		
Total Spend: $404,814.31	Output	Supply chain	Consumption	Total
Employment (FTE)	1.84	0.77	0.64	3.25
Value-added ($M)	0.19	0.10	0.10	0.40
Output ($M)	0.41	0.26	0.19	0.85

RA4	Direct	Indirect		
Total Spend: $825,000	Output	Supply chain	Consumption	Total
Employment (FTE)	3.76	1.57	1.30	6.63
Value-added ($M)	0.39	0.21	0.21	0.81
Output ($M)	0.83	0.52	0.38	1.73

RA10	Direct	Indirect		
Total Spend: $523,681	Output	Supply chain	Consumption	Total
Employment (FTE)	2.39	0.99	0.83	4.21
Value-added ($M)	0.25	0.13	0.13	0.52
Output ($M)	0.52	0.33	0.24	1.10

Impact modelling Wet Tropics, REMPLAN

Project Economic Impact - Total Spend

Burdekin Region Projects

RA5	Direct	Indirect		
Total Spend: $2,001,926	Output	Supply chain	Consumption	Total
Employment (FTE)	9.05	3.57	3.02	15.64
Value-added ($M)	0.94	0.49	0.51	1.93
Output ($M)	2.00	1.21	0.92	4.14

RA6	Direct	Indirect		
Total Spend: $1,229,366	Output	Supply chain	Consumption	Total
Employment (FTE)	5.56	2.19	1.86	9.60
Value-added ($M)	0.57	0.30	0.31	1.18
Output ($M)	1.23	0.74	0.57	2.54

RA7	Direct	Indirect		
Total Spend: $108,774.00	Output	Supply chain	Consumption	Total
Employment (FTE)	0.49	0.19	0.16	0.85
Value-added ($M)	0.05	0.03	0.03	0.11
Output ($M)	0.11	0.07	0.05	0.23

Mackay Whitsunday Region Projects

RA8	Direct	Indirect		
Total Spend: $1,393,700	Output	Supply chain	Consumption	Total
Employment (FTE)	6.05	2.27	1.51	9.82
Value-added ($M)	0.65	0.29	0.24	1.18
Output ($M)	1.39	0.70	0.42	2.52

RA9	Direct	Indirect		
Total Spend: $1,098,250	Output	Supply chain	Consumption	Total
Employment (FTE)	4.77	1.79	1.19	7.74
Value-added ($M)	0.52	0.23	0.19	0.93
Output ($M)	1.10	0.55	0.33	1.99

Impact modelling Burdekin and Mackay Whitsundays, REMPLAN

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Our report may be relied upon by The Department of Environment and Science for the purpose of the Reef Assist Program evaluation pursuant to the terms of the contract dated 30 July 2021. We disclaim all responsibility to any other party for any loss or liability that the other party may suffer or incur arising from or relating to or in any way connected with the contents of our report, the provision of our report to the other party or the reliance upon our report by the other party.

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Department of Environment and Science
Environmental Policy and Programs

Ref: CTS 07416/22

SECURITY CLASSIFICATION: OFFICIAL

BRIEFING NOTE – MINISTER

Subject Reef Assist Program Evaluation

There is no specific timeframe required.

This brief is not contentious

RECOMMENDATION

It is recommended that the Minister:

- **note** the key findings and recommendations of the EY (previously Ernst and Young) evaluation of the Reef Assist program (the Program) and how they have been considered into the development of the Reef Assist 2.0 program
- **approve** the development of options for a new Statewide Catchment Assist program.

Commented [AT1]: Not sure we want to be asking to do a budget sub while the Program Redesign is still in place. Suggest this be changed to 'approve the development of options for a new Statewide Catchment Assist program'. If a budget bid falls out it, that is a secondary consideration.

BACKGROUND

- In July 2020, the Queensland Government committed $10 million (GST excl) to the Program, led by the Office of the Great Barrier Reef (OGBR) in the Department of Environment and Science (DES), as part of its Unite and Recover COVID-19 pandemic response measures.
- The core objective of the Program was to provide urgently needed short-term employment opportunities in the Great Barrier Reef catchment regions, which had been proportionally more adversely impacted by a loss of tourism income as a result of COVID-19.
- The Program had a strong focus on achieving employment generation and capacity building, with a particular focus on unemployed, underemployed, First Nations people and youth, while also delivering environmental restoration and management outcomes in those regions.
- The Program generated over 230 jobs across the 11 projects in the Wet Tropics, Burdekin and Mackay-Whitsunday-Isaac natural resource management (NRM) regions; projects were delivered between September 2020 and April 2022.
- The Program was unique in that it allowed for program funds to go to employee wages and training, as well as covering a broader round of environmental objectives than a typical NRM program.
- The December 2020 Minister's Charter Letter and supporting Portfolio Priorities Statement released by the Premier tasked the Minister to evaluate and adapt Reef Assist as a template for the delivery of conservation and land management jobs across Queensland.
- In July 2021, DES commissioned EY to undertake an independent evaluation of the Program, covering aspects relating to the procurement phase and those relating to project and Program-level achievements.
- This independent evaluation has now been completed, with the full report available in **Attachment 1**, and case study summaries for individual projects in **Attachment 2**.

KEY ISSUES

- The EY evaluation key findings are as follows:
  - most procurement phase aspects were rated as effective to highly effective, with the main area for improvement in Program risk management, reflecting the short time to develop the Program
  - most Program objectives were rated as either achieved or exceeded, with the exception of the training objective rated partially achieved, due to issues accessing regional training providers
  - Reef Assist project proponents and delivery partners reported that they very much appreciated the strong engagement with the OGBR program management team and the speed at which department was able to go to market for the Program.
- EY reported to the Program Steering Committee that the Program is cutting edge, provided a strong evidence-based narrative to other agencies, and responded well to the upswell in interest in natural capital from both government and the private sector.

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Date Endorsed: 17/06/2022

- Key recommendations for future rounds of the Program, or programs of a similar nature include:
  - retain the highly valued jobs and training aspects of the Program, which increased regional NRM capacity and had a significant, transformative socio-economic effect for employees involved and their communities
  - extend the allowable project delivery timeframes over multiple years to: allow projects to cover revegetation maintenance tasks; provide employees with greater job security and career experience; and better manage project risk
  - continue to encourage partnerships with Indigenous businesses, Indigenous Land and Sea Ranger organisations and Aboriginal Corporations
  - incorporate continuity plans into future programs to allow for a smoother transition to other employment for workers delivering on-ground environmental works
  - encourage the incorporation of employee training programs that satisfy both the requirements of the on-ground works to be delivered and the skill set requirements of local businesses or Indigenous Land and Sea Rangers programs
  - develop more consistent metrics for measuring program success, in terms of employment and environmental outcomes.
  - increase awareness about future programs to catalyse public and private in-kind support.
- EY's recommendation relating to project timeframes justifies the extension of seven of the projects until June 2022, with DES providing an additional $2 million (GST excl) in late 2021.
- EY's recommendations have been considered and incorporated into the development of the Reef Assist 2.0 program, which is expected to be released to market in July 2022.
- The department has provided the evaluation report and case study summaries to other agencies delivering similar NRM programs through the Program Steering Committee.
- It is proposed that the department develop options for a Statewide 'Catchment Assist' program.
- The findings of this report suggest that this type of program could have benefits to local employment, investing in upskilling and training, and involving local communities on a broad scale.
- Currently, there is no Statewide program to proactively identify, assess and undertake on-ground works for degraded riparian and catchment areas to increase resilience of waterways, protect environmental assets, support biodiversity and improve water quality, while also focussing on upskilling, training and job creation.
- While there is a Natural Resource Investment Program (administered by the Department of Resources (DoR)), funding has been reduced and the new program scope focuses on sustaining agricultural land uses and the rangelands, leaving a major gap that could be filled by a 'Catchment Assist program based on the Reef Assist model.
- The Disaster Recovery Financial Arrangements program does allow for recovery work for rivers. However, it is a reactive repair program that is only stood up following disaster events, is only available in affected local government areas, and is subject to high levels of control by the Commonwealth.
- Restoring the resilience of Queensland's riverine systems and landscapes will have short term and ongoing benefits including biodiversity outcomes, water quality improvement, reduced impacts on water treatment as well as improving waterway health and protection of State assets, farmland and communities from flooding and erosion under typical and disaster circumstances.
- Large-scale revegetation in catchments could also attract carbon credits which could offset some of the upfront investment.
- The department proposes to consider options for a Statewide program that could deliver the benefits of the Reef Assist program and achieve multiple government objectives for the community throughout Queensland.

ELECTION/CABINET/PUBLIC COMMITMENTS/LEGISLATION

- GEC2088 (2020) - $10 million in the Program which will include 11 projects in partnerships with local government and NRM organisations.
- GEC 1039 (2020) – Continue the Great Barrier Reef Water Quality Program.

FINANCIAL IMPACTS

- Funding for Reef Assist 2.0 is available from the Queensland Reef Water Quality Program approved by the Minister on 30 May 2022.
- Funding for other programs of a similar nature will need to be determined.

HUMAN RIGHTS IMPACT ASSESSMENT

- There are no implications for human rights under the *Human Rights Act 2019*.

CONSULTATION

- Through the Program Steering Committee, OGBR has consulted with DES business units and the Department of Agriculture and Fisheries and DoR throughout the evaluation process, and regarding the EY evaluation study findings.

COMMUNICATIONS/MEDIA OPPORTUNITIES

- An opportunity exists to announce the overarching Program's achievements.

FUTURE STEPS

- Department to develop options for a Statewide Catchment Assist program (based on the Reef Assist model).

Endorsed **Noted / Approved / Not Approved**

Jamie Merrick (or Executive Director on behalf of)
Director-General
/ /

Meaghan Scanlon (or Chief of Staff on behalf of)
Minister for the Environment and the Great Barrier Reef
Minister for Science and Youth Affairs
/ /

Minister or Director-General comments

Electorates: Cook, Barron River, Cairns, Mulgrave, Hill, Townsville, Mundingburra, Traeger, Burdekin, Dalrymple, Whitsunday, Mackay, Mirani