Reveg.net – A project based response to Forest Industry Advisory Council's Strategic Directions Issues Paper

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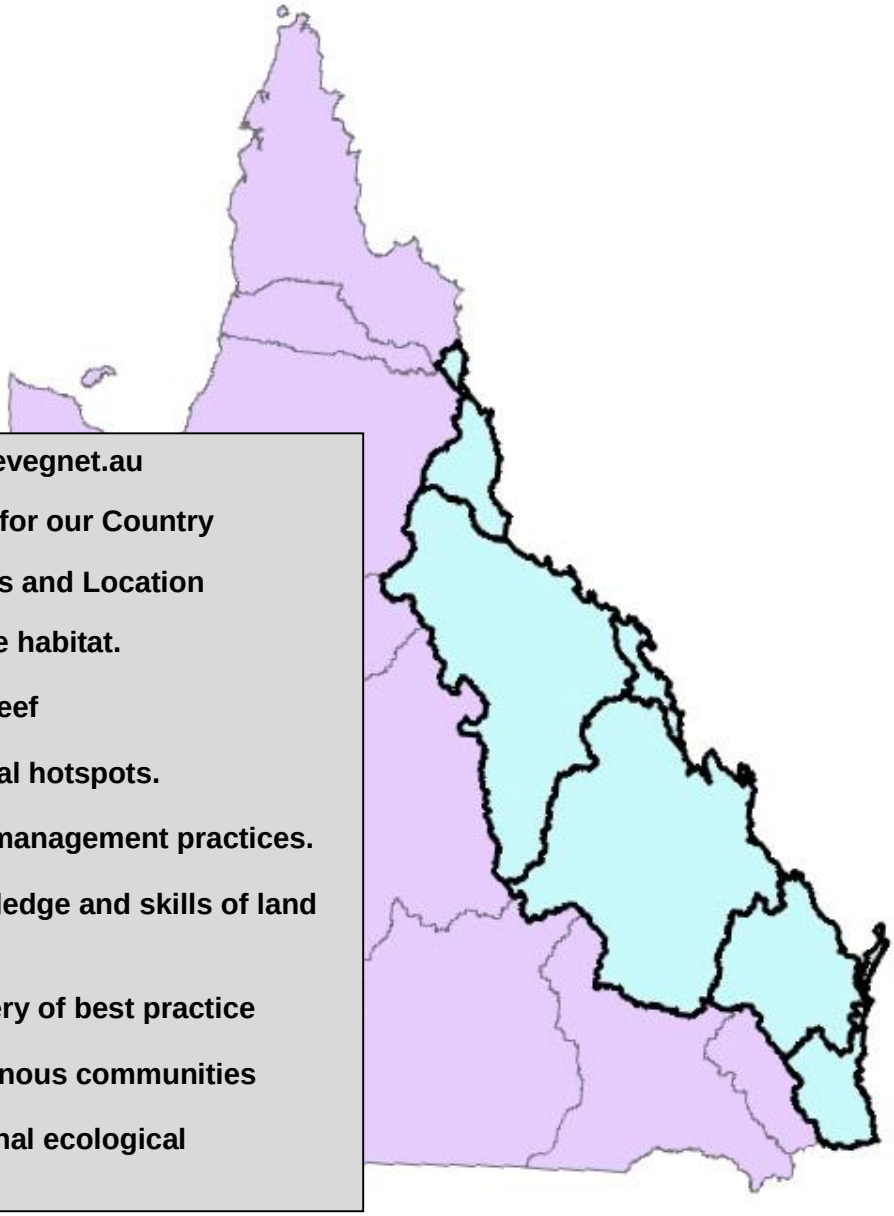
CEO PFSQ

June 2015



Revegnet.au

Caring for our Country

Targets and Location

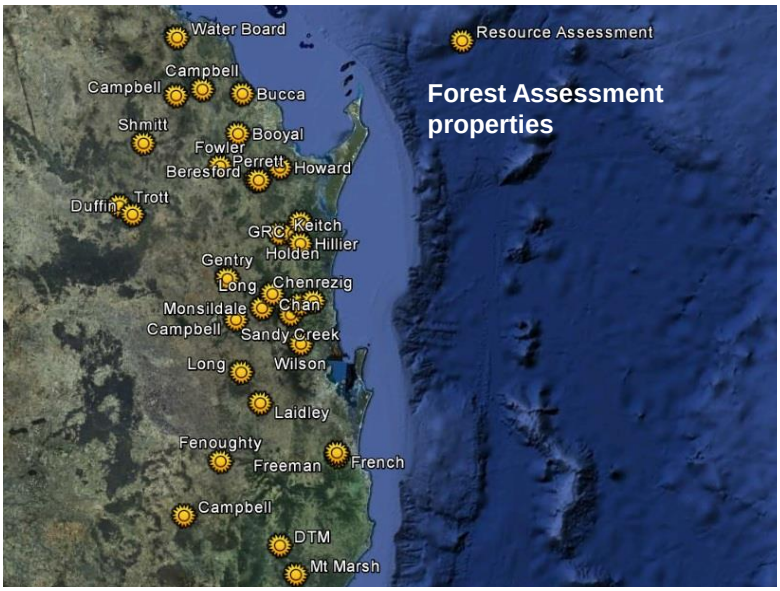
1. **Increasing native habitat.**
2. **Protecting the Reef**
3. **Improving coastal hotspots.**
4. **Improving land management practices.**
5. **Improving knowledge and skills of land managers**
6. **Improving delivery of best practice**
7. **Engaging Indigenous communities**
8. **Utilising traditional ecological knowledge**

Project Partners

Private Forestry Service Queensland Inc. (Project Manager), Central Queensland Forest Association, Terrain NRM Group and SEQ Catchments NRM Group

Project Synopsis

Revegnet.au was a Four Million dollar, four year, Caring for Our Country project targeting the identification and mitigation of critical threats to Biodiversity, the Great Barrier Reef and Coastal Hotspots. Its focus was the rehabilitation of the extensive private native forests of the east coast of Queensland from the NSW Border to the Daintree. The project recognised the poor condition of these forests, was a result of a hundred years of 'high grade' harvesting with no follow up management or simply unmanaged regrowth from previous clearing. The understanding of the extent of poor forest condition came from PFSQ's detailed forest assessment of more than 30 properties across southern Queensland, some 15 500 ha of forest cover. Poor forest condition is evidenced by:



Map 1. Intensive forest assessment locations southern Queensland

1. Being grossly overstocked
2. Supporting little or no understory or ground cover
3. Limited biodiversity or habitat values
4. Low productivity due to extreme competition for limited moisture and nutrients coupled with a high percentage of non-merchantable trees due to 100 years of removing the best trees thereby eroding the genetic pool

Photo 1. Severe erosion in over stocked forest due to lack of ground cover

These attributes are having a significant environmental impact on:

Photo 2. Rufus Bettong requires a habitat of dense grass cover

1. Poor forest health results in low productivity hence no economic incentive for land managers to invest money in managing these forests
2. The Reef lagoon due to extensive hill slope erosion, as a result of little or no ground cover on highly erodible sodic based soils
3. Long term negative impacts on biodiversity due to poor habitat characteristics for ground dwelling and arboreal fauna
    a. Overstocking results in poor crown development hence potential for arboreal nesting hollows
    b. Grossly over stocked understory severely impedes access by species such as Petaurus (Gliders) and Phascolarctos (Koala) resulting in those species vacating forest in poor condition
    c. Little ground cover severely impacts on small macropods such as the vulnerable Rufous Bettong (*Aepyprymnus rufescens*), (Habitat description Qld Museum - *Dry open forest with a dense grassy ground cover (blady, kangaroo, wiregrass etc).*

Contributing factors impeding the amelioration of this wide spread environmental problem are:

1. Lack of base line data for the private forest resource (mapping, forest condition, ground cover, productivity and optimal stocking levels)
2. General poor understanding of forest dynamics by landholders and Natural Resource Management/environmental groups (any forest cover is good forest cover)
3. Poor landholder understanding of fire management specific to forest management rather than grass management
4. Very poor understanding of forest management across the sector especially rehabilitation management
5. Lack of a bio-economic model to demonstrate a positive cost benefit/analysis from both an environmental and production perspective of rehabilitation management
6. Lack of involvement in forest management by Indigenous Corporations on Aboriginal Freehold land

Synopsis Solution

The project considered a multifunctional, stepped approach was required to achieve long term management change considering the complexity of the issues, namely:

1. Analysis of current management practices and skill sets and the options to build awareness and capacity to shift existing behaviours to “best practice” forest management systems
2. GIS mapping overlays for forest type, erodible soils and slope gradient to prioritise investment in the areas at greatest environmental risk, and in time form the basis for a long term investment strategy beyond the project

3. Establish nine demonstration sites with 86 permanent growth plots to gather base line data and measure and analyse long term growth and ground cover responses to a range of rehabilitation management interventions against controls (no intervention)
    a. Develop an 'A-D rapid assessment' system utilising 18 forest health attributes to map forest condition over a statistically relevant portion of the forest cover within the project area
4. Instigate a multi level capacity building program utilising a range of media including:
    a. Introduction field days utilising demonstration sites
    b. Specific subject intensive field days (forest assessment, forest health, fire management, herbicide use etc)
    c. 5 day forest management workshop series
    d. Evening presentations
    e. Conference papers, presentations and Journal articles
    f. 30 minute case study DVD
5. Initiate an incentive program -$1 grant achieves an extra $4 from the landholder - to drive management change and complete 20 000 ha of rehabilitated forest cover via property forest management plans
6. Initiate a culturally appropriate training program to raise indigenous understanding of and participation in forest management

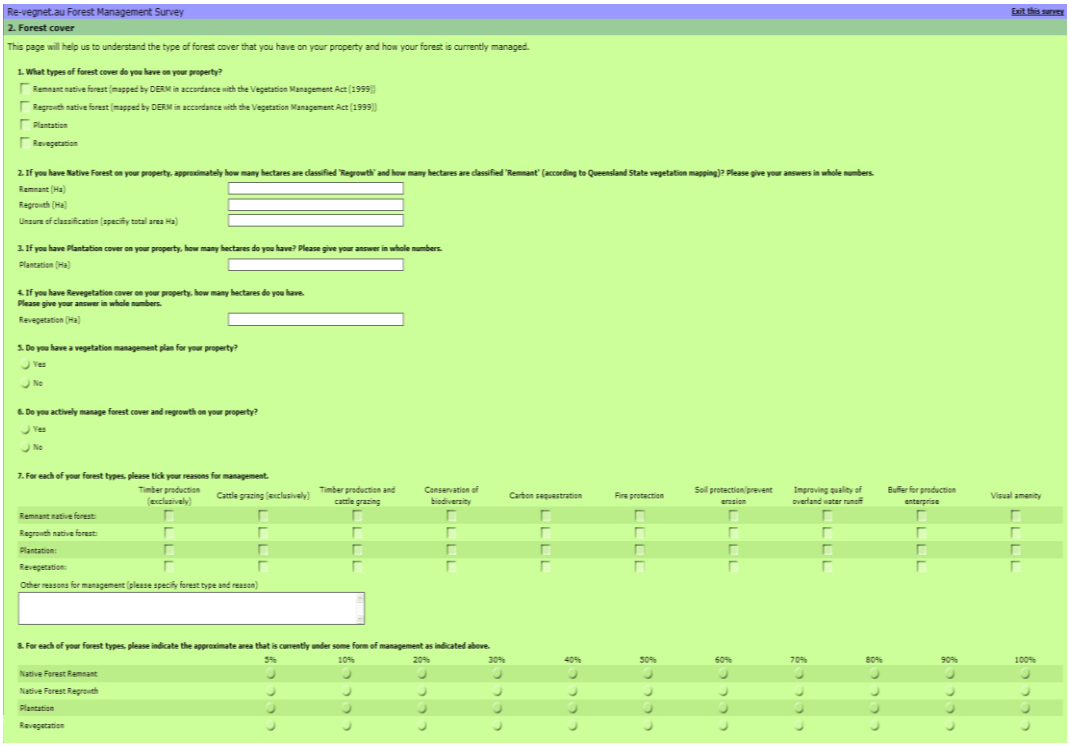
Project Rollout and Outcomes

Commencement date 8th October 2009 to completion 30th June 2013

Steering Committee – The project was overseen by a steering committee comprising representatives and project officers from the four project partners. Initially a two day training workshop on communicating the MERI plan and program logic requirements, monitoring processes, project work plan formulation and implementation for each of the participating organizations. There have been 14 subsequent steering committee meetings updating the MERI Plan, analysing progress, redistributing allocations where prolonged wet conditions prevented on ground works, discussing problems, reviewing solutions and setting reporting parameters in place.

1. *Analysis of current management practices and skill sets and the options to build awareness and capacity to shift existing behaviours to "best practice" forest management systems*

Survey existing network landholders and industry on current management practices via Survey Monkey and incorporate feedback from Forest Industry Forum (2008), Forest Management and Plantation Establishment Workshops (2004-09), FBA Forest Incentives Program (2005 – 2009) and Grazing Land Management Workshops (2004-09). Survey monkey provided an on-line response to a range of questions on resource, current management practices and capabilities, priorities and preferred educational media. Survey Monkey provides a detailed analysis of responses



Re-vegnet.au Forest Management Survey — Exit this survey

2. Forest cover

This page will help us to understand the type of forest cover that you have on your property and how your forest is currently managed.

1. What types of forest cover do you have on your property?

- ☐ Remnant native forest (mapped by DERM in accordance with the Vegetation Management Act (1999))
- ☐ Regrowth native forest (mapped by DERM in accordance with the Vegetation Management Act (1999))
- ☐ Plantation
- ☐ Revegetation

2. If you have Native Forest on your property, approximately how many hectares are classified 'Regrowth' and how many hectares are classified 'Remnant' (according to Queensland State vegetation mapping)? Please give your answers in whole numbers.

Remnant (Ha)
Regrowth (Ha)
Unsure of classification (specify total area Ha)

3. If you have Plantation cover on your property, how many hectares do you have? Please give your answer in whole numbers.

Plantation (Ha)

4. If you have Revegetation cover on your property, how many hectares do you have. Please give your answer in whole numbers.

Revegetation (Ha)

5. Do you have a vegetation management plan for your property?

- ◯ Yes
- ◯ No

6. Do you actively manage forest cover and regrowth on your property?

- ◯ Yes
- ◯ No

7. For each of your forest types, please tick your reasons for management.

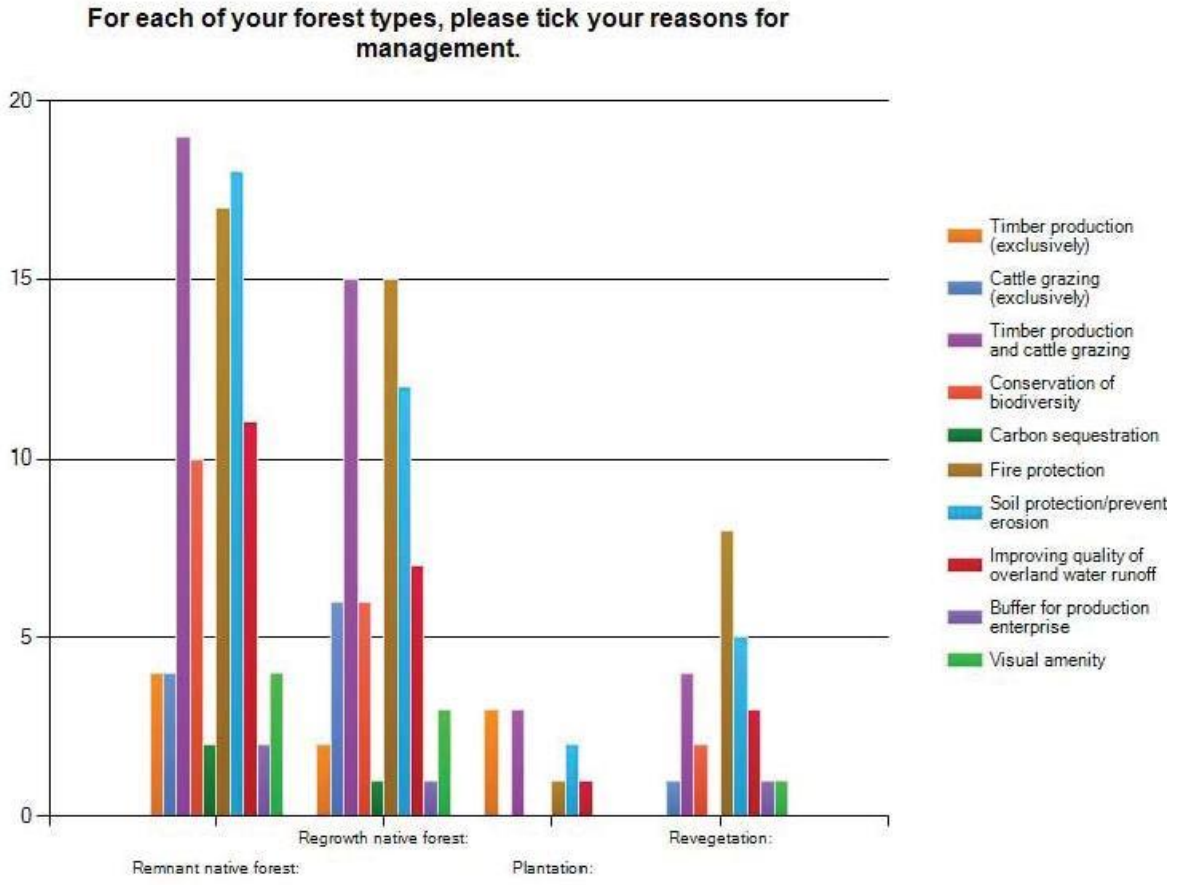
	Timber production (exclusively)	Cattle grazing (exclusively)	Timber production and cattle grazing	Conservation of biodiversity	Carbon sequestration	Fire protection	Soil protection/prevent erosion	Improving quality of overland water runoff	Buffer for production enterprise	Visual amenity
Remnant native forest:	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Regrowth native forest:	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Plantation:	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Revegetation:	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Other reasons for management (please specify forest type and reason)

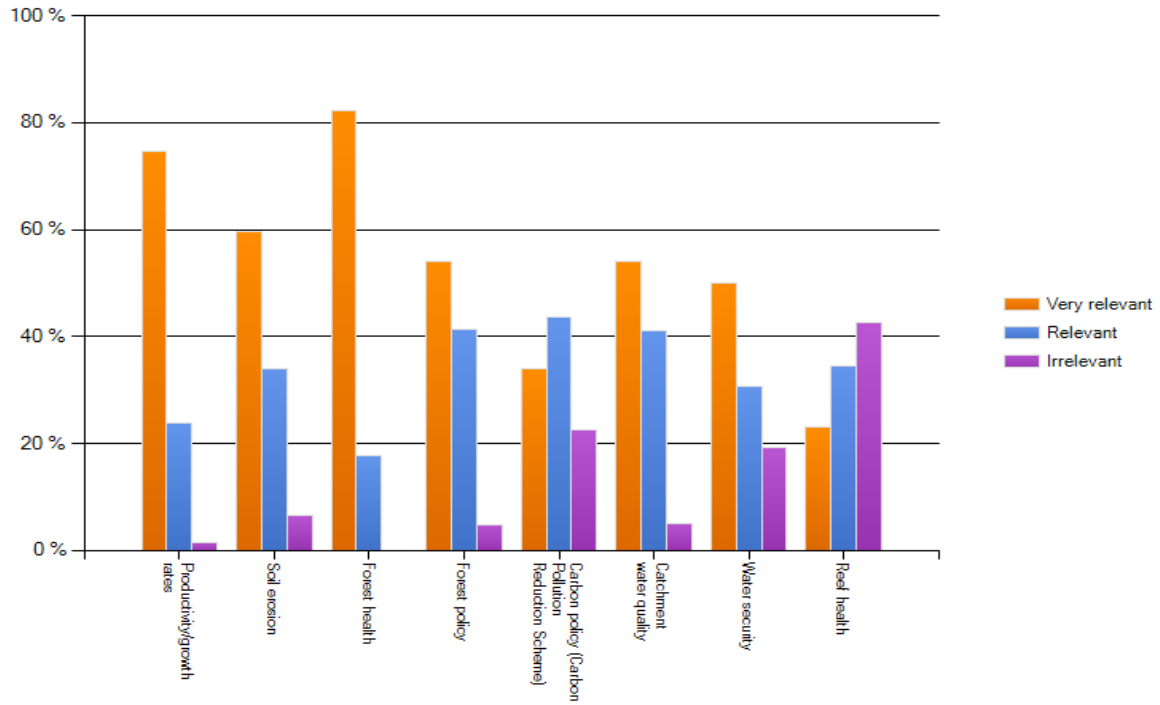
8. For each of your forest types, please indicate the approximate area that is currently under some form of management as indicated above.

	5%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Native Forest Remnant	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
Native Forest Regrowth	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
Plantation	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
Revegetation	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯

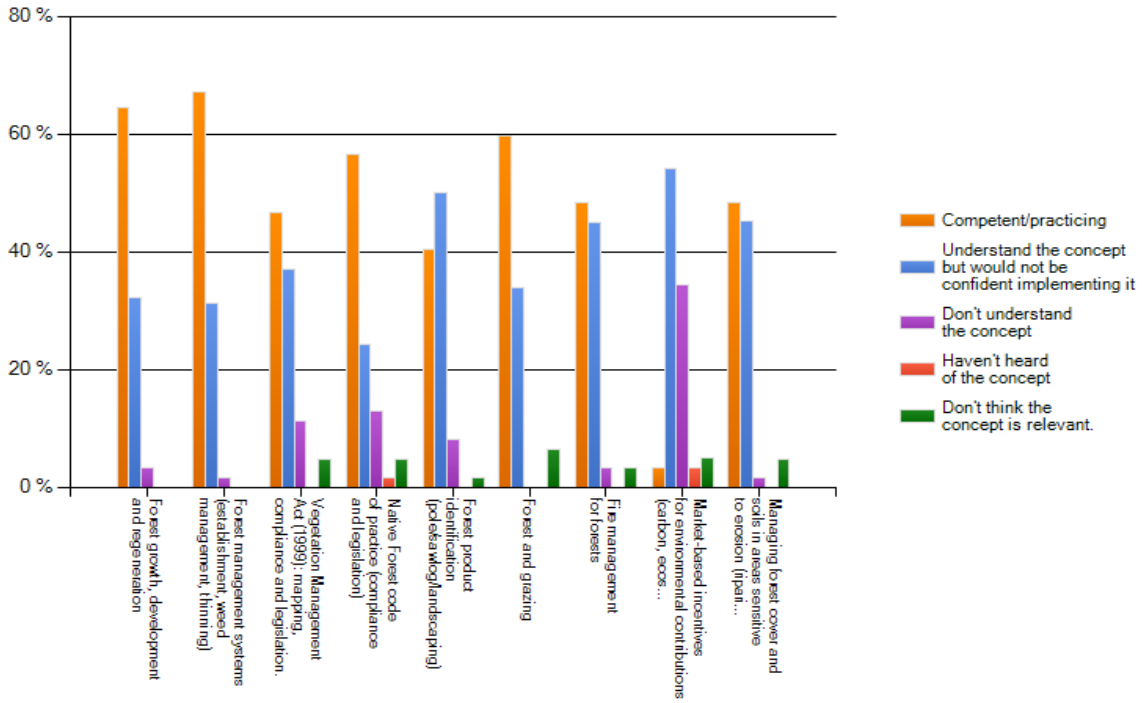
Figure 1. Survey Monkey questionnaire format (above) and Results (below)

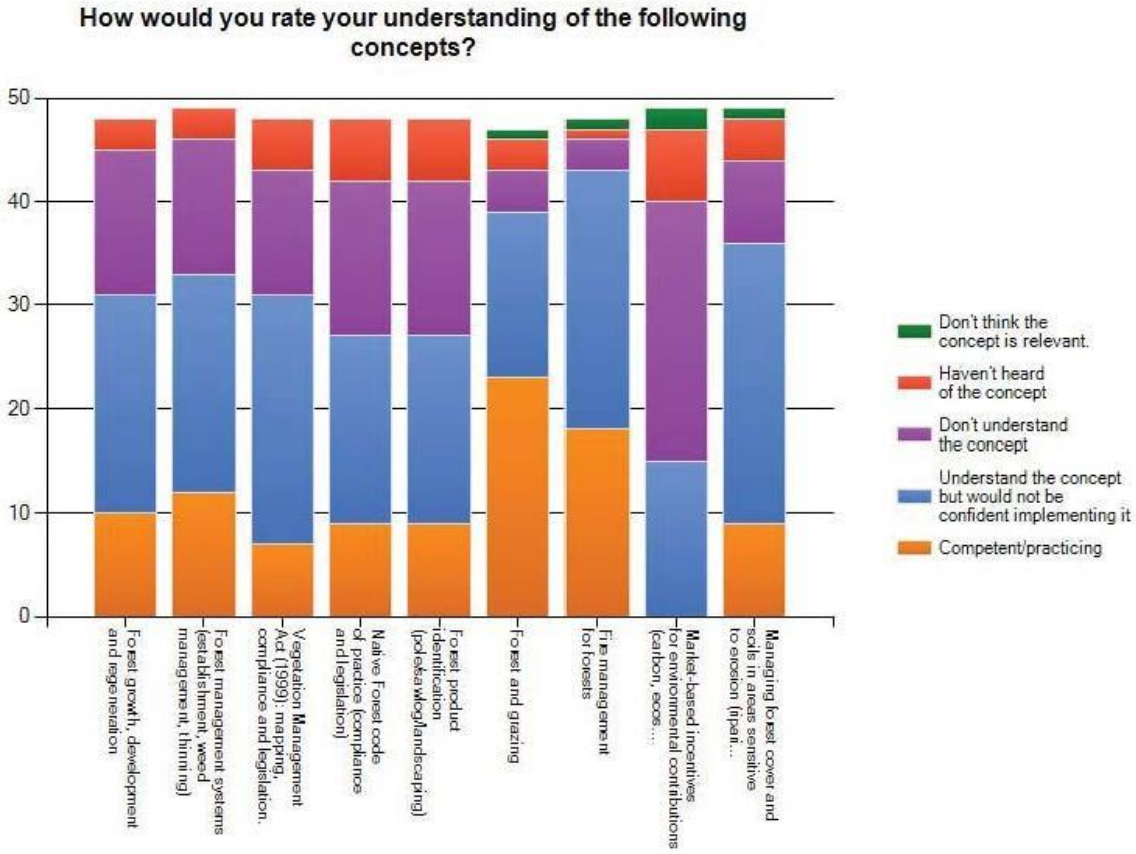


How relevant are the following land management issues to you?



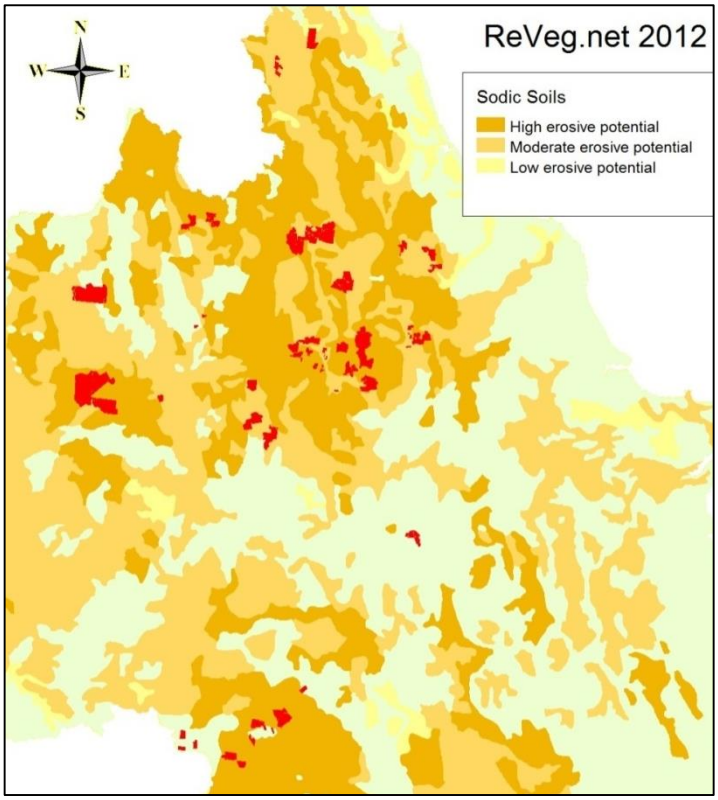
How would you rate your understanding of the following concepts?

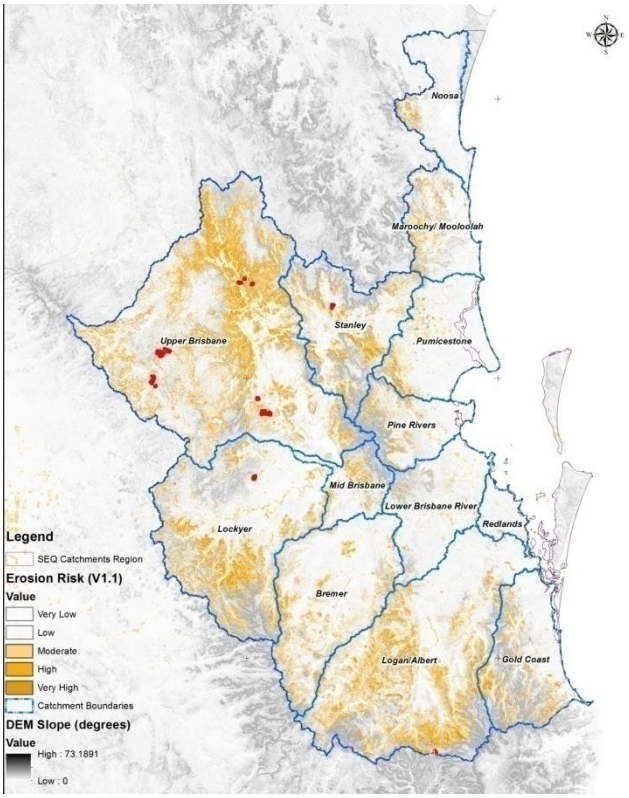


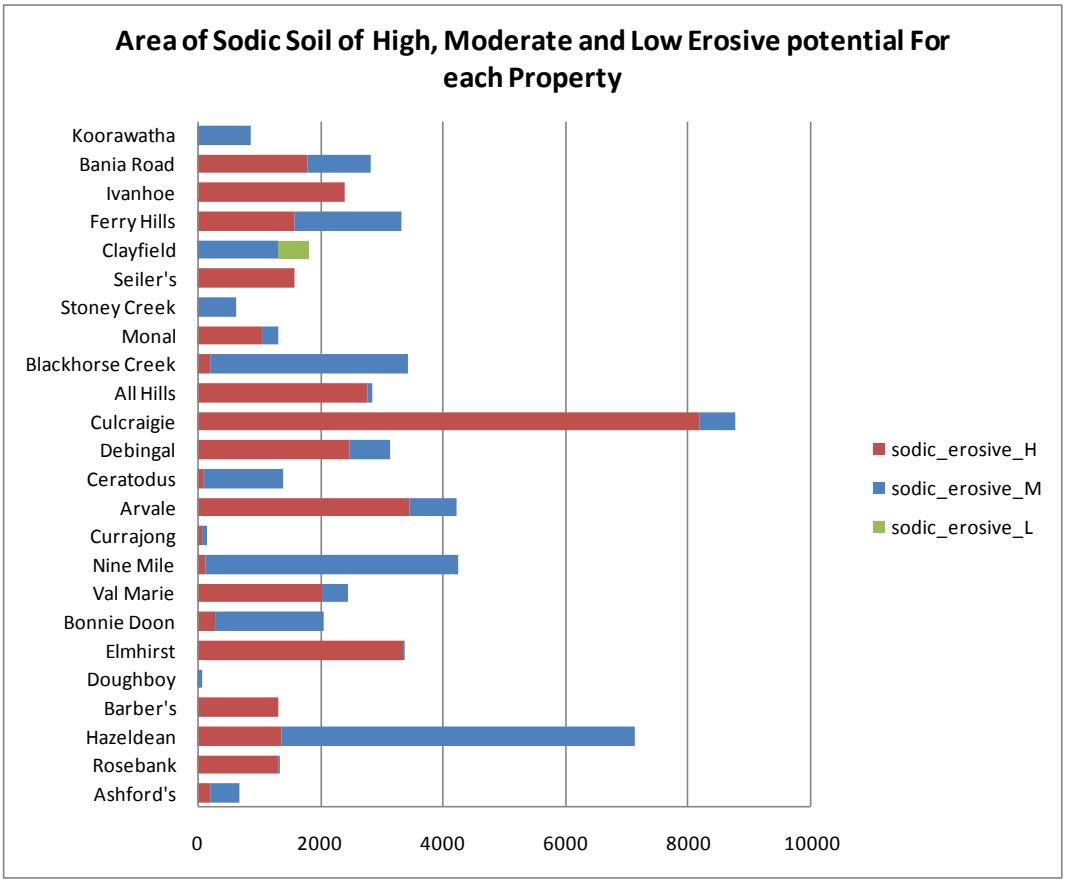


2. *GIS mapping overlays for forest type, erodible soils and slope gradient to prioritise investment in the areas at greatest environmental risk, and in time form the basis for a long term investment strategy beyond the project*

The mapping of the private resource overlayed by erodability classes and slope gradient over 25º has provided a snapshot of the areas posing the greatest risk of soil loss. The areas completing on ground works in SE Queensland (marked in red) demonstrates the extent of the issue.

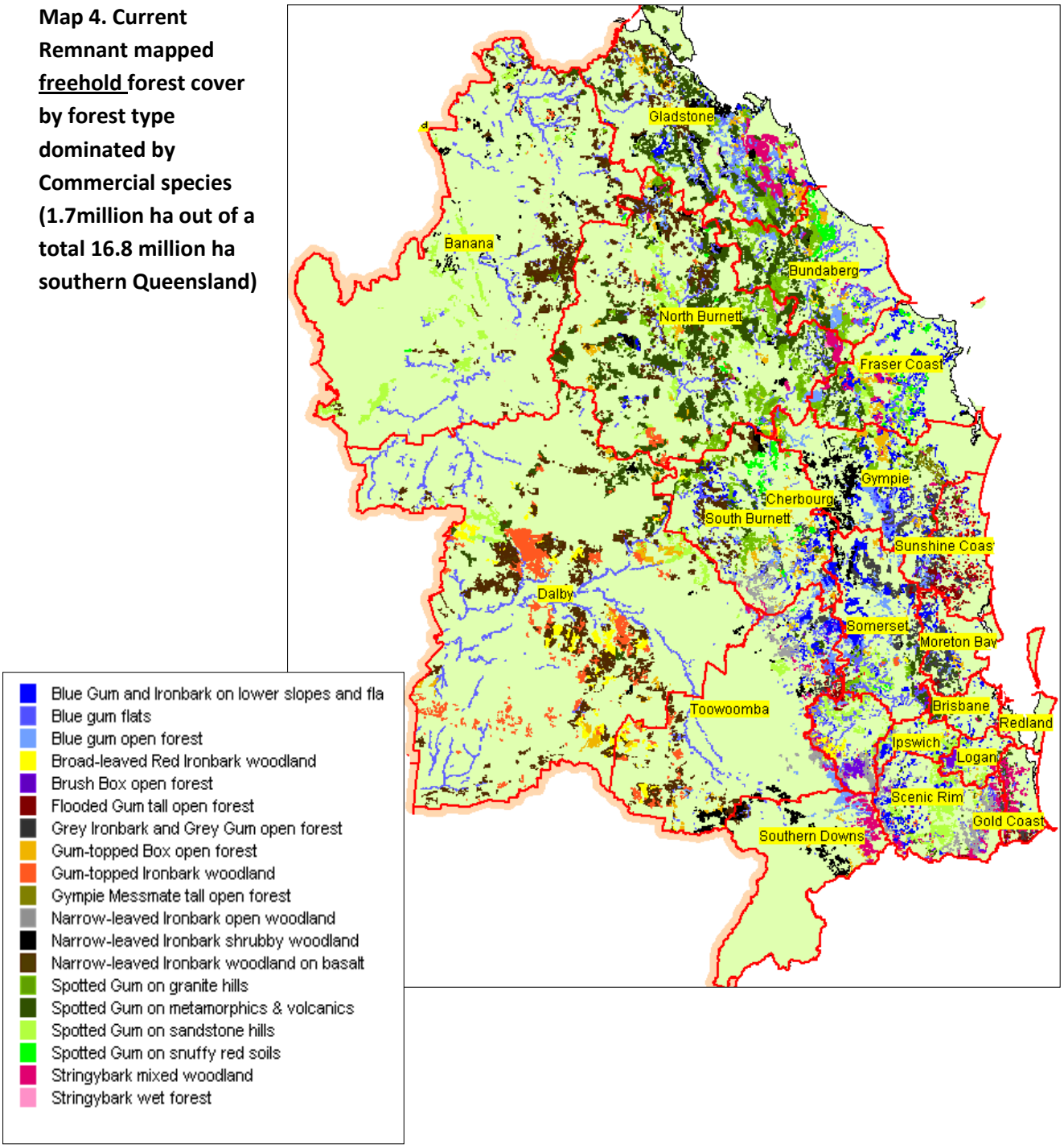






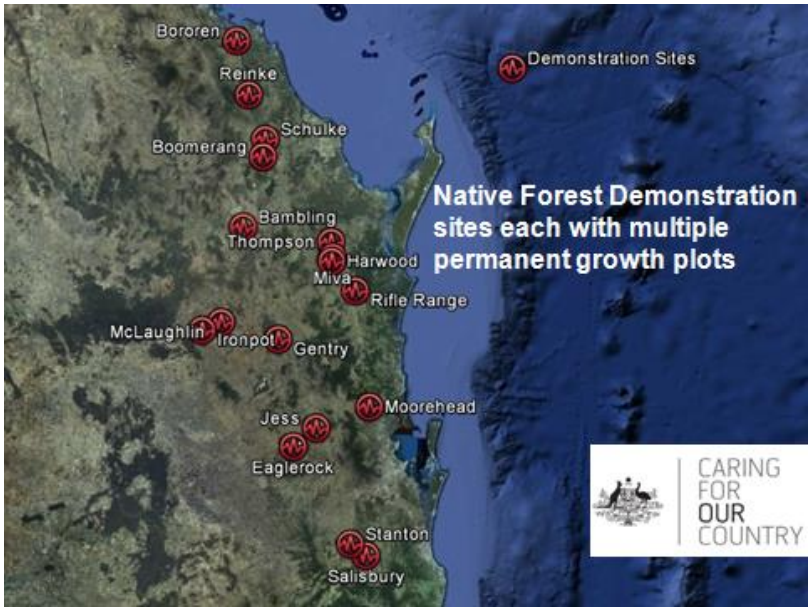
Graph 4. Soil erodibility breakdown for each property receiving assistance- Burnett River Catchment

Map 4. Current Remnant mapped <u>freehold</u> forest cover by forest type dominated by Commercial species (1.7million ha out of a total 16.8 million ha southern Queensland)

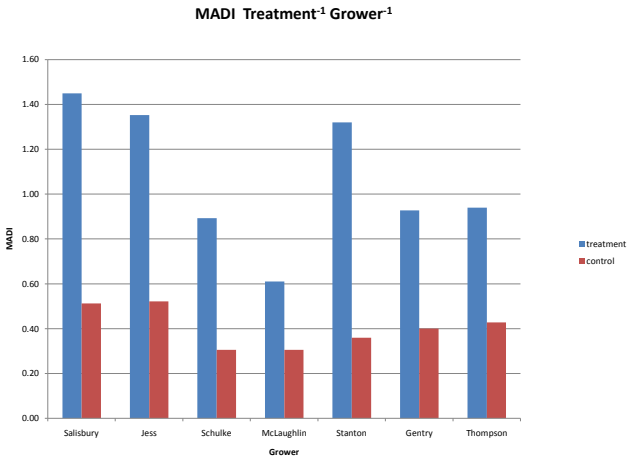


3. Establish nine demonstration sites with 62 permanent growth plots to gather base line data and measure and analyse long term growth and ground cover responses to a range of rehabilitation management interventions against controls (no intervention)

The project established nine new demonstration sites over a range of location, geologic and soil classes, elevation and slope, forest types and condition and rainfall variation (2200mm – 580mm). The demonstration sites involved the replicated variation of retained tree stocking rates against a control (depending on age class and average rainfall). All sites have multiple permanent growth monitoring plots. This data is a valuable addition to our existing eleven sites providing scientific rigour and geographic distribution to gauge the success of rehabilitation management. The management intervention response data (stand health and ground cover response) will demonstrate the veracity of the management intervention process and in time provide invaluable indications of productivity improvements.



Map 5. Demonstration plot locations each with a series of permanent growth measurement plots



Graph 5. Mean annual tree Diameter growth increment of treated areas against untreated areas

Photo 3. Plot 1 Bororen demonstration Site

a. Develop an ‘A-D rapid assessment’ system utilising 18 forest health attributes to map forest condition over a statistically relevant portion of the forest cover within the project area

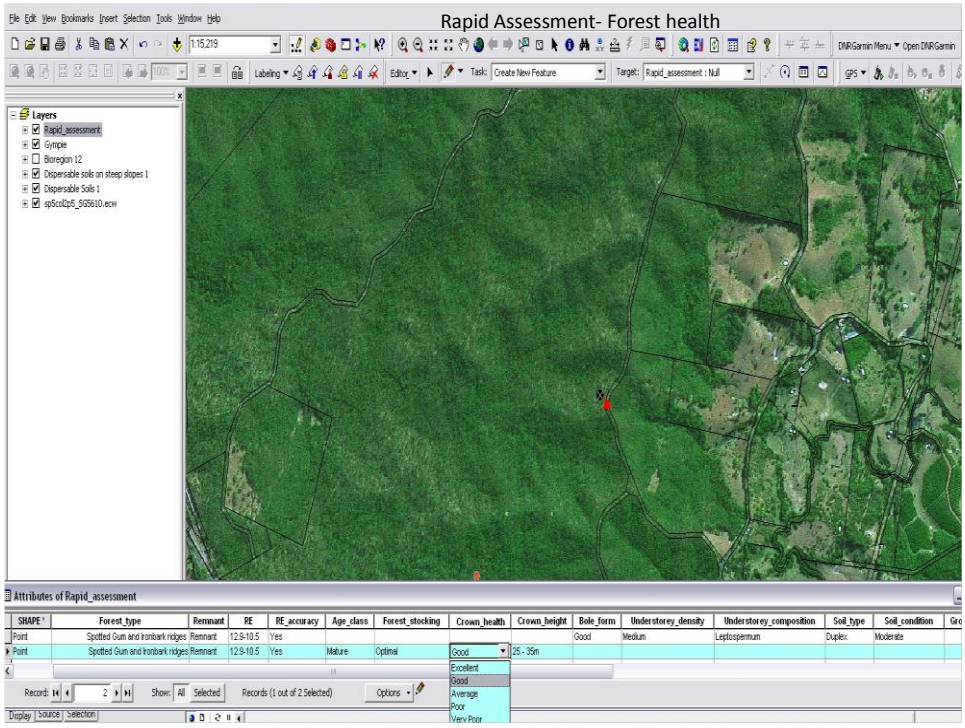
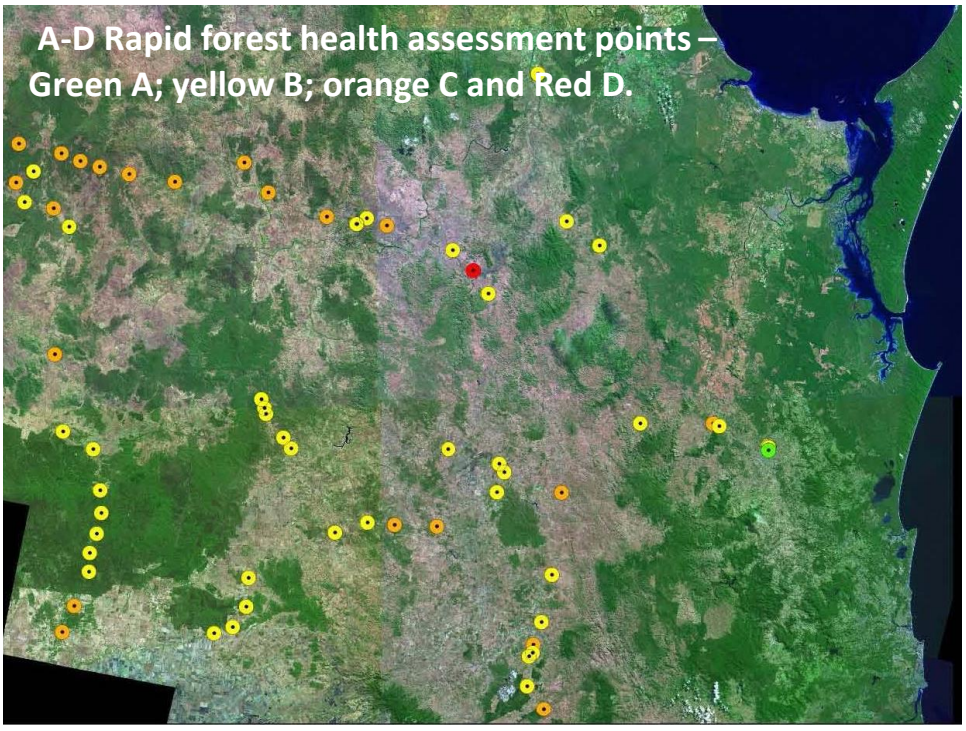


Figure 2. Rapid Assessment screen dump showing forest attribute drop down and aerial plot location



Map 6. Rapid Assessment results across cross section of southern Queensland

Photo 4. Forest Management Field Day - Wondai discussing the problems with a grossly overstocked forest

4. Instigate a multi level capacity building program utilising a range of media including:
    a. Introduction field days utilising demonstration sites
    b. Specific subject intensive field days (forest assessment, forest health, fire management, herbicide use etc)
    c. 5 day forest management workshop series
    d. Evening presentations
    e. Conference papers, presentations and Journal articles
    f. 30 minute case study DVD

Approximately 1 800 land managers attended 64 Field Days, 10 x 5 day Workshops, and interacted with NRM Officers on a one on one basis, gaining capacity to best manage their properties for fire management and improved grazing practices.

Letter from Graeme Fitzgerald - 5 day workshop participant – Atherton Tablelands region

Just a short note of appreciation for the recent workshop to which you invited me and which was conducted by Sean Ryan of Private Forestry Southern Queensland and facilitated by you at various locations around the Atherton Tablelands over 5 days during the first two weeks of May 2013.

I had just about given up on the 30 ha Community Rainforest Reforestation Program plantation (20 years old) on our property at Julatten due to my lack of knowledge and understanding of the basic forestry principals required in managing a forest through to a satisfactory outcome.

The workshop offered tools in understanding legislation, products and stand assessment, methods of thinning and stand improvement, harvest preparation and post harvest management. Each phase of the workshop included extremely good communication material and hands on activity in plantations and open forests where you & Sean actually discussed and showed the attendees how the work should be done.

This type of practical and hands on work combined with the av. presentations & Sean's concise commentary cannot be beaten for communicating with we folk wanting to learn what we need to do.

For the first time I have received a course to follow and am now in the process of following the now logical steps in transforming what had become an overgrown mess into what I hope will eventually mature into a profitable enterprise while still maintaining many environmentally positive outcomes.

By all means, you and Sean are most welcome to use my property as feedback for the workshop and indeed for any other survey or study that you may wish to undertake there.

Please keep me in mind for any future educational courses or material particularly if it as good as this recent workshop.

Wetherby Station

Farm Facts

20km north of Mount Molloy, Qld Wet Tropics

Enterprise: Grazing, Tourism

Property Size: 1447 hectares

Average Annual Rainfall: 1200 mm

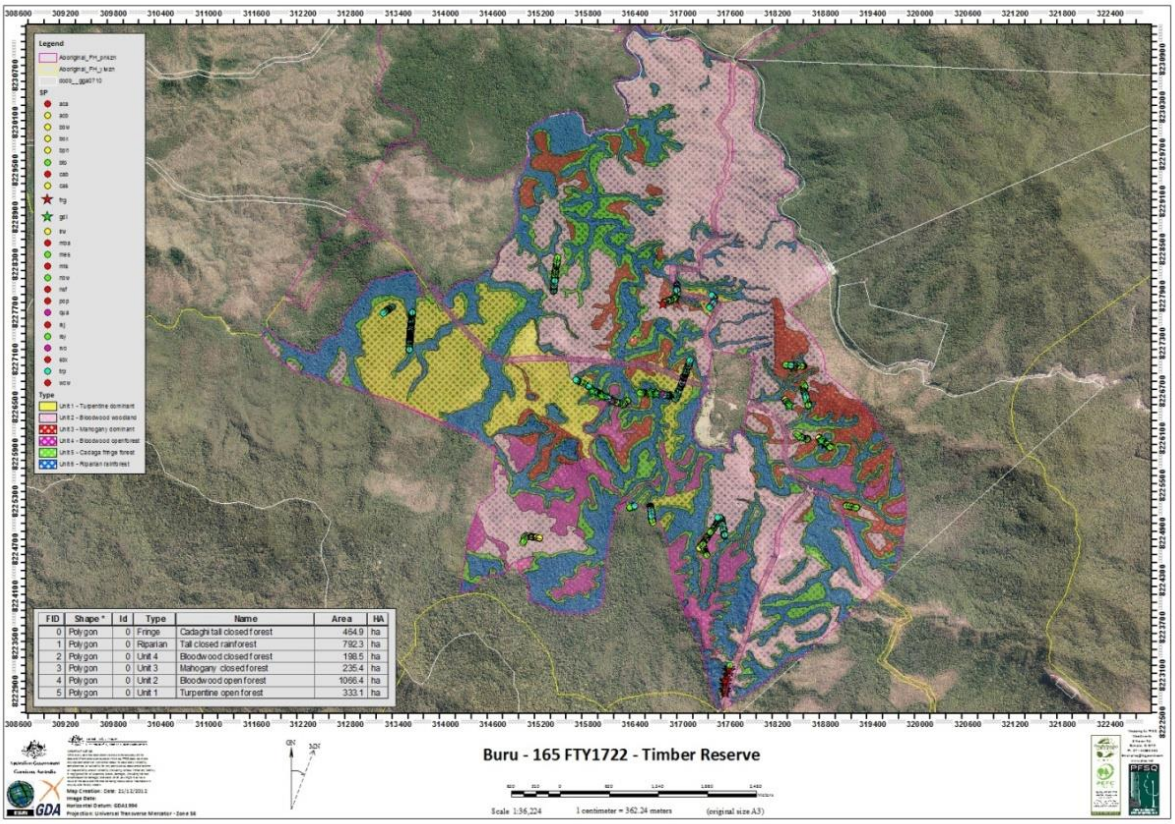
Elevation:460 m

Owner John Colless went on to state "The project utilised the services of timber management operators injecting Tordon herbicide into the sap stream of excessive regrowth *eucalypt* and *melaleuca* saplings. The objective was to reduce the density (number of volunteer regrowth and seedlings) back to a population resembling that of natural savannah woodland. The results were rewarding with the optimum natural tree density being restored. This has allowed sunlight penetration and recovery of the native pasture species including *Themeda* (Kangaroo Grass), forbs and other native species. Improved ground cover with this vegetation was noted which would have assisted in preventing soil erosion, from rain drop impact and run off. A commercial benefit was the increased amount of herbage which has been utilized by beef cattle grazed on the area, with "wet season" spelling of pasture to allow for pasture recovery."

5. Initiate an incentive program -$1 grant achieves an extra $4 from the landholder - to drive management change and complete 20 000 ha of rehabilitated forest cover via property forest management plans

228 landholders provided treatment to ameliorate sodic soil erosion, improve ground cover, adopt best management practices for grazing, forestry re-afforestation and revegetation to improve water quality. These landholders covered over 22 000ha to achieve these milestones. The incentive payments returned a 400 fold increase in management capability and environment health for the private native resource.
Fire management capacity from dedicated Fire Management Workshops and Fire Seminars over the 4 years of the project life has seen over 100 000 ha's of land now under direct fire management control.
Native habitat linkages have been achieved with 1 939 ha's linking 44 000 ha's of Brigalow, Littoral rainforest and semi-evergreen vine thickets and associated communities

6. Initiate a culturally appropriate training program to raise indigenous understanding of and participation in forest management



Map 6. Vegetation mapping for management Plan Burungu Aboriginal Corporation Aboriginal Freehold land Wujil Wujil

From the Chairman of Burungu Aboriginal Corporation

Hi Gavin,

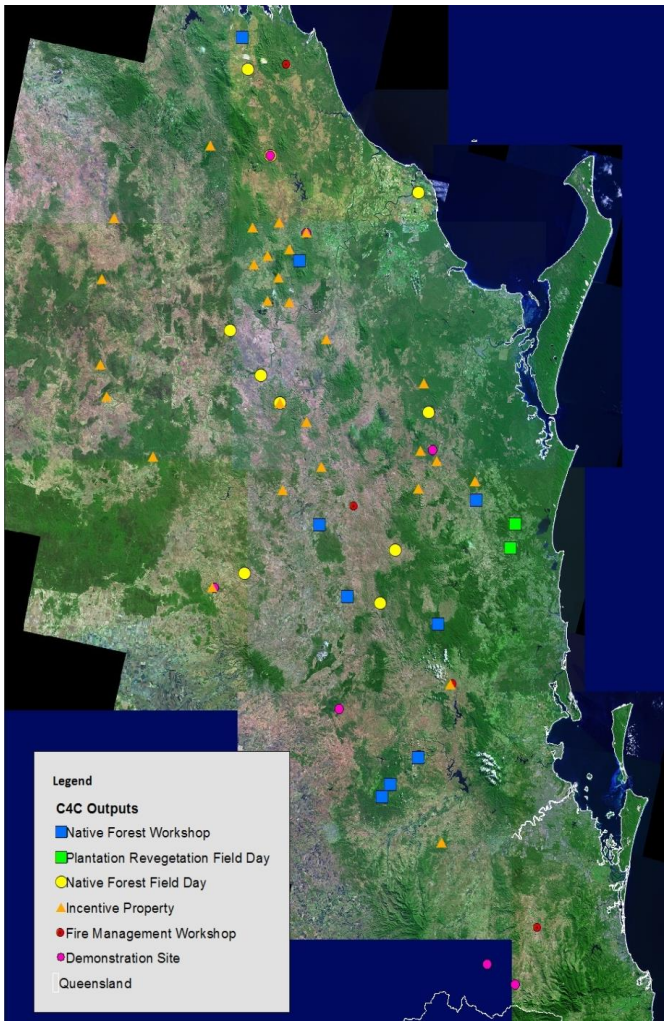
As chairman of Burungu Aboriginal Corporation (BAC) I want to thank both Terrain NRM and Private Forestry Services Qld (PFSQ) for bringing the Reveg.net project to our lands. The project has given us real hope that we can both better manage our country and generate some real financial independence.

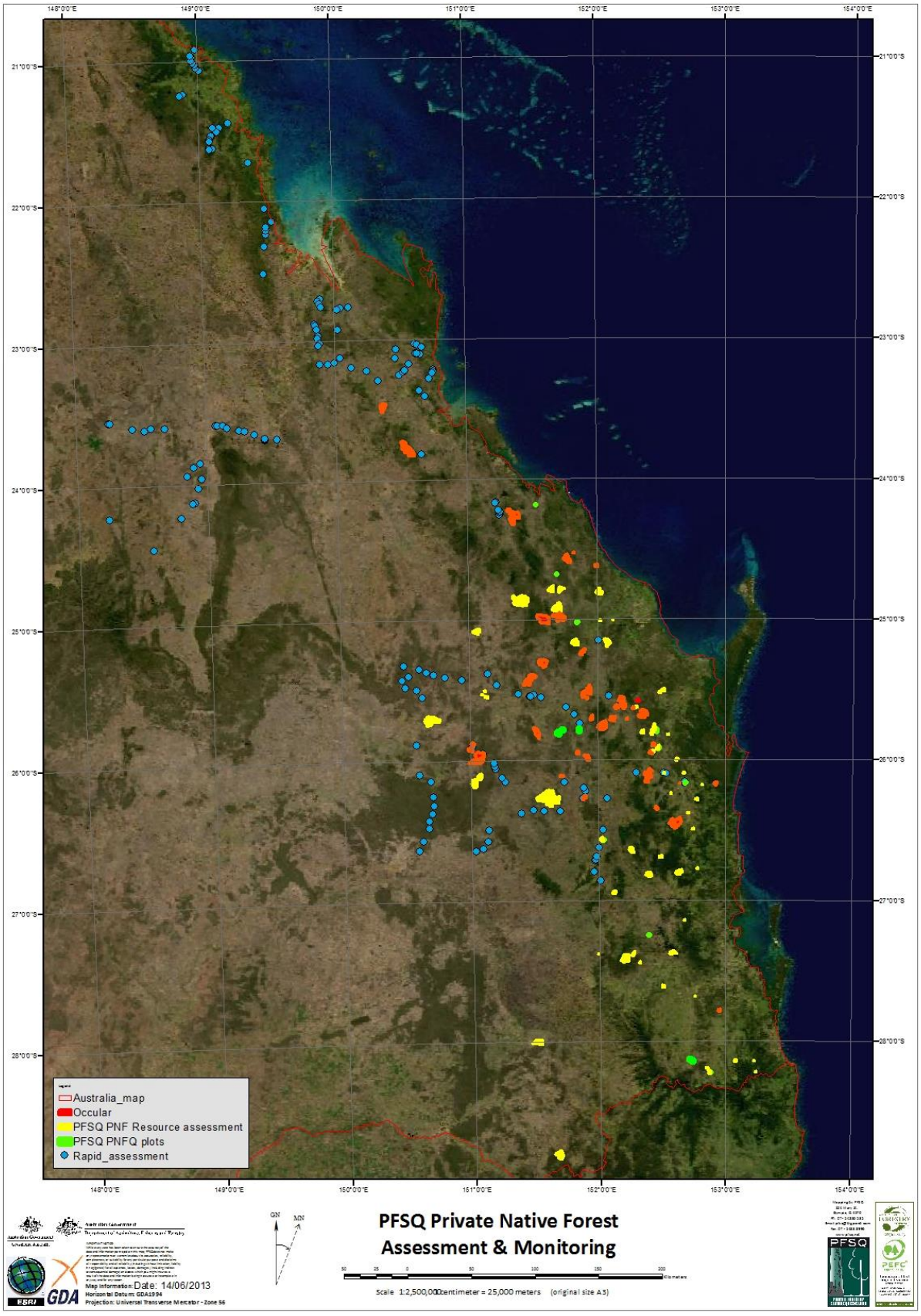
The training delivered by the project is the first we have seen in showing and demonstrating real examples delivered on country to the residents. We have had the opportunity to share our local knowledge in developing a complete forest condition assessment. The financial capacity delivered through the project has helped us to re-establish the tracks and roads necessary for mosaic burning to be implemented across all of the land. In addition, we have been able to better manage the weed threats that are a constant concern up here.

Our land is very remote and transport costs excessive, the ability to sustainably use local resources (timber) for the re-establishment of the BAC community will be a great step forward. We look forward to an ongoing relationship between BAC, Terrain and PFSQ to push more of the planning into action on country. Regards *Edward Madsden*

Photo Series 7. 5 day forest management workshop Silver Lining Foundation

Map 7. Revegnet on-ground activities southern Queensland





Map 8. Revegnet Forest assessment locations southern Queensland