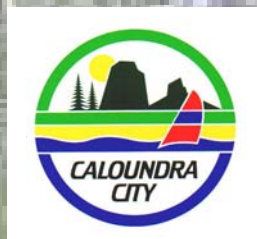


# Friends of Kilcoy Creek Rivercare Project



## Final Report

September 2004



## **Mary River Catchment Coordinating Committee** **Quality Control Statement**

<b><u>Friends of Kilcoy</u></b> <b><u>Creek Rivercare</u></b> <b><u>Project</u></b> <b><u>Final Report</u></b>	<b><u>Draft Prepared:</u></b> Dale Watson	29 <sup>th</sup> February 2004
	<b><u>Draft Reviewed:</u></b> Brad Wedlock Eva Ford	10 <sup>th</sup> – 16 <sup>th</sup> March 2004
	<b><u>Final Reviewed:</u></b> Deb Seal MRCCC Executive	17 <sup>th</sup> – 19 <sup>th</sup> March 2004
	<b><u>Approved for Issue:</u></b> Harry Jamieson	30 <sup>th</sup> March 2004 (pending extension)

<b>Project Officer</b>	Dale Watson
<b>Project Manager</b>	Jim Buchanan
<b>Commencment Date</b>	February 2003
<b>Completion Date</b>	30 <sup>th</sup> March 2004 (pending extension)
<b>File Path</b>	C:/documents and settings/all users/shared documents/Kilcoy creek rivercare project
<b>File Name</b>	FRIENDS OF KILCOY CREEK RIVERCARE PROJECT FINAL REPORT

### **Funding Contributors:**

- **Australian Government Envirofund**
- **Caloundra City Council**
- **Bundaberg Rum Bushfund**

## **Introduction**

Kilcoy Creek is located approximately 10km from the township of Conondale in the renowned Conondale Ranges of the Sunshine Coast hinterland. The headwaters of Kilcoy Creek begin in Bellthorpe State Forest flowing through pristine rainforest vegetation. Its lower reaches flow through freehold farming land, and eventually flows into the upper Mary River.

From the border of the Bellthorpe State Forests there are 10 major landholders who own property adjoining Kilcoy Creek. Land uses on these properties are predominately rural residential, beef grazing and dairy farming. Together, these landholders have formed the Friends of Kilcoy Creek group. All of these landholders have been involved in the Friends of Kilcoy Creek Rivercare Project.

The Friends of Kilcoy Creek Rivercare Group share the common goal of protection and rehabilitation of Kilcoy Creek and its riparian zone to provide a corridor from the Bellthorpe State Forest to the Mary River. It was recognised that the 'soft-engineering' solutions such as streambank fencing and strategic revegetation, which incorporate recognised rainforest recovery techniques, were the ideal way of tackling the rehabilitation project.

The Mary River Catchment Coordination Committee (MRCCC) produced the Mary River and Tributaries Rehabilitation Plan (MRTRP). This plan was recently awarded the "QLD Catchment – Landcare Award". The plan sets 'priority' areas for rehabilitation works, based upon the severity of degradation and location to strategic areas, such as endangered Mary River Cod habitat. Areas deemed to have excellent rehabilitation qualities or high conservation values are rated highly. This process, and associated rehabilitation actions, allows further degradation to be halted and the quality of the environment to improve. With a Priority Rating 2, Kilcoy Creek is considered as 'high priority' in terms of rehabilitation. Kilcoy Creek is classed as an unprotected reach of regional conservation significance to be protected and reclaimed. The Friends of Kilcoy Creek Rivercare project is part of the implementation stage of the MRTRP.

The Kilcoy Creek catchment is known to contain several threatened fauna species, namely the Mary River Cod (*Maccullochella peelii mariensis*), the Conondale Crayfish (*Euastacus hystricosus*), the Glossy Black Cockatoo (*Calyptorhynchus lathami lathami*), and the Cascade Treefrog (*Litoria pearsoniana*).

The Friends of Kilcoy Creek have received funding for Rivercare works, namely: stream bank fencing, off-stream livestock watering points, weed removal and tree plantings, from the following organizations:

- The Natural Heritage Trust (NHT)
- Caloundra City Council
- The Australian Government Envirofund
- The Bundaberg Rum Bushfund

The MRTRP identified un-managed cattle access as the major impact to health of Kilcoy Creek. It is envisaged that the streambank fencing will allow natural regeneration of native riparian plant species, enabling wildlife movement along the waterways and riparian corridor. Tree-planting will also link areas denuded of vegetation, and eventually provide essential shaded, cool water to allow the endangered Mary River Cod to breed. These plants will also help stabilize the banks of the creek thus reducing siltation and improving the water quality. Removing stock from the waterway also helps reduce nutrient pollution and reduces municipal water treatment costs.

The Friends of Kilcoy Creek are continually maintaining the rehabilitation sites. This is a community driven project. Several members of the group are also volunteers for the MRCCC Upper Mary River Waterwatch network, undertaking water quality sampling at several sites along Kilcoy Creek once a month.

The Friends of Kilcoy Creek Rivercare Group and the MRCCC would like to thank the following groups for their support throughout the project:

- Barung Landcare
- Noosa Landcare
- Gympie Landcare Green Corps Team
- Conondale State School



## **Outcomes**

The Friends of Kilcoy Creek Rivercare Project has resulted in approximately 89 hectares of riparian zone being protected by fencing, installation of 18 off-stream watering points and 5600 trees planted along Kilcoy Creek. The details and works carried out are described below.



## **Grant Recipients**

### **“Balgowlah”**

The property owners have been involved in the Friends of Kilcoy Creek Group from the beginning. They have been instrumental in the formation of the group and show a continual commitment to the community group, the projects and the environment. The property is also a registered Land for Wildlife property.

Funding Source	Amount (\$)	Outcomes
MRCCC	12,168	<ul style="list-style-type: none"> <li>▪ 4 off-stream watering points</li> <li>▪ 200 trees planted</li> <li>▪ 20 ha of riparian zone protected by fencing</li> </ul>
Caloundra City Council	1,838	
Bundaberg Rum Bushfund	1,950	<ul style="list-style-type: none"> <li>▪ Tree planting and field day</li> <li>▪ 1500 trees planted</li> </ul>

The MRCCC funding saw the landholders erect riparian fencing both along Kilcoy Creek and also either side of “Balgowlah Creek” (a tributary of Kilcoy Creek flowing from the Bellthorpe State Forest and through the property). This fencing has meant the exclusion of cattle from all riparian zones on the property, and vegetation regeneration is quite evident. Off stream watering points have been installed along Balgowlah. Wednesday is designated weeding day for the landholders. An extensive fauna list has also been compiled by the landholders. An information booklet has been produced by the landholders detailing the conservation work undertaken on the property (see Appendix 1).



### **Peto's Property**

The landholder and friends organised a “power plant” during the beginning of the Friends of Kilcoy Creek Project. 600 trees were planted, mulched and watered, and ‘mountains’ of lantana were removed. Funding was supplied for seedlings, tree guards, rainsaver gel, organisation and expert advice. The day was a great success. The trees have been maintained well post planting. The Friends of Kilcoy Creek Tree-Identification walk was also hosted by the landholder. There are future conservation plans for this property.

Funding Source	Amount (\$)	Outcomes
2003 Envirofund	486	<ul style="list-style-type: none"> <li>Large ‘power plant’ tree planting day</li> <li>600 tree planted (with tree guards)</li> </ul>
Caloundra City Council (2003/2004)	437	

### **Reid**

This project has involved the fencing of 500m of riparian zone, the provision of an off stream watering point and the planting of 1000 locally native riparian plant species.

Funding Source	Amount (\$)	Outcomes
MRCCC	4,478	<ul style="list-style-type: none"> <li>1000 trees planted</li> <li>10 ha of riparian zone protected by fencing</li> <li>1 off stream watering point</li> </ul>
Caloundra City Council	1,838	

### **Kookaburra Hill**

The landholders have shown a great commitment to the Friends of Kilcoy Creek Rivercare Group and project. Their support for the tree planting and field days held on their property was excellent. The property is also registered as a Land for Wildlife property. The landholders intend to place a conservation covenant on the area of land fenced off with this funding. There are many future conservation plans for Kookaburra Hill.

Funding Source	Amount (\$)	Outcomes
2003 Envirofund	1,689	<ul style="list-style-type: none"> <li>12 ha of riparian zone protected by fencing</li> <li>1 off stream watering point</li> <li>Tree planting and field day</li> <li>800 trees planted</li> </ul>
Caloundra City Council (2003/2004)	1,521	

Bundaberg Rum Bushfund	2,095	<ul style="list-style-type: none"> <li>Tree planting and field day</li> <li>1500 trees planted</li> </ul>
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### Bradley

The landholder has received funding for fencing off the riparian zone. The landholder is also a Waterwatch volunteer for the Caloundra Upper Mary Catchment Waterwatch Network, providing valuable water quality data on a monthly basis.

Funding Source	Amount (\$)	Outcomes
MRCCC	723	<ul style="list-style-type: none"> <li>1 ha of riparian zone protected by fencing</li> </ul>

### Engle

The landholder has been successful in fencing approximately 5 ha of his riparian zone, as well as providing two off stream watering points for cattle. The landholder has been invaluable in the two large tree planting field days, supplying the in-kind labour and machinery needed to prepare the sites for planting (slashing and ripping).

Funding Source	Amount (\$)	Outcomes
MRCCC	12,585	<ul style="list-style-type: none"> <li>5 ha of riparian zone protected by fencing</li> <li>2 off stream watering points</li> </ul>
Caloundra City Council	1,838	
Bundaberg Rum Bushfund	45	<ul style="list-style-type: none"> <li>60 trees planted</li> </ul>

### Martin/Cordwell

The landholder has been provided funding for fencing off the riparian zone and provision of two off stream watering points. The property has recently changed hands, with the new owner keen to maintain and continue the Rivercare work on the property.

Funding Source	Amount (\$)	Outcomes
MRCCC	2,048	<ul style="list-style-type: none"> <li>5 ha of riparian zone protected by fencing</li> <li>2 off stream watering points</li> </ul>
Caloundra City Council	1,838	

### Crystal Waters

The Crystal Waters Village is a community committed to the preservation and restoration of its adjoining riparian zones (both on the Mary River and Kilcoy Creek). The Crystal water community has undertaken some fencing of the riparian zone as well as extensive revegetation projects.

Funding Source	Amount (\$)	Outcomes
MRCCC	4,807	<ul style="list-style-type: none"> <li>0.5 ha of riparian zone protected by fencing</li> <li>2 off stream watering points</li> </ul>

### Amula

The landholders are currently in the midst of preparing a large scale property management plan, and are including Rivercare riparian protection principles within this. The property includes both banks of Kilcoy Creek, encompassing a significant portion of the lower section of Kilcoy Creek. Funds have been allocated for materials required for riparian fencing repairs and new fences to exclude cattle from the creek and riparian zone. An extensive cattle watering system is being implemented on the property, providing watering points over many areas of the property. The landholders have received funds to provide off-stream watering points along Kilcoy Creek, as part of their entire property stock watering system. There are future plans for planting shade trees for the cattle. Working with these landholders has shown that property management and riparian protection and rehabilitation can work hand in hand.

Funding Source	Amount (\$)	Outcomes
2003 Envirofund	4209	<ul style="list-style-type: none"> <li>35 ha of riparian zone protected by fencing</li> <li>6 off stream watering points</li> </ul>
Caloundra City Council (2003/2004)	3791	

### Smart

The landholder received funding to fence 250 meters of the upper section of Kilcoy Creek. Only recently purchasing the property the landholder was eager to fence the creek, get involved with the project and gain knowledge of the correct techniques for management of the riparian zone.

Funding Source	Amount (\$)	Outcomes
2003 Envirofund	1819	<ul style="list-style-type: none"> <li>8 ha of riparian zone protected by fencing</li> </ul>

## In-Kind Contributions:

The table below outlines the estimated in-kind contributions made by each of the landholders in the Friends of Kilcoy Creek Rivercare project. All labour is calculated at \$20 per hour. The calculations for fencing, off-stream watering point installation and tree planting all include the in-kind contributions involved in the maintenance of these components for three years after installation.

<u>Contributor</u>	<u>Activity</u>	<u>Unit</u>	<u>Cost (\$)</u>
Balgowlah	Fencing	6665m	23 827
	Off-stream watering installation	4 watering points	3120
	Tree planting	1500 trees	3195
	Weed Control	10ha	5000
Peto	Tree planting	600 trees	1278
	Weed control	2.5ha	1250
Reid	Fencing	600m	2254
	Off-stream watering installation	1 watering point	780
	Tree planting	1000 trees	2130
Kookaburra Hill	Fencing	1000m	3575
	Off-stream watering installation	1 watering point	780
	Tree planting	2300 trees	4899
Bradley	Fencing	300m	1127
Engle	Fencing	800m	3005
	Off-stream watering installation	2 watering points	1560
	Tree planting	60 trees	127
Martin/Cordwell	Fencing	800m	3005
	Off-stream watering installation	2 watering point	1560
Crystal Waters	Fencing	200m	715
	Off-stream watering installation	2 watering point	1560
Amula	Fencing	3km	10 725
	Off-stream watering installation	6 watering point	4680
Smart	Fencing	250m	2894
Totals			<b>\$ 83 046</b>

As the table above shows, the in-kind contributions made by the members of the group are very significant and highlight the high level of commitment community members are prepared to put in to improving the health of our catchments.

## **Activities undertaken by the Friends of Kilcoy Creek Rivercare Group**

### **Powerplant on Peto Property**

A “Powerplant” was undertaken on the Peto’s property, on the 22/3/2004, as part of a weekend festival function. The tree planting was primarily organised by Joseph Peto and Scott Large. 600 Trees, tree guards and stakes, rainsaver gel, expert advice and supervision were supplied by MRCCC and Friends of Kilcoy Creek. Local genetic plant stock was supplied by Noosa and Barung Landcare nurseries. A large area of Lantana was cleared. Mulch gathered and applied to planted trees. The trees were watered in on the day. The planting day was a success, and enthusiasm was very high. Maintenance of the revegetation site is ongoing, and the survival rate of trees is very high (above 90%).

### **Caloundra City Council Environment Advisory Committee (CCCEAC)**

A letter outlining the Friends of Kilcoy Creek activities and plans was presented at CCCEAC meeting, attached to minutes and sent out to many.

### **WildNet Fauna data Extract**

A Wildnet Fauna Data request was submitted. A thorough list of fauna for the zone between latitude 26.83’S and 26.69’S, and longitude 152.67’E and 152.74’E in the Conondale area was received (see Appendix 2). This comprehensive fauna list provided valuable information used to identify rare and threatened fauna species which will benefit from the projects on-ground works and educational focus.



### **Queensland Parks and Wildlife Service (QPWS)**

A request was made to the QPWS for information on endangered species in the area. Packages were received from QPWS on the several rare and threatened species located in the area (namely Red Goshawk, Coxen’s fig parrot, Glossy black cockatoo, Eastern bristle bird and Spiny Conondale crayfish). The information and advice given was used in tailoring some Rivercare works to the needs of these threatened species (for example planting of certain fig species and River Sheoaks for the Coxen’s fig parrot and the Glossy black cockatoo). This research led to the development of the “Wanted Alive: Rare and Threatened Wildlife in the Conondale” information sheet (see Appendix 3).

### **Queensland Herbarium**

Data on flora species in Conondale area (maps included) was requested and supplied by the Queensland Herbarium. This extensive species list was used to help determine which species were suitable for revegetation.

### **Friends Of Kilcoy Creek Tree Identification Walk**

The Tree Identification Walk was held on 12<sup>th</sup> April on the Peto's property. Participants included Barung Landcare and EPA staff as well as the Friends of Kilcoy Creek group members and other interested community members from the area. Nick Willis (Barung Landcare) and Ernie Rider (QPWS) provided walking commentary on the notable plant species along the "picture perfect" rainforest stream. Many interesting species were noted, questions asked by participants and a list of species compiled (see Appendix 4). Lunch was provided during which much discussion on days activities and MRCCC's Rivercare work was generated.

### **Codline Article**

An article submitted to, and published, by the Codline Magazine (April 2003, issue number 10). The article was prominently placed on the front page.

### **Chainsaw to Fine Furniture Display**

Custom posters were developed (printed by DNR) for the Friends of Kilcoy Creek and Kenilworth Croakers projects. The display was set up in the Landcare tent at the Chainsaw to Fine Furniture Expo (running from 3<sup>rd</sup> to 5<sup>th</sup> May 2003). Opposite is an image of one of the posters developed for the project.



### **Friends Of Kilcoy Creek Tree Planting And Field Day**

50 year 6 and 7 Conondale State School students and teachers attended this tree planting and education day, along with the Gympie Landcare Greencorps team, and approximately 15 local landholders on the 23<sup>rd</sup> May 20003. 800 trees were planted, rainsaver gel applied, mulched and watered on the day. Students and adults participated in and learnt much from the Macroinvertebrate (Water bug) activities and Eva Fords educational "frog walks". A sausage sizzle lunch was provided. See the flyer in Appendix 6 for further details.

### **University of the Sunshine Coast Student Site Evaluation & Rehabilitation Plan**

A small group of University of the Sunshine Coast students undertook a site evaluation of the riparian zone upstream of the tree planting on the Kookaburra Hill property. The students will develop a rehabilitation plan for this site next semester.



### **Maleny Show Display**

A display was set up in the Landcare tent at the Maleny show (30<sup>th</sup> to 31<sup>st</sup> May 2003). Friends of Kilcoy Creek and the Kenilworth Croakers posters sets were displayed, with associated information and brochures.

### **Bundaberg Rum Bush Fund Tree Planting Day**

A total of 3000 trees were planted (some post planting day) for this revegetation project. Rainsaver gel and mulch was applied to all trees followed by watering in. 40 local community members participated in the tree planting. Two large areas of protected (fenced from cattle) riparian zones were revegetated. Lunch was provided. The day resulted in a massive effort by a dedicated group of local community members.

### **Friends Of Kilcoy Creek Project Publicity**

- Custom posters developed (printed by department of Natural Resources and Mines) for the Friends of Kilcoy Creek.
- Display set up in the Landcare tent at the Maleny show.
- Front-page article published in the Codline Magazine.
- Display set up in the Landcare tent at the Chainsaw to Fine Furniture Expo.
- Front-page article in the Mary Valley Voice detailing planting day (see Appendix 7).
- Land for Wildlife Field Day: exhibiting Friends of Kilcoy Creek activities
- Natural Heritage Trust Magazine on Friends of Kilcoy Creek published (see Appendix 8).

### **Index of Stream Condition Monitoring**

Index of Stream Condition (ISC) monitoring was undertaken at four sites along Kilcoy Creek. The ISC has been developed as a rapid assessment tool to take a 'snap shot' of the condition of a stream and its associated riparian zone. The ISC consists of four sub-indexes: Water Quality, Physical Form, Streamside Zone and Macroinvertebrates. The ISC monitors a 400m stream reach, with three transects (transect 1 being the central point of monitoring). A Corridors of Green Vegetation (COG) analysis was also performed at each of the sites. The COG methodology involves a detailed analysis of the vegetation in 3 quadrants, located along the ISC transect 1, resulting in a score for the site. For more information on the ISC and COG and their methodologies please refer to the ISC manuals and the 2003 MRTRP Monitoring and Evaluation Report.



The first monitoring site, Amula, was located on a large Dairy farm at the junction of Kilcoy Creek and the Mary River. The Kookaburra Hill and Woolbank sites are both located on rural residential blocks approximately half way along the length of Kilcoy Creek. The final site, Peto, is located on another rural residential property which borders the Bellthorpe State forest.

Figures 1,2 and 3 below compare the four monitored sites along Kilcoy Creek with 20 other sites monitored throughout the Mary River Catchment.

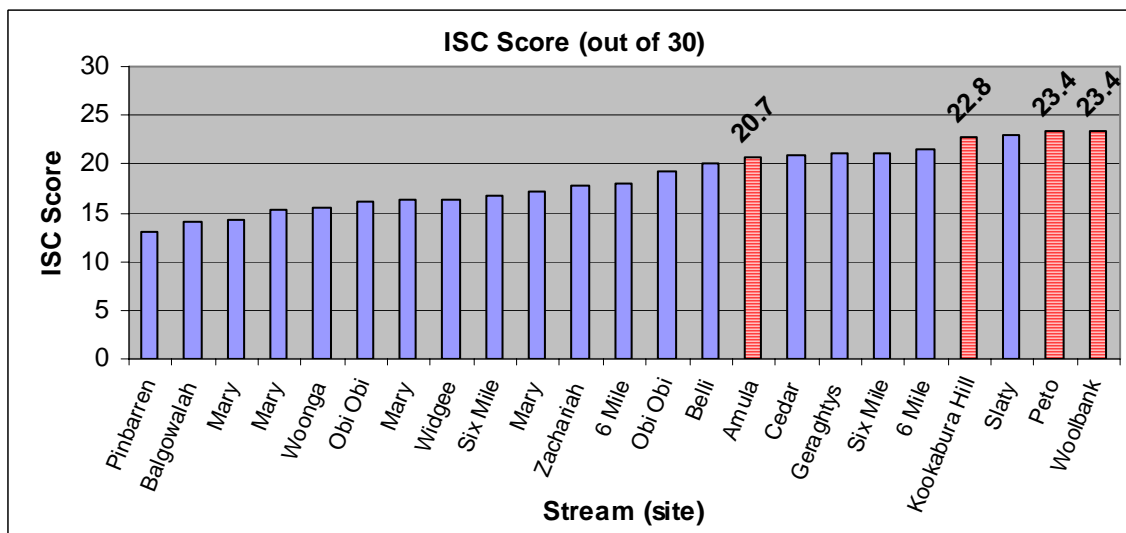


Figure 1

Figure 1 illustrates the ISC scores out of a possible 30, and shows that the Kilcoy Creek sites are quite stable and healthy in comparison with the other sites monitored in the Mary Catchment. The Kookaburra, Peto and Woolbank sites all scored very well, and this reflects the good condition of riparian vegetation, instream habitat, stable banks and good water quality. The Amula site still scores well, however the score reflects the more intensive land usage occurring at this site. All the Kilcoy Creek sites scored similarly for the water quality, physical form and streamside zone sub-indexes

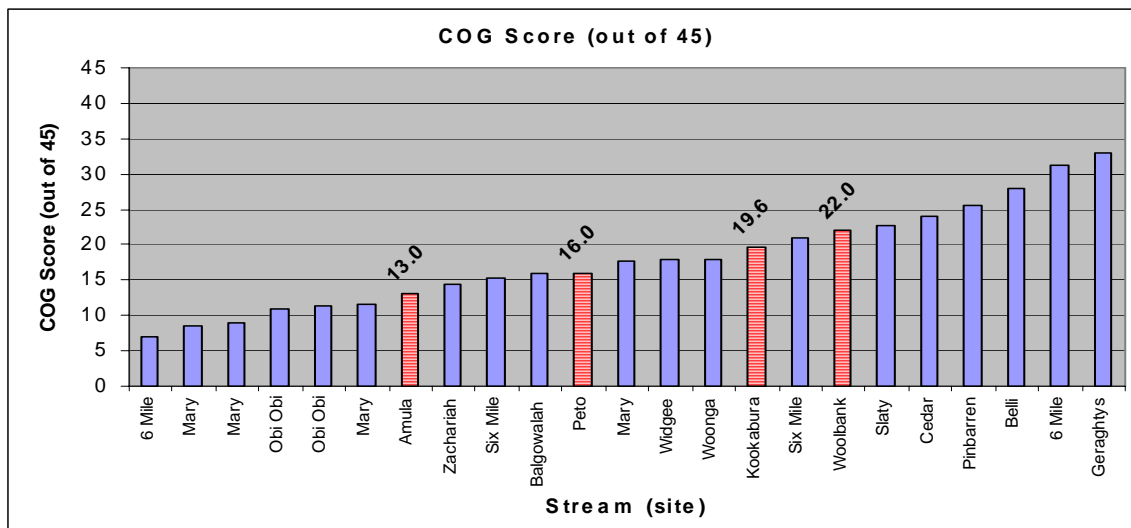


Figure 2

The Corridors of Green vegetation assessments along Kilcoy Creek compared relatively well with the other sites monitored in the Mary Catchment (see graph above). Again the lower score of the Amula site could be attributed to the more intensive land usage at the site and the effect this would have on vegetation condition and diversity. Interestingly the Peto site, which is adjacent to near pristine state forest, scores quite low. This can be explained by the significant amount of invasive weeds present along the transect. Although the vegetation directly adjacent to the stream was healthy and quite diverse the further 45 metres of monitored streamside zone was dominated by pasture grasses and patches of lantana.

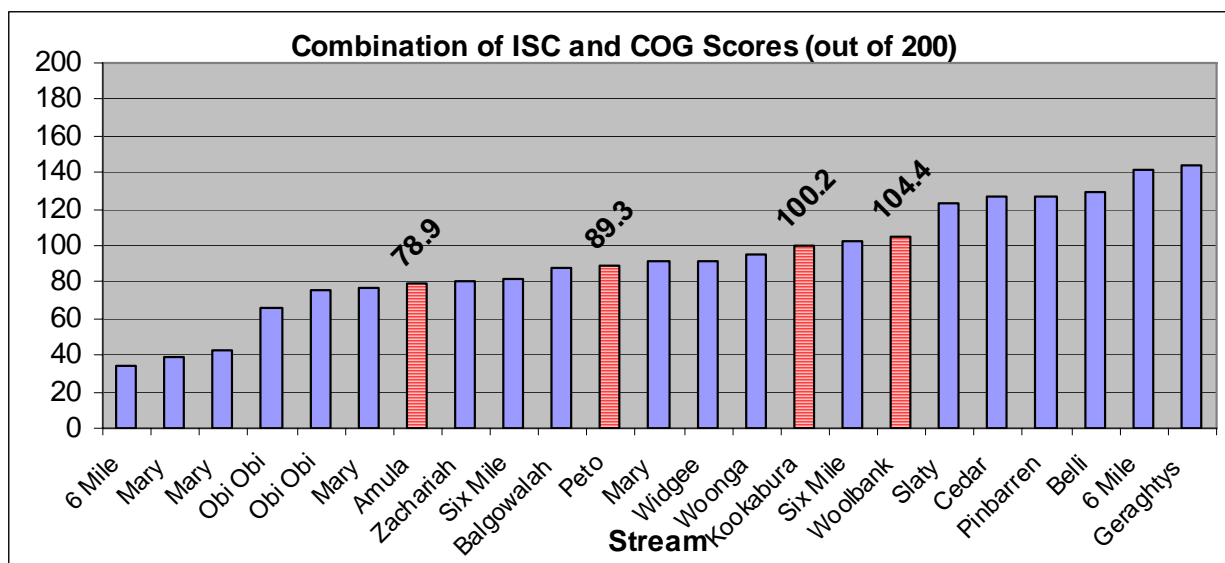


Figure 3

Figure 3 illustrates a combination of the ISC and GOG scores for each of the sites. Again the sites score moderately well, with the more intensive land use and weed problem being highlighted in the Amula and Peto sites respectively.

Revegetation projects are located within the 400m ISC reach of the Peto, Kookaburra Hill and Woolbank sites along Kilcoy Creek (the COG vegetation assessment transect ran through a revegetation plot at each of these sties). Continual monitoring of these sites over future years will provide valuable information on the success of these revegetation projects.

## Waterwatch Monitoring

The Friends of Kilcoy Creek Rivercare is also involved in the MRCCA's Waterwatch program, with two of its members integral volunteers for the MRCCC's Caloundra Upper Mary Catchment Waterwatch Network. The two volunteers monitor three sites along Kilcoy Creek and two sites on the Mary River (above and below the Kilcoy Creek and Mary River junction). The sites are monitored once a month and the collected data is entered into the MRCCC's Waterwatch database. This data is providing valuable baseline information on the condition of the Kilcoy Creek sub-catchment. Over time the Waterwatch monitoring should reveal any positive impacts of the Rivercare project, as well as any further negative impacts occurring in the sub-catchment.

## Future

The Friends of Kilcoy Creek Rivercare Project has involved all major landholders along Kilcoy Creek, who have worked together to achieve the formation of a continuous riparian corridor from the Bellthorpe Forest to the Mary River. The group has involved people from different backgrounds and occupations all working together towards the common goal of the improvement of catchment health.



This is by no means the end of the Friends of Kilcoy Creek Rivercare Group. Although much has been achieved by the group already, there is still more work to be done. It is envisaged that the lessons learnt from this project can be taken to other neighbouring areas in the upper Many River catchment. This does not seem too difficult a task given the positive publicity and enthusiasm the Friends of Kilcoy Creek Rivercare Project has created.

