

# **Mary River Catchment**

## **CATCHMENT STRATEGY**

**MARY RIVER CATCHMENT COORDINATING COMMITTEE**

# MARY RIVER CATCHMENT COORDINATING COMMITTEE

A community strategy for better management of resources in the  
Mary River Catchment

January 1996

The endangered Mary River Cod is the adopted motif of the Mary River Catchment Coordinating Committee.

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## **PREFACE**

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In Australia the adoption of the concept of “Catchment Management” is fairly new. Our traditional divisions of State and Local Government areas have been devised for political, economic and social reasons. While this process has assisted us to become one of the wealthiest of modern nations, we are now realising that the cost to our environment has been heavy - this cost we are now beginning to pay.

Integrated Catchment Management is an attempt to lessen and reverse those negative impacts. To achieve this we must overcome some of the dysfunctional mechanisms that exist both within governments and between governments and the community. The technology and ideas already exist to solve most of our resource management problems; the priority should be to implement solutions rather than look for more of them. In this respect ICM is more about people and their social structures rather than the technology and science of catchment improvement.

The purpose of this document is to develop processes, strategies and mechanisms to provide a framework within which we may begin to address issues related to the sustainable use of our land, water and vegetation resources at present and into the future.

While this document sets down the cumulative work of our committee over the past two years it should not be seen as a rigid “grand plan”, but rather a “process” of change management. An evolving process which provides a signpost pointing to some of the directions in which we as a catchment community should be heading in order to achieve continual improvements in catchment health.

Our committee accepts that the “Catchment” concept provides one of the best methods of addressing environmental, and therefore social and economic long term sustainability.

The Mary Catchment contains all or part of twelve Local Authority areas. It is in the arena of Local Government that the most positive catchment work can be carried out. The good support and interaction between our Committee and Local Government personnel, both councillors and staff, indicates their strong commitment to the principles of sound catchment management and Landcare ideals.

It is significant that Local Government is on the lowest rung of our three tier system of government when it comes to the receipt of taxpayers dollars. The credibility and commitment of State and Federal authorities rests on their will to provide funding and other resources to enable positive and lasting work to be carried out on the ground. One of our Local Government leaders has often observed that they (other levels of Government) “keep passing the buck without the buck”. The ICM process will assist in demonstrating the need to provide the required responses.

Our committee believes that education and awareness, designed to bring about voluntary activity by our catchment population, is the best possible approach and that enforcement by use of legislation should only be a last resort. ICM in the Mary favours negotiation as opposed to regulation. There will be few quick fixes in

achieving good catchment management - most will require working in a series of productive partnerships with all interests in order to realise this goal.

The Committee is advisory and has no powers to direct anyone to implement actions contained in this document; nor can it invent legislation or prescribe by-laws. The concept is one of influence, establishing networks and a responsibility to work together for a common good. Such an integrated approach will ensure the sustainable future of the catchment.

It is necessary for the success of the strategy to involve as many organisations and individuals as possible to convert this draft into a meaningful document acceptable to people throughout the catchment.

Your response to this strategy will greatly assist in setting out our community's goals and achieving a productive and sustainable Mary River Catchment, which is, and must continue to be, one of the most desirable places in the world in which to live.

Mr Graham Smith  
**MARY RIVER CATCHMENT  
COORDINATING COMMITTEE**

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# 1.0 EXECUTIVE SUMMARY

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The aim of the Mary River Catchment Coordinating Committee (MRCCC) is **to promote within the community and through interested sectors, a common view of a sustainable and productive catchment.** Key roles which promote the MRCCC's nonregulatory and cooperative approach in achieving this aim have been determined. These roles are **Education and Awareness, Planning (assisting Local Government) and assisting interest-sectors to improve practices eg Best Management Practices.**

The aim and role of the Mary River Catchment Coordinating Committee have been applied to eight key areas of community concern to produce a range of strategies and actions. These key issues of community concern are:

- Land Management Practices, Fostering Sustainable Production
- Land Use Planning
- Knowledge, Research and Education
- Riverbank Stability
- Water Quantity
- Water Quality
- Legislation and Procedures
- Natural Environment/Wildlife

A summary of strategies is shown on the following page with high priority strategies marked with an asterisk. Priority themes that can be drawn from the Strategy are:

- information gathering and interpretation on catchment changes
- fostering community debate on key issues eg population growth
- improved riparian land management
- urban runoff controls
- control of point source pollution discharges
- vegetation cover and catchment hydrology improvements
- diffuse source identification and improvements

A Business Plan is being developed to complement this Strategy. It will contain a series of preliminary Implementation Plans framed around these key themes. Where possible one page project briefs have been prepared to show in detail what is intended.

The Strategy purports to be capable of implementation. This reflects broad community concern in the Mary River Catchment that plans and planning lead to action, rather than being seen as the final product of catchment management.

The strategies and actions contained in this document are not intended to be prescriptive but more a rolling program that will change to reflect incoming knowledge and information, as people commence their implementation.

They will need matching of regional interests, community participation, resource management, priority setting and funding strategies. It must also be recognised that many of the actions still require considerable negotiation on the fine detail and cannot be implemented without significant provision of funds from external sources..

The Strategy reflects the concern of many people to “get on with the job” of improving the catchment, particularly on those issues for which the solutions appear clear to people, while at the same time recognising the need to find out more about the catchment before evolving further strategies and implementation plans. Many of the actions provide benefits across a range of issues. Such links are important for successful outcomes.

## SUMMARY OF PROPOSED STRATEGIES

<b>STRATEGY</b>	
<b>Greater Knowledge, Research, Education</b>	
* KRE1	Identify changes that have occurred in the catchment.
* KRE2	Increase knowledge of information existence, projects and key issues for decision makers.
KRE3	Identify new research required and priorities.
* KRE4	Consolidate Waterwatch and widen its impact.
<b>Better Land Use Planning</b>	
* LUP1	Highlight importance of integrated and longterm planning to the health of the catchment.
* LUP2	Develop an appreciation of the factors affecting viable farming re subdivision.
LUP3	Define and record industrial and agricultural activity/production in the catchment.
LUP4	Assist viability of farming and capacity to invest in ESD systems/practices
* LUP5	Provide greater land suitability and capability information (including soil types and land resource assessment) for Local Authorities.
<b>Managing Water Quantity</b>	
MWQ1	Use existing developed water supplies as efficiently as possible.
* MWQ2	Establish and transfer available information on water resources.
* MWQ3	Stimulate community discussion on population issues/water consumption.
MWQ4	Lift awareness and understanding of water and wastewater management.
MWQ5	Reduce speed and volume of floods, re-establish more "natural" catchment hydrology.
<b>Improving Land Management and Fostering Sustainable Production</b>	
* LMP1	Support adoption of best management practices in farming systems.
LMP2	Encourage property management planning to achieve sustainable agricultural production.
* LMP3	Implement ways to reduce negative impacts of non-agricultural land use practices.
LMP4	Improved timber clearing practices.
LMP5	Education of landholders regarding stocking rates.
LMP6	Improved fire management.
LMP7	Education of landholders, agencies and industry groups regarding cropping practices.
LMP8	Improve the debt structure of farmers.
LMP9	Improve information delivery to landholders and industry on farm management within our variable climate.
LMP10	Increase urban and rural residential people's understanding and response on chemical and fertiliser use and disposal.
<b>Improving Water Quality</b>	
* IWQ1	Establish credible information on water quality as a basis for decision making.
IWQ2	Make water quality an issue - raise its profile.
* IWQ3	Eliminate the impact of Sewer Treatment Plant pollution.
* IWQ4	Implement measures to reduce pollutant loads from urban stormwater.
IWQ5	Identify diffuse sources of pollution in the catchment.
* IWQ6	Reduce diffuse sources of pollution in the catchment.
<b>Riverbank Stabilisation</b>	
* RBS1	Develop broad scale awareness of riparian zones, seek community cooperation in developing solutions.
* RBS2	Reduce negative impacts of grazing on river banks.
RBS3	Improve recognition of importance of riparian zones in planning instruments.
RBS4	Improve extractive industry management.
RBS5	Provide support for those attempting to address riverbank erosion.
<b>Enhancing the Natural Environment/Wildlife</b>	
* WNE1	Understand what we have and its condition*.
* WNE2	Improve the condition of what we have*.
WNE3	Eliminate, reduce or control what we don't want in the catchment.
WNE4	Educate and encourage rural and urban landuser responsibility for controlling exotics and ferals.
<b>Improved Legislation and Procedures</b>	
* LP1	Develop better, more effective consultation with all stakeholders on policy.
LP2	Involve wider level of Government input in ICM development.
* LP3	Empower people to make input to formulation of Government policy and legislation.
LP4	Use the ICM Strategy development process to demonstrate how to involve people
LP5	Improve NRM decision making in the catchment.
LP6	Develop the required planning instruments needed to manage growth.
LP7	Improve ability of bureaucracy to respond to worthwhile initiatives.

### \* High Priority Strategies



## Figure 1: Mary River Catchment

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### “Our Area of Concern”

Area 9595km<sup>2</sup>  
Grazing 5830km<sup>2</sup>  
Cropping 513km<sup>2</sup>  
Irrigation 251km<sup>2</sup>  
Agricultural Production  
\$200m gross

State Forests 3383km<sup>2</sup>  
- native and plantation  
Timber Reserves 44km<sup>2</sup>  
National Parks 20km<sup>2</sup>

Length (Mary R) 305km  
Streamflow 2 300 000ML  
Rainfall 700-2 000mm/yr  
Climate Subtropical

Local Govt Twelve  
Population 75 000  
Threatened Species ?  
Landcare Groups Eight

## 2.0 THE MARY CATCHMENT - A Brief History

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The Mary River, situated in South-east Queensland, stretches from the Bellthorpe-Maleny region in the south and flows north entering Hervey Bay at River Heads, northeast of Maryborough. The catchment is 9595 km<sup>2</sup> in area. The Mary River has several major tributaries including Obi Obi, Yabba, Little Yabba, Six Mile, Amamoor, Kandanga, Tinana, Deep, Munna and Wide Bay Creeks.

The Mary River valley has a rich history. Before Europeans ventured into the region a very large population of Aborigines occupied the area.

One of the first white people to live in the Mary Valley, with the Aborigines, was James Davis or Durramboi (Kangaroo Rat) an escaped convict from the Brisbane settlement. After spending 14 years with the Mary River tribes Durramboi returned to Brisbane and became a storekeeper.

In May for 1842 Andrew Petrie and a small crew sailed for three days up the Mary River, or Monoboola as it was then known, a distance of 80km as far as Tiaro. Here they could go no further. Petrie named the stream the Wide Bay River and it was known by this name until 1847 when Governor Fitzroy decided that the river should be called Mary in honour of his wife, Lady Mary Fitzroy. Thus the lower Mary was explored and settled.

At the same time the upper Mary was being scouted to determine boundaries of the Bunya Country - this being an area which Sir George Gipps Governor of New South Wales, had designated to the Aborigines, stating that there would be no licences granted for settler occupation or the removal of timber. The expedition began at Brisbane and travelled to Kilcoy (which was then a sheep station) before crossing the Conondale Range and then following the Mary to the sea. An account of the journey is recorded in the diary of Rev. Eipper a German missionary who travelled with Dr. Stephen Simpson, four mounted policemen, James Davis, Bracefield (another escaped convict who had lived with the Aborigines in the region) and four men with a dray.

By the late 1840's both the upper and the lower Mary were under pastoral occupation, the runs being established for wool production with Maryborough being the port for the export of this product. With the advent of the pastoralist, the upper Mary River also became known for its timber wealth.

The vegetation that covered the Mary River catchment before European settlement ranged from dense rainforest in the upper reaches to open Eucalypt forest in the lower valley and to the north. The tall rainforest cover of Maleny and the surrounding region grew many large trees including Beech, Maple, Black Bean, Silky Oak, both White and Red Cedar, and many other valuable timbers.

Timber was a major industry in the region with mills being set up from the upper reaches of the Mary to the lower. The river played an important part in the transportation of the timber down the river to where it could be used or exported.

The river, today, reflects the land use changes that have occurred in its catchment. In the words of Stan Tutt, a local historian, 'Trees went, sand came'. This statement simplifies, yet, to many, sums up the changes that have occurred in the river system.

The discovery of gold in 1867 by James Nash in Gympie had an enormous impact on the Mary Valley as well as Queensland. The gleam of gold brought excitement, adventure and many settlers to the clear creeks and lonely bush of Gympie and the surrounding country-side. All water courses from Gympie to Jimna were worked by prospectors in the hope of finding gold.

The valley landscape and vegetation have changed. Towns have grown, connected by roads and railways.

Around 75000 people now live in the Mary River Catchment. Many people outside the Catchment also rely on it for agricultural products, water supply and building materials (timber, sand and gravel) and for recreational opportunities.

The gaining of this wealth has come at a price. It is hard to talk about the health of the Mary River overall as some sections are in good condition whereas other areas are needing attention. Local historian Stan Tutt writes that the Mary is -

*A river changed beyond comprehension of those who knew it even 50 years ago. Changed from a deep clean stream guarded by shaded scrub (rainforest) which reached back to the ranges, or by the open forest flats saddle high in the native kangaroo grass, to a sand clogged watercourse fighting for its life between eroded banks held by thinly scattered trees.*

The Integrated Catchment Management (ICM) initiative provides an opportunity for all of the community to be involved in maintaining and improving the health of the Mary River and its catchment.

# 3.0 MEMBERSHIP OF THE MARY RIVER CATCHMENT COORDINATING COMMITTEE

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The Mary River Catchment Coordinating Committee comprises representatives from the following interest-sectors:

**LANDCARE**

MR GRAHAM SMITH (Deputy Chairman)  
Cattle Producer and Driving Instructor  
from Kandanga

**HORTICULTURE**

MR PETER BUCHANAN (Chairman)  
Pineapple Smallcrops and Cane farmer  
from Goomboorian

**DAIRYING**

KEN GODDEN  
Dairy Farmer from Gympie

**SMALL ACREAGE**

VACANT

**EXTRACTIVE INDUSTRY**

MR JOHN REA  
Sand and Gravel Operator from  
Eumundi

**GENERAL COMMUNITY**

MR GEOFF WELLINGTON  
Cattle Producer from Belli

**LOCAL GOVERNMENT, LOWER**

CR ALLAN BROWN  
Mayor Maryborough City Council

**LOCAL GOVERNMENT, MIDDLE**

CR ROB PRIEBE  
Councillor Cooloola Shire Council

**LOCAL GOVERNMENT, UPPER**

CR IAN BRYCE  
Councillor Caloundra Shire Council

**SPECIAL MEMBER**

MRS MARGARET THOMPSON (Secretary)  
Dairy Farmer from Maleny

**(NEW) ASSOCIATE MEMBER**

KENT HUTTON  
Gympie

**IRRIGATION**

MR LES KROPP  
Dairy Farmer from the Dawn

**SUGAR INDUSTRY**

MR JEFF SCHMIDT  
Canegrower from Tinana

**ENVIRONMENT**

SANDRA GRIFFITH  
S.C.E.C.  
Maleny

**COMMERCIAL FISHING**

VACANT

**GRAZING**

MR DAVID MACFIE  
Cattle Producer from  
Maryborough

**TIMBER INDUSTRY**

MR LLOYD SMITH  
Miller from Melawondi

**(NEW) STATE GOVERNMENT**

DPI

**STATE GOVERNMENT**

MR TOM CROTHERS  
District Manager DNR, Resource  
Management, Bundaberg

**STATE GOVERNMENT**

MR ROBERT ZIGTERMAN  
Environment Officer, DEH  
Maryborough

**EDUCATION**

MR MARK CRIDLAND  
Barambah Environmental  
Education Centre

**(NEW) ASSOCIATE MEMBER**

FARM FORESTRY

**COORDINATOR**  
**MR STEVE KELLY**  
DPI Resource Management  
Gympie

Please see Appendix B for a list of proxies.  
Please see Appendix J for details of the Committee Structures.

## **4.0 FORMATION OF THE MARY RIVER CATCHMENT COORDINATING COMMITTEE**

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The Mary River Catchment community has shown considerable interest in improving the health of their catchment. Three natural resource management groups, eight Landcare groups, major congresses at Maleny and Kenilworth have been organised to focus attention on catchment-wide issues and a variety of reports have been produced over the years. In 1992 this activity led to the Mary Catchment's inclusion as one of five pilot areas for the State ICM program.

A catchment coordinator was appointed in September 1992 to assist with the formation of a catchment coordinating committee (CCC) to look at key issues. This complex catchment cover parts of twelve local authorities and is experiencing major changes in land use, increased competition for resources, and rapid population growth. Through the coordinator, the ICM concept was discussed with as many groups, organisations and agencies as possible. Their ideas on the ICM process and their concerns regarding participation were gathered and clarified. Local media, a professional twenty-minute video on the Mary Catchment, displays and brochures were used to raise the quality and level of debate about ICM concepts in the community and government.

A process for forming a CCC was developed through wide discussions with key individuals and organisations in the catchment. A community-based Steering Group was formed to establish the CCC. This involved a series of public meetings at Maryborough, Gympie, and Kenilworth. The meetings were publicised and over 250 people attended. At each of these evening meetings the video was shown, key issues were identified and interest groups or sectors which could be on the CCC were canvassed. Potential Steering Group members were asked to address the relevant public meeting on ICM their suitability to represent the community on the Steering Group. People at these meetings then voted on their preferred representatives. This process developed direct ownership by the community of the final CCC make-up.

The six people elected at the meetings joined a local government and a State government representative to form an eight-person Steering Group. Members developed terms of reference, based on the mandate given by the community at the public meetings. Then they drew up a three-month work schedule to culminate in the official launch and first meeting of the CCC.

The Steering Group collated the prioritised interest-sector lists from each public meeting, and identified ten key sectors. The group felt that a good starting point would be one representative from each sector, along with three local authority representatives and two State Government officers, forming a fifteen-member CCC.

The group then developed selection criteria for membership of the CCC: applicants had to demonstrate an understanding of ICM and the catchment, and be prepared to put in the time and effort required. They then organised interest sectors to meet and elect nominees who met the criteria. For example, Landcare groups in the catchment had a regional meeting and elected nominees for the CCC. In order to

draw on the full talent available in the catchment, advertisements in local papers called for interested individuals to apply for these voluntary positions.

All community applicants and nominees provided written applications, and were interviewed by the Steering Group. Eventually an eighteen member CCC was formed.

The pilot project philosophy in the Mary catchment has been to engage in an education and awareness program on ICM, listen to and understand community concerns, and to design a process for introducing a CCC based on these community views. One of the main community concerns was that if traditional community group processes were used then 'professional committee attendees' would join the CCC instead of keen and energetic people motivated to address catchment issues. Hopefully the fuller process adopted in the Mary has addressed this and other concerns. The process appears to have had broad community support.

On behalf of the CCC, the Steering Group applied for endorsement of the CCC formation process and the CCC membership under the State ICM program guidelines. They also requested an establishment and operating grant.

The Mary River Catchment Coordinating Committee was launched by the Honourable Ed Casey, Minister for Primary Industries, on 23 November 1993.

### **Committee Makeup:**

Community/Industry Membership:

- Grazing (beef)
- Landcare
- Irrigation
- Dairying
- Horticulture
- Environment
- Sugar
- Timber
- Commercial Fishing
- Education
- Small Holdings
- Extractive Industry
- General Community

## Government Membership:

- Local authorities (upper, middle, lower)
  - Upper: Kilcoy, Caboolture, Caloundra, Maroochy
  - Middle: Noosa, Cooloola, Kilkivan
  - Lower: Tiaro, Woocoo, Maryborough, Hervey Bay, Brooweena
  
- State Government
  - Department of Environment and Heritage
  - Department of Primary Industries

## **5.0 THE COMMITTEE'S PURPOSE - VISION - GOALS, PRINCIPLES, ROLES & VALUES**

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### **5.1 COMMUNITY EXPECTATIONS**

These are many and varied. Sometimes they also conflict. After two years of operation the community expects the Committee:

- to take a position on issues
- to take a long-term view: look at the big picture
- to be an objective advocate on catchment issues of concern.
- to provide a catalyst for improved policies and bureaucratic procedures as there appears to be frustration with existing processes
- to filter and disseminate information on new government policy
- to assist in resolving conflict
- to be an honest broker, providing unbiased advice.

### **5.2 GOVERNMENT EXPECTATIONS**

In September 1992 the State Government established an ICM Pilot Project in the Mary River catchment with the appointment of a Coordinator to facilitate its introduction. The Pilot Project was aimed at developing community participation in the preparation of actions that would have relevance to the catchment community in achieving better resource management. In particular the Pilot Project was intended to focus on actions to deal with issues involving naturally interrelated physical, biological and social processes ie integrated resource management.

Governments generally around Australia see ICM as providing the framework for the community, industry and government to work together to overcome environmental and resource management problems.

Governments' expectations therefore reflect a recognition that the way governments do their resource management business is changing, that is:

- No single institution has the authority nor resources to fully resolve multiple resource-use problems: coordination is needed.
- New decision-making processes are evolving eg (direct public participation).
- Decision makers need to be involved in analysis and planning.
- A sense of urgency to change is recognised.
- "quick fixes" and "bandaid" measures are inappropriate - a long term view should be taken..
- A balance between traditional scientific inquiry and practical measures to address problems is needed: inadequate technical knowledge should not be an excuse to delay addressing urgent problems.



### 5.3 THE COMMITTEE'S CONSTITUTION

The Committee's primary objective as stated in the Constitution is:

"As an initiative of the Queensland State Government, the Association shall be a representative body of community, industry and government interests involved in natural resource management in the Mary River Catchment".

Secondary objectives are to:

- ☺ Foster coordination between landholders, community action groups, industry organisations and government agencies in their land, water and vegetation management activities and the adoption of catchment-care practices.
- ☺ Promote community, industry and government research and understanding of the interactions between land, water and related biological resources.
- ☺ Promote the value of a coordinated, catchment-wide approach for managing natural resources.
- ☺ Identify interrelated natural resource issues in the catchment, identify solutions and facilitate agreement on actions through public, industry and government participation.
- ☺ Develop and facilitate the implementation of catchment management strategies that address priority catchment issues.
- ☺ Provide a forum for community, industry and government discussions on catchment management issues.
- ☺ Promote the management of the Mary River catchment based on the principles of ecologically and economically sustainable development.

The Committee followed the objectives provided by the Government in their ICM model rules in preparing their Constitution. While they made amendments more relevant to the Mary situation the Committee still did not have a meaningful level of ownership to these model objectives. Consequently they embarked on a workshop exercise in 1994 to define their own role. The outcomes of this process is included in Section 6.2 under Vision, Mission, Goals, Roles. As a result of this exercise the Constitution objectives now have greater meaning for Committee members.

## **5.4 THE COMMITTEE'S - Vision, Mission, Goal, Principles, Roles and Values**

### **OUR VISION -**

**“A Sustainable and Productive Catchment”**

### **OUR MISSION**

**“To promote within the community, through sector interests, a common view of a sustainable and productive catchment”**

### **OUR GOAL**

**“To ensure that we will not be judged by what we take from the catchment but by how we leave the catchment so that its capacity to support our future generations is enhanced.”**

### **OUR PRINCIPLES**

In assisting the catchment community to achieve our shared vision the Committee established five principles:

- **To concentrate on causes not symptoms.**
- **To take a whole of catchment focus.**
- **To emphasise a long-term perspective.**
- **To maintain a balanced outlook.**
- **To promote sustainability, in terms of the ecological, economic and social definitions of the word.**

### **OUR ROLES**

The Catchment Coordinating Committee determined three key roles and four important but lesser roles to guide actions.

### **KEY ROLES**

- Education and Awareness.
- Planning, particularly assisting Local Government.
- Assisting interest-sectors to improve practices eg Best Management Practices, Codes of Conduct.

### **OTHER IMPORTANT ROLES**

- Supporting Landcare.
- Consultation.
- Overview.
- Working with Government.

## OUR VALUES

The Mary River Catchment Coordinating Committee believes that a meaningful Catchment Strategy has to empower those people with substantial land management interests in the catchment to voluntarily adopt actions it contains. As such the Mary River Catchment Coordinating Committee believes in:

- Providing incentives and removing constraints.
- Self-determination and individual freedoms in production and industrial activity.
- Including farm business and profitability in the process of integrated resource management.
- Generating activities which maintain the productive capacity of our natural capital, the resource base, and which will accrue social benefits.

Voluntary adoption doesn't imply "without funding" in this Strategy. Many actions contained in this Strategy require considerable expenditure, yet they have a public benefit far beyond the farm gate or Shire Boundary. As a part of providing incentive the Committee believes that as a community we have to spread the cost of required work - to do this the concept of public good needs to be developed further to justify public sector investment in catchment planning and activities. Inequities between urban and rural communities will also need to be removed.

Lastly, the Mary River Catchment Coordinating Committee firmly holds the belief that for lasting, meaningful, change to occur in the catchment, only widespread grass roots input to local development of industry best management practices will achieve the desired result.

## **6.0 KEY ISSUES IN THE CATCHMENT**

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Determination of the key catchment management issues has built upon the work of other groups in the catchment who existed before ICM. Landcare Groups, Local Government and Local Planning Groups such as the Mary River Planning Committee, have contributed to our knowledge pool in the catchment.

The three public meetings which were held to form an ICM Steering Group in May 1993, generated some three hundred issues of concern to the community. Through workshops, field inspections, technical presentations and discussions the Catchment Coordinating Committee has distilled these many issues down to eight key areas of concern to the catchment community:

- **Knowledge, Research and Education**
- **Land Use Planning**
- **Water Quantity**
- **Land Management Practices, Fostering Sustainable Production.**
- **Water Quality**
- **Riverbank Stabilisation.**
- **Natural Environment/Wildlife**
- **Legislation and Procedures.**

Strategies and actions which will assist in addressing these issues are outlined in Section 8. They were developed through a number of workshops and meetings and are based on the ideas of the Catchment Coordinating Committee members and members of the community. As better information becomes available through further involvement of the catchment community, more strategies and actions will evolve.

## **7.0 ACHIEVEMENTS TO DATE**

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In the two short years of the Committee's existence a range of activities have carried out to move down the path of improved catchment management. Achievements resulting from some of these activities are clear and obvious, others are far more subtle as might be expected as ICM is principally a people process dealing with attitudes, perceptions and awareness of issues and change.

In this regard one of the main achievements in the last two years has been to lift the general awareness of the Catchment concept, and to commence the work of bringing a catchment perception to the work of others and assisting them to address the work required.

Some of the main achievements and activities are:

### **Greater Knowledge, Education and Awareness**

Successfully establishing Waterwatch. Securing funding from the National Riparian Zone Research and Development Program for four key projects (\$95 000) including securing a world expert in river restoration, Professor Rob Newbry to run local workshops in the upper catchment. Holding the third Mary River Congress (\$5 000), Cod Forum and Research Forum. Production of the booklet Hey Slow Down I want to look that word up to assist Waterwatch.

### **Planning, particularly assisting local government**

Initiation of a Mayor's Forum to provide strategic direction from Local Government. Financial support to the Mary River Planning Committee for a Rural Residential Study of the entire catchment. Placement of land valuations on the Local Government Conference agenda.

### **Assisting interest-sectors to improve practices**

Establishment of a Voluntary Riverbank Restoration Grant Scheme (\$190 000) to allow improve cattle management in waterways to improve water quality, bank stability and riparian values while lifting the capacity of landholders to manage drought. Initiation of a Dairy Industry Effluent Control Assistance Package to reduce waterway contamination.

### **Supporting Landcare**

Assistance in securing funding for a range of worthwhile ICM projects: stream rehabilitation, heavy metals sampling and Waterfest field day (Kilkivan Landcare), dairy effluent management techniques (Barung Landcare), severe riverbank erosion stabilisation (Kenilworth Landcare), People Power in Catchment Care Conference (Lake Baroon Catchment Care Group).

### **Improved Consultation Process**

In close consultation with relevant interest-sectors, the Committee has prepared a range of Position Statements on contentious issues such as Water Supply, Rural Subdivision and Natural Resource Management Legislation. These statements have been an important barometer of community feeling on these issues.

### **Overview - big picture of catchment included in consideration of issues by Government and community**

Development of the Catchment Strategy and the increasing role of the Committee as an honest broker reflect achievement in the Committee's capacity to take an overview role on vital issues. Credibility in this area is an important community indicator of how the Committee is performing.

### **Working with Government**

The Committee has worked closely with Local Government in drafting the Catchment Strategy, in preparing a Septic Tank Survey of all Shires in the catchment, and in establishing a Sand and Gravel Reference Panel to provide a catchment response to the State Government on submissions to their Mary River Extractive Industry Policy.

The Committee has also provided detailed comments on the Regional Open Space Scheme and the Natural Resource Management legislation.

The Committee is also working closely with agencies in developing investigations and research activities in the catchment to provide much needed information on the status and trends in the condition of our natural resources.

In coming years the Committee's expectation is to make solid achievements in developing a catchment-wide perspective amongst those who live in the catchment and those who impact upon it from outside; and to encourage, assist and influence others to carry out the activities and ideas contained in the Catchment Strategy and Business Plan.

## 8.0 PROPOSED STRATEGIES AND ACTIONS

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### 8.1 GREATER KNOWLEDGE, RESEARCH, EDUCATION (KRE)

#### Issues:

There are few greater liberating forces to progress than the sharing of information. The compilation and sharing of information on the natural resources of the Mary River Catchment is an essential part in the development of an effective catchment management strategy.

In the short time the Mary River Catchment Coordinating Committee has existed, it has identified the following issues relating to Greater Knowledge, Research and Education:-

- there are large “knowledge gaps” on the natural resources of the Mary River catchment. Information is required on issues such as stream dynamics, sediment transportation, impact of chemical contaminants, nutrient occurrences and movements, population and occurrence of flora & fauna, geology, soils and land use in the catchment.
- much of the currently available information is in a form that is unsuitable for use in developing a catchment management strategy. This information will require further collation analysis and interpretation before it can be utilised.
- there is a need to review the priorities of research being undertaken in the catchment by educational institutions and government agencies. There is also a need for greater coordination between these parties.
- there is a priority need to increase and transfer knowledge to the decision makers in the catchment, particularly elected officials and key staff in Local and State government agencies of the changes that have occurred in the catchment and the need to develop a position on key natural resource management issues in the catchment.
- there is a strong recognition by the community that increased awareness and understanding of the issues and possible solutions for sustainable resource management in the catchment is fundamental to achieving long term changes in attitude.
- Opinions differ in the community on the need for legislative controls for sustainable natural resource allocation and management. Many people believe that education over time will greatly reduce the need for regulation while others believe that education supported by strong regulation is necessary for effective strategies to be adopted.
- the utilisation of action learning projects such as Waterwatch and the Voluntary Riverbank Restoration Grant Scheme create a broader community understanding of catchment management issues and commitment to implementing improved management practices. Projects such as these also foster new networks and information sources in the community.

**Goals:**

- To ensure that catchment management has sufficient information to be soundly based and factual, and to spread the development of a “catchment” consciousness through the Mary community.

**Objectives:**

- To identify catchment changes and the reasons for them
- To allow information transfer and network development
- To develop an appreciation of the “challenge of the landscape” eg water movement.
- To drive catchment management by gathering and interpreting existing data and researching data gaps.
- To ensure that MRCCC findings and outcomes are based on sound data to see justifiable

**Outcomes:**

- overall integration of research activities in the catchment
- greater awareness of the impacts of actions and decisions on the catchment, quality of life and lifestyles
- research directed to practical outcomes



**Strategy: KRE1**

***Identify changes that have occurred in the catchment.***

	<b><i>ACTION</i></b>	<b><i>BY WHO</i></b>	<b><i>BY WHEN</i></b>
1.1	Establish Technical Advisory Group to advise MRCCC and to arrange preparation of a series of State of the Catchment Summary Reports eg hydrology, vegetation cover, erosion, biodiversity	MRCCC TAG DNR	2000
1.2	Collect, collate and interpret existing information including historical information of local landholders - develop landuse map and placement in a central repository.	MRCCC TAG	1998
1.3	Research establishment of benchmarks for natural systems.	Research Institutions	2000
1.4	Conduct hydrologic study on flood heights, frequency and speed to identify stream flow changes.	DNR (RSC)	1998-1999
1.5	Apply the "State of the Rivers" methodology to the Mary.	DNR	1996

**Strategy: KRE2**

***Identify new research required and priorities.***

	<b><i>ACTION</i></b>	<b><i>BY WHO</i></b>	<b><i>BY WHEN</i></b>
2.1	Hold biannual Research Forum and forum for "funding providers".	TAG, MRCCC	Biannually
2.2	Identify list of research projects.	MRCC	1997, ongoing
2.2	Identify target groups - to do the research - to receive outcomes and act on findings.	TAG, MRCCC	Annually

**Strategy: KRE3**

***Increase knowledge of information existence, projects and key issues in the catchment, particularly among key decision makers.***

	<b><i>ACTION</i></b>	<b><i>BY WHO</i></b>	<b><i>BY WHEN</i></b>
3.1	Hold annual Mayors' Forum.*	MRCCC	Annually
3.2	Develop an information package on Mary River ICM-speakers kit, maps, charts, processes. Develop a catchment Handbook.	Education and Awareness Subcommittee	1998
3.3	Develop an education package on key changes identified and promote to target audiences.	DNR	1998
3.4	Hold Catchment Management seminars for local Government planners and officials, including CEOs	DLGP, MRCCC	1998

**Strategy: KRE4**

A Sustainable and Productive Catchment

### ***Consolidate Waterwatch and widen its impact.***

	<b><i>ACTION</i></b>	<b><i>BY WHO</i></b>	<b><i>BY WHEN</i></b>
4.1	Secure longterm funding for Waterwatch.	MRCCC, landcare groups	ongoing
4.2	Extend Waterwatch to include Waterwise concepts and a wider audience.	DNR	1997
4.3	Hold biannual Mary River Congress	MRCCC, landcare groups	ongoing

### **Strategy: KRE5**

#### ***Improve understanding of water management in the Catchment***

	<b><i>ACTION</i></b>	<b><i>BY WHOM</i></b>	<b><i>BY WHEN</i></b>
5.1	Ensure 'Rainman' is widely available to landholders eg information centres.	DPI	1998
5.2	PMP modules in the catchment to include climatic data.	DPI	1998, ongoing
5.3	All industry groups developing Codes of Practice to be provided with climatic data, and information on water flow changes in the catchment.	DPI, DNR (RSC)	ASAP, ongoing
5.4	Include catchment processes and hydrological education in curricula for schools, universities, professional development programs and community education programs..	School support centres, community educators	2000

## 8.2 BETTER LANDUSE PLANNING (LUP)

### Issues:

Population growth in the Mary River Catchment has been consistently high for a number of years and this trend is expected to continue. Projections are that the population of the Sunshine Coast/Cooloola area will increase from 161 000 to approximately 700 000 over the next 50 years. This growth will place significant pressures on the Catchment's natural resources and the provision of community services.

Land Use Planning issues that will need to be addressed include:-

- the impact of government policies for the retention of good quality agricultural land in agricultural production.
- urban encroachment on agricultural lands and the proliferation of rural residential developments.
- the impact of rural residential developments on the demand for services, degradation of natural resources and restrictions to operations on neighbouring enterprises.
- the inadequate environmental impact assessment of development proposals by Local Government.
- the imbalance between controls imposed by Councils on urban properties and those imposed on rural properties.
- the inadequate development controls imposed by Local Government and the lack of follow up and monitoring by them to ensure compliance with the prescribed development conditions.
- the provision of buffer areas between urban and rural communities and industrial enterprises to avoid conflict on issues such as noise, dust and spray drift.
- the impact of short term political and parochial issues diverting the attention of Land use decision makers from long term planning and implementation of a land use strategy for the catchment.
- the lack of political will to convert from a frontier development style to a sustainable economic approach for the management of natural resources.
- the impact of tourism on the catchment (the love-it-to-death problem).
- the value of native vegetation in contributing to the cultural diversity and uniqueness of the catchment.

In addressing Land Use Planning issues in the catchment, the community will also need to recognise:-

- that agriculture needs to continue in order to produce food, provide a strong economic and employment base, and to maintain the culture and heritage of the catchment.
- that quality of life, food production potential, environmental amenity and scenic values of the catchment will be destroyed by rampant subdivision and population growth.
- that degradation of our streams and waterways must not be allowed to continue.

These parameters will need to be reflected in planning and development controls to ensure sustainable development.

**Goal:**

To coordinate and optimise landuse and longterm planning policy and practice. To preserve and protect resources for the benefit of those that live in the catchment.

**Objectives:**

- To lessen the impact of the three year “Political planning cycle”
- To gather sufficient information to know what we as a community want to achieve with landuse planning

**Outcomes:**

- Get the most from our productive land while improving the catchment environment.
- Principles of sustainable landuse in the Mary River.

**Strategy: LUP1**

***Highlight importance of integrated and longterm planning to the health of the catchment.***

	<b>ACTION</b>	<b>BY WHO</b>	<b>BY WHEN</b>
1.1	Produce improved strategic plans, particularly utilising RPAC, SEQ2001 and Mayors' Forum outcomes	LGAs	Ongoing
1.2	Promote discussion of population issues within the community	MRCCC	1997
1.3	Ensure that landuse decisions take account of: <ul style="list-style-type: none"><li>• availability of water supplies</li><li>• pollution potential of surface and groundwater</li><li>• cumulative hydrological changes eg size and speed of runoff</li><li>• effect on adjacent landuses</li><li>• cumulative ecosystem impacts</li></ul>	LGAs DoE DNR	Ongoing
1.4	Better siting of industrial estates in the landscape	LGAs	Ongoing
1.5	Provide for direct community participation in preparing strategic plans	LGAs	Ongoing

**N.B.** The Mayors Forum is an annual meeting of the Mayors of the twelve Local Authorities in the Mary River Catchment.

**Strategy: LUP2**

***Develop an appreciation of the factors affecting viable farming in relation to subdivision policies of Councils.***

	<b>ACTION</b>	<b>BY WHO</b>	<b>BY WHEN</b>
2.1	Hold planning forums with planners and Councillors to define catchment issues and principles as they effect rural planning	MRCCC	1998
2.2	Hold Forum on "farm viability Incentives" eg. tax breaks and incentives.	DPI	1996
2.3	Provide economic information how subdivision and amalgamation effect farm viability.	DLGP DNR MRCCC	Ongoing

**Strategy: LUP3**

***Define and record industrial and agricultural activity/production in the catchment.***

	<b><i>ACTION</i></b>	<b><i>BY WHO</i></b>	<b><i>BY WHEN</i></b>
3.1	Gather information from industrial and agricultural sectors on future directions and viability.	DPI, Industry	Ongoing
3.2	Use this to input to Strategic Plans of Councils	LGAs	Ongoing
3.3	Conduct "Scenario planning" exercise as part of process	DPI and LGAs	Late 1997

**Strategy: LUP4**

***Assist viability of farming and hence the capacity to invest in long term ecologically sustainable systems and practices.***

	<b><i>ACTION</i></b>	<b><i>BY WHO</i></b>	<b><i>BY WHEN</i></b>
4.1	Introduce tax incentives and differential rates for maintaining ecosystem integrity	LGAs, State & Fed govts.	ASAP
4.2	Identify and preserve good quality agricultural land	LGAs, DNR	Ongoing
4.3	Encourage rural subdivision around existing villages and discourage urban sprawl	LGAs, DNR	Ongoing
4.4	Continue ICM process of lobbying on issues related to landuse planning	MRCCC	Ongoing
4.5	Encourage consistent strategic and town plans across all 12 shires in the catchment	DLGP, MRCCC, LGAs	Ongoing
4.6	Incorporate resource security into landuse planning practice	LGA's, DLGP	ASAP

**Strategy: LUP5**

***Provide greater land suitability and capability information (including soil types and land resource assessment) for Local Authorities.***

	<b><i>ACTION</i></b>	<b><i>BY WHO</i></b>	<b><i>BY WHEN</i></b>
5.1	Prepare land suitability and capability maps for whole catchment (include detailed soil maps and key areas of vegetation)	DNR	ASAP
5.2	Carry out land resource assessment study to identify extent of land resource	DNR	ASAP
5.3	Map acid sulphate soils.	DNR	ASAP
5.4	Identify conservation values of vegetation in the catchment	DNR, DoE	ASAP

### 8.3 MANAGING WATER QUANTITY (MWQ)

#### Issues:

The average annual streamflow for the entire Mary River catchment is 2,309,000 megalitres. However, this streamflow is highly variable with the river usually at low levels for most days in the year but rising quickly with high rainfall events, particularly during the cyclone season.

The catchment currently provides a water supply to a population of 161,000 as well as meeting irrigation and stockwater demands for rural landholders.

The amounts of surface water used in the catchment for consumptive purposes are shown below:-

- townwater - 30 000 megalitres per year (including Sunshine Coast figures below)
- irrigation - 25 000 megalitres per year from regulated supplies, unregulated usage unknown.
- stock and domestic - unknown
- industry - around 380 megalitres per year (not counting mining washing).

Interbasin transfers of water from the catchment in 1995 included 154,000 megalitres for the Caloundra/Maroochy Water Board and 7700 megalitres for the Noosa Shire Council to supply urban communities on the Sunshine Coast.

Projections of a population increase from the current level of 161,000 to around 700,000 for the Sunshine Coast/Cooloolo area over the next 50 years will substantially increase the demand for water resources in the region and the catchment. Increased competition for the water resources of the catchment will require the following issues to be addressed:-

- the determination of quantities of interbasin transfers of water from the Mary River Catchment to the Sunshine Coast.
- the allocation of water resources to stakeholders within the Mary River catchment eg irrigators, urban communities, environmental flows, processing industries, mining operations.
- developing a strategy for managing streams in the area that are already stressed through uncontrolled demands for water eg Scrubby Creek, Three Mile Creek, Glastonbury Creek, Calico Creek, Widgee Creek and Eel Creek.
- evaluating the possible needs and potential timelines for the further development of water storages.
- encouraging greater emphasis on the use of strategies which promote greater water efficiency eg use of rainwater tanks, installation of water meters, the use of greywater and the use of potable recycling systems.
- the need for an education program to address community groups on the reuse of water, particularly potable recycling systems.
- the need to investigate and monitor the impacts of the proliferation of farm dams on the hydrologic performance of some subcatchments.
- the need to investigate and monitor the impact of current land use and management practices on the limited groundwater resources of the catchment.

Through the development of a strategy for the sustainable allocation and management of the catchments water resources, the communities in the Mary Valley will be better equipped to manage future development while maintaining the area's lifestyle values.

**Goals:**

- To ensure a water supply for all users which is economically, ecologically and socially sustainable.
- To ensure that the speed and volume of runoff from the catchment more closely resembles the “natural” state.

**Objectives:**

- To raise the level of debate on water supply issues.
- To assist in implementing the COAG\* water reforms.
- To integrate water and wastewater infrastructure planning.
- To assist in reducing the impact of flooding.

**Outcomes:**

- Greater appreciation of the value of water and its real cost
- Minimise water use consistent with maintaining healthy ecological systems, flows into the estuary system and appropriate groundwater levels.
- Reduced community losses from floods.
- Engender an understanding amongst the “numerous and powerful tribes adjacent to our catchment” that the Mary River catchment is not a bottomless pit.

\* COAG - Council of Australian Governments



**Strategy: MWQ1*****Use existing developed water supplies as efficiently as possible.***

	<b><i>ACTION</i></b>	<b><i>BY WHO</i></b>	<b><i>BY WHEN</i></b>
1.1	Support rural demand management eg irrigation scheduling, tailwater management	DNR	1997, ongoing
1.2	Foster water harvesting in high flow periods	DNR	1997-98, ongoing
1.3	Raise Borumba Dam	State Govt	Soon
1.4	Promote potable reuse schemes, greywater recycling, raintanks, metering, leak detection programs, dual reticulation and user pays pricing for urban supplies, based on actual costs, particularly on the Sunshine Coast	DNR LGAs	Ongoing
1.5	Introduce water ordering for regulated irrigators and an annual license return on water use for all license holders and stock and domestic permit holders	DNR	ASAP
1.6	Introduce meters for all irrigators and establish, in consultation with land-holders, levels of use for stock and domestic license/permit holders both on regulated and unregulated streams	DNR	1998
1.7	Improve water release methodology for Borumba Dam	DNR	1998
1.8	Conduct audit of rural residential surface and groundwater use and management for impacts on water availability	DNR	ASAP

**Strategy: MWQ2*****Establish and transfer available information on water resources in the catchment.***

	<b><i>ACTION</i></b>	<b><i>BY WHO</i></b>	<b><i>BY WHEN</i></b>
2.1	Update Mary overview Study, produce in form readily understood, develop summary of water availability	DNR	1998
2.2	Develop information and policy on real costs, pricing, who pays and equity, for both water supply and sewage infrastructure	DNR	1998
2.3	Make surrounding LGA's more aware of water availability issues in the catchment	DNR MRCCC	Ongoing
2.4	Conduct Water Audits of all subcatchments in the catchment	DNR,Gympie	Ongoing
2.5	Assemble information on water demands - inside catchment - outside catchment - user needs in future - individually - how much? - impact of potable reuse on water supply	DNR	Ongoing
2.6	Undertake studies to define instream needs for streams in the catchment and the impact of inter-basin transfers and water infrastructure on hydrology and the environment	DNR, DoE, Teritary institutions	1998
2.7	Conduct detailed resource assessment study of groundwater in the catchment (incl quality)	DNR, DoE	1998

**Strategy: MWQ3*****Stimulate community discussion on population issues and water consumption.***

	<b><i>ACTION</i></b>	<b><i>BY WHO</i></b>	<b><i>BY WHEN</i></b>
3.1	Hold an Education Forum on population issues and sustainability in the Mary - general focus - water focus	MRCCC SEQ2001 RPACs DNR DLGP	1998
3.2	Prepare a Population Paper for public comment	MRCCC	1998
3.3	Local Governments to take greater responsibility for their water requirements	LGAs in catchment	Ongoing
3.4	Discourage inter-basin transfers to surrounding catchments	MRCCC	Ongoing

**Strategy MWQ4**

***Lift awareness and understanding of water and wastewater management and the need for an holistic approach.***

	<b><i>ACTION</i></b>	<b><i>BY WHO</i></b>	<b><i>BY WHEN</i></b>
4.1	Develop a community education project on water and wastewater management addressing both rural and urban situations and which promotes reuse of water.	AWWA, DNR	1997-98
4.2	Develop trial potable reuse plant for demonstrations	AWWA/DNR	1997
4.3	Instigate research and pilot plants for new technologies	AWWA/DNR	Ongoing
4.4	Funding for water supply and wastewater infrastructure should be linked	AWWA/DPI Government	ASAP
4.5	Conduct a study into the effects of impoundments on the riverine and marine environment	DNR, DoE consultants	2000

**Strategy: MWQ5**

***Reduce speed and volume of floods and re-establishment of a more “natural” catchment hydrology.***

	<b><i>ACTION</i></b>	<b><i>BY WHO</i></b>	<b><i>BY WHEN</i></b>
5.1	New developments to include methods for control of runoff in landscape design	LGA's	Ongoing
5.2	New developments to minimise areas of impervious surfaces, particularly in high rainfall areas	LGA's	Ongoing
5.3	Encourage vegetation retention and revegetation particularly on steep slopes, riparian zones and high rainfall areas - see also KRE 1.4, RBS 2.1 - 2.4	Landcare Industry LGA's DPI, DNR	Ongoing
5.4	Development on flood prone land to be discouraged in planning instruments	LGA's	Ongoing
5.5	Develop an education program to lift new settler awareness of the dangers of floods.	SES LGA's	1998-99
5.6	Produce a catchment flood map to indicate flood levels throughout the catchment and provide a network of markers at key points	LGA's DNR	2000



## 8.4 IMPROVING LAND MANAGEMENT PRACTICES AND FOSTERING SUSTAINABLE PRODUCTION

### Issues

Sustainability of production involves the stewardship of our natural resources to ensure a continuity of social economic and environmental benefits to the community. If the ecological balance between our land, water and vegetation resources is upset, then degradation of our natural resource base will occur and the long term sustainability of production will not be achieved.

The Mary River catchment supports a wide variety of land uses which impact on the natural resources. There is evidence that some past land uses and management practices have resulted in severe degradation of parts of the catchment. Degradation such as soil erosion, landslip, nutrient depletion, soil acidification, woody weed invasion, stream bank erosion, pasture deterioration, loss of wildlife habitat, loss of remnant flora and fauna resources and salinity are all symptoms of inappropriate land use management.

There are a number of reasons why sustainable land management practices are not used by landholders in the catchment. These include:-

- the target audience for awareness, education and skills programs needs to be better defined in terms of needs, expectations and beliefs before launching into such programs.
- some of the target audience in many instances don't perceive themselves as contributing to degradation problems.
- there is a reluctance to accept new or different ways of doing things without reasonable guarantees of success.
- in many instances there is acceptance of the need to change but landholders are unsure of what to change or how to initiate the required changes.
- there is a lack of motivation or incentive for some landowners to become more involved in solving problems because they feel it will cost them money they can ill afford, or, in some cases because they are looking for short term profits prior to selling their properties.
- there is a view in some quarters that the word "sustainable" equates with "greenie" and that this equates to reduction of control over their own land.
- the number of absentee landowners is estimated to be between 10% and 20%. This tends to isolate owners from the needs of the land, and provides social and logistical barriers to landholders getting together to solve problems.
- some landholders believe they are being unfairly targeted for a problem that is a total community problem. Past communities have benefited from exploitation of the natural resources and they believe current communities should contribute to their rehabilitation.
- some landholders believe there is a need to educate urban dwellers on how their needs effect the agricultural decisions made by land managers.

A catchment management strategy will only be effective if these issues are addressed.

## **Goals**

- To develop and adopt land management systems which are economically viable and equitable while protecting the natural resource base.
- To educate industry, community and government about the need for, and techniques of, improved land management practices.

## **Objectives**

- To improve farm viability
- To adopt Best Management Practice.
- To reduce the cost of future rehabilitation work.

## **Outcomes:**

- Greater retention of vegetation cover on the catchment.
- Reduced water quality and reduced negative impacts on natural systems.
- Reduced soil erosion and land degradation.

**Strategy: LMP1**  
**Support adoption of best management practices in farming systems.**

	<b>ACTION</b>	<b>BY WHO</b>	<b>BY WHEN</b>
1.1	Develop BMP for local conditions in the catchment.	Industry groups, DPI, Landcare.	Ongoing
1.2	Conduct awareness campaign on need for BMP.	Industry groups, DPI, Landcare.	Ongoing
1.3	Continue researching BMP.	Industry groups, Govt.	Ongoing
1.4	Carry out economic studies of BMP to show practical benefits of sustainable practices.	Industry groups, DPI, landcare	Ongoing

**Strategy: LMP2**  
**Encourage property management planning (PMP) to achieve sustainable agricultural production.**

	<b>ACTION</b>	<b>BY WHO</b>	<b>BY WHEN</b>
2.1		DPI, Landcare	Ongoing
2.2	PMP modules to include Codesof Practice.	DPI, industry	Phased

**Prepare erosion control**  
**Strategy: LMP3**  
**Implement ways to reduce negative impacts of non-agricultural land use practices.**

	<b>ACTION</b>	<b>BY WHO</b>	<b>BY WHEN</b>
3.1	Soil and water management plans to be required for all new developments in urban and rural residential areas, both for the construction phase and finished product (includes concept of erosion control plans).	LGA's DLGP	1998
3.2	Develop a catchment wide plan for the placement and management of refuse dumps.	LGAs/DoE	1998
3.3	Prepare erosion control guidelines for adoption by LGAs	DoE, LGAs	1998

**Strategy: LMP4**  
**Improved timber clearing practices.**

<b>ACTION</b>		<b>BY WHO</b>	<b>BY WHEN</b>
4.1	Develop vegetation management guidelines (BMP) with an emphasis on improving how land is cleared and managed.	DPI, Industry groups, DoH, Landcare	2000
4.2	Develop BMP for private forestry activities.	Industry groups, DPI, DNR, DoE, Landcare	1998
4.2	Provide training for Council staff on clearing practices., and develop environmental workplace guidelines for all shire councils, including training	Councils	Ongoing

**Strategy: LMP5**  
**Education of landholders regarding stocking rates**

<b>ACTION</b>		<b>BY WHO</b>	<b>BY WHEN</b>
5.1	Establish trials and demonstrations using existing practical farms to show different methods - include economic analysis.	DPI(Ag Production), Industry	1998, ongoing
5.2	Include stocking rate module in PMP package for the Mary River catchment.	DPI, industry	1998

**Strategy: LMP6**  
**Improved fire management.**

<b>ACTION</b>		<b>BY WHO</b>	<b>BY WHEN</b>
6.1	Develop fire management guidelines (BMP's) specifically for the Mary River catchment.	Landcare,DPI (Ag Production) DoE	1998
6.2	Publicise existing work better.	Landcare,DPI (Brian Pastures), Rural Fire Boards.	1998





**Strategy: LMP7**

***Education of landholders, agencies and industry groups regarding cropping practices.***

<b>ACTION</b>		<b>BY WHO</b>	<b>BY WHEN</b>
7.1	Promote better land management practices on poor Cropping land.	DPI	Ongoing
7.2	Identify target audiences and design accordingly for ..... strategy LMP7.1	DPI	Ongoing

**Strategy: LMP8**

***Improve the debt structure of farmers and hence capacity to implement changed practices.***

<b>ACTION</b>		<b>BY WHO</b>	<b>BY WHEN</b>
8.1	Improve financial and business planning skills of landholders	DPI, Consultants	Ongoing
8.2	Educate bankers re farm business planning	Industry, DPI	Ongoing
8.3	Widen the market base for farmers	Industry groups, AMLC, DPI Agribusiness	Ongoing

**Strategy: LMP9**

***Improve information delivery to landholders and industry on farm management within our variable climate.***

<b>ACTION</b>		<b>BY WHO</b>	<b>BY WHEN</b>
9.1	Hold workshops on managing for climate variations.	Landcare, DPI BoM, DoE	Ongoing
9.2	Make information more accessible	CSIRO, BOM DoE	Ongoing

**Strategy: LMP10**

***Increase urban and rural residential people's understanding and response on the issue of chemical and fertiliser use and disposal.***

<b><i>ACTION</i></b>	<b><i>BY WHO</i></b>	<b><i>BY WHEN</i></b>
10.1 Landcare and rate notice education program, including what to do with unwanted chemicals	Landcare, LGAs DNR	1998
10.2 Establish, and promote the use of, collection points for old chemical containers	Suppliers, DoE	1998

## 8.5 IMPROVING WATER QUALITY (IWQ)

### Issues:

Water quality is one of the prime indicators of a catchment's health. The responsible management of the land and vegetation resources in a catchment helps to ensure that good quality water is available to meet community needs. Community needs for good quality water involve a wide range of uses including domestic use, irrigation, recreational use, stock watering, maintenance of ecosystems, aquaculture, processing industries and mining operations.

A Department of Environment and Heritage study (1994) on water quality in the Mary River Catchment found that water quality was good and compared favourably with other catchments in Queensland. However, some tributaries and sections of the Mary River do contribute poor quality water, particularly during major rainfall events when mobilisation of contaminants occurs.

Within the Mary River catchment the generally recognised sources of contaminants are:-

- urban - petrochemicals, bacteria, viruses, septic tanks, soil disturbance for roads and subdivisions, heavy metals and discharges from sewerage treatment plants.
- mining-dredging, sand and gravel washing, arsenic, cyanide, cadmium.
- forestry-erosion, nutrients.
- agricultural-clearing, erosion of cultivated and overgrazed lands, fertilisers, chemicals.

Indicators of a deteriorating water quality in the catchment which need addressing are:-

- a decline in fish species in the Mary River such as the endangered Mary River Cod.
- dieback of the seagrass beds in the Great Sandy Straits and Hervey Bay
- reductions in lentic macro-invertebrates in the Mary River and its tributaries (the bugs that live in our riverbeds).
- blue-green algae occurrences in the Lake Baroom catchment and farm dams in the catchment.
- the presence of heavy metals such as arsenic, cyanide, aluminium and selenium in water samples taken from several tributaries of the Mary River. The recorded levels of heavy metals far exceed the National water quality standards.
- the presence of high nutrient levels and increasing salinity levels in localised groundwater aquifers and watertables.

There is increasing community concern that water quality will rapidly deteriorate with continued uncontrolled development in the catchment. Strategies need to be developed to address these concerns and to reduce the potential for further detrimental impacts on aquatic environments.

**Goals:**

- To continuously improve water quality in the catchment within the limits of natural constraints.
- To ensure that all water users put back water of a higher quality than they take out.

**Objectives:**

- To increase understanding of the links between health of the marine environment and catchment management.
- To increase awareness of the importance of water quality, and downstream impacts of activities.
- To reduce point and diffuse sources of pollution.

**Outcomes:**

- Lower cost of water treatment to the community.
- Improved recreational and environmental amenity.

**Strategy: IWQ1**

***Establish credible information on water quality in the catchment, past, present and future as a basis for decision making.***

	<b><i>ACTION</i></b>	<b><i>BY WHOM</i></b>	<b><i>BY WHEN</i></b>
1.1	Establish a water quality monitoring program in the catchment to provide both ambient and event (flood) based data	DNR DoE	ASAP
1.2	Collect and interpret data on Water Quality (which distinguishes between natural and human induced sources of poor water quality) to identify current status, changes and trends	DoE DPI TAG	Ongoing
1.3	Determine the impact on the marine environment of waters from the Mary catchment, including impact on commercial fisheries and recreational industries	DEAP Committee, DoE, DNR, FMA	ASAP

**Strategy: IWQ2**

***Make water quality an issue - raise its profile.***

	<b><i>ACTION</i></b>	<b><i>BY WHOM</i></b>	<b><i>BY WHEN</i></b>
2.1	Hold Mary River Congress	MRCCC, Landcare groups	Biannually
2.2	Hold a Technical Water Quality Forum in the Catchment	DoE MRCCC	1998
2.3	Provide meaningful incentives and penalties to encourage elimination of discharges	LGA's DoE	Ongoing
2.4	Promote the concept of zero discharge of pollutants to waterways from point sources	LGAs MRCCC DoE	Ongoing
2.5	Provide five yearly pollution statements and maps of the catchment	DoE	Ongoing

**Strategy: IWQ3**

***Eliminate the impact of sewage pollution (emphasis on STP's).***

	<b><i>ACTION</i></b>	<b><i>BY WHOM</i></b>	<b><i>BY WHEN</i></b>
3.1	All STP's in catchment to adopt nutrient removal methods(see also 3.2 and 3.6) when effluent is returned to receiving waters.	DoE LGA's	2010
3.2	Implement a Fight Phosphorus Campaign to reduce inputs to STP's	MRCCC LGA's, DoE, DNR	ASAP
3.3	Establish guidelines for placement of STP's in the landscape eg above flood levels	DoE	2000
3.4	Eliminate illegal connections to the sewerage system	LGA's	Ongoing
3.5	Eliminate trade waste from urban sewage systems. Promote trade waste controls and re-use.	DoE LGA's	Ongoing
3.6	Implement potable reuse, dual reticulation and land disposal as appropriate.	LGA's DoE	Ongoing
3.7	Ensure compliance with the objectives of the EPA	DoH LGA's	Ongoing
3.8	Develop a sewage effluent control education and information package for small communities.	DNR ,LGA's	ASAP
3.9	Develop procedures for use of sludge	DNR, DoE LGA's	ASAP
3.10	Encourage dry composting toilet systems where appropriate	DNR, DoE, LGAs	ASAP

**Strategy: IWQ4**

***Implement measures to reduce the pollutant loads from urban stormwater runoff.***

	<b><i>ACTION</i></b>	<b><i>BY WHOM</i></b>	<b><i>BY WHEN</i></b>
4.1	Develop and implement urban runoff control plans for all towns and BMP Guidelines for the catchment	DHLGP LGA's	1998
4.2	Incorporate urban runoff control measures into new and existing areas prior to discharge to waterways.	LGAs	Ongoing
4.3	Undertake education campaign to highlight the	DoE	1997,

	impacts of urban stormwater pollution in the Mary and possible solutions	LGA's Landcare	ongoing
4.4	Lift compliance with urban runoff and stormwater legislation, eg bylaws.(aslo strategy MWQ5)	DoE, LGAs	ASAP

**Strategy: IWQ5**

***Identify diffuse sources of pollution in the catchment.***

	<b><i>ACTION</i></b>	<b><i>BY WHOM</i></b>	<b><i>BY WHEN</i></b>
5.1	Conduct water quality study of Lake MacDonald Catchment and develop Water Quality Strategy	Noosa Shire Council	In progress
5.2	Conduct water quality study of Lake Baroon Catchment	Caloundra - Maroochy Water Board	In progress
5.3	Apply CSIRO'S decision support package to Landuse map of Mary to determine sources of nutrients	DPI(RMI)	1997
5.4	Use the outputs from IWQ1 to determine the contributions to pollution from the various subcatchments and landuses in the catchment.	DPI(RMI)	1997

**Strategy: IWQ6**

***Reduce diffuse sources of pollution in the catchment.***

	<b><i>ACTION</i></b>	<b><i>BY WHOM</i></b>	<b><i>BY WHEN</i></b>
6.1	Implement Water Quality Strategies for Lake MacDonald and Lake Baroon Catchments	Noosa Shire Council Caloundra - Maroochy Water Board Lake Baroon Catchment Care Group	1997
6.2	Encourage widespread adoption of QDO's dairy effluent control guidelines-develop dairy effluent funding package.	QDO, MRCCC	1996
6.3	Continue improvements in managing runoff from forestry plantations.	DPI(Forestcom)	Ongoing
6.4	Reduce contamination of surface and groundwater from mines in the catchment, implement rehabilitation measures eg. Agricola	DME/DEH	Ongoing
6.5	Improve road design and construction to reduce impacts on hydrology and water quality.	DOT	ASAP
6.6	Develop industry based BMP's to reduce pollution from agricultural sources.	AG industries	ASAP







## 8.6 RIVERBANK STABILISATION (RBS)

### Issues:

Riverbank erosion of the Mary River is readily identified by many people as a problem of catchment wide proportions. Erosion in the main stream of the Mary River extends from Connondale to the estuary downstream from Maryborough.

While streambank erosion is a natural phenomenon there is unequivocal evidence that human influence accelerates the process. This erosion process has been greatly compounded by the fact that coastal catchments have been experiencing a flood dominated regime since 1950. This has severe implications for the dynamic parts of the Mary River where the stream channel has generally increased in width and decreased in depth. The increased size, speed and erosivity of floods over recent years, has resulted in considerable damage to riverbanks, that are not protected with stabilising vegetation.

In the less dynamic parts of the river there is clear evidence that effective vegetation can be reestablished on the riverbanks to stabilise them. To facilitate this stabilisation process the following issues will need to be addressed:-

- the perception by landholders that the problem is too big and too costly to tackle.
- the perception by landholders that plant species such as guavas, wild tobacco, celtus groundsel and leucaena are helpful species when in fact they are too shallow rooted to be effective.
- there is resistance to riverbank restabilisation projects because there is a perception that livestock must be excluded from the riparian zone.
- the perception of landholders that structures, such as dams and weirs, have accelerated downstream riverbank erosion.
- the development of “best bet” techniques and information on riverbank stabilisation.

The Voluntary Riverbank Restoration Grant Scheme initiated by the Mary River Catchment Coordinating Committee during 1995 is addressing a number of the issues listed above. This project is building on the past efforts of landholders and is offering a financial incentive to the replanting of suitable vegetation and control of livestock in the riparian zone.

**Goals:**

- To increase the stability of riverbanks and to prevent further degradation, to reduce the further loss of land, protect environmental values and water quality.

**Objectives:**

- To raise community awareness of causative factors and possible solutions.
- To determine causative factors and possible solutions.
- To increase funding for planned and coordinated riparian zone research and riverbank restoration work.

**Outcomes:**

- Major turn around in community attitude from “cannot do/too big” to “can-do” attitude
- Reduce riverbank erosion to more natural levels.
- Visible signs in the catchment on a broad scale that attempts to come to grips with riverbank erosion are being made.

**Strategy: RBS1**

***Develop broad scale awareness of riparian zones in the catchment and seek community cooperation in developing solutions to prevent further degradation.***

	<b>ACTION</b>	<b>BY WHOM</b>	<b>BY WHEN</b>
1.1	Survey attitudes to riparian management	LWRRDC	1996
1.2	Conduct study into the causative mechanisms of bank erosion in the catchment.	DPI(RMI)	1997
1.3	Develop case studies based on the Voluntary Riverbank Restoration Scheme including effects of fencing (+/-).	LWRRDC	1996
1.4	Develop cost effective riverbank restoration techniques.	DPI(RM), NLP, LWRRDC	1997
1.5	Provide readily accessible information on riparian vegetation, its extent, historical, present, and species type.	DPI(RMI)	1996
1.6	Economic study of landholders profitability as a result of doing riparian restoration work.	LWRRDC	1996

**Strategy: RBS2**

***Reduce negative impacts of grazing on riverbanks.***

	<b>ACTION</b>	<b>BY WHOM</b>	<b>BY WHEN</b>
2.1	Implement Voluntary Riverbank Restoration Scheme.	MRCCC/LGA's	1996
2.2	Governments to provide incentive for restoration work and improved management.	MP's, MLA's, etc	Ongoing
2.3	Encourage the 'adopt a remnant' concept.	Landcare, DPI, DEH	Ongoing
2.4	Develop Best Management Code of Practice for river frontages.	C.U, U.G.A, QDO,DPI(RMI)	1997

**Strategy: RBS3**

***Improve recognition of the importance of riparian zones in planning instruments.***

	<b>ACTION</b>	<b>BY WHOM</b>	<b>BY WHEN</b>
3.1	Incorporate known information on riparian zones into development of Shire Strategic Plans and Development Control Plans.	LGAs	Ongoing
3.2	LGAs to have consistent approach to riparian lands in planning instruments	DHLGP	Ongoing
3.3	Continue research efforts into riparian zones to provide a factual basis for LGA planning.	CCIR Griffith University	1996/97/98

**Strategy: RBS4**  
**Improve extractive industry management.**

<b>ACTION</b>		<b>BY WHOM</b>	<b>BY WHEN</b>
4.1	Develop Code of Practice for Extractive Industry	Mary River Extractive Industry Association	1996
4.2	Continue research into sediment transport rates	DPI(RMI)	1996/97
4.3	Continue investigations into the impacts of sand and gravel extraction	DPI(RMI) Independent consultant	1996
4.4	Determine sustainable level of extraction	DPI(RMI) independent consultant	1996
4.5	Provide staff resources to adequately manage and regulate the extractive industry	DPI(RM), Gympie, DEH, Maroochydore	1996
4.6	Greater involvement of marine extractive industry in catchment management	Harbours and Marine	Ongoing

**Strategy: RBS5**  
**Provide support for those attempting to address riverbank erosion.**

<b>ACTION</b>		<b>BY WHOM</b>	<b>BY WHEN</b>
5.1	Study causative mechanisms of bank erosion on Obi Obi Creek with a view to developing suitable actions-link with Newbry workshops.	DPI(RMI), LWRRDC Griffith University	1996
5.2	Provide information on Agroforestry and Farm Forestry to riparian landholders throughout the Catchment	DPI(WCom) DPI(Ag Production) DPI(RM)	1996
5.3	Provide greater support for Landcare Groups in the catchment addressing riverbank erosion → identify problem as a priority with the RAP → provide information on restoration methods to Landcare Groups (develop extension material specific to Mary) conduct research on the efficacy of different methods	MRCCC DPI(RM), Gympie	ASAP 1996
	develop trials, demonstration sites to show techniques.	LWRRDC	1998
		DPI(RM), Landcare	Ongoing

## **8.7 ENHANCING THE NATURAL ENVIRONMENT/WILDLIFE (WNE)**

**Issues:**

**Goals:**

- To maintain and enhance biodiversity in the Mary River catchment.

**Objectives:**

- To maintain and enhance native habitats.
- To improve recognition of the great diversity we have in the catchment.

**Outcomes:**

- Control of exotic and feral animals and pests.
- Improved quality of life through greater environmental and recreational amenity.
- Better conservation and remnant areas of vegetation.
- Greater tourism potential and greater appreciation by the tourism industry of the effects of “intact” ecosystems on their viability.



**Strategy: WNE1**  
***Understand what we have and its condition.***

	<b><i>ACTION</i></b>	<b><i>BY WHOM</i></b>	<b><i>BY WHEN</i></b>
1.1	Develop inventory of rare, endangered, threatened species	TSN	1996
1.2	Develop inventory of flora and fauna in catchment-incl:remnant riparian vegetation and fauna corridors.	DEH	1998
1.3	Develop inventory of exotic, feral, invasive flora and fauna in the catchment	DEH	1997
1.4	Place all these inventories on a central databank with GIS capacity and analyse to identify changes	DEH RLPB	1998

**Strategy: WNE2**  
***Improve the condition of what we have.***

	<b><i>ACTION</i></b>	<b><i>BY WHOM</i></b>	<b><i>BY WHEN</i></b>
2.1	Finalise and implement Cod Recovery Plan and Tortoise Recovery Plan	DEH, DPI ANCA	1997
2.2	Promote revegetation of the catchment Promote strategic placement of Farm Forestry, Future Forests concepts to enhance natural processes eg control erosion and improve water see also LMP4.	MRCCC, CRDB, LGAs, DEH, DPI, Landcare	
2.3	Develop and implement Shire wide conservation strategies including wildlife corridors and links between reserves and National Parks.	All LGA's	ASAP
2.4	The licenses for Lake MacDonald, Baroon Pocket and Borumba Dams be amended to allow for environmental flow releases (particularly Lake MacDonald for Cod habitat)	DPI	1996

**Strategy: WNE3**

***Eliminate, reduce or control what we don't want in the catchment.***

	<b><i>ACTION</i></b>	<b><i>BY WHOM</i></b>	<b><i>BY WHEN</i></b>
3.1	Develop management plans to control exotic, invasive and feral flora and fauna - develop Weeds Strategy for catchment.	LGA's, Landcare Groups	1997
3.2	Promote coordination between LGA's on feral species	DHLGP	1997
3.3	Conduct more research on biological controls of ferals	DEH	ASAP
3.4	Undertake a fox eradication program	DOL, LGA's, DEH, RLPB	ASAP
3.5	Introduce a bounty on feral cats and foxes.	LGAs,DEH	ASAP