KIDS, COMPANIES AND CREEKS

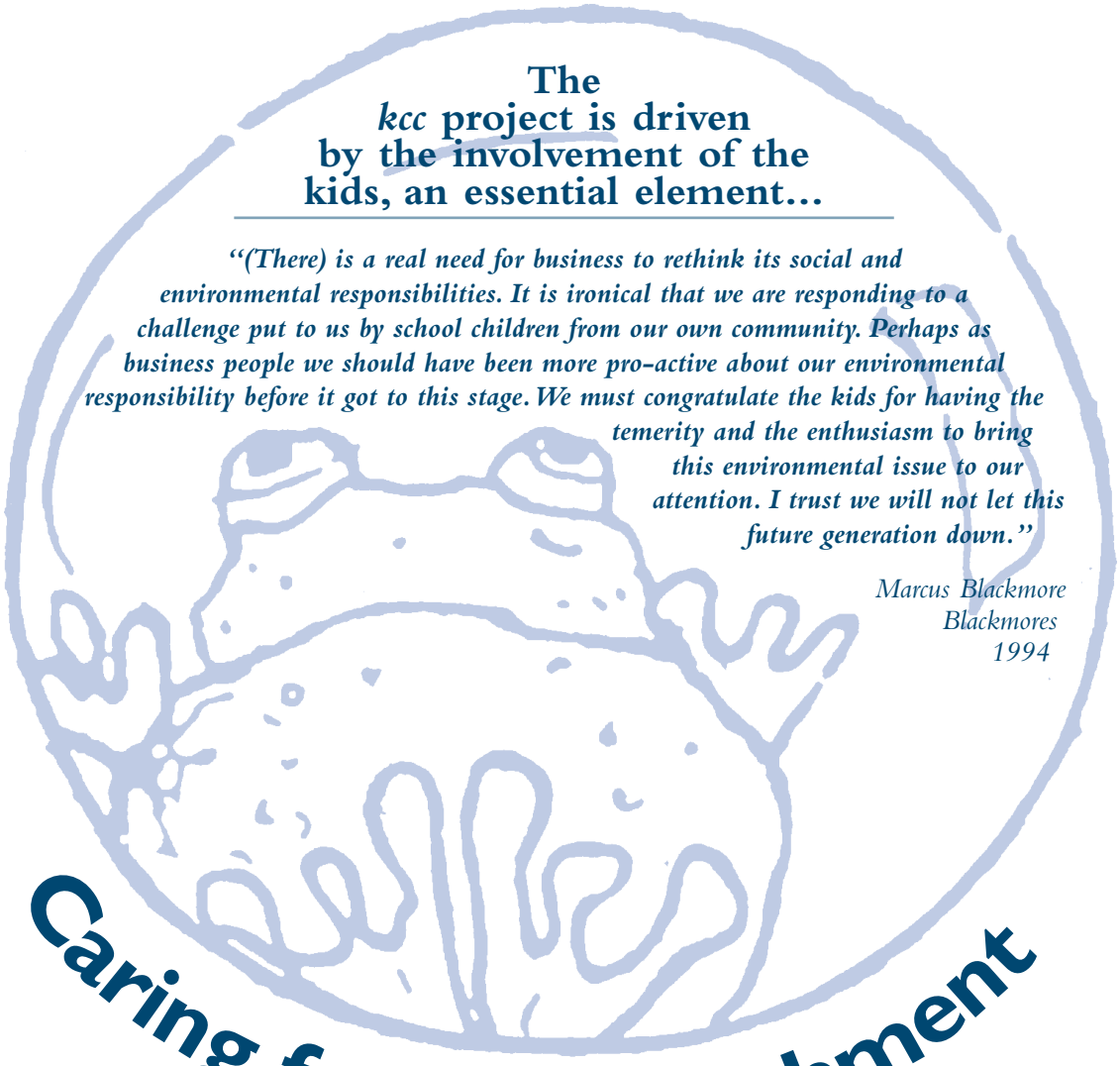
MANUAL STAGE 2

a guide to the future

This programme and manual funded by Coastcare

Congress and Eco-Expo funded by the Department of Land and Water Conservation

A joint Commonwealth, State and local Government initiative



The *kcc* project is driven by the involvement of the kids, an essential element...

"(There) is a real need for business to rethink its social and environmental responsibilities. It is ironical that we are responding to a challenge put to us by school children from our own community. Perhaps as business people we should have been more pro-active about our environmental responsibility before it got to this stage. We must congratulate the kids for having the temerity and the enthusiasm to bring this environmental issue to our attention. I trust we will not let this future generation down."

Marcus Blackmore
Blackmores
1994

Caring for the Catchment

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introduction

FOUNDERS OF *kids, companies & creeks*:

The Manly Environment Centre (MEC)

The Manly Environment Centre is a unique environmental partnership between local government, corporate and community groups. It provides environmental resources and support to students, companies and the general public. The aim of the Centre is to ensure the future health of the residents by seeking to eliminate land, air, water, noise and visual pollution and by restoring and protecting the natural environment.

If you would like information on the MEC and its projects, contact the Director, ***Judy Reizes*** *on ph:* ***(02) 9976 2842****, call in at* ***41 Belgrave Street, Manly NSW 2095*** *or at our web site* ***www.mec.org.au***

Oz GREEN (Global Rivers Environmental Education Network - Australia Inc.)

Oz GREEN is a non-profit organisation dedicated to addressing critical water resource challenges through an innovative combination of global communications and environmental education. Oz GREEN aims to achieve this through informed community participation in the management of our vital natural resources. It takes a problem-solving action-based approach to improving water quality.

Contact: ***Sue*** *and* ***Col Lennox,*** *Oz GREEN, P****O Box 1378 Dee Why NSW 2099*** *ph:* ***(02) 9971 4098****; e-mail* ***ozgreen@pegasus.com.au****; web site* ***www.pegasus.com.au/~ozgreen***

Darin Walters from Blackmores presenting students from Stella Maris with the Ocean Care Day Art Prize

Blackmores Ltd

Blackmores has provided continuous support in establishing and maintaining *kids, companies & creeks* (*kcc*) since the programme's inception. Blackmores is an Australian company which has been a leader in natural, drug-free health care for over 60 years.

Contact: Blackmores Ltd, ***PO Box 258, Balgowlah, NSW 2093****. Phone* ***(02) 9951 0111****; web site* ***www.blackmores.com***

kcc STAGE 1

NEED FOR ACTION

Manly and Curl Curl Lagoons are recognised as being two of the most severely degraded recreational waterways on the Eastern seaboard. Streamwatch results indicate that the use and mis-use of stormwater by light industries, which make up a large proportion of the catchment, are contributing to the decline in water quality within the catchment. Oil, nutrients, sediments, sewerage and litter are entering the creeks via stormwater drains.

OBJECTIVES

The objectives of *kcc* are to improve water quality through interaction between local school children and companies. The students provide a non-threatening contact through which attitudes can be examined and changed within small business on stormwater management policies. Students are also important ambassadors for the future in developing action plans and motivation.

HISTORY

kcc evolved from the realisation of a need for action following the start of the Streamwatch programme at Freshwater High School. In 1989, a series of pollution incidents prompted students and their teacher, Sue Lennox (Oz GREEN) to begin water testing. The water testing confirmed their fears and in 1990 they decided to survey local industries in the catchment to identify sources of pollution. This was followed up in 1993 with a Waste Information Forum at the school to educate industry on waste water and the problems facing the lagoons. Local company Blackmores Ltd spoke at the Forum about good environmental practice. Following this Blackmores Ltd, Manly Environment Centre and Oz GREEN joined forces to hold the first *kcc* Eco-Expo in 1994.

In 1995, following the launch of the first *kcc* Manual by the Hon. Pam Allan, Minister for the Environment, the programme gained state-wide recognition for its success in alerting the community to issues concerning the health of local creeks. The programme has since won a Gold Award from the NSW Government RiverCare 2000 programme and a Keep Australia Beautiful award. It has also been used as a case study in a recent EPA document 'What We Need is a Community Education Project'.

MAINTAINING THE RELATIONSHIP

Since the launch of the last manual, *kcc* has maintained a continuous working relationship between local schools, companies and Councils, providing long term support for a succession of environmental events and initiatives. This support has been vital in the continuation of the project and the completion of this stage.

THE GROWTH OF THE *kcc* PROGRAMME

'Community education in Manly Warringah, particularly on water pollution issues, is so highly regarded that it is often used as a model at international, national and state level' (Mary White author of 'Listen our Land is Crying' 1997).

Since the first *kcc* expo in 1994, a number of *kcc* programmes have been initiated in other catchments by Oz GREEN:

- Georges River Catchment 1995 and 1997 with the Georges River CMC
- Cooks River Catchment 1996 with the Cooks River CMC
- Cattai Creek in 1997 with the Hawkesbury-Nepean CMT

In addition *kcc* has inspired projects at Oxley Creek in Brisbane and at Cowan Creek in the Hawkesbury-Nepean Catchment.

REACHING OUT TO THE RESIDENTS ON OCEAN CARE DAY

The *kcc* Waste and Eco-Expo promoted the use of sustainable products and offered environmental alternatives to current practices. The expo took sustainable technology to the streets, raising the awareness of our impact on the environment and providing practical solutions to protect our local waterways.

With a comprehensive media coverage, this high profile event provided an ideal opportunity to showcase these technologies to an ever broader audience.

In 1997, the *kcc* Waste and Eco-Expo was held in conjunction with the fifth Ocean Care Day and showcased over 40 exhibitors, including conservation groups, displays on solutions to stormwater pollution and the DLWC Catchment Caravan. Different activities and performances enhanced the atmosphere of the day these included:

hands-on beach sculptures for Ocean Care Day

- School bands on the Corso
- Clean Waves surf competition featuring some of the Peninsula's best surfers
- 30 metre sand sculpture entitled 'Wake up to Waste'
- Marine art exhibition at Manly Wharf
- Local bands at North Steyne
- Ocean Care Mural painted by children in the Corso

Schools were also invited to participate in the event by entering the primary and secondary 'Expressions in Art' competition. Approximately 30 schools in the Northern Beaches and surrounding areas were invited to display works of art on the Corso with an environmental ocean theme. The winners were Stella Maris College and St Mary's Primary School.

objectives and outcomes of *kcc* stage 2

OBJECTIVES

- To develop strategies through community consultation
- To approach local companies to examine attitudes and workplace practices
- To highlight and reward local industries who have developed and implemented devices and policies to ensure better water quality and waste reduction practices
- To publish these companies in the '*kcc* Guide to the Future' so that they may be a model for others to follow

THE KEY STAKEHOLDER GROUPS:

Corporate Catchment Carers *(chosen for their location and environmental awareness)*	***Local High Schools***	***Local Primary Schools***
Blackmores Ltd	Balgowlah Boys	Balgowlah Heights
Clontarf Marina	Freshwater	Balgowlah North
Energy Australia	Mackellar Girls	Manly Vale
Environmental Computer Services	Manly	Manly West
Gary Stewart & Assoc. Solicitors	St Paul's College	St Cecilia's
Manly Pacific Parkroyal Hotel	Stella Maris College	St Kieran's
Kwik Kopy Printers	Forest	St Mary's
Sydney Water Trade Waste		Manly Village
The Harrison Group		
Titan Ford Car Sales and Service		**Local and State government**
Wakehurst Golf Course	**Universities**	**Environmental organisations**
Warringah Golf Course	University of NSW	**Streamwatch**

OUTCOMES OF THE STUDENT INDUSTRY CONGRESS

- Development of action plans to restore and conserve local water ways
- Community awareness and activities increased
- School programmes developed
- Inter-school environmental workshops held

OUTCOMES OF THE INDUSTRY ASSESSMENT PROCESS

- Identified a selection of companies working towards a sustainable catchment through good environmental management
- Created greater understanding of catchment processes in the community and schools
- Initiated projects for the reduction of water pollution by industry taking responsibility for the local waterways
- Highlighted the gap between attitude and practice in housekeeping
- Provided school students with hands-on experience of actual environmental problems

kcc inaugural student industry congress - manly council chambers

CORPORATE CATCHMENT CARERS' INFORMATION NIGHT

Prior to the Congress, the Corporate Catchment Carers attended an information night to explain their involvement in the Congress. Guest speakers provided information on the current predicament of the waterways, the importance of community and industry involvement and the industry 'team' approach that has been so successful overseas and interstate.

author
Mary White

THE CONGRESS

The Congress facilitators, Sue and Colin Lennox from Oz GREEN, provided a thorough insight into the issues impacting on the local environment. They inspired everyone by showing their Swatcha Ganga (Clean Ganges) campaign in Varanasi, India. This global perspective provided hope for our own local waterways and identified ways in which every community can make a difference.

Guest speaker Mary White, the author of the book 'Listen our Land is Crying', provided a holistic overview of the current impacts facing Australian ecosystems. She identified many issues affecting land and water, and emphasised the need to lobby governments to implement far-reaching and long term conservation strategies.

THE RUNNING SCHEDULE

In the spirit of co-operation between Councils and community, the Mayors of Manly and Warringah Councils opened proceedings. Over one hundred people, including State and Federal MPs attended the Congress.

Oz GREEN structured the day to be fun and interactive, designed to promote a personal insight into water quality. Their success was highlighted by their ability to sustain the attention of all age groups from 7 to 70 years on complex issues. In small groups the Congress participants were asked to give their opinions on water quality issues and their visions on how problems could be addressed. The groups were asked how our creeks have changed over the last 50 years and how we could reverse this trend.

Schools and industry displayed information on Catchment issues

on display

At the end of the day the schools and industry groups presented their action plans to representatives of the Department of Land and Water Conservation, Environment Protection Authority, Department of School Education, local industry, local Councils and the community. Their presentations included their fears and hopes for the future, how to implement their action plans and how to stop the constant degradation of our waterways.

*For more information about **student environmental congresses** contact Oz GREEN. Also available from Oz GREEN is the 'Water is Life' Environmental Congress Manual.*

initiatives following the congress

TEACHER INFORMATION AND SUPPORT NIGHT

Following the Congress, teachers and principals from all the local schools were invited to the Manly Environment Centre to:

- discuss outcomes of the day and the viability of some of the projects
- obtain information on environmental projects running concurrently and the resources available
- give them the opportunity to build links, extending the possibility of inter-school environmental projects

SCHOOL FOLLOW UP

Schools were contacted by MEC staff and given a list of possible environmental projects to choose from, depending on their locality and resources. Presentations were given to over 1000 students throughout this process in assemblies, class groups, environmental committees and 'Streamteams'.

VISIONS FROM THE CONGRESS

Clean Water

Biodiversity

Frogs in the creeks

Swimmable

More trees

No litter

HOW TO ACHIEVE OUR VISIONS

Adopt-a-creek with a company

Start a school bush regeneration programme

Work with other schools

Address the problems of car washing

Provide an industry waste guide

Hold an annual Congress

Create a web site with images and photos of the lagoons and creeks

Write a school/community newsletter

Publish test results in the local paper

...it's just a case of better housekeeping!

Present Clean Creek Awards to Council

Map mini-catchments

Introduce face-to-face industry education

Reduce concrete and sealed surfaces

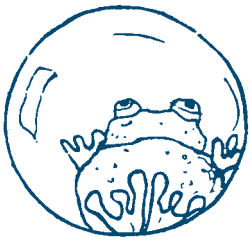
Make a documentary

Write a new slogan 'don't leave it lying around, pick it up off the ground'

Re-use grey water

Reduce the reliance on massive sewerage systems

Increase fines as deterrents



SOME SCHOOL INITIATIVES FOLLOWING THE CONGRESS

Majority of schools participated in Industry assessment process

kcc clubs developed in schools

Green award scheme implemented for litter control in their playground

Bush regeneration programmes started

Additional recycling programs adopted in schools

Creating a wetland to stop runoff

Initiating computer link up on catchment resource issues

'Adopting a Creek'

Streamwatch testing increased in schools

CORPORATE CATCHMENT CARERS INITIATIVES FOLLOWING THE CONGRESS

Provide a medium to access industry associations and resources

Recycle and waste reduction strategies increased

Venues provided for industry environmental information nights

Roadside murals on catchment issues

Restoration of creeks

Reduction in chemical usage

Objective of zero waste through waste avoidance, reduction and recycling

Information provided to suppliers and neighbours on environmentally-friendly alternatives

kcc student industry assessment process

OBJECTIVES

- To determine the need for further action
- To examine the willingness of companies to participate in future projects
- To provide information on what they can do to help the environment
- To identify companies as examples for others to follow

In 1996, the MEC carried out a trial of the industry assessment process with a small number of schools. This trial, as part of the 'Dob in a Do-Gooder' Awards, provided an insight into the type of questions that were relevant and the acceptance of the project by local companies. Although the programme was primarily concerned with the contamination of waterways, the questionnaire aimed to highlight waste and emissions reduction to add scope to the case studies.

Q:
what's that green liquid going into your drain???

A:
I really don't have time for these questions...

METHODOLOGY

Following this trial, it was clear that success of the project relied upon communication between the schools, the MEC and the companies.

Students were given background talks on catchment and pollution issues as an introduction to the problems that faced the local creeks. In small groups they visited the companies, under adult supervision, and interviewed a company representative on issues regarding the environment and their practices. 200 companies were identified and approached prior to the interviews. 100 of these were subsequently interviewed and assessed by the students.

As a student-led programme it was essential that they were:

- Encouraged to establish contact with the companies and add their own questions to the industry assessment form
- Given a variety of companies to enable them to assess the different issues impacting on the catchment
- Given sufficient background knowledge to confidently ask additional questions
- Able to identify the actions that the companies were taking to lessen their impacts on the local environment and participate in the process of ranking the companies.

Following the questionnaire the students put forward their nominations for the best company environmental policy. The finalists were then interviewed in depth by MEC staff and students from the University of NSW for inclusion in this Manual. It is hoped their initiatives and ideas will be used as examples for other businesses to follow.

The following companies will be awarded the '*kcc* Green Business Award'.

ready, set...go for clean industry

Students and industry find they can work together – here in a team-building exercise at the Congress

Companies Leading by Example

Mark Stewart Smash Repairs

Mark Stewart, the owner of Mark Stewart Smash Repairs, realises the consequences of bad environmental management and its impact on the environment. In the 14 years that he has been involved in the trade it has become apparent that water quality in the local creeks and lagoons has deteriorated at an alarming rate. To address his own concerns for the future of the catchment, he has implemented a policy of waste and waste water management second to none, that secures the long-term viability of his business.

Waste Water Management

Smash repairers must clean cars, and it is important to control the water that runs off the car as it may contain contaminants such as oils or paint. The workshop has a policy that all cars must be washed:

- with biodegradable cleaners;
- in a designated bunded area to prevent runoff to the stormwater system. The water drains into one specific holding tank where it is then pumped through the separator. A separator removes contaminants such as oils from the water before it is allowed to enter the sewer.

In addition, to prevent accidental contamination:

- all paints, thinners and other possible liquid contaminants are stored on racks within a bunded room;
- spray guns are cleaned in this room;
- thinners are deposited into a storage drum for collection, not the sewer. These thinners are removed for recycling and sold back to the workshops as a Gum Wash cleaning thinner;
- water based paints are used in preference to standard paints as they contain 70% less solvents and are less detrimental to the environment;
- car radiator cooling water is drained into storage tanks for collection and recycling. Pouring of radiator water into the sewer or stormwater introduces toxic glycols into the environment. Separators do not remove these chemicals from the water.

Air Quality

All spray work is carried out in the spray booth. The booth extracts air through a vent in the roof where it passes through a 4 micron filter. This filter removes all paint dust before it is allowed to enter the atmosphere.

*For more information contact **Mark Stewart** on **(02) 9907 1000.***

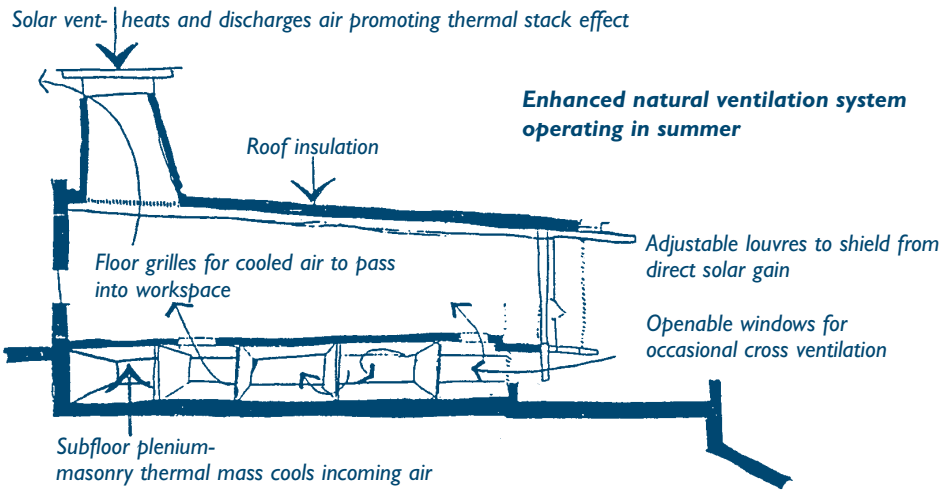
NSW DEPARTMENT OF PUBLIC WORKS AND SERVICES

Manly Hydraulics Laboratory site renovation and design

Manly Hydraulics Laboratory (MHL) is a business within the Department of Public Works and Services. It provides a consulting service in the fields of water, coastal and environmental solutions. Most of MHL's work is within NSW, but in recent years MHL has worked on projects throughout Australia and overseas. MHL operates on a full commercial fee-for-service basis for government, industry and consultants.

In showcasing best practice energy efficient design, the new Manly Hydraulics Laboratory demonstrates the NSW Government's commitment to both the National Greenhouse Strategy and the National Strategy for Ecological Sustainable Development. The building incorporates:

- Flow mitigation basins which will be stocked with native local aquatic plants to accept the water from the roof. This slows down and filters the water
- Solar tiles which will provide enough electricity over the course of a year to power the site, reducing carbon dioxide (a greenhouse gas) emissions by an estimated 14 tonnes
- Internal lighting provided by windows and skylights. When necessary high efficiency compact fluorescents will provide the required artificial lighting
- Stand alone solar lights will provide external lighting. The solar cells 'track' the movement of the sun to obtain the maximum amount of energy from the sunlight available, this increase in light intensity throughout the course of the day provides the cells with greater efficiency. The energy is stored in batteries with six night's power in reserve
- 'Natural' air conditioning has been developed utilising the natural flows of air through the building



The warm air is drawn up through adjustable louvers in the solar chimney. This in turn draws cool air through vents in the floor and over areas of exposed masonry maximised for thermal mass and cooling capacity.

It is anticipated that this system will:

- save an up-front cost of $220,000 (air conditioning installation)
- reduce recurrent expenditure of $12,000 compared with an equivalent air-conditioned building
- prevent approximately 80 tonnes of green house gas emissions being released into the atmosphere every year.

For more information on building design and the work of MHL contact ***Will Strachan*** *on* ***(02) 9949 0200***

International College of Tourism & Hotel Management

The International College of Tourism & Hotel Management opened in May 1996, in the historic St. Patrick's Seminary, North Head overlooking Manly. The College has over 310 students, 210 of whom live on campus.

Environmental studies are taught as part of the course curriculum in the first six months of study and are considered an important aspect of training in a rapidly growing industry. The College practises a policy of Reduce, Reuse and Recycle throughout the majority of its activities.

'REDUCE'

Water Saving Devices

- Water saving devices have been fitted to taps, toilets, and showers to reduce the overall cost of water consumption.

Energy Saving

- The building has been fitted with energy saving 18W high efficiency compact fluorescents as opposed to standard 75W globes. This amounts to a 75% saving on their lighting bill
- Corridor lights are on a timer system
- Where gas heaters are not used, electric heaters operate on a timer basis.

'REUSE'

Worm Farm

- With a main production and training kitchen, the College deals with large quantities of waste, primarily food and associated packaging. To utilise waste, the College set up a worm farm capable of 'processing' approximately 120 litres of green waste per day to:
  - deal with their kitchen waste problem;
  - create a fertile soil which they use to grow their own herbs and vegetables for use in the preparation of meals;
  - reduce their reliance on fertiliser and other chemicals and subsequent run-off problems

Composting and Mulching

Garden waste and lawn clippings are composted. The compost and mulch as well as matting are used to reduce water consumption and problems associated with run off. Paths and driveways are swept not hosed.

'RECYCLE'

Paper/PET plastic/glass/steel and aluminium cans

- Manly Council accepts all recycling from commercial premises free of charge as an incentive to meet the 60% waste reduction targets by the year 2000. As a consequence, companies can significantly reduce their waste costs by developing an effective recycling policy.

Through utilising environmentally friendly products and recycling, the College is saving significant amounts of money and setting an example to the students which will enable them to use this information later in their careers.

For more information on waste minimisation at the International College of Tourism & Hotel Management contact ***Shawn Addison*** *on* ***(02) 9977 0333.***

up at the worm farm

Blackmores Ltd

Blackmores is a world wide manufacturer and distributor of natural health care products. They maintain an ethos of environmental and natural care and have been an innovator in environmental initiatives in Manly for over 30 years. In 1967 Maurice Blackmore, the founder, developed a policy that the company would do what it could to protect the environment. He stated that "If man persists in ignoring or defying the recycling laws of nature he will not avoid pollution, malnutrition or starvation."

Blackmores maintains its environmental policies in the workplace with a number of unique, simple and effective initiatives to reduce their own impact. They have an aim of 'zero waste' by implementing systems and procedures which will ensure waste is reused and recycled.

Water

- A special 'scraper' is used to remove excess creams and oils from the manufacturing vessels. This provides less wastage and a reduction of water borne pollutants. It has also resulted in a 90% reduction in water consumption.
- Concentrated liquid waste is stored in 44 gallon drums and removed by a trade waste recycling company.
- Water saving devices are in place throughout the building.
- 'Grey water' reuse is currently being examined.

Lighting

Through the use of energy-efficient light globes, consumption of energy for lighting has been reduced by about one third. This in turn reduces the load on the air-conditioning system by reducing heat, which provides a further saving in energy costs. Further reduction in energy consumption has been made through the introduction of time switches on lights and air-conditioning.

Plastic

- Pallet wrapping plastic is heated, compressed and made into bricks, convenient for storage, and sold for recycling
- Drums and boxes that arrive in the warehouse are reused to and from their suppliers to reduce cost and waste
- Herbal extract drums are collected and reused by a manufacturer of environmental cleaners
- Staff members are allocated a personalised pen on employment to eliminate the need to purchase plastic pens.

Void fill packaging

- Void fill packaging is normally in the form of non-biodegradable polystyrene. Blackmores uses a bio-degradable puffed wheat fill which can be composted or even fed to a worm farm.

Obsolete display material

- Obsolete display materials are re-used in schools and kindergartens through Reverse Garbage (Contact: **Reverse Garbage** on **(02) 9569 3132**).

*Contact **Blackmores** on **(02) 9951 0152.***

before

and don't grow back again you dirty rotten pampas grass!!!

after

Wakehurst Golf Club

Wakehurst Golf Club is adjacent to the ecologically sensitive Manly Dam Reserve covering 70ha of its 370ha catchment. Recognised as having some of the most intact bushland on any Sydney course the members have worked relentlessly to protect and enhance a variety of unusual rare flora, fauna and Aboriginal carvings. Over a period of 20 years their 'Dads' Army' volunteer force have not only enhanced the visual status of the area, but has also provided a vital wildlife corridor between the Dam and Garrigal National Park.

The golf course has also adopted the Environmental Management Strategy for Golf Courses in the Manly Lagoon Catchment. It was the winner of the 1996 *kcc* 'Dob in a Do-Gooder' awards for their waste reduction programme and the 1997 Rotary Environment Award.

Stormwater mitigation

To reduce the impact of the course on the local waterways, the Club has constructed 15 stormwater detention ponds as mitigation against sediments, fertilisers and high flows. The water from the fairways drains away from Manly Dam into the ponds and then flows back under the course. The ponds provide the additional benefit of containing 50,000 cubic metres of water for irrigation and they support a wide variety of native wildlife.

The 'Dad's Army'

The Dad's Army is a group of dedicated retirees who have devoted much of their time over the past 20 years to ongoing projects:

- annual inspections and mapping of weeds are conducted by members of the club;
- control of weed areas inside and outside the course to reduce the risk of seed transfer throughout the catchment;
- planting thousands of trees to provide habitat and erosion control measures on a previous landfill site

Waste Management

- All vegetation and waste is composted on site
- Vehicles and machinery are washed down in a bunded area to prevent stormwater contamination
- Waste oil is recycled
- Glass, PET and paper are recycled
- Soil is aerated and fertiliser usage reduced
- Pesticide and herbicide use is reduced
- Suppliers are lobbied to minimise the use of plastic

For a more detailed account of the history and progression of the golf course, there is a book available through Wakehurst Golf Course, 'Out of the Rough - A History of Wakehurst Golf Club'. Contact ***Keith Pearce*** *ph:* ***(02) 9939 7710.***

Clontarf Marina

Clontarf Marina has 59 moorings and 18 floating births and is one of 39 marinas in Sydney Harbour. Marina owners need to be aware of their environmental management procedures to ensure they do not have a detrimental effect on sensitive aquatic eco-systems. Hugh Shanks, Chairman of the Marina Association of NSW and owner of Clontarf Marina, is in a situation where leading by example is imperative. He has been involved in the writing and implementation of the Boating and Marina Industry Association's Environmental Guidelines as well as the EPA Management Guidelines for Marinas.

Housekeeping

- Clear signage advises the boat owners of the location of bins and recycling facilities at the marina and the rules for the disposal and use of liquid contaminants
- The refuelling depot is equipped with oil absorbent booms and mats to contain a spill if one was ever to occur
- Emergency clean up kits are always in evidence for spills on land
- All staff are trained in environment issues and how to prevent the likelihood of a spill

Boat Works

- Work on boats at the marina is carried out on their slipway
- Plastic drop sheets are used on the beach below the slipway. These sheets offer an inexpensive solution to a common problem associated with marinas
- No spraying of paint is permitted on the slipway or at the births
- Waste oil is removed by an oil recycling company
- Supply of a 'bag' of oil absorbent material that can be dropped into the bilge tank of all boat owners

Providing education to boat owners on

- Safety
- Consideration for neighbours
- How to carry out maintenance work on vessels in an environmentally friendly manner
- General protection of the environment.

To provide the Marina and other interested parties with information on the impacts of marinas on the environment, the management have volunteered their location as a test site for the monitoring of marine flora and fauna. Once a year, scientists from the Ecology Laboratory test for species health and diversity compared to a similar location within the harbour. It is hoped that all marinas in the harbour will follow this lead in years to come.

Contact: ***Hugh Shanks (02) 9949 5399.***

Balgowlah Seaforth RSL Club

The Club is located in Seaforth and has recently undergone major renovations to enhance the aesthetics of the club and increase services to the thousands of members and their guests. The RSL is open 7 days a week providing a full range of bar, meal and catering facilities.

Biological Treatment of Waste Water

The Club was recommended to the MEC for excellence in trade waste water management because of its use of biological additives to facilitate the breakdown of greases in the grease trap. As a fully catering club, the RSL is required under Sydney Water regulations to install a 3000 litre grease trap (Sydney Water 1997).

The RSL has adopted the use of a bacterial agent from Environmental Biotech. The system involves the installation of a basket-like filter into the main sewerage pipe leaving the kitchen. The waste is then filtered through the basket containing a live vegetative bacteria which breaks it down to carbon dioxide and water. The bacteria are found on the surface of the earth and widely used to clean up oil spills.

This form of sewage pre-treatment:

- breaks down suspended solids
- reduces the biological oxygen demand (a measure of nutrient content)
- reduces the volume of waste caught in the trap by approximately 75%
- reduces odour by 80-90%
- reduces the on-site costs associated with emptying the trap

Once the grease is removed from the trap a percentage is recycled for use in the production of cosmetics.

Energy Conservation

The Club has become involved in *kcc* by implementing some of the recommendations suggested by students from the University of NSW following an environmental audit.

Fluorescent lights normally operate at the standard utility supply voltage, which is far greater than the normal voltage that is required to allow the lights to strike. A new device on the market, once installed, holds the voltage at normal for a pre-set period of time and then reduces the voltage by 15%. A normal transformer is used to switch from normal to economy mode after the initial start up period which is approximately 5 minutes. The drop in electric current is dependent on the type and age of the fluorescent fittings

The device requires no modification of existing light fittings, and is simply wired into the lighting circuit between the power distribution board and the lighting load. The pay-back time of these devices within the RSL is believed to be in the region of 17-23 months.

Recycling

The RSL uses the Council's free commercial recycling service. Paper, glass, PET plastic, aluminium and steel cans are all recycled on a regular weekly basis. The student research revealed that if steel 20 litre oil cans had three holes punched in the base, they could also be recycled thus making a substantial saving in waste costs.

Contact: ***John Vickery*** *ph:* ***(02) 9949 5477***

CONTROL AND REDUCTION OF VOLATILE LIQUIDS IN HIGH RISK INDUSTRIES

Major Graphics Printers Pty Ltd

Major Graphics strive to maintain an ecologically sustainable printing shop. Their policy is to remove chemicals that enter the sewerage system by using processes that do not require liquid discharge.

Zero waste to the sewer or the stormwater system
Major Graphics use environmentally friendly cleaning products for their presses. The supplier of these Australian-made cleaning products maintains that they are made from renewable food grade materials. Their Environmental White Gum Washout does not contain petroleum hydrocarbons and is a totally natural product that is safer to use. A secondary bonus is that these chemicals remove ink effectively without causing skin irritations.

All press cleaning products are then drained into a container and removed by a liquid waste recycling company. This removes the need for a Sydney Water Trade Waste licence and prevents discharge into the oceans.

As with the other companies in this Manual no hosing down of areas in and around the company takes place. This prevents any contaminants being accidentally washed into the stormwater drain.

Vegetable-Based Inks
Vegetable-based inks offer a practical alternative to conventional inks. They contain a significantly reduced amount of volatile oils compared to conventional inks and remove the reliance on petroleum based products.

Contact: ***Bob Major*** *on ph:* ***(02) 9979 7985***

Mobil Service Station

Following a directive on environmental management from the Head Office of Mobil, the staff at the service station on Condamine St Manly Vale implemented procedures on environmental protection. Service stations and car repair workshops are often seen as high risk to catchment water quality due to the amount of volatile liquids and oils stored and used on site.

To reduce this risk the company have installed easy to use devices to contain spills, before they enter the stormwater system, and identify problems before they occur, these include:

- Staff training on pollution prevention
- Absorbent powder for minor spills
- 'Pillows' of absorbent material for medium spills
- Absorbent booms to contain major spills until Emergency services arrive
- All wash water in the car workshop drains through the oil separator tank
- Underground petrol tanks are tested weekly for water content. This checking identifies possible leaks both in and out of the tank

- The station accepts waste oil from customers as an incentive to reduce illegal dumping. This is then taken away for recycling
- The forecourt is swept clean not hosed

Simple initiatives such as these are inexpensive precautions in the prevention of liquid discharges into the creeks Contact: ***Rosanne Gilmore*** *ph:* ***(02) 9949 3577***

"We save thousands of dollars every year through recycling and being environmentally friendly"

Hum Cafe

The Hum Cafe is based in the central business district of Manly. The cafe is small, (40 sqm) and seats approximately 20 people. The type of food on the menu is all uncooked, rather, the cafe specialises in gourmet sandwiches, focaccia, coffees, teas and desserts.

The cafe presents an environmentally aware image, promoting the environment with material such as anti-mining literature and information on current local events. No hosing of litter or otherwise takes place in or around the cafe.

Waste Management

The cafe owners are concerned over the amount of waste that can be generated by even a small cafe. They have therefore implemented a number of waste reduction strategies and are examining further methods to attain zero waste, for example:

- Buying in bulk
- They are keen to compost or worm farm the bio-waste.
- Coffee grounds are composted at the local community garden
- Glass, paper and PET plastic are all recycled and collected free by Manly Council
- Milk and bread crates are reused
- Reusable plastic storage containers are used instead of plastic wrap, aluminium foil and plastic bags for storage

Containers that arrive holding gourmet ingredients are re-used within the shop or donated to the local Food Co-op. The owners have approached the wholesaler about the viability of re-using the containers, however they are unable to do this due to strict OH&S regulations.

Disposable Containers

The proprietors of Hum are opposed to the use of take-away containers for both environmental and economic reasons. They have therefore introduced a number of initiatives.

Two 'bring your own cup' promotions have been run in conjunction with Richard's Chocolates and World Environment Day. 'Bring your own cup and receive a free chocolate' not only reduced waste, it also led to a rise in sales.

Customers are still encouraged to bring their own cup, those who don't are given waxed paper cups instead of polystyrene.

Take away food containers are not supplied. Preference is given to recycled paper bags with the sandwiches wrapped in grease-proof paper.

Contact: ***Neil Collis*** *and* ***Jo Hormer*** *ph:* ***(02) 9949 5477***

overall results of the industry assessment

This process which involved the majority of schools has acted as an educational tool, not only for the students involved in the project, but for the companies that were interviewed and assessed. The questions were structured to raise awareness of issues, for example that polluted water entering stormwater drains ends up in the local creeks.

The results of the assessments have also provided the MEC with a tool to examine the strengths and weaknesses in industry knowledge and have given an indication as to how to address:

- A high level of industry concern over local water quality, but a lack of knowledge on the connection between their drain and the creek
- A lack of knowledge on industry impacts on the catchment and ways to prevent them
- A need for a more pro-active educational approach to the issues that are of concern, especially general housekeeping practices
- An awareness of the role of council and benefits of projects such as *kcc*
- A willingness to accept advice and information on what companies can do to help
- An interest in becoming involved in future projects and waste information nights
- The need for a greater baseline knowledge on environmental management

Q:
Why do you put general rubbish in your recycling bin?

A:
Oh...that happens sometimes

The students:

- Gained an insight into real life problems, solutions and impacts on the environment
- Recognised that 60% of industrial pollution is due to bad housekeeping
- Could identify possible sources of pollution from the appearance of the company premises
- Were not afraid of being critical of company practices
- Accurately assessed good environmental management and attitudes
- Enhanced their social skills and communication
- Enjoyed the detective work immensely

INITIATIVES FOLLOWING THE ASSESSMENT

To combat the apparent lack of environmental knowledge evident in the results, the MEC has applied for grant funding to establish a mobile teaching programme, 'Eco-Breaks', that will visit small companies and provide face-to-face contact. A company waste guide will be prepared for distribution, together with other educational resources.

The programme will provide information on current technologies available, biodiversity in the catchment, pollution issues, laws regarding the discharge of waste into the stormwater system and the benefits of good housekeeping practices.

future projects for *kcc* following the congress

GETTING THE MESSAGE ACROSS

Conveying the message of water quality to the general public has been identified as a priority for sometime. With a higher awareness in the community it is time to build on this and promote a change in daily behaviour and involvement in projects, its time to 'Walk the Talk' and 'Hop in and Help'.

- weekly '*kcc* Catchment Watch' column in the local newspapers
- website with images of the lagoons and water quality data
- school/community newsletters

ADOPT-A-DRAIN

Mapping of the mini-catchments of stormwater systems reinforces the connection between the drain and the creeks. This will encourage locals to become involved in cleaning up their own drains by:

- stencilling each drain with a numerical code and message at the inlet and outlet e.g. 'This Drains to Manly Lagoon / Dam / Creek or Sydney Harbour'
- passing on information to the industries or residents that make up that mini-catchment
- testing the outlets to help determine sources of pollution
- supplying information on water quality at these outlets to the '*kcc* Catchment Watch' and displaying this at the drain

'ADOPT-A-CREEK'

As *kcc* moves into Stage 3, the MEC is making use of strong links with industry and school groups in the community to start an 'Adoption Programme' in late 1998. This will enable the community to develop ownership of the local environment through:

- stronger partnerships between schools and companies
- increasing awareness of the importance of diversity of native species through propagation, preparation and planting days
- a combination of the Hawkesbury Nepean 'Greenhouse Parks Programme' and 'Roofs for Revegetation'

The *kcc* project has been developed over a period of 5 years and will continue in the Manly and Curl Curl Lagoon catchments and further afield. Mary White, in her book 'Listen Our Land is Crying', expressed her views on the importance of *kcc*:

"Such a project has a snow-balling and far-reaching effect beyond the local area where attitudinal change has occurred and environmental gains have been made. The hundreds of young people who move on after their school days continue as ambassadors because they know they have the power to influence their world".

in the news


The Manly Daily

SERVING THE PENINSULA SINCE 1906

MOTORING

HAVING A GANDER AT UGANDA

GET READY, GET SET GET RESULTS

Garbage is focus for Ocean Day


Eco Expo at Manly


Students 'green' Greendale Creek

Manly High students have taken a pro-active approach to cleaning up the local environment


Kids 'adopt' creeks and drains

You can have your packing

Manly Vale firm Acryfab Signs uses popcorn as packing material instead of polystyrene beads

and eat it too!