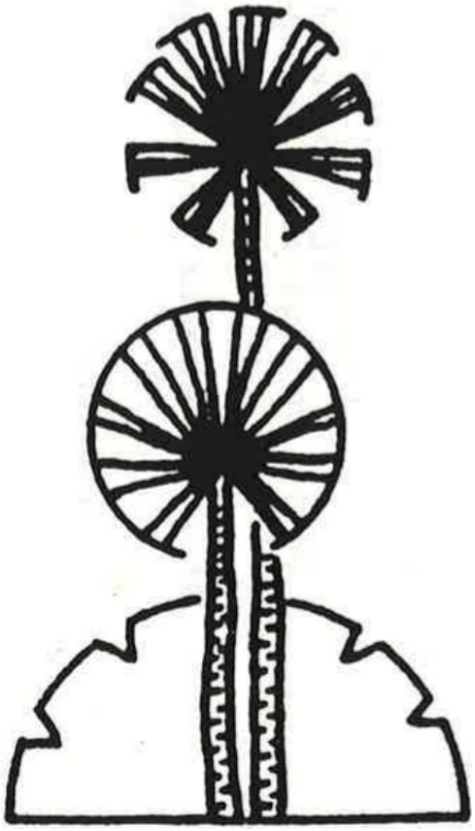
FINAL PROJECT REPORT

Rehabilitation and Community Education: Ettymalong Billabong



Umina (Ettymalong Creek) Landcare Group
Funded by the Rivers Reborn program,
Environment Protection Authority, New South Wales Government

August 1995

Modern edition, reconstructed from a scanned copy · 2026

About this edition

This is a re-typeset edition of the original August 1995 document, made from a scan of a printed copy held by the Ettymalong Creek Landcare group. The text was recovered with local OCR (PaddleOCR-VL), cross-checked against a second OCR engine (Tesseract), and corrected where the two disagreed. Maps, photographs and illustrations are reproduced from the scan.

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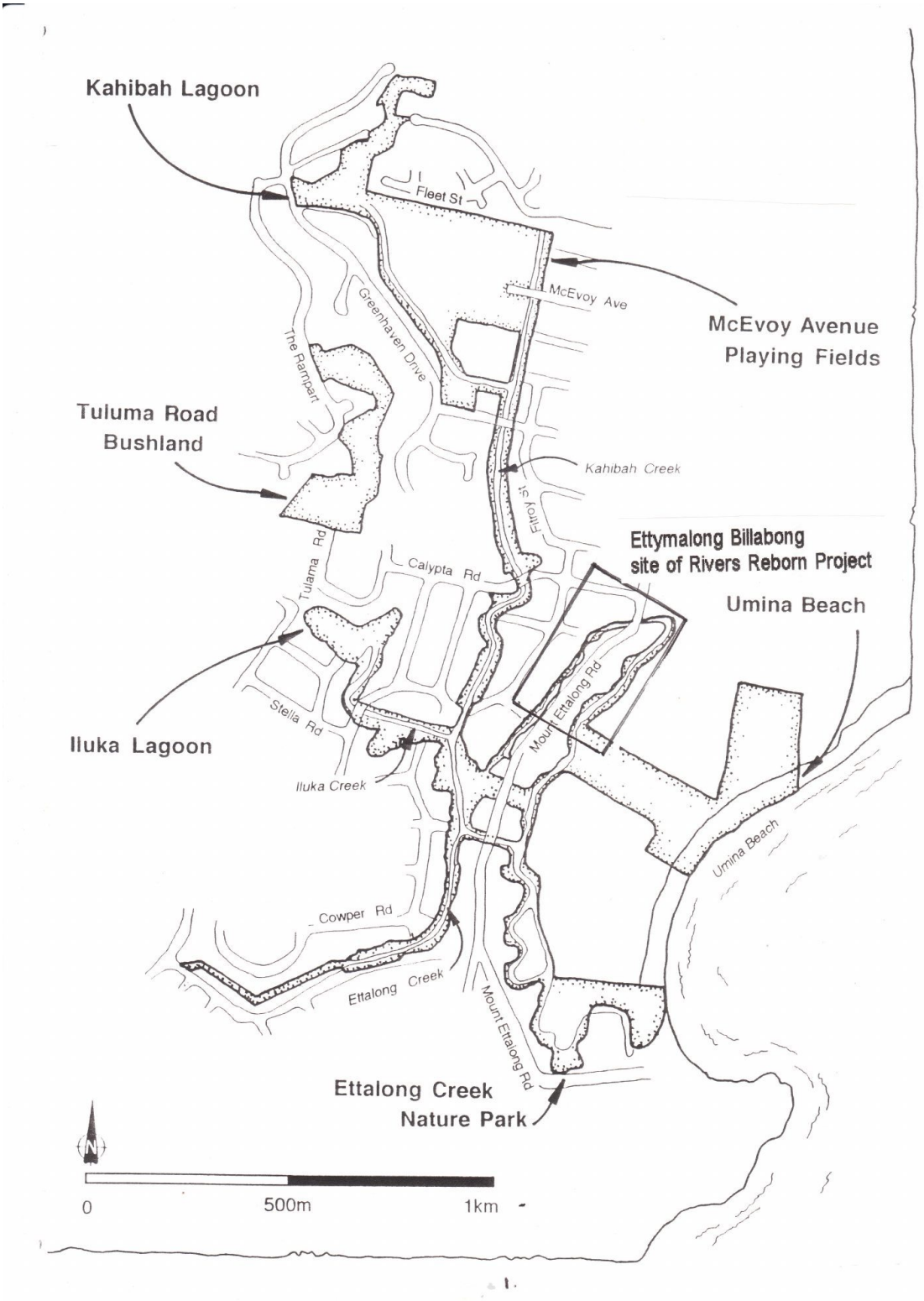
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McLaurin Rd Channel. This man-made channel effectively reduced the flow to Ettymalong billabong. This is an example of the current approach to creek management preferred by Gosford Council. The Landcare group is trying to influence change to a more environmentally appropriate management approach.



Ettymalong Creek (feeds into Ettymalong billabong) – this bank was recently sprayed. Loss of vegetation leads to erosion of sandy soil and loss of the native native vegetation that, in the past, played a vital role in maintaining the health of the creek system. This Rivers Reborn project aims to demonstrate the use of shade trees to reduce weed growth, one of the problems seen in this photo.

Project Report p.4

Project Report 1995
Rehabilitation of Ettymalong Billabong
Umina (Ettymalong) Creek Landcare Group
(funded under Rivers Reborn Grant via N.S.W. State Government.)

Project Description

The Rivers Reborn Project of the Umina (Ettymalong Creek) landcare group was to rehabilitate the billabong section of Ettymalong Creek. The project aimed to implement one part of an overall rehabilitation and management plan that had recently (May 1994) been prepared for a much larger area incorporating two wetlands and three creeks. The project was selected to act as a catalyst for further community involvement in the rehabilitation of a much broader area and to facilitate the development of the newly established landcare group.

The billabong area was selected because of its high visibility, being adjacent to the main road to Pearl Beach and Patonga and to the Umina Oval. It was also selected because the flow of water through this section of the creek had been reduced by the construction and subsequent widening and lowering of the McLaurin Road channel. This channel is aimed at reducing the flooding which had resulted in recent years from heavy rains and extensive residential development upstream, in a number of areas which were previously wetlands. The billabong is not significant as a flood storage area and the landcare group felt confident that Gosford Council would not object to it retaining its wetland and urban bushland value.

The environmental issues the landcare group aimed to address were:

- To involve local residents in the care and management of the creek system
- by providing information on the importance of urban run off, stream degradation etc and
- by encouraging participation in the ongoing rehabilitation and management plan through the landcare group
- To rehabilitate a highly visible remnant of the Umina sand plain's creek system for the benefit of the whole community.
- To demonstrate that rehabilitation of a healthy natural creek ecology would minimise the need for engineering maintenance of this area and the subsequent potential for further degradation.
- To demonstrate the use of natural buffer zones which reduce pollution and bank erosion and improve aquatic habitats.
- To remove pollution from the project site area.

p.5



Kahibah Creek – this arm of the creek is also in poor health. Erosion is aggravated by Gosford Council's strategy of dredging the creek to maintain hydrological flow. This flow increases during the wet season because Kahibah Lagoon (upstream) was filled and developed for housing. Note: the developed escarpment in the background.



Another arm of Kahibah creek, this is also badly damaged by erosion and weed infestation. The area to the right has been kept clear of all vegetation by Council to allow access for the dredge to clean out sediment and weeds. This practice only worsens the problems as can be seen in the photo.

p.6 The Project Site:

Umina Sand Plain

The area from Woy Woy to Umina is an extensive "sand plain" less than 5 m above sea level. It was originally a series of "parallel dunes" none rising much more than 76 cm high, except perhaps where the plain fronted the build up of the ocean. It was also cut up by one large and several smaller lagoon systems and swamps.

Parallel dunes are not as common as the tall dunes found elsewhere along the coast. This sand plain has the usual pattern of all dunes, hillocks of sand with "valleys" or "swales" between the hillocks. Some examples of the original system may still be seen where land holders have failed to fill in the "swales" or level of the hillocks. The bottoms of the swales are usually very close to the water table which produces drainage problems in wet weather.

Close to the ocean front a much larger frontal dune was probably originally well developed. Behind this frontal dune, a lagoon or swamp area occurred in some places. Most of these have been filled for development of housing/playing fields.

The vegetation on the main body of the sand plain was a Blackbutt Climax forest broken by swamps and lagoons fringed by species of Paperbark (mostly large-leaved) and Swamp Oak. Many individual specimens of the larger trees still remain in house yards, streets and reserves.

The land to the west of the plain rises to approximately 150m and contains shale and sandstone beds. These sandstone tops dominate the skyline when viewed from a suitable point on the edge of the sand plain (at Ettalong Beach). The tops are flat or plateau like with exposures of rugged sandstone cliffs of faces, some of them vertical.

Ettymalong Creek Catchment Area

Over the past ten years urban development has increased dramatically in South Umina. This development has had an impact on flooding in the area and engineering works designed to mitigate flooding have had a detrimental effect on the environmental quality of the Ettymalong Creek system (including Kahibah and Iluka Creeks and lagoons).

Ettymalong wetland, an area of approximately 25 hectares has been completely filled and developed and Kahibah wetland has been substantially reduced in size as a result of residential development.

As is common in urban bushland, some parts of the creek have been used as a rubbish tip while others areas have been encroached upon by private land holders. A significant proportion of the community had little understanding of the local ecosystem and in the face of rubbish, weed infestations and flooding have placed pressure on Council to "clean the creeks". Such pressure has, in the past, led to the adoption of ad hoc and inappropriate responses.

In contrast to this pressure to keep the creeks clean, concerns had been raised by residents and groups with an environmental and conservation focus. These groups and individuals seek to enhance and protect the remnant native bushland and creeks and object strongly to the engineering works aimed at "clearing the creeks" as this approach is environmentally and aesthetically destructive.



p.7



Both photos: Ettymalong billabong. Before the project, despite instructions not to spray in the project site, Gosford Council sprayed for the third time, native plants growing in the riparian zone.

p.8 In acknowledgment of the various environmental problems of the creeks and the differing expectations for their management, Gosford City Council commissioned a Rehabilitation and Management Plan for the creek system. This plan incorporated a community education strategy to increase the community's understanding of the local ecology, with the aim of reducing the pressure on Council to adopt short term and inappropriate management practices, and of increasing local participation in the care and protection of this important resource.

At the commencement of the project the Rehabilitation and Management Plan had recently been placed on exhibition for public comment prior to its adoption. The Landcare group made substantial submissions to Council regarding the Plan and amongst other things succeeded in persuading Council to resolve to designate the following areas as community land:

The Ettymalong Creek Billabong;
Kahibah and Iluka Lagoons;
Lower Ettymalong Creek (The area marked D in the management plan).

Such a designation is significant as it reflects the importance of the area as a community resource and places a significant onus on Council to manage the area for community benefit in accordance with the Rehabilitation and Management Plan.

Ettymalong Creek "Billabong"

Hydrologically this part of the creek has been isolated from the remainder of the creek system, creating an artificial billabong. However, apart from occasional clearing of dense reed growth from the creek, this area had been largely untouched by other works. As a consequence, the narrow band of riparian forest includes many native tree species, such as Swamp Mahogany, Broad-leaved Paperbarks, Swamp Oak and Cabbage-tree Palm, as well as mesophyllic understorey species, such as Bleeding Heart, Cheese Tree and Native Daphne (Pittosporum undulatum). This riparian vegetation was also subject to extensive weed infestation, although the extent of weed growth has been limited by the relatively narrow width of the remaining riparian vegetation. The introduced Weeping Willow and Coral Tree was replacing native riparian trees in some areas.

The water depth in the creek is generally shallow and varies from approximately 30 cm to no surface water in some parts. The aquatic vegetation varies with water depth, and is dominated mainly by reeds and sedges, such as Cladium, in shallower areas and by aquatic herbs, such as Parrots Feather, in deeper areas.

Aims and Objectives of the Rivers Reborn Project

- To implement the rehabilitation and community education strategies outlined in the management and rehabilitation plan prepared by SWC Wetlands Ecological Management Consultancy in conjunction with Environsciences Pty Ltd for Gosford City Council for this area.
- To retain, and where appropriate, re-establish the natural bushland features of the creek environment to achieve a sustainable environment requiring limited maintenance.



p.9

Mt Ettalong Rd The project site enjoys high visibility adjacent to the road to Pearl Beach and the Patonga. Unfortunately, this position has also contributed to its use as a rubbish dump by some residents. The land care group found out about the scale of the problem after work began on the project and it added to the demands on the regeneration team and the project overall.



Mt Ettalong Rd The bush regenerators had to do a lot of clearing of rubbish ad consulting with residents as well as bush regeneration work.

p.10

- To establish, through appropriate planting, a buffer zone to prevent pollution entering the system.

- To involve the local community in the rehabilitation of the creek network with a view to encouraging appropriate participation in its ongoing care and management and an awareness of issues which affect the health of the creek system.
- To remove pollution from the creek environs and improve water quality.

Management of the Project

The Landcare group's steering committee undertook to provide overall management of the project, including recruitment, selection and induction of the workers. Individual members of the committee were responsible for specific workers. Those with expertise in community work supervised the Community Education and Liaison Officer, while those with bush regeneration and horticulture skills supervised the Project Supervisor.

As the group was not incorporated, Gosford City Council agreed to administer the grant funds. This was useful as the workers were paid through their Personnel Department and expenses were dealt with by the Finance Department. This also created a strong link between the project and Council. Although there were problems encountered dealing with a bureaucracy whose policies and practices have often been in conflict with the aims of the project, this relationship resulted in greater knowledge of and understanding between the two organisations.

The Project Team

The Landcare group employed seven people to undertake the project. These were:

- A Community Education and Liaison Officer whose responsibility was to focus on generating the involvement of local residents in the care, protection and management of this specific site and the creek/lagoon system in general. Part of this strategy was to develop the newly created landcare group and to encourage the involvement of local service organisations and schools in ongoing projects in the system as a whole.
- A trained Bush Regenerator whose responsibility was to plan the rehabilitation work in line with the Bradley method of bush regeneration and to supervise five labourers who had some experience and training in bush regeneration.
- The Landcare group aimed to provide employment to local people, with a preference for young people, especially those who had had some bush care experience with LEAP programs.

The Project Process

The implementation of the project process was then undertaken by these workers. The specific methods adopted were:



p.11



Both photos: Ettymalong billabong adjacent to Oval Examples of rubbish and weed growth on the project site

p.12

1. Community consultation and provision of information about the ecology of the creek system with a view to gaining the support and involvement of adjacent land holders and other community members, groups/school etc. Organisation of any necessary boundary surveys to establish public land boundaries

2. Removal of household and other debris/rubbish using a bobcat and truck. Disposal at local tip.

3. Development of community education material.

4. Intensive woody and other weed control program using sensitive chemical, mechanical, and hand weeding methods as appropriate to enable the restoration of the riparian understorey.

5. Planting of native vegetation.

6. Community event to commemorate completion of project and release of final report and commencement of long term rehabilitation and management plan for the whole area.

Occupational Health and Safety Training

This was organised through Gosford City Council under the supervision of the Safety Officer, Mr Bill Allen and took place on 23rd and 24th February. See Attachment A.

Background to Community Involvement

The very nature of this project, i.e. the restoration of a natural area located within a highly urbanised environment, demands close liaison between Landcare group and local community, particularly residents potentially affected throughout the restoration process. It is these same residents who have immense potential for impact on the long-term success of the project as their activities will directly affect the recovery of bushland adjacent to their houses.

However, not all residents are able to take responsibility for areas immediately bordering their homes and there are many sites which are removed from the vicinity of houses. So it is important that the wider community become involved to ensure that the project area is not neglected.

For this reason the Landcare group employed a Community Education and Liaison Officer who could respond to residents needs and disseminate information about the ecology of the project fostering an active approach to its long term care throughout the local community.

The following is a report from the Community Education and Liaison officer who was employed for 20 hours per week for 15 weeks. The officer was employed two weeks before the Bush Regeneration supervisor was employed. They both then had a week to co-ordinate their activities before the actual work team began. The Community liaison/education officer then had a week at the end of the project to prepare a final report and attend to any outstanding issues.

(Please note: Week numbers in this section of report do not correspond to those in the technical report as the bush regeneration team commenced work several weeks after commencement of the Community Education Program.)



p.13



Both photos: Mt Etallong Rd side of project site showing rubbish and weed growth. Corrugated iron marks a large encroachment into public land by residents. This matter is now in the hands of Gosford Council.

Community Education and Liaison Report p.14

Community Education and Liaison Report prepared by Frances Pike.

Stage 1: Preparing the terrain

Some months before work was due to commence residents whose houses bordered the project area were notified by a letter from Council informing them of the project and requesting their cooperation in the removal of structures intruding upon public land which would impede the restoration process, ie. bridges across the creek, illegal enclosures.

A public meeting was organised for the week prior to the commencement of the bush regeneration team. The aim of this meeting was to inform the wider community about the project, its context and to promote an understanding of the environmental issues affecting the creek system. It was also an opportunity to gather together people with an interest in environmental preservation who would join the Landcare group's network with a view to promoting total catchment management of the Umina / Ettymalong creek system via further related activities. It was envisaged that these could be undertaken in co-operation with relevant authorities utilising relevant Landcare grants.

Advertised through the press, letter box dropping and by letter to relevant groups, this public meeting attracted seventy five people, almost all of whom were supportive of the project.

Maps of the project site, its historical context and its present status within the wider draft management plan were discussed and explained and educational pamphlets were provided. A list of names was taken for follow up with regard to the formalising of the Landcare group into an incorporated association.

Stage 2

Resident visits (Weeks 2-4)
During the first few weeks, as the bush regeneration team examined the site and commenced collecting weed seed, residents whose houses bordered the creek area were visited by the Community Education and Liaison Officer. Many of these residents had attended the public meeting and were familiar with the project. Others, including elderly residents who had been unable to attend, were familiarised with the project's aims and informed of some of the activities that would take place, primarily weed and woody weed tree removal. Many were eager to discuss problems confronting them due to the neglected state of the bushland remnant, these problems being primarily the invasion of noxious weeds, pests and vandalism.

Much valuable information was obtained from residents during this exercise and attempts were subsequently made to develop strategies that would respond to residents' issues, eg. the removal of bridges across creeks at certain points, assistance with the removal of encroachments on the project site generally (fences and bridges) and the erection of signs to empower residents attempting to protect bushland areas from vandalism.

Throughout this time calls to the Community Education Officer were received, not only from residents adjacent to the project site, but also those further afield whose properties were affected by council flood mitigation works throughout the Umina Creeks System. Many wanted information on how to remove noxious weeds and others were interested in becoming involved in the project site itself as volunteers.

During this stage information was letter boxed to residents adjacent to the creek system, outlining basic principles of care for urban bushland adjacent to wetlands.

p.15 Commencement of weeding and negotiations regarding tree removal (Week 3)

As the bush regeneration team continued the primary clearance the Community Liaison Officer negotiated with council through the Bushland Manager for the removal of the woody weeds (coral and willow trees), as outlined in the objectives above. Council, who had committed support for this aspect of the project had not allocated sufficient resources for this task so further negotiations were entered into with the council's Acting General Manager, who pledged the necessary funds and resources for this to take place. However, the actual allocation of resources was delayed, causing serious practical problems 'on the ground' with regard to weeding and planting regimes.

At this stage also an attempt was made to integrate the project with council's green waste policy, to establish a precedent through the project whereby woody weed mulch would be stored and composted by council for use on council sites rather than going to waste. Although there was no opposition to this proposal by Council's Acting General Manager, the Bushland Manager argued that the Parks and Gardens personnel did not value mulch from woody weeds and would not use it.

Removal of fences and bridges

Council Jobskills workers assisted in the dismantling of and re-erection of fences along boundary lines, as negotiated with residents.

Preparation of educational kit for residents

Owing to the wide community interest in sharing the task of bush regeneration it was resolved to produce a kit for interested residents which would promote an awareness of threats to urban bushland, knowledge of common garden plants which can damage bushland, and a poster depicting common native plants of the area, photographed locally. Preparation of the kit continued throughout the next few weeks.

Stage 3

Preparation of Community Training Sessions (Week 5,6,7)

An indication of people who would be interested in becoming involved in care of areas adjacent to their homes was obtained during follow up resident visits during the first weeks. Hoping both to gain a wider volunteer base and to expand membership of the Landcare group to residents throughout the creek system, the planned free training in bush care was advertised in the local paper. Response was good although many of the people responding were not from the immediate area. Preference of course was given to local residents and a list of people was drawn up. It was found that these tended to fall into two groups, retirees who preferred weekday sessions and working people who preferred weekends.

Garron Staines, (Technical Officer/Gosford Council) assisted in running four of the eight weekday three-hour sessions, and members of the bush regeneration team ran three of these sessions, specialising in practical methods of weed control. A list of weeds on site was obtained from the team for distribution to trainees. (Curriculum attached)

The weekend sessions were limited to four sessions of three hours each on practical methods of weed removal.

Residents were notified of starting dates.



p.16

Oval entry - behind the coral trees the natural state of the diverse riparian bush can be seen. The introduced Coral trees created a monoculture and are shown here being removed.



Rubbish and weeds and garbage and garden escapees.

Stage 4: Removal of rubbish from site (Week 8) p.17

In the process of primary clearing the bush regeneration team uncovered a particularly large area of rubbish previously hidden beneath lantana growth. They were unable to deal with this area because of the sheer quantity and project time restrictions.

The team had already spent a great deal of time removing large quantities of rubbish elsewhere along the creek during primary clearing. Also, the fact that the rubbish was immediately behind residents' boundary fences in a middle section of the creek, not adjacent to any roadside, made it an untenable proposition for hand cartage.

Negotiations were undertaken by the Community Education Officer for access to be obtained through a neighbour's rear fence (involving the temporary dismantling of a section of the fence). Council's Depot assisted in the removal of the rubbish and lantana from this area.

Preparing for removal of trees. (Week 8)
As the time approached for the removal of woody weed trees from the project area some opposition was voiced by certain residents. The Landcare group resolved to clearly mark trees for removal and to advise residents by individual letter box drop about this process. Residents were given a time period in which to contact the Landcare group to discuss the proposed removal of specific weed trees near their properties. The Landcare group had resolved to accommodate any requests to retain specific trees.

Many residents contacted the Community Education/Liaison Officer during this period and only a few requested the retention of individual trees. These trees were not removed.

Removal of trees. (Week 11)
For the removal of a large stand of coral trees above power lines negotiations had to be made with the Sydney Electricity for the insulation of overhead wires. They were very co-operative and this process went smoothly.

It had been discussed with the Bushland Manager that the trees felled by a contractor would have trunks chopped up and removed from the sensitive project site area by hand, using a team of council labourers with assistance from the project team. Unfortunately insufficient manpower and equipment was provided and this did not take place. This delayed the process considerably continuing right through to the very end of the project timetable, involving a disproportionate amount of the regenerators' time and requiring much voluntary assistance from members of the Landcare group.



p.18



Both photos: Volunteers help out - Mt Ettalong Rd Members of the Landcare group contribute by hand clearing extensive piles of rubbish from the creek bed adjacent to Mt Ettalong Rd.



p.19



Both photos: The rubbish begins to pile up. The photo below shows some of the rubbish and woody weeds removed from the eastern side of the project site next to Umina oval and the tennis courts.

Stage 5: Educational activities (Week 12) p.20

Community Training Sessions

At the commencement of the weekday sessions only about half of the anticipated fifteen people turned up. The following session ten people attended and thereafter numbers averaged about 5 or 6.

For weekend sessions attendance was again lower than expected, however the sessions were successful in achieving their aim of motivating and educating the local community in a way that would result in direct action.

Local school involvement

Delays in the felling of the woody weed trees meant that schools were contacted late into the project. Umina High School attended in the 13th week, planting out the denuded area where the large mounds of rubbish and Lantana had been removed and along the boundaries of the properties of various residents adjacent to this site.

The project was explained to pupils at various vantage points and the scope for future involvement was discussed.

Community Information Day

This took place on June 3rd at the Scout Hall at Umina. It was advertised through both the local press and radio with posters distributed through the shopping centre, schools and libraries.

The program included information booths with educational material covering various topics, i.e. Water Life, Native Plants, Weeds, Native Fauna and General Principles for Bush Care. Guided walks on the first four topics were conducted as well as water quality monitoring demonstrations by Streamwatch representatives. Woy Woy Rotary conducted a sausage sizzle and had cold drinks for sale. The Umina Scout troup's mothers ran a Devonshire tea service in the hall and the availability of food and drink improved the occasion. The Streamwatch stall kept children busy and interested, enabling their parents time to look at the other information stalls and participate in the creek walks conducted by members of the landcare group and project workers.

Mr. Chris Hartcher, M.P., who was the Minister for the Environment in the Fahey Government and who was responsible for initiating the Rivers Reborn Programme, opened the days activities and wished the Landcare group well in its ongoing work with the creek system. The local M.P. for Peats, Marie Andrews also attended and was supportive.

Attendance was estimated at seventy five people.



p.21

Community Education – a member of Gosford Council's bush management team informs residents about the indigenous plant life and examples of bush regeneration.



Technical Report p.22

Technical Report prepared by Mark Foster
(Please refer to Attachment C - Site Plan)
This is a report from the Bush Regeneration Supervisor. He was responsible for developing work plans, and directing and supervising the team of 5 labourers. The supervisor was employed one week before these labourers to orientate himself to the project,

Week 1: (Week commencing 26th February, 1995)

Frequent rain caused some loss of time at project commencement. However primary clearing took place between Etta and Calypta roads, the latter on the east side of creek bank only. The Primary clearing involved:

Collecting and bagging weed seed
Cutting of stumps of shrubs and lantana
Poisoning several large camphor laurels
Hand weeding
Planting of 50 native plants

Week 2

Again rain inhibited progress. However, hand weeding was undertaken through viable bush sections, especially near site container on eastern side of Mt Etallong Rd north of Etta Rd. Spraying was also undertaken in this area.

Week 3

Work progressed northward along the oval edge, clearing lantana and asparagus fern and annuals.

Week 4

Initial primary sweep (clearing) undertaken along houses along Elanora Rd, which involved cutting and poisoning weedy shrubs and exotic garden escapees plus the cutting of invasive vines and removing bulbs and annuals

Week 5

Primary clearing continued along the oval edge behind Etta Rd and alongside part of the tennis courts. This involved: cutting, poisoning and removing lantana, digging up blackberry, bagging of annual seeds and rumex seed, hand weeding asparagus fern.

Week 6

Coral trees were chopped and removed and secondary weeding took place around oval behind Etta Rd.

Primary clearing took place to the rear of the houses on the eastern side of Mt Etallong Rd. Whipper snipper was used to remove exotic annuals and grasses near the Scout Hall.

Planting took place of 500 Casuarina and Melaleuca quinquenervia, at various places throughout project site.

Week 7

The removal of woody weed trees corresponded with week 7 of the regeneration team's work. Council, in meeting their commitment to clear the trunks of weed trees lapped by contractor sent two workers with chainsaws to cut trunks into smaller manageable pieces. The team had to spend a majority of their time clearing pieces of cut trees from inaccessible areas of the site.



p.23



Both photos: the coral trees come down. Out was another matter, as access was difficult, as can be seen from the photo below.

The above photo shows at the entrance to the oval, the bottom photo the area across the creek just south of the tennis courts.

Week 8 p.24

Inundated with work the team attempted to deal with the massive quantities of log sections remaining on site. A back hoe was sent from the council to haul out the main trunks and heaviest branches, but this proved too damaging to sensitive areas. The council was requested to fulfill the obligation to remove the trees as originally discussed, i.e. by hand with labourers and a wood chipper to convert the woody weed tree sections to mulch.

Week 9

The extra labourers arrived and later on the chipper and some progress was made. While the council labourers carried out the logs the team were able to return to site maintenance and mulching bare areas. However, much assistance still needed to be provided to the council workers. One of the members of the Landcare group assisted with splitting logs of large stumps. Maintenance work done by team in this period was spraying, handweeding and cutting and painting shrub stumps.

Week 10

This had previously been scheduled as the last week of the project and primary work was complete but some areas were left untouched. Compromises had to be made to make up for lost time, e.g. spraying weeds amongst natives instead of hand weeding which is more time consuming but thorough. Still the bush regeneration team spent a lot of time assisting the council workers with feeding the chipper and carrying out logs. In between these latter activities handweeding, spraying and spreading of mulch on site continued.

Final weeks

Approval was granted by the EPA to extend the employment of project staff for 2-3 more weeks with a reduced team. Workers continued with planting and secondary weed removal.

Recommendations from the Bush Regeneration Supervisor.
As the full time bush regeneration period is now complete, a follow-up program involving the Umina (Ettymalong Creek) Landcare group and other residents in the local area is necessary to increase the effectiveness of the work that has already been done. If the weeds on the site are allowed to reestablish and produce seed even more weeds will occur to increase this problem. As it is, weed removal will remain a constant task as the weed seeds in the soil germinate and further dispersal occurs by wind and birds.

First Priority

As the volunteer bush care program is expected to be monthly at the maximum, work should be concentrated in the areas of good bush so these sections can be maintained and the weeds eliminated to encourage quick growth of the native species. These areas of first priority are indicated on the site plan, and are basically the areas where there is still substantial native canopy and ground cover. Removal of any seed heads and careful handweeding should be done, although some spraying could be done.



p.25 23

Map (page numbered 23): cadastral street map of Ettalong Creek between Hobart St, Bathurst St, Perth Rd, Bena Rd, Elanora and Etta Rd, near the Guides Hall, with the creek works areas hand-coloured.

Key (handwritten):

- Red: First priority areas
- Blue: 2nd priority areas that are mulched and planted
- Green: Last priority bush adjacent to residents
- Yellow: Morning Glory patch
- Purple: Area not worked at all

p.26 The main weeds to be removed from this priority area are:

- Asparagus fern
- Enrharta grass
- Rumex/Turkey Rhubarb
- Flatweed/cat's ear

- Wandering Jew
- Farmer's Friend
- Japanese Honeysuckle

Second Priority

- The sections that have been mulched and planted out are second priority because even though a lot of weeds will re-emerge through the mulch, it is simply a matter of collecting weed seed heads and hand weeding approximately a foot in diameter around each native plant, then spraying with 1 part Round Up to 100 parts water all the surrounding weeds, being careful to avoid getting spray on the native species. When the mulch has eventually broken down into soil, either replenish it to help suppress the weeds and to benefit the plants, or just keep weeding and spraying around the plants as they are.

Third priority

- The remaining areas are the strips of land behind private property that are badly degraded and have been planted out in an attempt to reintroduce native trees to create a canopy. A lot of these areas are covered in Wandering Jew which has been sprayed 3 and sometimes four times and is gradually dying, but will need further spraying. If these areas are going to be considered as bushland worth restoring, a lot of repetitive weeding and spraying will be needed to remove all exotic weeds. As this area is a lower priority, a better solution could be to only weed around the young plants to improve their growth and to stop the weedy vines strangling them. Then when the planted trees are six to eight feet tall, all the weeds could be removed and native shrubs and ground covers planted in their place.

Fourth Priority

- On one section of the creek, no primary clearing was undertaken because the area is covered in weeds, mainly Lantana and Elephants. Ears and if these were removed from the creek bank substantial erosion may have resulted. Also very few native species existed in the area and other areas always had a higher priority. This section is indicated on the site map.

Fifth Priority

- Morning Glory (Ipomoea indica) covers a thirty square metre section of the creek and has survived several sprays of Round Up. Other methods of destroying it may be to scrap and paint the main stems with neat Round Up or to cut the main stems and submerge them in neat Round Up for ninety seconds. This section is indicated on the site map.

Other

Several Coral Trees and Willow Trees are remaining through the site. Some were requested to be left by residents whilst others were missed by the tree contractors. Two willow trees in particular were bought to my attention that should have been removed and could be in the future. These trees are situated next to the scout hall.



p.27

Umina High School Students plant out tube stock.



Students are informed about the use of herbicides in bush regeneration

Resources p.28

If possible, I regard it important to purchase equipment for the volunteers and Landcare group. This is a list of items to consider:

- Native Plant Reference Books, such as
- Robinson, L. (1991) Field Guide to the Native Plants of Sydney Kangaroo Press,
- Kenthurst, NSW.

- Spraying equipment and protective clothing eg safety masks, and several litres of Roundup;
- Handtools including trowels, knives and secateurs;
- Loppers and bush saws.

Management Committee Report

The Landcare group steering committee became the management committee for the project and had to meet at least fortnightly to deal with the demands of the project. Recruitment of project staff involved 4 committee members for approximately 4 full days. Fifty people applied for positions, of which twenty were interviewed.

The Community Education/Liaison Officer reported regularly to this committee and future directions were discussed with her. Due to the sensitive nature of the work, the committee wanted to ensure everything possible was done to keep residents adjacent to the project site happy and supportive of it.

The Treasurer's job was demanding, especially making adjustments to the budget and ensuring workers were paid, petty cash was reimbursed and invoices successfully made their way to Council.

After the paid workers finished the project the Landcare group held the public meeting to formally establish itself and to broaden its membership. The Senior Landcare Specialist attended. The steering committee then undertook to organise working bees to commence essential follow-up maintenance.

How Successful has the Project Been?

The Rivers Reborn Project aimed to address the four environmental issues indicated above.

- The community education component of the project to involve local residents in the care and management of the creek system was successful in that large numbers of residents participated in bushcare training and the landcare group is organising ongoing work on the project site.
- Rehabilitation on the project site has begun and this will ultimately demonstrate the benefits of a healthy creek system, that will minimise the need for engineering maintenance of this area. In the meantime Gosford Council has agreed to refrain from any such work and has agreed to allow the Landcare group to maintain the project site. It has also undertaken to consult with the s377 committee about any work proposed for the creek system.

p.29





Both photos: Mt Ettalong Rd side Areas that were left bare due to the intensive weed growth and large scale rubbish removal were replanted with tube stock. Over 5,000 plants were planted at the site during the project.

p.30

- Huge quantities of pollution was removed from the project site. It is hoped that as regeneration occurs, there will be a reduction in pollution and erosion.

The objectives of the project were met as follows:

- Rehabilitation and community education strategies outlined in the Management plan prepared for Gosford Council have been initiated. Gosford Council has supported the landcare group and is more keenly aware of the landcare group's interest in and its commitment to the creek system.
- The natural bushland features of the creek environment have been retained and planting has attempted to re-establish such features in the project site in order to achieve a sustainable environment that requires limited maintenance.
- The community has been involved in the rehabilitation of the project site and interest has been expressed in the creek system in general and ongoing participation has taken place and is planned for in the future on a regular basis.
- Pollution was removed from the creek and water quality has improved.

Removal of Weed Trees

The removal of willow and coral trees put a considerable extra burden on both the committee and the project workers. The background to this issue is as follows:

Throughout the project site there were many large coral and willow trees which had significantly diminished the native vegetation in the area. The original project proposal did not envisage removal of these weed trees as it was thought that there was likely to be significant opposition to such action in the community. However, in the first weeks of the project many residents approached the community liaison officer seeking to have these trees removed.

This presented a dilemma for the Landcare committee as the removal of these trees required additional resources, approvals and consultation. In addition, it would have been preferable to remove these trees prior to the commencement of any bush regeneration work which was already in progress.

The committee and the site supervisor discussed this issue at length and decided to proceed with removal if Council provided the relevant funds. In making this decision the committee took into account: the community support for this action; the fact that leaving these trees would significantly inhibit regrowth of native vegetation in some areas; that their removal at a later date would be likely to damage the bush regeneration and planting work being undertaken in this project.

Although request were received to remove trees throughout the creek system, the committee determined to limit any removal to the project site. This would also ensure that the food source provided by the Coral trees in the broader catchment would not be significantly affected by the group's work.

The community liaison officer negotiated with Council's A/General Manager and gained Council's approval for the removal of the trees and the allocation of additional funds. It was agreed that Council would provide some hand labour (Council and skillshare staff) to remove the debris, p.31 Ultimately, however, the resources allocated by Council were not sufficient. This placed an additional burden on the bush regenerating team who spent much time removing debris from the site to where it could be mulched.

At this stage of the project the differing philosophies and priorities of Council and the land care group became apparent. The community liaison officer had negotiated for the hand removal of tree debris from the site area and had attempted to gain Council's co-operation in arranging to have all such debris mulched adjacent to the site. However, after some hand removal of the debris Council began to use bockhoe and trucks to more quickly remove the tree waste. This created substantial damage to the

areas where they accessed the creek and the Landcare group stopped any further work of this nature as it was contrary to our objectives in relation to site damage and the use of green waste.

To ensure that our objectives were met to the degree possible one of the committee members worked for 15 days on the site splitting the tree trunks so that they could be mulched by Council staff and used on site — something that Council said could not be done. This had the dual benefit of providing much needed mulch and saving valuable tip space.

In general the removal of the weed trees had considerable (although not universal) support within the community, however due to the size and grouping of the trees their removal has left significant gaps. Substantial replanting has taken place in these areas, which should begin to make an impact when the next growing season commences.

Site Survey

It was originally intended to survey the public land at the beginning of the project to enable the removal of any encroachments on to public land. Previous studies had identified a variety of illegal structures which needed to be removed. The committee arranged for Council to write to all residents advising them of the need to remove any encroachments several months before the project began. Although not many people acted on this request, it did facilitate the community education officer's negotiations about this issue when the project commenced.

The majority of residents were extremely co-operative about the removal of encroachments once the extent of the project was known. Assistance was provided by the Landcare group to some residents to help them move boundary fences and a number of other obstacles. The committee delayed carrying out the survey work as the extent and definition of the work required needed clarification. However, one resident in particular who had fenced off a major area of public land would not remove the encroachment. This resident indicated an intention to formally acquire the land in question. There was also some confusion about whether boundaries were the creek bank or as identified on the deposited plans. Much research went into this issue and the survey work was eventually carried at the end of the project. One small area where the boundary was very unclear has been pegged on site while other encroachments have been identified by plans.

The survey plans have now been submitted to Council to allow it to take formal action aimed at the removal of all major encroachments. The Landcare group has also recommend that Council write to those property owners who have minor encroachments suggesting that they rectify these when renewing fences etc.

Looking Ahead p.32

1. Bush Regenerating staff

At the beginning of the project the committee was hopeful that we would be able to employ a number of young people on the project who had some training through LEAP projects. However after some investigation it became apparent that most of the young people who had been employed on such projects had not been trained our supervised by a trained bush regenerator. The experience and training they had gained appeared to be more of a landscaping nature. This meant that the availability of local trained workforce was less than had been originally envisaged.

The project ultimately employed three trained regenerators and three workers who had some related experience. The benefits of employing trained staff became quickly apparent and in any future projects the committee would recommend that all staff be trained bush regenerators.

2. Community Liaison

The community liaison aspect of the project proved to be critical to the project's success. There was a high degree of interest in the bush regenerating workshops and those who attended gained much benefit. Such structured workshops really seemed to make a difference to people's understanding of the local ecology and their willingness to support the overall rehabilitation aims. The continuation of such a workshop program providing a mixture of theoretical and practical components is a high priority for the Landcare Group. There were many people who were unable to attend the workshops for various personal reasons who would be interested in future programs.

4. Bush Regeneration Training

There are currently no TAFE bush regeneration courses available on the Central Coast and travel to Sydney and Newcastle courses is prohibitive for many people. Accordingly, the provision of training at the local level will remain a high priority for the Landcare group. This will require both financial resources and co-ordination.

5. Project timetable

The short period of the project placed some limitations on the methods of work adopted. A number of the project team expressed the view that it may have been better to employ people part time and to extend the duration of the project for a longer period. This was of course not possible given the original funding guidelines and it would also have placed a longer term obligation on the management committee. However, such an approach is worth considering for future funded projects.

6. Site Management by Council p.33

Several weeks before the project began, Council delivered a major blow to the project when depot staff undertook a major spraying exercise killing a huge area of native wetland regrowth within the waterways themselves.

This work was unauthorized and Council provided a written apology to the Landcare Group. However, it had a significant impact on the creeks themselves as extensive weed growth quickly replaced the regenerating native grasses and reeds. Given that this is at least the third time Council had undertaken this type of activity, it is doubtful that some these plants will regenerate naturally again. This action significantly affected the visual amenity of the area as demonstrated in may of the photographs in-

cluded in this report. It was exactly this type of ad hoc practice that the project aimed to eliminate. The committee has received strong assurances from Council that this will not occur again. We can only hope that this promise is fulfilled.

6. Planting issues

As expected, given the location next to a main road and playing field the project was subject to some vandalism, mainly the pulling out of native plants by children leaving football on Saturday afternoons. This was minimised by planting tubestock and by not marking individual plants. However, some high visibility areas needed to be replanted several times and no doubt this issue will require ongoing monitoring. Overall, the level of vandalism was less than the right have been expected.

This project was significantly different from many bush regeneration projects surrounded as it is by residential properties.

7. Additional Contributions towards the project

In addition to the resources outlined in the original submission, significant additional resources were contributed by both the Landcare committee and others which added to the value of this project. These contributions included:

1. Weed Tree Felling - $6,500 contributed by Council.
2. Weed Tree splitting and mulching - $2,500 work contributed by committee member.
3. Overhead wiring insulation - value not known - contributed by Pacific Power.
4. Several volunteer committee work days - assisting in the clearing of rubbish from the project site and some planting.
5. Donation of trees and plants by local residents and project workers.
6. Contribution of stream watch, local fishing association, and Rotary at the community day.

Substantial work still remains and the above technical report will provide a good basis for ongoing maintenance on the project site.

8. Rivers Reborn Program p.34

The initial funding of the project envisaged a major state-wide Rivers Reborn awareness campaign to run in conjunction with local projects. While the EPA did produce a public education program aimed at increasing community awareness of the influence of individual actions on waterways, it would have been useful that this project has been directly linked with the Rivers Reborn Program.

In conclusion the committee would like to thank the many people who provided support throughout the project and in particular the following people for their assistance:

- Garron Staines (Gosford Council) for his general support and assistance with the weekday bushregeneration workshops.
- Trisha Barker and Alice Spence - two of the project workers who took on the additional responsibility of running some of the bush regeneration workshops.
- The Umina Scouts - for the use of the scout hall for the community training and community open day.
- Umina High school students for their assistance with planting

- Council administration staff for their co-operation in dealing with the payment of project accounts and wages and the provision of occupational health and safety training.
- Pacific Power for insulating overhead wiring as part of their community service activities.

Acknowledgements p.35

Individuals who have made a significant contribution to the project

Umina (Ettymalong Creek) Landcare Group
Lynne Bockholt
Bryan Ellis
Sue Ellis
Cath Gissane
Sally Jope
Robert Payne

Project Workers
Frances Pike
Mark Foster
Alice Spence
Trish Barker
Duane Artis
Brian Clarke
Richard Worthy

Gosford Council
Garron Staines
Andrew Jones
Peter Wilson
Wendy May
Stuart Barber
Bill Allen
Woy Woy Depot Staff
Jobskills team

Other
The Hon Chris Hartcher
The Hon Marie Andrews
Ross Wellington
Cr Lorraine Barlow
Bob Swan and students
Rob Learmonth
Warren Dickinson

Don Tee and members
Liz Donachie and members
Allan & Beryl Strom and members
Chris Frost
Allan Matzen

Bushland Management
Bushland Management
General Manager
Project Accountant/Finance

Pay Officer
Occupational Health & Safety

Member for Gosford
Member for Peats
Rumbalara Field Studies Centre
Gosford Council
Umina High School
Streamwatch
Bass Sydney Fishing Club
CC Sport Fishing Club
Woy Woy Rotary Club
Umina Cubs & Scout Troup
Association of Environmental Education photography photography

Residents and community members who participated in training and others who have become involved in the Landcare group

Attachments p.36

1 Community Education documents produced during project

1.1 BUSH CARE Community Training Outline
1.2 Map Woy Woy Sandplain
1.3 Handout:
Caring For Native Bush
Native Plant List for Ettymalong Billabong
Weed List
Bush Care bibliography

1.4 Landcare Meeting
1.5 Umina High School - Certificate of Appreciation
1.6 Press Release

2 Administration
2.1 Job descriptions:
Community Education Officer
Work Supervisor
Labourers
2.2 OH&S Induction Training

3 Bush Regeneration
3.1 Memo - Weed Spraying - Umina Creek System
3.2 Work Supervisor - Work Plan and map

Attachment: Bush Care Community Training Outline p.37

BUSH CARE
(Community Training Outline)
Umina (Ettymalong) Landcare Group

Session 1: Concepts of Bush Care

What's So Good About Native Plants and Native Plant Communities Anyway? What causes degradation

What is Bush Regeneration?

- What a trained regenerator does

Umina Creeks System

- Past stresses: flooding, flood mitigation works and effects, dumping of rubbish and garden refuse
- management options - Draft Management Plan
- community role in ongoing maintenance, - rosters? supervision?

Session 2: Major Plant Communities of the Sydney Region

- How to identify them
- Sprecht's Scheme

Session 3: History of Site - Umina

What was it once like and why was it there?

Session 4: Plant Identification Principles

- Leaf characteristics etc
- Using keys
- Identification - a few common local plants

Session 5: Major Plant Families

How to identify them.

Session 6: Theory and practice of weed removal and control

Weed reproduction: - How weeds spread
Specific methods of removal for weed type:

a) weed pulling (hand removal, cutting crown, vine scraping, digging roots)

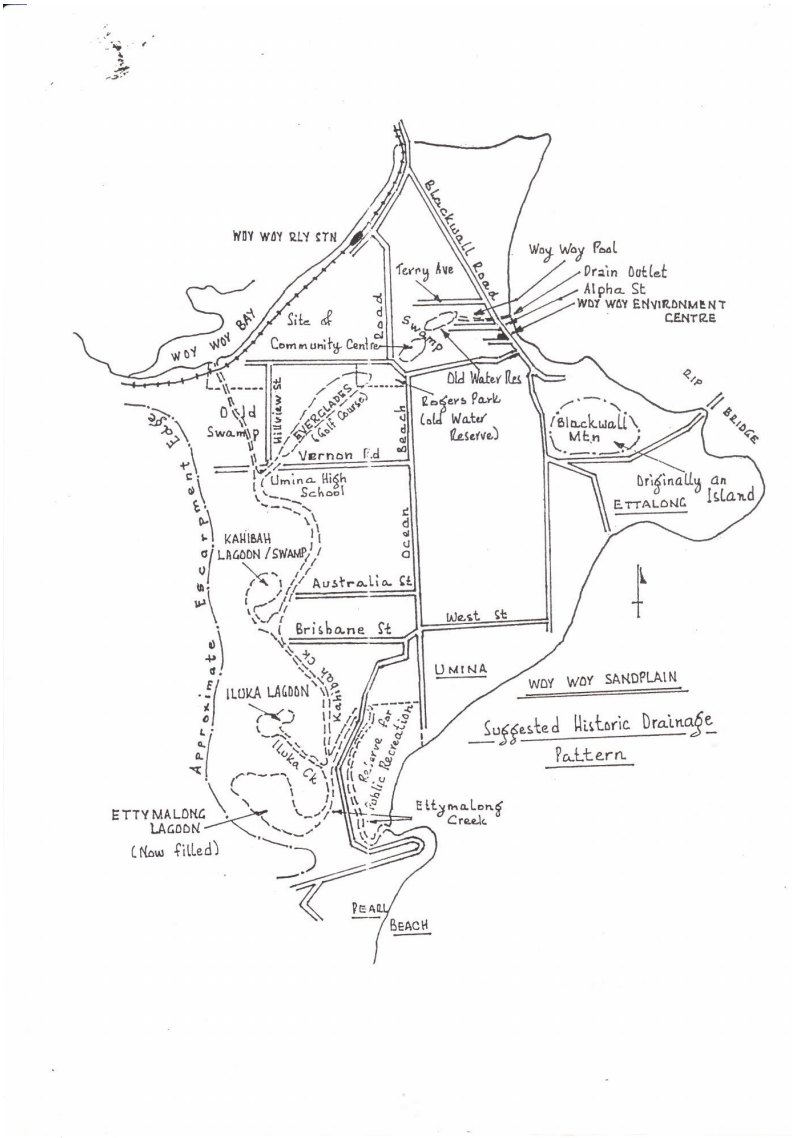
b) weed poisoning (absorption, frilling, drilling, cut and paint, spraying)

Weed control:

- mulching and matting for weed exclusion, debris disposal

Session 7: Practising weed removal

Session 8: Practising weed removal



p.38

Map: Suggested Historic Drainage Pattern, Woy Woy Sandplain

Labels: Woy Woy Bay; Woy Woy Rly Stn; Blackwall Road; Terry Ave; Woy Woy Pool; Drain Outlet; Alpha St; Woy Woy Environment Centre; Site of Community Centre; Swamp; Old Water Res; Rogers Park (old Water Reserve); Old Swamp; Hillview St; Everglades (Golf Course); Vernon Rd; Umina High School; Beach Road; Ocean Beach Road; Kahibah Lagoon / Swamp; Australia St; Brisbane St; West St; Umina; Kahibah Ck; Iluka Lagoon; Iluka Ck; Reserve for Public Recreation; Ettymalong Lagoon (Now filled); Ettymalong Creek; Approximate Escarpment Edge; Blackwall Mtn; Originally an Island; Ettalong; Rip Bridge; Pearl Beach.

Attachment: Caring for Native Bush p.39





CARING FOR NATIVE BUSH
What Can I Do?

- Learn which plants are weeds
Many garden plants can escape to become a threat to native bush. Either remove them, (NOT by dumping in native bush) or ensure they are contained. If moving, ensure the plants are destroyed.

- Foster indigenous species
- Keep a buffer zone of native plants between my garden and any adjacent bush

- Keep nutrients down
Don't allow nutrients which encourage weed growth and which damage waterways to escape the household either via pipes or run-off. This includes fertilizers, washing products and animal excreta. The following methods help:

- keep as much of the garden planted as possible where rain can soak in rather than create run off from paved areas

- compost all vegetable matter from garden or kitchen
- use non-phosphate detergents (or preferably soaps)
- use bi-carb of soda instead of chemically laden cleaners

- use compost rather than artificial fertilizers whenever possible. If using the latter ensure that it doesn't run off slopes or can't enter the bush through the water table.

- Control Animals
- Cats destroy native animals. Keep them inside at night and make sure they have one or two sounding bells

- Dogs' excreta encourages weed growth. Make sure they don't run through native bush areas.

- Resist temptation to remove things from bush
Rocks, logs, plants - all are home to a variety of creatures and micro-organisms. Their removal threatens the entire ecosystem. Leave them where they can do most good as homes for the web of bushlife.

- Join the Landcare Group and stay in touch with its activities

Attachment: Native Plant List for Ettymalong Billabong p.40

UMINA ETTYMALONG CREEKS LAND CARE GROUP
Native plant list for Ettymalong Billabong.

Trees and shrubs
Acacia elata - Mountain or cedar wattle
Acacia longifolia - Sydney Golden Wattle
Acacia suaveolens - Sweet wattle
Acacia ulicifolia - Prickly moses
Allocasurina torulosa - Forest Oak
Alphitonia excelsa - Red Ash or liniment tree
Angophora floribunda - Rough barked apple
Banksia integraifolia - Coastal Banksia
Banksia serrata - Old man banksia
Breynia oblongifolia - Coffee bush
Callicoma serratifolia - Black wattle
Casurina glauca - Swamp oak
Clerodendron tomentosum - Lolly bush
Elaeocarpus reticulatus - Blueberry Ash
Eucalyptus botryoides - Bangalay, Southern Mahogany
Eucalyptus maculata - Spotted gum
Eucalyptus robusta - Swamp mahogany
Ficus coronata - Sandpaper or creek fig
Ficus rubiginosa - Rusty fig
Glochidion ferdinandi - Cheese tree
Leptospermum polygalifolium - Coast Tea Tree
Melaleuca quinquenervia - Broad leaf paper bark
Omalanthus populifolius - Native poplar or bleeding heart
Pittosporum revolutum - Mock orange
Syzygium paniculatum
Monocots
Dianella caerulea - Flax lilly
Gahnia clarei - Gahnia
Lomandra longifolia, - Mat rush
Livistona australis - (Cabbage tree palm)

Attachment: Weed List p.41

WEED LIST
(Umina Creek Project - Umina (Ettymalong Landcare Group))

TREES
Cassia Senna x- floribunda
Camphor Laurel Cinnamomum camphora
Coral tree Erythrina sykesii
Weeping Willow Salix babylonica
Large leaved privet Ligustrum lucidum
Small-leaved privet Ligustrum sinense
African Olive Olea africana

SCRAMBLERS/SHRUBS/CLIMBERS
Ground asparagus Protasparagus aethiopicus
Ochna Ochna serratifolia
Lantana Lantana camara
Honeysuckle Lonicera japonica
Madeira vine Anredera cardifolia
Morning Glory Ipomoea indica
Coastal Morning glory Ipomoea cairica
Cape Ivy Serecio mikanioides
Ivy Helix Ledera
Blackberry Rubus vulgaris
Turkey Rhubarb Rumex sagittatus
Canna lily

ANNUALS
Fleabane Conyza banariensis
Farmers Friend Bidens pilosa
Crofton Weed Ageratina adenophora
Impatens
Parramatta grass
Newcastle grass
Flatweed Hypochoeris radicata
Paddy's Lucerne Sida rhombifolia
Fishbone fern Nephrolepsis cordifolia
Kurnell Curse Hydrocotyle bonariensis
Watsonia
Ginger lily Hedychium gardneranum
Deadly nightshade Solanum nigrim
Coreopsis lanceolata
Erhertia grass

Attachment: Bush Care Bibliography p.42

ASSISTING IN IDENTIFYING PLANTS ON SITE
"Flora of the Sydney Region" Beadle, Evans and Carolin
"Trees and Shrubs in Rainforests of New South Wales and Southern Queensland" J.B. Williams, G.F. Harden and W.J.F. McDonald
BUSH REGENERATION
"The Bush Regenerator's Handbook" R. Buchanan

WEEDS
"Noxious Weeds of Australia" W. Pearson and E. Cuthbertson

FOR FURTHER STUDY OR INFORMATION
"Making your garden Bush Friendly" McLoughlin, Rawlings (order from 02-413-4722)
"Native Plants of the Sydney Region" M. Baker R. Corringham J. Dark
"Key Guide to Australian Trees" L. Cronin
"Native Plants of the Sydney District" A. Fairley & P. Moore
"Burnum Burnam's Wild Things Around Sydney" G. Sainty, P. Abel & S. Jaconbs

Attachment: Press Clipping, 'Creek rehabilitation kicks off' p.43



Express 22/2/95

Creek rehabilitation kicks off

FIRST stage of the implementation of a comprehensive rehabilitation plan for the Umina Creek system is now under way.

"It has become a case of rubbish out and skilled bush management staff in," community education officer Frances Pike said this week.

The neglected and degraded creek is undergoing a noxious weed eradication and native species propagation program.

The Umina and Ettymalong Creek Land Care Group is rehabilitating a section of Ettymalong Creek with a grant from the Environmental Protection Agency's Rivers Reborn program.

At this stage the land care group will tackle only one section of the system.

This will be the billabong adjacent to Mt Ettalong Rd and Umina Oval.

To cover the entire area proposed will involve years of work and enlisting the assistance of local trained people.

"Fortunately such training and involvement is possible through a variety of grants available for land care-related activities," Ms Pike said.

For any further information phone Frances Pike on 015 935584.

Land carers Frances Pike (left) and Sally Jope at Ettymalong Creek

Creek meeting

A PUBLIC meeting will be held on February 25 to discuss the rehabilitation of the Umina Creeks system.

The meeting will be staged in the Umina tearooms, behind the library.

The purpose of the meeting is to get people involved in the need to rehabilitate the creeks system.

For further information on the meeting or any aspect of the project contact community education officer Frances Pike on 015 935584.

Express 2/2/95

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Land carers Frances Pike (left) and Sally Jope at Ettymalong Creek

Attachment: Umina High School Certificate of Appreciation p.44



UMINA HIGH SCHOOL

Umina High School will foster a caring and supportive environment where students can achieve their potential; where learning is an enjoyable experience; and where the pursuit of excellence is encouraged.

Certificate of Appreciation

TO

UMINA LANDCARE GROUP

FOR

EDUCATION OF OUR STUDENTS IN OUR LOCAL ENVIRONMENT

Principal

Date: .....

Attachment: Local Landcare Meeting Notice p.45

Today's meeting is to gather together people interested in the creeks and bushland of Umina who would like to help restore the creek system to a more natural-looking and healthy condition now that major flood works have been completed.

The approach to be taken is one that involves the principles of total catchment management, i.e. preventing further damage to waterways while cleaning up existing damage. It is a big project and can best be achieved by working in stages.

What Will Happen First?

The Umina, Ettymalong Creek Landcare Group has been granted assistance through the 'Rivers Reborn' programme which will enable the first stage of work to start this week, in the billabong adjacent to Mount Ettalong Road, north of the McLaurin Road flood diversion channel.

Here a skilled team of bush regenerators will be removing noxious weeds and general rubbish, collecting native seed and replanting native species along the bush adjacent to the creek system. With the help of interested people a maintenance programme for the area will be established.

What Next? Us!!

That brings us to the reason for our meeting. The second stage and perhaps the most exciting for us to discuss today is the expansion of this project to involve the entire creek system.

It has been based on the Rehabilitation and Management Plan for Kahibah, Iluka and Ettalong Creeks, Kahibah and Iluka Lagoons, and Selected Reserves at Umina Beach. The management plan for the beautification and restoration of the Umina Creeks is comprehensive. It will require ongoing work for some time from council and community.

It will also provide employment for people willing to be trained in bush regeneration. Many young people express an interest in this sort of work and it is a growing career area. But completion of the project will also require funds. Landcare groups are regularly being funded throughout N.S.W. It is up to our community to formalise our landcare group, to make it strong and to put forward submissions which, with the success of the first stage of our project, will supply us with the money necessary to fully implement what must be done to restore the creeks to as natural and as beautiful a condition as possible.

Attachment: Job Descriptions p.46

COMMUNITY EDUCATION OFFICER - 15 weeks p/t 20 hrs per week.

Salary: Pro rata $520pw

Responsible to the Umina (Ettymalong Creeks) Landcare Group management committee.

1. To encourage the local community to participate in the rehabilitation and the ongoing care and management of the overall creek system and to participate in landcare activities.

2. To inform adjacent landowners; residents, schools and the wider community about: this project the management plan total catchment management and environmental protection issues generally with a view to gaining their involvement and support for the overall care and management of the area.

3. To liaise with residents, and community organisations to promote the project.

4. To organise community meetings and workshops as required.

5. To document the progress of the project and produce a final report including a photographic record of the results each stage of the works.

6. Other duties as directed.

Selection criteria

1. General understanding of bushland regeneration issues.

2. Experience in the area of community education or community development.

3. Experience in developing and evaluating projects.

4. Good written and verbal communication skills including the ability to speak in public.

5. Demonstrated ability in liaising with government, media and other community organisations.

Desirable

Qualifications or experience in Bushland regeneration, horticulture or botany.

JOB DESCRIPTION - WORK SUPERVISOR p.47

Conditions: Salary: $453pw 35 hr week.
Responsible to: the Umina (Ettymalong Creek) Landcare Committee.

Duties

1. To be responsible for supervising the rehabilitation of the billabong according to the management plan and the Rivers Reborn proposal and to develop a workplan and timetable using bush regeneration methods.

2. To supervise 5 labourers undertaking rehabilitation works and be responsible for health and safety of these employees in accordance with all relevant legislation. This includes the reporting of injuries, and incidents to the committee within 24hrs and the keeping of appropriate written records.

3. To liaise with Gosford Council depot staff and the Bushland Manager, the Bushland Manager, regarding access to equipment, and the program manager - recreation regarding OH & S aspects of site management.

4. To liaise with the community education/liaison officer to ensure that concerns of local residents are dealt with appropriately.

5. To report to the landcare committee on a fortnightly basis regarding the progress of the project and any community concerns that arise.

6. To assist in the selection of labouring staff.

7. Other duties as directed.

Selection criteria

1. Knowledge and experience of bush regeneration methods or rehabilitation of riparian vegetation.

2. Experience in supervision of labouring staff and knowledge of OH and S principles and legislation.

3. Good communication skills.

4. Relevant qualifications desirable.

BUSH REGENERATOR - LABOURERS x 5. 10 weeks - Salary: $363pw p.48

Responsible to the works supervisor.

1. Carry out rubbish removal, weed removal and planting within the project area.
2. Other duties as directed.

Selection criteria

Essential

1. Demonstrated knowledge and experience of bush regeneration.
Desirable

2. Relevant qualifications eg Ryde College of TAFE Bush regeneration qualifications LEAP etc.

Attachment: Gosford City Council Letter on Induction Training p.49

GOSFORD CITY COUNCIL
49 MANN STREET, GOSFORD, N.S.W. 2250
P.O. BOX 21, GOSFORD. DX 7211 GOSFORD

Telephone: (043) 25 8475
Please Quote:
Mr Bill Allen
4 May, 1995

Ms Sue Ellis
Umina (Ettymalong Creek) Landcare Group
PO Box 156
UMINA NSW 2257

RE: INDUCTION TRAINING
Dear Sue,

As requested, I am providing details of the Induction Training conducted on the 23rd and 28th February 1995, for the people involved in the bush regeneration project at Umina.

Contents:-
General Safety Rules & Responsibilities
Clothing & Footwear
Types issued
Reason for issue
Issue & replacement procedures
Mandatory wearing whilst at work
Personal Protective Equipment
Use & Selection
Eye protection - types of protection
Hearing protection - types of protection
Hand protection - when to be worn
Sun protection - hats, sunglasses, SPF 15+ sunscreens

Accident/Incident Reporting
Accident/Incident reporting procedures - notification to supervisor
Completion of accident/incident notification forms
Investigation of accidents

Medical & Rehabilitation
"The Scenic Central Coast just One Hour north of Sydney"



FAX: (043) 23-2477 – Administration
PRINTED ON RECYCLED PAPER
FAX: (043) 67-6277 – Erina Depot

p.50 - Workplace & Personal Hygiene
Maintaining cleanliness of amenities including site sheds
Provision & cleaning supplies
Washing prior to meals
Treatment/protection of minor injuries (infection control)

- Safe Use of Hand Tools
- Handling & Use of Hazardous Substances - (Chemical sprays)
Material safety data sheets
Awareness of intended use & precautions
Use of P.P.E.
Handling & storage

- Work Site Housekeeping
Tidy work area - reduced hazards
Storage of equipment
Defining & protecting worksite
Duty of care to public

- Manual Handling
Correct lifting/carrying techniques

- Hazard Identification
Identifying & correcting hazards before they contribute towards accidents or incidents

- Occupational Health & Safety Act
Responsibilities & employers
Responsibilities & employees
Not to misuse things provided for safety/welfare

I trust that this information will satisfy your requirements.

Yours faithfully,

Bill Allen
Safety Officer

Attachment: Council Memo on Weed Spraying, 23 January 1995 p.51

MEMO

TO ACTING GENERAL MANAGER
FROM ACTING DIRECTOR - WORKS
DATE 23 January 1995
FILE 190.32
SUBJECT WEED SPRAYING - UMINA CREEK SYSTEM

I refer to your memo of 20 January 1995 in regard to weed spraying the creeks system at Umina in contravention of Council's resolution. Please note:

1 Mr Peter Ruggless, Maintenance Overseer Woy Woy originally requested Mr Eddie Lanting from the Parks Section to carry out some minor spraying at the inlet of the Cowper Road culvert as it was overgrown with the potential to block the culvert inlet. This was the only work requested by Mr Ruggless.

2 Mr Lanting carried out the spraying as requested and as his spray crew was in the area, continued to carry out spray works in the creek system above Mount Ettalong Road similar to what has been carried out each year over the last five to six years.

3 The spraying was carried out by the Parks Section utilising Round Up which was used to:
a) spot spray for lantana control as part of the long term strategy of lantana reduction;
b) spraying lower parts of the embankment to remove reeds and bull rushes for improved water flow; and c) spot spraying for noxious weeds including blackberry.

The spraying was carried out approximately five (5) weeks ago.

Mr Lanting reported to me that he carried out these works in this Umina Creek system unaware that there was a ban on maintenance type works in this creek system and also assuming that the section of the creek under the control of the Umina Land Care Committee was from Mount Ettalong Road downstream to Umina Beach. As such the works that he carried out were considered to be part of his annual program.

The maintenance organisation at Woy Woy were aware of the requirement for minimal work in this creek system and as such only requesting spraying in a restricted area of the creek.

I spoke to Councillor Bockholt this morning and explained the situation of the work that was carried out. I have further agreed with her that no maintenance or spraying works will be carried out on any of this creek system without prior approval from myself and until after the Management Plan for the creek system is completed. It is understood that all clearing works will be carried out in the future by voluntary personnel who will be controlled by the Land Care Committee.

COLIN GOOLEY.sm

cc G Bent)
J Lee) TO NOTE: No further works are to be carried out in the creek system without discussion with the Director - Works.

Attachment C: Site Plan p.52



Attachment: Bush Regeneration Project Plan p.53

ETYMALONG CREEK BILLABONG, UMINA BEACH
BUSH REGENERATION PROJECT

Aims

To restore and maintain the native vegetation communities present using appropriate techniques of weed removal, assisted natural regeneration and planting of indigenous trees and shrubs.

To protect the creek bank from further erosion and siltation by sensitive clearing of weeds and minimal disturbance of the soil along the creek edge.

To create community interest and appreciation of the bushland regeneration project by our example of primary restoration work in the billabong area.

Site Description and Work Methods

The site can be divided into three main work areas. Each with different amounts of remnant native vegetation and varied degree of weed cover. Therefore the three work areas will differ slightly in the approaches used to restore them.

WORK AREA 1-The western side of Mt Ettalong Rd, north from Etta Rd

This area contains the best remnants of bushland with a good canopy cover and several patches of native groundcover and seedling regrowth. Weeds are encroaching into the area from disturbance along the road edge, which is a major seed source of grasses and annuals [Bidens pilosa, Conyza spp., Ehrharta erecta]. Birds feeding or roosting in the trees spread other weeds in the area particularly those with a fleshy fruit or berry [Lantana camara, Lonicera japonica, Senna pendula var glabrata]. The bush at the northern end of this area is infested with vines climbing the large native trees [Impomoea indica]. Garden escapes account for another large portion of the invasive exotics in this area that have thrived due to the excess water, nutrients and sunlight [Canna indica, Protasparagus aethiopicus].

WORK AREA 2-Eastern side of Mt Ettalong Rd, north of the tennis courts.

Only a very small portion of native vegetation is found here and mainly comprises of remnant canopy species left in an attempt to hold the creek bank. Exotic trees and shrubs are also scattered through the area, these could have been brought in by birds, escaped from gardens or planted by residents. Large sections of the area along the creek are colonised by dense patches of weedy annuals and grasses. The majority of the work area is over run by kikuyu [Pennisetum dilatatum] and other grasses which could not be fully removed with out causing creek bank erosion. This work area will be the most extensive planting zone and bushland reconstruction area. Due to the lack of existing species planting list of native trees, shrubs, climbers and grasses/ herbs has been made up from indigenous plant lists from previous flora studies. This planting will assist in creek bank stabilisation, habitat for native fauna as well as adding aesthetic value to this very bare p.54 area of the site. The trees will be planted approximately 1/square metre into the grass after it has been weeded and cut back.

WORK AREA 3 - Eastern side of Mt Ettalong Rd, Nth from Etta Rd to the tennis courts at Umina oval

Fair amounts of native groundcovers and several stands of remnant canopy trees create patches of good bush next to dense areas of weeds and large exotic trees. Most of the weeds are in the moist and shady areas near the creek, particular weeds to eradicate are (Lantana camara, Rumex saggittatus). As well as other trees, vines, annuals etc.

Weed removal techniques

This will involve cutting and painting with Round Up[glyphosate]shrubs, small trees and vines. Collecting and removing in bags seed heads, fruit and propagules off any of the exotic species present in this area. Hand weeding and spraying 1:100 Round Up[Glyphosate] on invasive grasses, annuals and other groundcovers. Either slashing, mulching or spraying along the road edge to eliminate the seed source. Gathering by hand Wandering Jew[Tradescantia albiflora] and remove from site, or spray it where there are no natives nearby. Large exotics trees may be stem injected with neat Round Up[glyphosate] or cut down, poisoned and chipped for mulch [Cinnamomum camphora, Erythrina sykesii].