

Evaluation of the State-wide Urban Stormwater Education Program



1998



2000

August 2001

For information about this report please contact the Director, Education and Community Programs, NSW Environment Protection Authority, phone (02) 9995 5000.

This report presents an evaluation of the Urban Stormwater Education Program component of the Urban Stormwater Program. The report was prepared by Grahame Collier of the NSW Environment Protection Authority (EPA), based on independent evaluations of the Urban Stormwater Education Program Components. The report has been reviewed and endorsed by the Urban Stormwater Education Program External Reference Group (Appendix 2). Further review and help with report preparation has been provided by Phil Smith and Geoff Young of the Education and Community Programs Section of the EPA.

Published by:

Environment Protection Authority
59–61 Goulburn Street, Sydney
PO Box A290
Sydney South 1232
Phone: (02) 9995 5000 (switchboard)
Phone: 131 555 (information and publications requests)
Fax: (02) 9995 5999
Email: info@epa.nsw.gov.au
Web: <http://www.epa.nsw.gov.au>

The EPA is pleased to allow this material to be reproduced in whole or in part, provided the meaning is unchanged and its source, publisher and authorship are acknowledged.

ISBN 0 7313 89 6
EPA 2001/67

Printed on recycled paper

Contents

Executive Summary	1
Components of the USEP	1
Outcomes	2
Recommendations	5
1. Introduction	7
1.1 Aims and Objectives of the USEP	7
1.2 Underpinning Context Issues	8
1.3 Description of the Program	9
2. Evaluation of the Mainstream Mass Media Campaign	11
2.1 Evaluation Method	11
2.2 Reach of the Mass Media into the Community	12
2.3 Recall of the Mass Media in the Community	13
2.4 Response by the Community to the Mass Media	15
2.5 Conclusions	19
3. Evaluation of the Mass Media Campaign for People of Non-English-Speaking Backgrounds	20
3.1 NESB Campaign Objectives	20
3.2 NESB Campaign Products	21
3.3 NESB Campaign Outcomes	22
4. Program Facilitation and Support	23
4.1 Media	23
4.2 Local Government	23
4.3 Working with Individual Companies	24
5. Industry Education and Training	26
5.1 Building Construction and Demolition	26
5.2 Motor Vehicle Industry	26
5.3 Council Operations – Roads, Pools, Parks, Depots and Golf Courses	27
5.4 Horticulture	28
6. Community Education	30
6.1 Community Stormwater Trainers	30
6.2 Innovative Community Education Projects	30
6.3 Ethnic Communities Council Project	35
6.4 Council Capacity Building	37

7. Areas for Improvement	38
7.1 Integration Across Sectors	38
7.2 Recognition of the Role of Education in Reducing Stormwater Pollution	38
7.3 Capacity at State-wide and Local Levels to Develop, Implement and Evaluation Education	39
7.4 Community Ownership of the Stormwater Pollution Message	40
7.5 Industry Sector Ownership of the Stormwater Pollution Message	40
8. Recommendations for Future Activity	41
8.1 Recommendations	41
Appendix 1:	Detailed Description of the Program
	44
Appendix 2: USEP Reference Group (August 2000)	48
Appendix 3: Continuing Activities Under the USEP 2000–01	49
Industry Projects	49
Local Government	50
Continuing Schools Project	50

Executive Summary

The Urban Stormwater Education Program (USEP) is the State-wide education component of the NSW Government's three-year, \$60 million Urban Stormwater Program.

The \$4 million USEP runs from 1998 until 2001 and is divided into two phases. The first phase ran from 1998 to September 1999 with a budget of \$2 million. The second phase runs through to July 2001 and it also has a budget of \$2 million (over the 2 financial years). The USEP has four components, each aimed at improving knowledge and changing behaviour to prevent stormwater pollution.

Components of the USEP

1. Mass Media Campaign

This included TV, radio and billboard advertising for mainstream audiences and print and radio advertising for people from non-English-speaking backgrounds. The mass media stormwater campaigns have heavily influenced people's behaviour. The evaluation of the 1999 mass media campaign shows that more than 2.1 million people reported changes in their behaviour to avoid actions that would pollute stormwater. The evaluation of the 2000 campaign showed that nine out of 10 people could nominate something that they now do to reduce stormwater pollution. One in five people in NSW (which translates to 1.5 million people in NSW) have recently changed their behaviour to reduce the negative effect on stormwater. Almost 70% of people are now washing their cars on the grass all of the time. One half of NSW residents never hose down their paths.

2. Program Facilitation and Support

This involves working with the media, individual companies and local government to obtain a flow on of the key messages from the program. The EPA has had success in recruiting businesses to the stormwater program. This means for example, that thousands of tins of Porters paint are carrying the 'Drain is Just for Rain' message to consumers. At the same time, a dozen prominent Australian companies in the paint, chemicals and hardware industries have committed themselves to carrying the message to their customers. Councils have been equipped with the skills and tools to use educational interventions more effectively through the use of an Internet resource kit and the provision of extended training. Significant local use has been made of the state-wide mass media campaign materials.

3. Industry Activity

Promoting cleaner production approaches in industry through professional associations and training providers is an important component of the program. This has increased the capacity of industry to deal with stormwater pollution and to reduce it. Industry associations have strongly promoted to their members operational changes and structural approaches that reduce stormwater impact. Industry training providers have developed and delivered courses and training materials to build the capacity of those in the sectors targeted to reduce stormwater.

4. Community Education

This component has supported work with local government by helping councils to conduct high quality education activities with their communities. This occurred via the provision of training for council staff and consultation in the development and delivery of local programs. Some education innovation projects were also conducted with local government.

In addition, community organisations have strongly supported the program. For example, through the work of the Ethnic Communities Council project, 8000 individuals across the Sydney metropolitan area were reached by the project in its first year. During 2000, educators have been involved in more than 80 events and briefings, including major celebrations (for example, Chilean Independence Day) and other activities attended by well over 12,000 people. In English-speaking communities throughout NSW, the EPA has trained and accredited 38 specialist educators to conduct local presentations on stormwater. More than 65 education seminars and presentations at over 60 events have been conducted to date by these educators.

Overall, the evaluation of the program shows that the USEP has been successful and has made a difference to people's behaviour and awareness that has had a positive effect on stormwater quality. It has raised the community's knowledge of stormwater pollution, shown people how to make a difference, and improved the attitudes and influenced the behaviour of a vast number of people in NSW. The results of the program are set out in detail in this report.

The key recommendation flowing from this evaluation is to continue with and extend the state-wide education program, with funding for specific components that build on the earlier work. In addition, it is recommended that stormwater education activity be strongly supported to focus on source reduction at the local or catchment level. There are important linkages between state-wide and local activities that need to be utilised fully.

Outcomes

The USEP has proven to be a successful, integrated, state-wide program that has made a difference to stormwater quality. It has raised the community's knowledge of stormwater pollution, shown people how to make a difference, and improved the attitudes and changed the behaviour of a vast number of people in NSW.

At a structural level, it has significantly increased the extent of ownership of the problem of stormwater pollution. At the same time, it has improved stormwater management and the capacity of key government, industry and non-government groups to integrate stormwater management into their priorities. The highlights of the program are listed in the table below. In the main these are drawn from external evaluation data described in the evaluation of each component in Sections 4, 5 and 6 of this document. Note that extrapolation of independently obtained data to the whole NSW population (6,448,792 people as at March 2000, Australian Bureau of Statistics data) has been used to highlight the impacts of the knowledge gains and behaviour changes generated by the program across NSW.

Changing People's Behaviour to Reduce Impact on Stormwater

- The mass media stormwater campaigns have heavily influenced people's behaviour.
- The evaluation of the 1999 mass media campaign shows that more than 2.1 million people reported changes in their behaviour to avoid actions that would pollute stormwater.

- The evaluation of the 2000 campaign showed that nine out of 10 people could nominate something that they now do to reduce stormwater pollution.
- One in five people in NSW (which translates to 1.5 million people) have recently changed their behaviour to reduce the negative effect on stormwater.
- One half of NSW residents never hose down their paths.
- Nearly two out of every five people make an effort to keep sand and soil out of the drain by such action as cleaning gutters and drains.
- More than 81% are ensuring that chemicals do not get in drains. That's an increase of 10% (which translates to 600,000 people across NSW) as a result of the USEP.
- Across NSW over 300,000 people reported that they were using fewer garden chemicals as a result of the USEP.

Improving People's Knowledge of Stormwater Pollution

- The community's understanding of what causes stormwater pollution has improved as a result of the program.
- Forty-nine per cent of NSW people viewed litter as a stormwater problem, compared with 44% before the education program.
- Nearly two-fifths of the NSW population now view leaves, sediments and grass clippings as a stormwater problem (an increase of over 500,000 people in NSW).
- Nearly three-quarters of the population (over 4.7 million people) regard stormwater pollution as extremely or very important to them. This was an increase of over half a million people as a result of the education program.
- Increased knowledge of the causes of stormwater pollution and improved behaviours have been reported within communities representing over 65% of the people of NSW from non-English-speaking backgrounds.

Showing People How to Make a Difference to Stormwater

- More than 100,000 people have been directly involved in education and training activities as part of the state-wide education program. These include activities in the community and within vocational education and training courses, and at community events.
- There has been a significant increase in the skills of local government staff and those in key community organisations, such as the Ethnic Communities Council, in the design, implementation and evaluation of education to address stormwater issues.

Improving the stormwater management in industry and the wider community

Individual Companies

- A dozen prominent Australian companies in the paint, chemicals and hardware industries have committed themselves to carrying the message to their customers. For example, thousands of tins of Porters paint are carrying the 'Drain is Just for Rain' message to consumers.

Local Government

- Councils are important players in managing urban stormwater. The USEP has equipped councils with the skills and tools to use educational interventions more effectively. It has done this by:
 - giving councils the practical tools to run a community education campaign, accessed directly over the Internet, to ensure the ‘Drain is Just for Rain’ message is delivered at the grass roots level. The degree of success can be shown by the 450 visits a month to the web-based resource kit for councils, and by the fact that visitors stay on the site for extended periods.
 - through direct training for council operations staff with NSW TAFE. Some 160 council operations staff across five council operations areas (swimming pools, golf courses, depots, parks and gardens, road maintenance) were given training that will make a difference to stormwater quality. Another 48 council managers also received train-the-trainer coaching on how to deliver accredited courses to their staff.

Industry

The USEP has increased the capacity of industry to deal with stormwater pollution and to reduce it. For example:

- Industry associations in the automotive, building and construction and horticulture industries have promoted approaches aimed at reducing stormwater impact to their members.
- Training materials have been supplied and training has been conducted within the automotive, building and construction industries, council operations and horticulture industries.
- The Motor Vehicle Repair Industry Council (MVIRC), together with the four industry associations, conducted a major education program, part of which featured education materials and pollution reduction products, at the 23rd National Automotive Trade Fair in May 1999. More than 11,000 visitors came to the stand.
- Articles about reducing stormwater pollution were published in a number of trade association journals and trade magazines, including the NRMA’s *Open Road*.
- In partnership with the Nursery Industry Association of NSW, and Baulkham Hills and Warringah Councils, 85 individual nurseries and landscape supply companies received environmental assessments and 30 were involved in industry-specific training on stormwater management, including pesticide use and run-off.

The Community

- Community organisations have strongly supported the program. For example, through the work of the Ethnic Communities Council project, 8000 individuals across the Sydney metropolitan area were reached by the project in its first year. During 2000, the educators have been involved in more than 80 events and briefings, including major celebrations such as Chilean Independence Day and activities associated with Clean Up Australia Day, which were attended by well over 12,000 people.
- In the wider community 38 specialist educators have been trained and accredited to conduct local presentations on stormwater. Over 65 education seminars have been held and 63 community events have been supported.

Cross-sector Leadership

- By developing and expanding links between State and local government, industry and community to achieve improved stormwater pollution reduction, the EPA has established a network of

involved agencies to carry forward the stormwater pollution reduction messages. In addition, the NSW stormwater advertising campaign materials have been taken up by other States, including Victoria and the ACT.

Recommendations

1. Extend the USEP

We recommend that the state-wide urban stormwater education program (USEP) be continued and extended.

2. Include Certain State-wide and Local Educational Activities

We recommend that the future State-wide USEP be planned and conducted to contain both **State-wide program elements** and **local educational activities**.

Recommended State-wide Program Elements

- Extension of the state-wide mainstream mass media campaign, which leverages and builds upon community concerns to promote the adoption of non-polluting behaviours by all citizens in urban NSW.
- Continuation and extension of the mass media campaign for people of non-English-speaking backgrounds (NESB), so that four additional language groups are targeted (for example, middle European) and behaviour messages are reinforced with the communities from the seven language groups targeted in the current program.
- A program that provides funding and support for local councils to use and extend mass media components (both mainstream and NESB) of the state-wide program into their local communities.
- Continuation and extension of community education activities with targeted communities. This includes people of NESB (additional 4 language groups), school students (upper primary and secondary level).
- Continuation and extension of activity with industry, including projects with priority industry associations, industry training providers and individual companies. These should target new industry sectors whose operations affect stormwater management and should reinforce and extend activity with previously targeted industry sectors.
- Activities that enhance the capacity of local communities to undertake stormwater education projects in priority locations in collaboration with local government (including the Stormwater website and print material support for local initiatives).

Recommended Local Educational Activities

- Continuation and extension of local (and/or catchment) non-point-source stormwater pollution education programs.
- Given the high need for capacity building and support for local initiatives we recommend that under the USEP significant proactive support should be given to local government staff from within the EPA. The aim will be to:

- establish an evaluation framework for the entire urban stormwater education program
- review stormwater management plans to determine where education is identified as an intervention, the extent to which its use is appropriate and where council staff might be provided with support to be able to plan and evaluate it more effectively
- set standards for education programs
- establish monitoring and reporting mechanisms for local education programs
- collate and report on data from local programs concerning the extent and impact of education efforts
- design, identify and promulgate best practice tools for the planning and evaluation of education programs
- designs evaluation pro formas and materials for use in local projects
- provide support and mentoring, and develops and deliver training (in education planning, delivery and evaluation) for council officers involved in stormwater education. This is provided through, and in conjunction with, any established regional structures and staff.
- link local projects with the state-wide program
- identify and, where necessary, provide training on strategic, educational and structural approaches to stormwater management for senior staff and for elected officials
- promote the use of local community volunteers.

3. Promote Further Research

High quality education efforts at local and state-wide levels are predicated by the availability of good scientific data. We recommend that further investigation and analysis occur to determine what pollutes stormwater. This should include research and analysis of the extent to which sewerage infiltration into stormwater in urban areas is a problem. Education at both state-wide and local levels should then target behaviours that reduce priority pollutants in the target catchments.

1. Introduction

This document outlines the products and impacts of the Urban Stormwater Education Program (USEP). The USEP is part of the State Government's three year, \$60 million Urban Stormwater Program, which is administered by the Stormwater Trust. The Urban Stormwater Program is designed to encourage and support urban stormwater quality management practices that will improve the condition of the State's waterways. This will be achieved through the following strategies: public education, stormwater management planning, piloting innovation and remedial action.

The USEP is an integral part of the total program. Of the \$60 million, \$4 million has been set aside over three years to fund the education component.

The primary targets for the USEP were identified, by analysis of existing research and the conducting of additional research, to be people in urban areas of NSW who:

- have positive attitudes to improving stormwater quality, but also have relatively negative behaviours. They see changing behaviour as too hard.
- have relatively positive behaviours in that they do not pollute water, but have poor attitudes. When they behave in positive ways it is from a sense of 'having to'.

Phase 1 of the program was approved by the Stormwater Trust in July 1998 and was implemented during 1998–99. The total budget for Phase 1 was \$2 million. Components of Phase 1 that commenced in 1998 were mass media (mainstream and NESB); program facilitation and support; community education; the schools program; and industry education and training.

Phase 2 is occurring over two financial years, 1999–2000 and 2000–01. Only those activities completed in 1999–00 have been included in this evaluation. Components of Phase 2 are mass media; program facilitation and support; community education (including continuation of the schools program); and industry education and training.

In the Phase 1 and Phase 2 activities undertaken to date (\$3.3 million), external, independent evaluation has been undertaken of all the mass media components and the Ethnic Communities Council's Community Education project. Phase 1 mass media activities were evaluated by Sutherland, Smith, Ringham. Phase 2 mass media activities were evaluated by Taverners Research. The Ethnic Communities Council's community education project is being evaluated by E D'Urso and Associates. Over 75% of USEP activities have been the subject of external evaluation, and the results are reported in this paper. At the completion of the program there will be more program evaluation, so that over 90% of program activity will have been subjected to external evaluation.

1.1 Aims and Objectives of the USEP

The following aims and objectives were determined at the commencement of the program in conjunction with the USEP Reference Group and were approved by the Stormwater Trust. The aim of the Program is:

Improving the quality of waterways through education that has a positive impact on behaviours that affect urban stormwater quality.

Program objectives

The program objectives are to promote community awareness, knowledge and understanding of the extent and causes of stormwater problems, particularly:

- stormwater pollutants, including naturally occurring materials
- the harmful impact of polluted stormwater on human and ecological health
- visible and non-visible stormwater pollution
- the catchment-specific nature of stormwater pollution sources.

We need to:

- promote new norms of community behaviour that improve stormwater quality by:
 - reinforcing and making visible those behaviours that have a positive impact
 - making visible the range of regulatory and social sanctions that apply to stormwater polluting behaviours
 - promoting understanding about the relationship between personal behaviour and stormwater quality
- facilitate behaviour change by promoting simple, practical ways for particular groups and individuals in the community to reduce stormwater pollution. This will include identifying environmental impacts of alternative behaviours and products
- build the community's capacity to undertake activities that improve stormwater quality.

1.2 Underpinning Context Issues

The following are the key contextual issues that the program addresses.

- The need for a continuation and strengthening of the public's concern for water quality, particularly in relation to human and ecological health, despite the evidence that in-depth understanding of these relationships is generally absent.
- Behaviour change that affects stormwater is incremental. It is unlikely that any person will take up all of the desirable behaviours at the same time. Education must therefore be ongoing
- Reinforcement of the message that stormwater is a major pollutant is important, but this must be supported by clear messages about appropriate and achievable alternative behaviours.
- The behaviours and concepts in stormwater education are complex. Our understanding about how people develop or acquire concepts that can support behaviour change and how they use these concepts is improving but is not absolute.
- Significant independent evaluation is being undertaken to improve our understanding of the effect of education on reducing non-point-source pollution.
- The relationship between educational interventions and the use of sanctions requires further investigation. Education about sanctions has not been a significant part of this program.

1.3 Description of the Program

As indicated above, the USEP was conducted in two phases over a three-year period, 1998-99 to 2000-01. For each phase a significant program framework document was drafted and approved by the Stormwater Trust. Projects in the second part of the phase two are still ongoing. These are described in Appendix 3 and are not evaluated as part of this report.

From its inception the project was planned and managed in consultation with a range of stakeholders through the USEP Reference Group, which met regularly during the course of the program. The framework documents were worked up in conjunction with this group. USEP activities are linked closely to stormwater projects and activities conducted by a variety of organizations, including local government, State Government agencies (including the Department of Land and Water Conservation and TAFE) and non-government agencies. The USEP Reference Group includes representatives from DLWC, the Local Government and Shires Associations, the Hawkesbury Nepean Catchment Management Trust, local councils, Clean Up Australia, the South Sydney Development Corporation, Sydney Water, the Ethnic Communities Council and the Stormwater Industry Association (Appendix 3).

Table 1 outlines the components of the USEP in each phase. A more complete description of the program can be found in Appendix 1, which describes all the activities in each component. Note that the budget figures are for expenditure on activities to June 2000.

Table 1 Components of the Urban Stormwater Education Program

USEP Phase 1 July 1998 to September 1999	USEP Phase 2 October 1999 to June 2001	Total Budget by Component (to date)
Mainstream mass media	Mainstream mass media	\$2.1 million
NESB mass media campaign (6 languages)	NESB mass media (7 languages)	\$300,000
Program facilitation and support (PR activity)	Program facilitation and support (PR activity)	\$110,000
Community education Targeted innovative education projects/council activities Project for 6 ethnic communities conducted by the Ethnic Communities Council (ECC) Schools project	Community education Targeted innovative education finalisation of Phase 1 projects and extension in 2000–01 Project for 7 ethnic communities conducted by the ECC Local government community education projects Schools (continuation/completion of phase 1 project)	ECC project \$225,000 Total other community education \$120,000
Industry projects for: <ul style="list-style-type: none">• automotive industry• council operations• horticulture industry (nurseries)• building and construction Industry	Industry projects Continuation/completion of Phase 1 projects See Appendix 3 for information about additional industries targeted in 2001–02 in Phase 2	\$210,000
Program management	Program management	\$100,000
Program research and evaluation	Program research and evaluation	\$133,000

2. Evaluation of the Mainstream Mass Media Campaign

Outlined below are the evaluation results of the Phase 1 and 2 components of the mainstream mass media campaign. For ease of identification Phase 1 will be dealt with under the heading of the 1999 campaign and Phase 2 under the heading of 2000 campaign, to reflect when they were conducted.

The Phase 1 USEP mass media campaign (the 1999 campaign) was launched by the Minister for the Environment in late 1998. It was comprised of television, print and radio advertising with the tag line 'The Drain is Just for Rain' (Appendix 1). The independent evaluation was conducted by Sutherland, Smith, Ringham, and the data below is drawn from their comprehensive report.

The Phase 2 Urban Stormwater Education Campaign (the 2000 campaign) was launched on 6 February 2000. It comprised television, outdoor and radio advertising and again used the tag line 'The Drain is Just for Rain' (Appendix 1). Independent evaluation was conducted by Taverners Research, and the data below are drawn from their comprehensive report.

The general aims of the advertising component were:

- to get people to understand the connection between their actions and the harmful effects of stormwater pollution
- to increase people's awareness of the range of stormwater pollutants and where they come from, in order to encourage preventive actions.

Total funding in Phases one and two was \$2.1 million.

2.1 Evaluation Method

1999 Campaign

The campaign evaluation combined weekly data collection (called tracking) with qualitative research – three focus groups conducted at the completion of the tracking period. Telephone interviews began in October 1998, with a two-week benchmark study and sampling of 150 respondents each week. After the stormwater campaign began on 26 October 1998, the ad stayed on air for three weeks until 15 November. The impact of the campaign was tracked through 120 interviews a week. After 10 weeks, tracking was suspended for three weeks for Christmas/New Year. Tracking resumed on 11 January 1999 and continued for five weeks, with sampling of 60 respondents a week.

Almost 2000 NSW residents were interviewed to obtain the data described below. Quotas existed to ensure a 50:50 male: female distribution and an even regional distribution (50% Sydney Metropolitan area, and 16.6% each for Newcastle, Illawarra, and Rest of NSW).

In addition, three focus groups were held, the first with people who found these issues 'extremely important', the second with people who found them 'very important', and the third with people who found them 'not very', 'not at all' or only 'fairly' important. Each group represented approximately one-third of the sample of survey respondents.

2000 Campaign

A three-phase survey was commissioned to measure the impacts of the campaign. The three phases of 600 interviews of NSW residents were conducted (i) immediately before the launch of the campaign, before testing, (ii) after two weeks of the campaign and (iii) on completion of the campaign some eight weeks after launch. Respondents were adults aged 18 to 70 years. They were randomly selected from within dwellings sampled systematically from an electronic version of the latest available White Pages directory. A similar urban/country split to that described above was used.

Findings for Both Campaigns

The findings are reported under three categories, Reach, Recall, and Response. Reach means the extent to which the campaign reached its intended audience. Mass media is of little value if no one sees the messages. Recall means the extent to which those who saw the messages were able to recall them. The data below provide measures of spontaneous recall and prompted recall. Spontaneous recall and high reach are very desirable outcomes of any mass media effort. Response indicates what people did and/or learned as a result of the campaign. This is the most important measure of all. The report below outlines Response in relation to a number of factors. These include:

- people's acceptance of the advertising
- the priority that NSW citizens accorded to stormwater issues as a result of the advertising
- improvements in knowledge as a result of the advertising
- behaviour change as a result of the advertising
- attitude changes as a result of the advertising.

2.2 Reach of the Mass Media into the Community

1999 Campaign

The television advertisement achieved strong community awareness, despite its relatively low exposure. This cut-through was evident in the second week the campaign was on air, when over 20% of people could recall the ad. It maintained this level while the ad was on air, falling gradually thereafter. Even in late January, six weeks after the campaign, there was still significant proven ad recall (10%) of the television advertising. The 1999 television commercial had many features in common with earlier ads (for example, 'rubbish going down drains/going into the ocean'), making it difficult to identify specifically. The proportion of ad descriptions classified as 'water pollution (unspecified)' was 10% during the benchmark and increased to 15% in the early weeks of the campaign before falling back to 10%.

2000 Campaign

There was immediate awareness of the new campaign, with 63% of the adult community recalling it unprompted after just two weeks. Growth in recall was then increased to 67% by the end of the campaign. A slightly higher 72% recalled seeing the 'stormwater' TV commercial after it was

described to them. A majority of all community groups were aware of it. The significance of the unprompted recall was a major indicator of the success of this campaign.

The research showed that one in five people (21%) recalled seeing stormwater advertising before the new campaign, particularly in areas outside Sydney. A previous stormwater campaign (carried out by the EPA in 1995 and using a similar TV commercial) and the 1999 campaign both appear to have had a strong residual effect.

After just two weeks on air, over half of those who recalled the commercial said they had seen it more than five times. One in four had seen it more than 10 times. By the time the campaign had ended, two-thirds of those who recalled the commercial said they had seen it more than five times. One in three had seen it more than 10 times.

2.3 Recall of the Mass Media in the Community

1999 Campaign

There was high recognition of the 1999 campaign television ad, a response that compares very favourably with similar public education campaigns. Recognition was high immediately and was well sustained after the completion of the campaign. Recognition reached 50% during the campaign and maintained a level above 40% throughout January, before falling to 30% two months after the campaign went off air. This indicates that approximately half the target group (people aged over 18 in NSW) saw the ad, remembering it well enough to recognise a description of it. The proportion of ad recognisers varied only slightly in different regions of the State.

There was an increase in both spontaneous recall and prompted ad recognition in early/mid January. This may be a significant result. It may be showing the effect of 'advertising clutter' created by the close proximity of several environmental campaigns. The stormwater campaign was closely followed (with one overlapping week) by the Waste Challenge campaign. During the same period, the Clean Up Australia ad 'WRAP' was also on air. This created a clutter that may have blocked awareness of even effective ads. It is well known that after periods of clutter, the strongest ads are again recalled even though they are not on air. This phenomenon could be what is being shown by the increasing awareness of the stormwater advertising in early January. The most important thing this may be indicating is that awareness of the stormwater campaign was being reduced by the clutter of environmental advertising during December 1998.

Part of the high level of ad recognition is accounted for by the distinctive nature of the ad. The scene of the girl behind the window with rain falling, giving the impression of tears, is a powerful and memorable visual image, one that is easy to describe and easy to recognise from a description. Not all ads are as distinctive.

For this reason, people found the ad striking and memorable:

As soon as the interviewer described the ad I recognised it, even though I had only seen it once. (*Focus group feedback*)

This distinctiveness and clarity of the 1999 campaign advertisement is reflected in the 'item recall' of the ad. After being asked whether they have seen an ad on stormwater pollution, respondents are asked 'What did the ad say or show?' The response to this question is item recall. Almost all the items recalled about the 1999 campaign advertisement concerned either the girl in the window or the main message of the ad. The items recalled are shown in Table 2 below.

Table 2 Recall of 1999 ad components

Item	%
Girl talking	11
Face at the window / little girl behind the window	13
Girl crying / tears / girl looks very sad	14
Other 'girl' items	5
Shows leaves / sticks / sand going down the drain	19
Drains are for rain / drains only meant for water	19
Other	3

The recall of items from the ad was evenly divided between items that related to the 'young girl in the window' and the 'leaves, sticks, sand going down the drain', combined with the message item: 'the drains are for rain', suggesting that these were the high-impact elements of the ad.

2000 Campaign

Very high spontaneous recall results were a hallmark of this campaign. Over 50% recalled the ad spontaneously and could repeat the key scenes in the add and its messages. The dominant visual image recalled about the television commercial, unaided, was the final shot of the man with a plastic bag stuck to him, swimming in the water. The principal messages recalled 'off the tops of their heads' were:

- rubbish will end up in rivers and oceans
- put rubbish in the bin – do not litter
- everyone should be aware of stormwater pollution.

The advertising also appears to have been effective in promoting the message of 'The Drain is Just for Rain'. Over 40% of respondents used this tag line during the evaluation interviews.

2.4 Response by the Community to the Mass Media

People's Approval of the Advertising

1999 Campaign

As indicated above, the television advertising campaign had a high approval rating, with over 80% of viewers indicating that it was an important or very important issue, and most people seeing the advertising as convincing. Some respondents indicated that they felt that the use of the young girl was somewhat manipulative, although effective. This was discussed in some detail in the focus groups.

2000 Campaign

Half of all the people aware of the campaign advertising regarded the TV commercial as very convincing, with a further two in five expressing the view that it was convincing. Among those aware of the advertising, the overall proportion regarding the advertising as 'relevant' increased from a mid-campaign figure of 48% to a high of 56% once the advertising was complete. Most respondents who were aware of the 'stormwater' TV execution (55% mid and 58% post campaign) felt that it had encouraged them to avoid or reduce stormwater pollution.

Priority Accorded to Stormwater Issues

1999 Campaign

The priority that the NSW community places on stormwater issues was clearly identified for the first time in this campaign. By far the vast majority of people saw reducing stormwater pollution as the key issue facing the community with regard to water generally.

2000 Campaign

This evaluation showed that stormwater pollution is an issue that a majority of the NSW community already considers important. It is an issue that assumes even higher importance when supported by a mass media educational campaign. Before the new campaign, two out of three (65%) of the community rated stormwater pollution as either extremely or very important to them in their locality. The proportion holding this opinion increased to 73% during the running of the campaign.

While the importance rating tended to be high across all demographic groups and locations both before and during the campaign, the people most likely to express concern about stormwater pollution were those living in metropolitan locations. The older, over 40s, segment of the population was also consistently more likely than the younger community to regard stormwater pollution as an extremely important issue.

Knowledge of Stormwater Pollution

1999 Campaign

The television ad had a significant impact on the community's knowledge about stormwater. Table 3 indicates the knowledge increases that occurred.

Table 3 Knowledge increases due to the 1999 advertising campaign

Message	%
'Prevent rubbish going down stormwater drains / drains'	43
'Drains are for rain'	25
'Rubbish ends up on beaches / in the sea / in the ocean / in rivers'	15

This small range of message means that the ad communicated clearly and easily to the people who saw it. The ad was particularly effective in carrying its message.

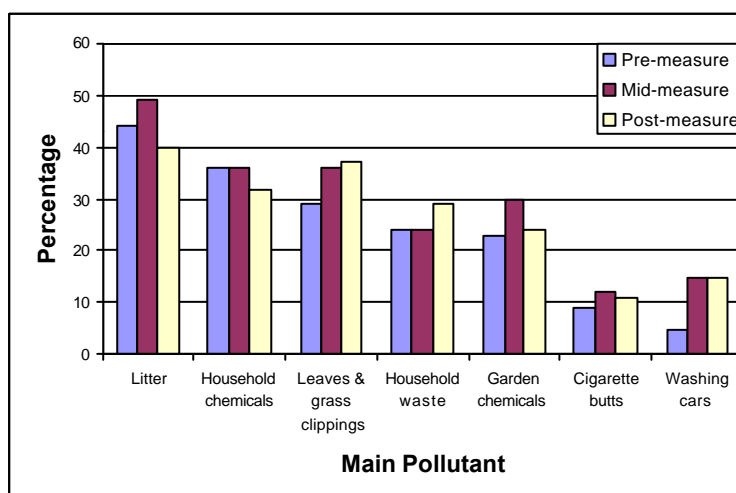
People who had seen the ad were more likely to identify grass clippings, green waste and sand (the materials identified in the ad) as being important sources of stormwater pollution than others who had not seen the ad. They also give somewhat less importance to chemicals and packaging than did people who had not seen the ad (Table 4).

Table 4 Knowledge of the main things that pollute stormwater

	Seen ad %	Not seen ad %
Vegetation, leaves, grass clippings, silt, sand, soil	44	29
Litter, rubbish, packaging, household waste	56	58
Chemicals, paint, solvents, detergent, oil/grease	48	52

2000 Campaign

Even before the campaign, the community demonstrated awareness of a variety of substances from households, gardens and streets that can find their way into stormwater and pollute it. This is outlined in the graph in Figure 1.

Figure 1 Main things that pollute stormwater

Question: As far as you know, what are the main things from households, gardens and streets that get into stormwater and pollute it?

Litter is perceived as the most common contributor to stormwater pollution. At the next level are household and garden chemicals, vegetation such as leaves and grass clippings, and household garbage. The latter two contributors were mentioned with increased frequency following exposure to the new campaign.

Perceptions of key pollutants of stormwater varied across locations of interview. During the campaign, leaves and grass clippings were mentioned with more frequency in metropolitan areas, with the potential hazards of garbage and household waste also more of a metropolitan issue. Non-metropolitan residents were the most inclined to mention household chemicals.

Actions to Reduce Stormwater Pollution

1999 Campaign

The next level of impact of the ad and the next measure of its effectiveness were the respondents' assessment of the ad's impact upon their perception of the issue and their action. People who saw the ad found it quite thought provoking, and they were encouraged by it to act in ways that would reduce stormwater pollution (Table 5).

Table 5 Respondents' perception of ad impact

Found ad very thought provoking	43%
Found ad very relevant to me and my household	23%
Encouraged me to avoid actions that would pollute storm-water very much	33%

The discussion in the focus groups adds another kind of evidence to these issues. Participants found that environmental issues were very important matters that they thought about and were likely to act upon. The ad clearly provided information and images to think about. There were also, however, aspects of the ad that may have reduced the sense of personal relevance that people experienced. Participants in the groups said that the ad painted a picture of the stormwater pollution issue as 'too pretty'. As well as seeing the pollutants it focused on as not being the most important ones, participants saw the setting as not one that fitted the information. The location of the ad was not seen as being a particular source of stormwater pollution problems. Further, some participants reported that they tended to dismiss the 'relevance of the ad to them', as they noted that they did not live in a setting similar to that portrayed in the advertisement. Participants saw a more appropriate location for the portrayal of stormwater pollution as being the more urban areas, where rubbish is discarded on the street.

2000 Campaign

Nine in 10 people can readily nominate one or more specific actions they can undertake to reduce stormwater pollution. This is an encouraging finding, given that an objective of the campaign has been to create an understanding among the community of the connection between their own actions and the harmful effects on stormwater pollution. The action most often mentioned is ensuring all litter is placed in the bin. Other steps often mentioned, both before and during and after the campaign, were not putting rubbish or vegetation into gutters, and washing the car on grass or at a carwash. The research has suggested an increase in awareness of the pollutant effect of rubbish, grass clippings and leaves in gutters.

One in five people say they have recently changed something at home or elsewhere to reduce stormwater pollution. The most common changes are washing motor vehicles on the grass or at a dedicated carwash and using environmentally friendly products. The research identified an increasing propensity towards using more environmentally friendly products, in particular, after commencement of the campaign.

There is almost universal reporting of placing litter in bins. This was also the case among people believing that disposal of cigarette butts is a relevant issue for them. A large majority say they take steps to ensure no chemicals or grass or other rubbish finds its way into drains.

Fewer people feel that the issue of keeping soil and sand out of the gutter is relevant to them. Encouragingly, however, the proportion of people recognising the personal relevance of this action significantly increased after the launch of the campaign.

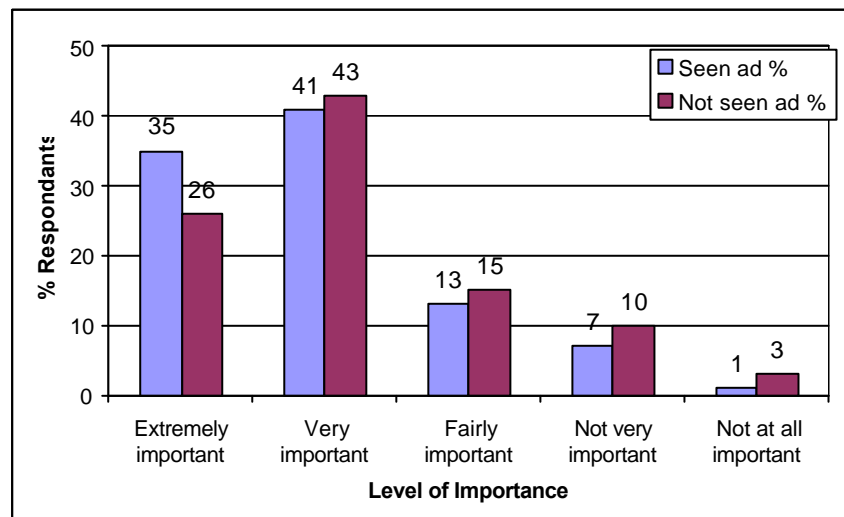
Close to seven in 10 people consistently claimed they always or mostly wash their vehicle on grass or at a carwash. Half of the community say they always or mostly engage in composting activities, and a similar proportion say they avoid hosing down paths. The issue of composting is said to be of no relevance for one in four people, while one in five believe that hosing of paths is not relevant to their situation.

Attitude Changes

1999 Campaign

The television ad appears to have had a strong influence on the attitudes to stormwater issues of those people who saw it. First, people who had seen the ad saw stormwater pollution as being a more important issue than those who hadn't recalled viewing the ad (Figure 2).

Figure 2 Importance of stormwater pollution



The pattern of response at all five levels of importance indicates a stronger sense of the issue being important among people who have seen the ad. This trend is particularly marked in the much greater proportion who see the issue as being an 'extremely important' one.

2000 Campaign

Motivation to improve water quality and reduce stormwater pollution was increased by this campaign.

2.5 Conclusions

1999 Campaign

The ad used in this campaign achieved a high level of attention for its limited exposure of only four weeks with moderate exposure. As well as achieving this awareness, the campaign had a significant impact on the attitudes and beliefs of those that saw it.

The campaign was therefore effective in achieving its objectives. The campaign increased awareness of 'natural' stormwater pollutants and increased awareness of simple actions to prevent pollution from these sources. The association of the girl with sickness and the linkage of this to stormwater pollution introduced an ecological and health perspective to stormwater pollution. The campaign clearly reinforced positive stormwater prevention behaviour.

As well as its clear and memorable image, the TV advertisement had a clear and easily remembered message. The overwhelming message was that 'people should prevent rubbish going down stormwater drains'. This was followed by the ad's catch phrase, paraphrased by people to 'Drains are for rain'. A further smaller percentage said that the message was that 'rubbish ends up on beaches/in the sea/ocean/rivers'. These three categories accounted for more than 80% of all the messages reported, indicating the wide grasp and simple clarity of the message.

It is notable however, that some people did not find the message particularly relevant to them. From the focus groups, it appears that elements of the creative contributed to this. First, it appears that some people did not identify with the ad because they saw the suburban setting as not being one in which they lived. Second, the content of the ad appeared to conflict with people's beliefs about the relative priorities of different sources of stormwater pollution. Participants in the focus groups saw greater threat in man-made products such as chemicals or plastics, bottles and materials dropped by motor vehicles. For some, the image of the girl was too transparently manipulative, and they expressed some difficulty with this.

2000 Campaign

The campaign was extremely successful in reinforcing and extending people's understandings of stormwater pollution problems and of actions they could take. The most significant impact of the new advertising occurred early in the campaign. It appears that the New South Wales community recognises that stormwater pollution is an important problem. Most people say that they already act in a socially acceptable manner, taking appropriate steps to minimise pollution in stormwater as far as they can. The links to behaviour, ecology and human health were strong take-out messages from this program. People's willingness to change behaviour was extended by the campaign.

3. Evaluation of the Mass Media Campaign for People of Non-English-Speaking Backgrounds

The education of people from non-English-speaking backgrounds (NESB) has been a priority of the USEP, with funding of \$300,000 given in Phases 1 and 2. This component of the program was developed to incorporate two complementary approaches:

- a communication strategy with mass media advertising and public relations activities
- a grass-roots community education and development strategy developed and implemented through the Ethnic Communities Council (ECC) of NSW (Section 6.3).

The strategic context and the evaluation of the mass media component are outlined below. The community education program is to be found in Section 5.

The mass media campaign has broken new ground in its approach to communicating with and educating ethnic communities, in the way it has integrated advertising and grass roots education activities. It has effectively complemented mainstream mass media activity, other education projects conducted as part of the broader stormwater education program, and a number of smaller stormwater education projects being implemented by local councils in the Sydney area, funded through the stormwater grants program.

3.1 NESB Campaign Objectives

The NESB mass media campaign objectives were to:

- increase NESB communities' knowledge about stormwater pollution and its effects
- develop people's understanding of the specific actions they can take to reduce stormwater pollution
- motivate and encourage support for stormwater pollution prevention among ethnic communities in NSW.

Special emphasis was placed on facilitating behaviour change by promoting simple, practical ways for particular groups and individuals to reduce stormwater pollution. This included the identification of the environmental impacts of alternative behaviours and products relevant to the specific community.

In 1998–99 the campaign focused on the largest non-English-speaking groups in NSW, initially six language groups (Arabic, Chinese, Greek, Italian, Spanish and Vietnamese), but expanding to seven with the addition of Korean speakers in 2000, using information available at the time of the development of the campaign.

The NESB mass media campaign was multi-dimensional, using a mix of public relations and advertising including newspaper and radio advertising, media briefings, dissemination of information such as case studies and brochures, and support from campaign advocates and community associations.

Key messages in the 1998–99 campaign were:

- sweeping up leaves
- collecting garden clippings
- washing the car
- disposing of cigarette butts correctly
- washing up paint brushes and rollers
- disposing of dog faeces correctly.

At the same time, the advertisements promoted environmentally friendly alternatives to polluting behaviours, such as sweeping up leaves and grass clippings and then composting them instead of hosing them into the gutter.

In 2000, instead of running a single campaign translated into respective languages, seven distinct sub-or mini-campaigns were tailored to the individual needs of the seven target communities. These campaigns, linked together under the overarching ‘The Drain Is Just For Rain’ brand, focused on five themes identified through the research. Nine newspaper advertisements were developed – two each for Korean and Chinese, and one each for the remaining five languages – under four creative concepts. These concepts were designed to highlight the impacts of stormwater pollution on human health, the family and the environment. A series of thirteen 30-second radio advertisements were also produced.

3.2 NESB Campaign Products

In both 1998–99 and 2000, a range of initiatives were been put in place throughout the campaign to promote the reach of the educational messages, boost community support and generate media coverage. In summary, the campaign products were:

- **Newspaper advertisements.** Small-space advertisements in six languages were published in 17 newspapers over six weeks in November–December 1998. Over four weeks in April–May 2000, a series of one-third-page advertisements in seven languages were placed in 19 newspapers
- **Radio advertisements.** Two radio advertisements in six languages were broadcast on 10 radio stations during November–December 1998. During April–May 2000, 13 tailored advertisements were broadcast on 10 stations.
- **Articles.** A range of articles were developed and placed in ethnic newspapers.
- **Case studies.** Case studies were developed to highlight real-life examples of how individual members of each of the seven communities were taking steps to prevent stormwater pollution.
- **Campaign advocates.** Eighteen campaign advocates, well-respected members of each ethnic community, were actively involved in speaking to their communities about the stormwater issue. In addition, bilingual educators featured in a series of interviews about stormwater on SBS Radio for Arabic, Greek and Chinese communities and coordinated various articles in the ethnic press.
- **Community associations.** Thirteen ethnic community associations actively supported the campaign.
- **Events.** A briefing for ethnic communities on stormwater and waste, hosted by then Environment Minister Pam Allan MP at Parliament House in December 1998, was attended by about 50 representatives of the Ethnic Communities Council, NESB media, key community organisations

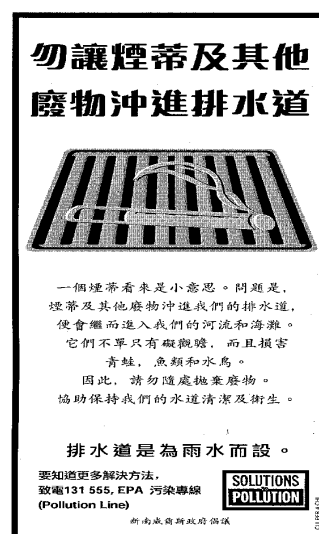
and local councils. The 2000 campaign was launched in April 2000, with over 100 representatives of the NESB community organisations in attendance.

- **Brochures.** In 1998 these were produced in six languages and highlighted actions that can pollute stormwater. In 2000, the brochure was redesigned and 'don't do' graphics were replaced with illustrations promoting positive behaviours. For example, the new brochures showed someone washing a car on the lawn rather than on the street where detergents flow directly into the stormwater system. The new brochures were produced in seven languages. More than 40,000 brochures were printed and distributed through the Ethnic Communities Council, local councils and the EPA's Pollution Line.

3.3 NESB Campaign Outcomes

In addition to raising awareness about stormwater pollution in the target groups, the campaign has had the following impacts:

- built a valuable body of research on the environmental knowledge and attitudes of ethnic communities
- documented an education approach that can be picked up by other groups, such as local councils, interested in working with ethnic communities to implement local stormwater education activities
- provided a range of educational products that will continue to help ethnic communities to gain access to important environmental information
- provided brochures in community languages that have been enthusiastically received by local councils and educators working with ethnic communities
- generated over 30 newspaper articles and numerous items on radio
- gained significant increases in knowledge of what pollutes stormwater and behaviours that can reduce pollution within communities representing over 65% of the people of NSW from non-English-speaking backgrounds.



Greek and Chinese small space advertisements highlight how dog faeces and cigarettes cause stormwater pollution (1998)

4. Program Facilitation and Support

The program facilitation and support component of the USEP identified opportunities to further spread the program's key messages. This was achieved through working closely with local government and individual companies to encourage the uptake of the 'Drain is Just for Rain' message. Funding of this component under Phase 1 and Phase 2 (to date) was \$110,000.

This section details activities with media, local government and individual companies that added value to the program. Section 5 outlines further work with industry associations and training bodies.

Enrolling local councils and industry in the effective delivery of key messages means ensuring a longer life for the stormwater education campaign. Getting the message on to products such as paint tins and car detergents means consumers are reminded to protect stormwater quality at the very time they are using those products.

4.1 Media

The urban stormwater program has attracted a great deal of media attention. Over 140 news releases on the program have been distributed to approximately 1200 media outlets in NSW. The launch of the community education campaign in February 2000 received extensive radio and TV coverage. Reports were broadcast on Channels 2, 7 and 9, as well as on radio stations 2BL, 2UE and 2GB.

Community service announcements prepared for earlier phases of the campaign were re-packaged this year. A total of 100 compact discs were produced and distributed to 34 radio stations with a request to use the announcements. Stations included 2UE and 2SM Sydney, and regional stations in Armidale, Lismore, Newcastle, Tamworth and Grafton.

The CDs were also sent to local councils (to use with their local radio stations and in some instances to use as 'hold music' on their telephone systems) and to BBC Hardware stores (to play in-store).

4.2 Local Government

The take-up and delivery of the campaign messages at the local level is an important aim of this component of the urban stormwater program. Community education is increasingly a focus in local projects that have received grant funding. An important outcome was the development of an on-line resource kit to equip councils with the tools to run a local community education campaign. The kit includes everything from posters and pamphlets to model news releases and tips on running an education campaign. The site gets an average of 450 hits a month, and visitors stay on the site for a long time, which suggests they are using the material rather than just browsing. During the application period for the third round of stormwater grants, the EPA facilitated communication with all councils. The EPA's presentation included details of the website.

All of the billboard posters used in the 2000 advertising campaign were sent out to councils following the campaign for reuse locally. In addition, 35,000 fridge magnets, 25,000 brochures, 4000 posters

and 200 drain stencils (carrying the words ‘The Drain is Just for Rain’) were produced and distributed to local councils. The list of 33 councils that requested material to support their local education initiatives is shown in Table 6.

Table 6 Councils that requested material to support their local education initiatives

Campbelltown Council	Marrickville Council
Wingecarribee Council	Kogarah Council
Newcastle City Council	Canterbury City Council
Hunters Hill Council	Willoughby City Council
Hornsby Catchment Centre	Shoalhaven City Council
Camden Council	Mosman Council
Willoughby Council	Drummoyne Council
Gunnedah Shire Council	Bankstown City Council
Baulkham Hills Shire Council	Yarrawluma Shire Council
Hawkesbury-Nepean Catchment Management Trust	Holroyd City Council
Leichhardt Council	Hawkesbury City Council
Fairfield City Council	Parramatta City Council
Coffs Harbour City Council	Cowra Shire Council
Gosford City Council	Auburn Council
Lismore City Council	Lismore City Council
Sutherland Shire Council	Port Stephens Council
Lake Macquarie City Council	

4.3 Working with Individual Companies

Working with individual businesses to encourage participation in the campaign marked a departure in the EPA’s traditional approach to industry involvement in its campaigns. Bringing individual companies on board to support the stormwater campaign created the potential to ensure stormwater messages are delivered to consumers at the ‘point of use’. This potentially translates into the delivery of the ‘Drain is Just for Rain’ message millions of times – right at the time when consumers are engaging in the sorts of behaviours that threaten stormwater quality.

The EPA employed a public relations consultant to help it approach industry. The agency’s brief was to set up meetings with senior executives – in other words, to get the message into the boardroom. A list was drawn up of companies working in areas relevant to the campaign’s focus. From this list, a 45-minute presentation was given to 14 groups, including Chroma Acrylics, Kitten, Australian Paint Manufacturers Federation, Mitre 10, BBC/Hardwarehouse, Mars, Porters Original Paint, Dulux, Selleys, Yates, and McDonalds.

The EPA continues to work with individual companies to help crystallise the opportunities that have been identified in our discussions. As a part of the continuing Phase 2 of the USEP the EPA will build on the successes to date and identify a second batch of companies to approach. The following results were achieved across the key areas that are the focus of the campaign: paint, car washing and gardening.

Paint

Company	Outcome
Porters Original Paint	Porters has put the 'Drain is Just for Rain' logo on the new labelling for its paint tins
Chroma Acrylics	Chroma has been provided with the campaign's key messages, logo and editorial for inclusion in 'fact sheets' distributed with products.
Dulux	Dulux has signalled its commitment to the campaign and is discussing ways it can help distribute the message with the EPA.

Car Washing

Company	Outcome
Selleys	Committed to inserting the campaign logo and environmental tips on labelling for its car washing products. The EPA has briefed the company's marketing department on the campaign.
Australian Chemical Specialties Manufacturers Association (ACSMA)	Inclusion of an article on the campaign in a newsletter distributed to all members of ACSMA. Commitment to encourage members to get behind the campaign. Posters and pamphlets distributed through the ACSMA network.

Gardening

Company	Outcome
Yates	Working with the EPA to develop a training module for franchisees of the Yates Mobile Gardening Service.
JC Danks & Sons	Distribution of 25,000 stormwater brochures to Thrifty-Link and Home Hardware stores across NSW, for distribution to consumers at point of sale.

General Audience

Company	Outcome
McDonalds	Committed to carrying the 'Drain is Just for Rain' logo on store tray mats. Has accepted articles for inclusion in three company publications for staff, management and franchisees.
Collex	Committed to incorporating stormwater messages into education programs run by the company with local councils.

5. Industry Education and Training

As a part of the USEP, the EPA's Cleaner Industry Unit has worked with industry to promote cleaner production to minimise impact on urban stormwater. These projects identify potential cost savings and environmental improvements through changes in operational practices such as better housekeeping, water reuse, and process and product substitution.

Industry associations in the automotive, building and construction and horticulture industries have been targeted to promote to their members new approaches that are aimed at reducing stormwater impact. Total funding of this component of the USEP under Phase 1 and part Phase 2 was \$210,000.

5.1 Building Construction and Demolition

Work was undertaken with Landcom and the Department of Urban Affairs and Planning on the design of greenfields developments and stormwater issues. Landcom launched an *Environmental Management Guide for Project Managers and Civil Contractors* in mid 2000. This includes a copy of Landcom's environment policy and environmental management plans.

A short training course, with associated learning resources, on 'Stormwater Management for Construction and Demolition Sites' was developed by TAFE NSW to be integrated into their mainstream courses in this sector. It was funded and supported by the USEP (Table 7).

Table 7 Support for construction and demolition sites

Product	Impacts
Brochure – <i>Residential Subdivision Environmental Design Guidelines</i>	All developers and contractors on greenfields sites, via Landcom.
Incorporation of environmental content in DUAP Guidelines for New Subdivisions	This document will be used by developers in the design and construction of new subdivisions.
Short course, with learning resources, on Stormwater Management for Construction and Demolition Sites	Learning resources are being finalised. The course will be delivered by TAFE to students in the building and construction disciplines, and integrated into mainstream courses.

5.2 Motor Vehicle Industry

The motor vehicle industry was targeted as an industry where significant environmental gains could be made through targeted awareness and behaviour changes. To achieve this the EPA partnered with the motor vehicle industry associations (the Motor Traders' Association, Service Station Association, Institute of Automotive Mechanical Engineers, and the Auto Parts Recyclers Association and Commercial Vehicle Industry Association).

The project comprised the development of educational material, audits of motor vehicle premises; support for councils that were involved in local motor vehicle education activities; and the running of seminars and events for members and the wider community.

The Motor Vehicle Repair Industry Council (MVIRC), together with the four industry associations mentioned above conducted a major education program, part of which featured education materials and pollution reduction products, at the 23rd National Automotive Trade Fair in May 1999. More than 11,000 visitors came to the stand. Articles about reducing stormwater pollution were published in a number of trade association journals and trade magazines across all target sectors, including the NRMA's *Open Road*.

TAFE facilities were funded and supported to prepare and deliver a series of environmental training workshops for TAFE automotive teachers across NSW (Table 8). As a result of the training, TAFE auto teachers are more aware of the environmental impacts of auto industry activities and can teach practical environmental solutions to their students and ensure that appropriate environmental management practices are in place in their teaching workshops.

Table 8 Cleaner industry support for the automotive industry

Products	Impacts
Training materials and training for TAFE auto teachers	One hundred and twenty TAFE teachers from 11 TAFE Institutes in the auto trades attended the training and received course manuals. Additional manuals were given to colleges for distribution. Further training resources are to be developed (i.e. a video).
<i>Directory of Environmental Services and Products for the Automotive Industry</i>	The directory has been distributed by the Motor Vehicle Industry Repair Council and all industry associations to their members. It has increased industry awareness of the appropriate products and services available.
Audits of premises and support for council staff in working with the automotive industry	Material on improving environmental performance in the industry placed in all newsletters. All industry associations in the sector are now working together on the development of a sector-wide environmental plan.

5.3 Council Operations – Roads, Pools, Parks, Depots and Golf Courses

Through a program conducted in conjunction with local government, an information package on improved environmental practices for councils has been developed and is available on the Stormwater website. The package consists of a series of modules to increase the environmental knowledge and skills of local government staff who manage parks and gardens, swimming pools, road maintenance, golf courses and depots. This information was compiled from a pilot project with Lake Macquarie and Bankstown Councils, with modules demonstrating barriers to improved practice, examples of best practice and case study examples.

On behalf of the EPA, NSW TAFE conducted accredited training for council operations staff (parks and gardens, depots, road maintenance, golf courses) in 20 urban and rural locations in NSW in June and July 2000. There is solid evidence of improvement in council operations as a result of these projects (Table 9).

Table 9 Cleaner industry support for council operations

Products	Impacts
Information modules for councils across five operational areas – ‘How to Manage Stormwater in Council Operations’	The five modules are a useful resource for councils wishing to improve the environmental practice of their operations staff. They can be used as the basis for in-house training or operational policy guides.
Training resources (prepared by TAFE) – ‘Preventing Stormwater Pollution in Local Council Operations’.	<p>The course was developed and accredited by NSW TAFE.</p> <p>TAFE delivered 15 one-day workshops for a total of 160 council operations staff. Feedback by participants was positive, with all participants indicating that it was relevant or very relevant. About 95% of participants rated the course as excellent.</p> <p>The project also delivered five informal professional development (train-the-trainer) sessions to 48 operations managers and environmental staff in delivering accredited training to their staff. Feedback from these sessions was positive, with all participants indicating that it was very relevant or relevant. About 50% rated the training as excellent.</p> <p>Since completing the training, a number of councils that did not receive training have expressed an interest in having their staff trained. Council officers who are willing to train other council staff have been identified, and councils can also contract a registered training organisation to conduct training for their staff.</p>

5.4 Horticulture

A series of field days organised by the Nursery Industry Association of Australia (NIAN) were held in a number of locations (Lismore, Arcadia, Mangrove Mountain and Port Macquarie) to educate wholesale nursery owners and managers about environmental best practice in stormwater management.

In conjunction with the EPA, NIAN and other key stakeholders, Baulkham Hills and Warringah Councils undertook environmental audits and implemented an education and training program to address stormwater management issues facing the industry. A video demonstrating nursery best practice in water use and irrigation was developed and is available for sale to all nurseries and local councils (Table 10).

Table 10 Cleaner industry support for horticulture

Products	Impacts
Video on 'Nursery Industry Best Practice in Water Use and Irrigation'	The video illustrates environmental best practice in the design and development of a nursery.
Report: <i>Environmental Management for the Nursery Industry</i> – joint report on training delivery and field days prepared by Warringah and Baulkham Hills Councils, NIAN and the EPA	To date, 85 nurseries and landscape suppliers have received environmental assessments and about 30 have received industry-specific training. Over 90% of nurseries that received an initial assessment had made appropriate changes to their works or practices when follow-up inspections were carried out. In their newsletter, NIAN has included significant material on how to reduce stormwater pollution.
Training course developed and implemented	As a result of its participation in the project, Baulkham Hills Council has expressed interest in being involved in a similar project for landscape contractors.

6. Community Education

6.1 Community Stormwater Trainers

A pool of 38 community stormwater trainers has been established in NSW to conduct presentations on local stormwater issues to local community groups. The emphasis of these presentations is on action to improve the quality of stormwater (Table 11). Each trainer has completed a two-day course on stormwater management and presentation skills; each is registered with the EPA.

Table 11 Support for community stormwater trainers

Project products	Project impacts
38 registered Community Stormwater Trainers 63 sessions conducted: GMR; Broken Hill, Orange, Maclean, Angourie, Lismore, Taree, Sawtell, Ballina, Batemans Bay, Goulburn, Springwood, Katoomba	More than 1200 people were reached directly through participation in training. Many thousands were reached at community events.
<i>Training courses</i> Precinct committees, bee clubs, school students, senior citizens, CWA, scouts, chambers of commerce, Bushcare groups, ethnic groups, private functions, TV interviews, Earth Works and permaculture course participants, rotary clubs, industry meetings, university students, boat clubs, council staff, Probus, ecology students in TAFE	Acceptance by target population and broader stakeholders High levels of motivation to make changes to household practices. High levels of interest, for example, 'Friends of the Trap' community group monitoring and maintaining trash baskets (sorting and analysing for future action). Network established around business environmental impacts (Leura): council officers identified how their work affected stormwater, and businesses requested stormwater audits.

Spin-off benefits of this component included improved relationships between the council and the community; improved understanding of the value of education; more jobs and regional development (all community trainers are paid); and a network of trainers sharing ideas and resources (EPA stormwater materials are distributed to local industries and trainers and contact details are placed on the stormwater website for all councils and community groups to access.)

6.2 Innovative Community Education Projects

In late 1999 the EPA, through the USEP, made grants available for innovative community education initiatives to improve the quality of stormwater. Six grants of \$17,000 were offered to council and community partnerships to design, implement and evaluate education activities that address local stormwater problems. The following are key elements of the program.

- relationship of project to local stormwater management plan

- analysis of local stormwater problem to be addressed by the project
- capacity to build council–community partnership to define and address the problem via education activity
- capacity to identify and use a targeted community education methodology to promote appropriate behaviour
- capacity to evaluate and report on the project (pre- and post-intervention surveys may form part of the evaluation)
- ability to communicate the results of the activity in order to promote replication in other areas
- capacity to sustain activity beyond the funded life of the project.

Table 12 identifies the councils that are conducting projects under this program and provides a brief description of the grant projects and their achievements. All project information will be available on the stormwater website at the completion of these projects.

Total funding for Phases 1 and 2 of this component and for the community stormwater trainers was \$120,000.

Table 12 Innovative community education projects

Applicant	Project	Benefits
<p>Baulkham Hills Council</p> <p>Hawkesbury-Nepean Catchment Management Trust</p>	<p>Cattai Creek – top of catchment community education</p> <ul style="list-style-type: none"> • trial and evaluate drain stencil project in residential and industrial estates • partnership project with business and community groups • includes leaflets, newsletter, pollution plans for industries and employment of creek custodian to manage project 	<ul style="list-style-type: none"> • drain stencilling throughout the catchment • stormwater procedures manual prepared • presentations and training for schools, community groups and council staff • displays at field days and shopping centres reached many hundreds of people • community radio and most local newspapers ran several stories on the project • three villages outside project area requested that project be extended into their communities • Bushcare group established • council has committed almost \$30,000 to maintaining the project (newsletters, auditing, staff training, restoration, local stormwater management plans, extending project)
<p>Blacktown Council</p> <p>Upper Parramatta River Catchment Trust</p>	<p>The Metella Creek Project</p> <ul style="list-style-type: none"> • training for staff in council and industrial/ commercial enterprises, drain stencilling in industrial areas, Community Catchment Day at Metella Reserve and training for council staff 	<ul style="list-style-type: none"> • eighty students from local schools participated in round-robin stormwater education activities at a School Stormwater Action Day • stormwater education package being developed for local businesses • Metella Creek Community Catchment Day was held during Water Week: demonstrated positive household and industry stormwater behaviours; reached many hundreds of participants

Applicant	Project	Benefits
Drummoyne Council	<p>'Industries for Cleaner Stormwater'</p> <ul style="list-style-type: none"> • improve operational practices of industry & businesses in Canada Bay • partnership project with industries & schools 	<ul style="list-style-type: none"> • newsletters, posters and information sheets distributed to local industries in catchment • training for council indoor and outdoor staff and golf course superintendents • development of comprehensive industry database for future use by councils • drain stencilling throughout sub-catchment • very well attended trade and legislation information night (75 local businesses) • 70% of businesses audited; enthusiastic adoption of recommendations • council committed to maintaining project
Gosford City Council	<p>Industrial education program</p> <ul style="list-style-type: none"> • promote awareness and skills among auto services: media, a trade information night, site visits, awards scheme, water quality monitoring and development of resources 	<ul style="list-style-type: none"> • posters and other project give-aways in automotive shops • print and radio pickup; television commercial developed • drain stencilling around industries completed • improved council–industry relationship • provided council with greater knowledge about impacts of automotive industry
Shoalhaven City Council	<p>Targeting litter from sports grounds</p> <ul style="list-style-type: none"> • partnership project with sports clubs and grounds managers to pilot, evaluate and extend program on litter 	<ul style="list-style-type: none"> • design and development of bins that incorporate ashtrays: 250 installed at sports grounds • stickers on bins: 'Trash the Opposition not the Sports Grounds'; similar message on several scoreboards • stickers with messages about appropriate disposal of cigarette butts • drain stencils at each sports ground (near kiosks and change sheds) (20 stencils) • sculptures with stormwater and litter messages integrated into broader litter reduction strategy across the LGA

Applicant	Project	Benefits
<p>Ku-ring-gai, Manly, Mosman, North Sydney, Pittwater, Warringah and Willoughby Councils</p>	<p>Community 'watch-dog' program</p> <ul style="list-style-type: none"> • education for dog owners in seven local government areas about preventing dog faeces getting into the stormwater system • includes training for volunteers, brochures, watch-dog hotline, displays and distribution of 'POOch Pouches' and eco-sacs for collection and proper disposal of dog faeces 	<ul style="list-style-type: none"> • sixty volunteers trained, and training package developed • POOch pouches, biodegradable dog litter bags, posters and brochures distributed to volunteers, pet shops and veterinary practices • pick-up of project by other councils outside project area, including Sutherland and Victoria • paper on the project at the 2000 Urban Animal Management Conference • Dogs Big Day Out – more than 700 people and 450 dogs; 350 pouches, bags and brochures distributed • participating councils committed extra funds to extend and promote the program (North Sydney council sent materials to all 1500 dog owners in its local government area.) • distributed 10,000 pouches; 20,000 eco-sacs; 10,000 brochures • 133 volunteers (including pet shops and vets) • dog scat counts reduced in test areas • enhanced council–community relationship

6.3 Ethnic Communities Council Project

Over a two-year period through the Ethnic Communities Council (ECC) project, 20 bilingual educators across seven language groups, and the program coordinator, have developed and implemented a range of education activities. The activities include community information sessions, tours of stormwater pollution sites, presentations at community events, stormwater card games, competitions, and visual and performing arts activities. Total funding of this component of the USEP in Phase 1 and Phase 2 is \$225,000 (to date).

The key products of the collaboration between the ECC and their impact on the NESB communities are shown in Table 13.

These education efforts have reached thousands of people from non-English-speaking backgrounds. Activity in this project has complemented two local NESB projects funded via the Stormwater Grants; the Cooks River project (13 councils based at Canterbury Council); and the Lower Parramatta River NESB project (8 councils based at Drummoyne Council). In addition, Marrickville Council has conducted a significant NESB initiative with Stormwater Trust funding. It is clear that the growth in local focus on education of people from non-English-speaking backgrounds has been prompted by the good work of the ECC under the USEP. The strategic context of the USEP NESB community education project is shown in Figure 3.

Figure 3 Campaign evolution through community feedback

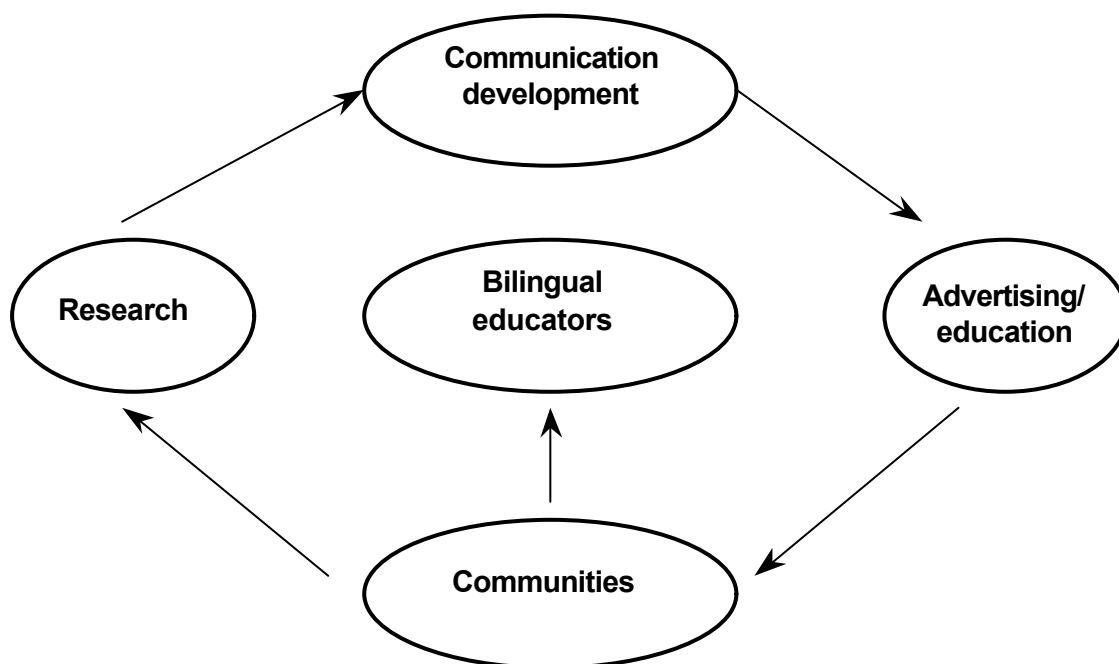


Table 13 Key products and impacts on the USEP on NESB groups

EEC project products	Impacts on NESB communities
<p>Community language brochures 'Keep the Waterways Clean for Our Future' produced by the ECC in seven languages</p> <p>Seven sets of culturally appropriate education and training materials produced for use by the bilingual educators. These visual materials included photographs showing stormwater polluting activities, the impacts of these activities and how stormwater pollution can be prevented. People from the different ethnic groups targeted were featured in the photos in culturally familiar surroundings.</p> <p>Two large educational banners, 'Keep the Waterways Clean ...' (1220 mm x 2000 mm) for use at cultural events</p> <p>Calico bags printed in community languages with the stormwater logo and message 'Keep the Waterways Clean for Our Future'</p> <p>An Italian stormwater song and card game was developed and used to communicate and involve older Italian people in the stormwater activities</p> <p>A stormwater play by Al Zahra Muslim youth group was developed and launched, with a theological treatise on Islam and the environment (especially water) by the chair of the youth committee, Sheikh Jihad from the mosque at Arncliffe.</p> <p>Video of the Arabic play in English and Arabic was recorded and will be used in community sessions for the Muslim community. Copy of Sheikh Jihad's treatise is also available.</p> <p>The Spanish-speaking community's dog poo campaign included the design and production of a brochure and T-shirt under the banner 'El excremento del perro contamina rios y mares' and involvement in the Dog Day Family Picnic at Fairfield Showground 22 Oct 2000</p>	<p>Training of 20 bilingual educators to carry out stormwater community education activities within ethnic community organisations and networks. The educators ensured effective reach into ethnic community groups.</p> <p>Ethnic community involvement and participation of recognised members of ethnic community groups ensured acceptance and credibility of the key messages.</p> <p>Distribution of more than 50,000 community language brochures increased community awareness about stormwater pollution.</p> <p>Close to 8000 individuals across the Sydney metropolitan area were reached by the project in its first year.</p> <p>More than 3000 people attended 132 in-depth one-hour awareness sessions conducted in the 12 months from November 1998 to November 1999.</p> <p>Educators developed, organised and participated in 13 community events in 1998–1999, where they reached more than 4500 people and distributed a range of educational materials including brochures and calico bags.</p> <p>During 2000, the educators have been involved in more than 80 events and briefings – including major celebrations such as Chilean Independence Day and activities associated with Clean Up Australia Day – which were attended by well over 12,000 people.</p>

See Appendix 1 for a description of this Phase 1 and 2 USEP NESB community education project, conducted by the Ethnic Communities Council (ECC) with USEP funding and project management support from the EPA. See Section 3 above for the mass media approaches to people of NESB used in the USEP. This project is being independently evaluated by Emaunela D'orso and Associates. The evaluation report on the project is due by the end of 2000 following the completion of the project.

6.4 Council Capacity Building

In addition to the USEP, local stormwater education has been conducted by councils under the stormwater grants program. Over \$10 million worth of local education activity has been developed and delivered; this dwarfs the efforts of the USEP. It is important to note both the upsurge in the use of education and training activities to improve stormwater quality and the role of the USEP in improving the quality of education activity.

Under the USEP a senior education officer has been employed by the EPA since March 1999, with total funding of \$100,000 in Phases 1 and 2 (Program Management). In addition to program management and coordination activities under the USEP, the education officer has developed tools and processes to enhance the capacity of council officers to design, implement and evaluate stormwater education projects. Through direct and indirect contact and the development and distribution of resources, this officer has responded to the needs of urban councils and enabled them to improve the quality of their education programs.

The following activities have been undertaken:

- development and delivery of training workshops on education program development and evaluation
- development of information packages on education planning and stormwater management issues; this includes collation of international findings and experiences in managing stormwater
- facilitation of electronic distribution of materials and enhanced sharing of materials
- extensive facilitation of networking among stormwater educators
- direct support (visits, written feedback) to council project officers in a mentoring, problem-solving and training role

The feedback from council officers is that even more training is required. During the latter half of 2000, five 2-day workshops will be conducted around NSW to provide further training in education evaluation and to showcase key projects and processes from the Stage 2 Stormwater Trust grants.

7. Areas for Improvement

Despite the clear achievements of the USEP there have been a number of gaps and limitations exposed by the program as areas for improvement. No report on the evaluation of the program would be complete without consideration of the extensive learning that flows from analysis of these areas. Both the successes and the limitations of the program have been used to frame the recommendations for the future, which appear in Section 8 below. The review of the USEP revealed the following needs and gaps.

7.1 Integration Across Sectors

A feature of the USEP (and the broader stormwater program) was that it promoted and strengthened integration of stormwater issues across government and non-government sectors. Despite this, some challenges were exposed by the USEP. These included the following:

- It was difficult for the USEP to obtain strong integration of stormwater messages into the education activities of other government agencies, most especially the Department of Land and Water Conservation, the Department of Education and Training (DET) and Sydney Water. While these departments were strong advocates of the program, integration was not apparent, except in the DET, which had USEP funded vocational education and training projects.
- Cross-council collaboration was difficult to achieve. Despite some notable exceptions (Cooks River Councils Industry Education and Auditing Project, Warringah Watch Dog Project) there were relatively few examples of education activities that transcended council borders.
- Determined efforts were made in the USEP to develop linkages between state-wide and local efforts. Improvements are necessary in the future if the program continues. This will reduce overlap and strengthen program delivery. (See 7.4 below.)
- There is a very limited relationship between State and Commonwealth programs.
- The linkage between state-wide initiatives, for example the USEP and the Litter Reduction Education Program, needs to be better identified.

7.2 Recognition of the Role of Education in Reducing Stormwater Pollution

Undoubtedly the USEP increased the level of understanding and the use of education as a significant stormwater pollution reduction tool. Source control is a major objective of the broader program. Education and training are essential tools to achieve this end. Educating the community to make difficult and complex changes is an ongoing challenge. All of the desirable changes will not occur in a two- or three-year period. There is a need to build on the momentum gained through the USEP and local education activities. There is still much work to do to ensure that education is used effectively. In specific terms there is:

- a lack of understanding about the best mix of tools (education, regulation, structural) and the circumstances in which education or training is best used.

- a tendency at the local level to fail to look beyond school education programs as a priority. While children and young people are important targets, their behaviour has limited impact on water pollution now.
- limited use and adaptation of existing programs. There exists a culture that pursues the next new thing, rather than adapting and extending successful efforts.
- very limited education about enforcement to regulate for compliance. There is limited use of enforcement generally in the stormwater program. The place of sanctions in any future programs must be specifically considered.

7.3 Capacity at State-wide and Local Levels to Develop, Implement and Evaluation Education

Education interventions have suffered from a lack of close monitoring of the effects of the chosen activity on behaviour, knowledge and the level of pollution. While it is impossible to measure impacts on pollution at a state-wide level, some local programs should be able to monitor for some cause and environmental effect measures within specific catchments. All education programs should be able to measure growth in awareness, knowledge and changes in behaviour. The USEP has demonstrated that there is much more to learn about the planning and delivery of education initiatives. Key issues include the following.

- What behaviours are the priorities? Which behaviour changes will result in greatest pollution reduction? How do we forge the relationship between scientific data about the nature of the problem and education messages at the local, catchment and state-wide levels?
- Officers at all levels of government and in non-government agencies require more training about how to plan, implement and, most especially, evaluate education activities.
- Limited processes and skills exist in some councils for effective community involvement in program development and delivery.
- Challenging communication and integration issues exist within councils, particularly identifying the groups within council that are responsible for stormwater education.
- There is a limited understanding in some councils about the need to design, evaluate and maintain education programs and how to build them over time
- Education is conceived of as low-cost intervention and is often seen as an afterthought. This significantly limits its potential impact.
- Drainage and structural stormwater management interventions are planned and constructed by specialists, but in some councils it seems that engineers plan, implement and evaluate education. Education is a specialist activity too.
- There is a need to target education programs to senior council staff and councillors to garner support for stormwater education initiatives.
- A limited level of EPA support via the USEP (significantly less than one full-time position) was provided to build the capacity of local government to deliver effective education. If the program continues, there is a need to provide an extended level of technical support in the development, planning, delivery and evaluation of education.

- There is also a need for increased documentation of best-practice education activities and in engaging successful councils as role models.
- There has been a reliance on the stormwater grant process to fund stormwater education initiatives, rather than to allocate council funds to these programs.

7.4 Community Ownership of the Stormwater Pollution Message

- It is desirable for education to be built upon community values. While the available research indicates strong community awareness about stormwater, there is limited uptake of action on a broad community basis. This failure to garner local community support is a limitation in the existing program.
- The USEP has fostered government–community relationships and partnerships. These need to be valued and extended.
- With people of NESB, strategic thinking and analysis is required to determine whether a major centralised community education or mass media initiative is required (that is, the USEP/ECC model) for the future, and/or whether local projects at council or catchment level are more effective and appropriate.
- Young people (ages 10 to 25) are an important future target for stormwater education initiatives.

7.5 Industry Sector Ownership of the Stormwater Pollution Message

While there are clear examples of industry sector activity under the USEP, there have been real limitations in the ways in which these sectors have continued to promote operational change and stormwater pollution reduction messages after the funding of project activity has ceased. This has been a limitation of the USEP that needs to be addressed should the program continue. The design of the industry component of the program needs to be reviewed in order to take this issue into account.

8. Recommendations for Future Activity

From the evaluation of the USEP, consideration of the areas for improvement (Section 7) and consultation with a range of stakeholders (especially local government), recommendations for the future delivery of education to reduce stormwater pollution have been developed. These are based on the following rationale:

- Nutrients, organics, bacteria, chemicals and litter pollute stormwater. Given the invisible nature of many of these and the limitations of end-of-pipe solutions, educating the community to behave in ways that reduce the presence and impact of these pollutants is of crucial importance.
- As the more structural solutions to stormwater management are put into place, reduction of pollutants at source will become an even more significant challenge for the program in any future form.
- Education and training activity to reduce stormwater pollution at source needs to be conducted in an integrated manner at both a state-wide and a local level to target people's behaviour at home, at work and during recreation.
- There is a need to continue and strengthen the public's concern for water quality, in relation to human and ecological health.
- Reinforcement of the message that stormwater is a major pollutant is important, but this must be supported by clear messages about appropriate and achievable alternative behaviours.
- Because education has a significant, but difficult to measure, impact on levels of pollution, significant independent monitoring and evaluation is essential in order to improve understanding of its impact on reducing non-point-source pollution.
- Improving the capacity of council officers to plan, deliver and evaluate education is crucial to effective local interventions.
- It is essential that all stormwater education activities are fully accountable for their expenditure, any products developed, and the identification and monitoring of impacts.

8.1 Recommendations

1. Extend the USEP

We recommend that the state-wide urban stormwater education program (USEP) be continued and extended for an additional five years.

2. Include Certain State-wide and Local Educational Activities

We recommend that the future State-wide USEP be planned and conducted to contain both **State-wide program elements** and **local educational activities**.

Recommended State-wide Program Elements

- Extension of the state-wide mainstream mass media campaign, which leverages and builds upon community concerns to promote the adoption of non-polluting behaviours by all citizens in urban NSW.
- Continuation and extension of the mass media campaign for people of non-English-speaking backgrounds (NESB), so that four additional language groups are targeted (for example, middle European) and behaviour messages are reinforced with the communities from the seven language groups targeted in the current program.
- A program that provides funding and support for local councils to use and extend mass media components (both mainstream and NESB) of the state-wide program into their local communities.
- Continuation and extension of community education activities with targeted communities. This includes people of NESB (additional 4 language groups), school students (upper primary and secondary level).
- Continuation and extension of activity with industry, including projects with priority industry associations, industry training providers and individual companies. These should target new industry sectors whose operations affect stormwater management and should reinforce and extend activity with previously targeted industry sectors.
- Activities that enhance the capacity of local communities to undertake stormwater education projects in priority locations in collaboration with local government (including the Stormwater website and print material support for local initiatives).

Recommended Local Educational Activities

- Continuation and extension of local (and/or catchment) non-point-source stormwater pollution education programs.
- Given the high need for capacity building and support for local initiatives we recommend that under the USEP significant proactive support should be given to local government staff from within the EPA. The aim will be to:
 - establish an evaluation framework for the entire urban stormwater education program
 - review stormwater management plans to determine where education is identified as an intervention, the extent to which its use is appropriate and where council staff might be provided with support to be able to plan and evaluate it more effectively
 - set standards for education programs
 - establish monitoring and reporting mechanisms for local education programs
 - collate and report on data from local programs concerning the extent and impact of education efforts
 - design, identify and promulgate best practice tools for the planning and evaluation of education programs
 - designs evaluation pro formas and materials for use in local projects
 - provide support and mentoring, and develops and deliver training (in education planning, delivery and evaluation) for council officers involved in stormwater education. This is provided through, and in conjunction with, any established regional structures and staff.
 - link local projects with the state-wide program
 - identify and, where necessary, provide training on strategic, educational and structural approaches to stormwater management for senior staff and for elected officials

—promote the use of local community volunteers.

3. Promote Further Research

High quality education efforts at local and state-wide levels are predicated by the availability of good scientific data. We recommend that further investigation and analysis occur to determine what pollutes stormwater. This should include research and analysis of the extent to which sewerage infiltration into stormwater in urban areas is a problem. Education at both state-wide and local levels should then target behaviours that reduce priority pollutants in the target catchments.

Appendix 1: Detailed Description of the Program

Phase and component	Description
<i>Phase 1</i>	
Mass media	<p>An integrated mass media campaign:</p> <p>A combination of mass media approaches occurred. These included a television commercial, print advertisements and radio advertising. They were placed in mainstream media across NSW and took account of specific regional community needs. Mass media communication also included an ethnic communities (NESB) dimension. Six languages (Spanish, Italian, Greek, Arabic, Chinese and Vietnamese) were targeted with print and radio messages.</p>
Program facilitation	<p>A variety of below-the-line mechanisms have been used to promote improved stormwater related behaviour. These included the use of community advocates and spokespeople, press releases, the creation of a stormwater website, articles for mainstream newspapers, and radio talk-back opportunities for community events and seminars.</p>
Community education	<p>Targeted community and council activities: This component of the program funded (on a cost-shared basis) partnership projects in local communities. Six targeted local community education projects were supported to help build the community's capacity to reduce stormwater pollution. These involved the development and delivery of collaborative pilot projects between the EPA and the community and local government. They addressed specific local issues and needs, including those of local industry, and also demonstrated learning that are usefully extended elsewhere. Warringah, Drummoyne, Gosford, Shoalhaven, Blacktown and councils in the Hawkesbury area were funded to deliver these projects.</p> <p>NESB: The Ethnic Communities Council of NSW was funded from November 1998 to October 1999 to develop and deliver a community education program for six ethnic language communities in the Sydney metropolitan area. The communities targeted were Italian, Greek, Arabic, Spanish, Vietnamese and Chinese speakers. Limited numbers of English bilingual educators from these communities were trained and resourced to promote the program objectives and implement a range of community education activities. This project recognised the importance of community involvement, community knowledge and community networks in developing understanding among ethnic communities about stormwater pollution and how to prevent it. Activities included community information sessions, participation in community cultural events and ethnic media activities.</p>

Phase and component	Description
	<p><i>Schools:</i> This is a significant, though minor, feature of the program. It is important that relevant existing teaching and learning material is reinforced and built on to educate young people about key concepts that they will need to understand the health and ecological dimensions of stormwater pollution.</p>
Industry	<p>The key industry sections targeted by activity in this program were those that significantly affected stormwater quality. They included:</p> <ul style="list-style-type: none"> • motor vehicle industries: repairers, dismantlers, panel beaters • the building and demolition industry (especially new development sites) • horticultural industries: nursery owners (especially wholesale nurseries) • council operations staff: parks and gardens staff, depot staff, swimming pool staff, golf course staff and roads staff. <p>Program activities with these sectors included:</p> <p><i>Industry training initiatives:</i> These will promote the development of teaching learning materials and modules to increase the training of people working in industry in stormwater pollution reduction. Key stakeholders will be TAFE, the Industry Training Advisory Bodies and the Industry Associations.</p> <p><i>Industry programs:</i> Through linkages with the relevant industry associations significant information and programs will be developed to promote increased awareness and knowledge.</p>
<i>Phase 2</i>	
Mass media	<p>An integrated mass media campaign 'The Drain is Just for Rain'. It emphasised:</p> <ul style="list-style-type: none"> • positive behaviours: the campaign specifically sought to improve the behaviours of those people with positive attitudes but negative behaviours • man-made invisible pollutants: the campaign highlighted the role of these pollutants and reinforce the messages from Phase 1 about litter and natural pollutant impacts • local behaviours: the campaign localised the messages of positive behaviours to the target audience and linked stormwater messages to good neighbour messages.

Phase and component	Description
	<p>The mainstream campaign used a combination of television, radio and outdoor advertising.</p> <p>An NESB campaign conducted for seven NESB communities was linked with print and radio advertising.</p>
Program facilitation	<p><i>A comprehensive program facilitation strategy was conducted. It:</i></p> <ul style="list-style-type: none"> • maximised links between program components • achieved a balance of support across these components • communicated the scope and focus of Phase 2 USEP activities. It communicated how specific components fitted together so target audiences could more fully appreciate how their behaviours contributed to the overall program and the improvement of stormwater quality. • promoted stormwater grant initiatives and linked these to the education objectives of the USEP • reinforced and promoted the take-up of 'The Drain is Just for Rain' message by all stakeholders • managed the website and kept information and advice updated • targeted home gardeners and renovators with stormwater messages (including covering soil, raking leaves, reducing run-off and limiting use of pesticides and fertilisers) • identified appropriate media and other programs through which to promote stormwater messages (for example, Burke's Backyard, Beachwatch, Waste Board activities, chemical collection days, WorkCover, RiverCare 2000, industry programs including industry waste reduction programs, water reform initiatives, Earth Works, Streamwatch)
Community education	<p><i>People of non-English-speaking backgrounds:</i> The strategy continues to support the Stage 1 NESB community education activities conducted by the Ethnic Communities Council of NSW. The Stage 1 Ethnic Communities project was extended from November 1999 until October 2000 (an additional 12 months). Stage 2 also included an extra language group, Korean. Seven NESB communities were targeted between November 99 and October 2000: Chinese, Vietnamese, Spanish, Arabic, Greek, Italian and Korean. The education activities used in Stage 1 were continued, but with an extra emphasis on new local government areas and with a greater focus on specific stormwater issues relevant to different cultural groups. For example, Muslim Arabic speakers were targeted, with activities linked to their religious beliefs. Spanish speakers, who are keen dog lovers, were targeted with stormwater activities related to improved management of dog faeces. Asian communities were targeted with activities related to the potential impacts of water pollution on seafood quality.</p>

Phase and component	Description
	<p><i>Local Government:</i> Activities with local government focused on three main areas. Existing projects with council operations staff will continue from Phase 1 and others will be developed on stormwater management and stormwater education:</p> <ul style="list-style-type: none"> • operations (build on Phase 1) • planners, engineers, surveyors, staff involved in drafting and managing contracts – training about stormwater management issues • local government staff – training about stormwater education. (Staff targeted may include general managers, environmental managers, environmental health officers and human resources and training officers.) <p><i>Innovative community–council activities:</i> The targeted grants and community trainers projects from Phase 1 will continue to be supported and evaluated.</p> <p><i>Schools:</i> Continuation of Phase 1 project</p>
Industry	<p>Projects in Phase 2 will focus on cleaner production approaches that identify potential cost savings and environmental improvements associated with changes in operational practices including better housekeeping, water reuse, and process and product substitution. Projects will be in partnership with local councils and industry associations. Some projects will target suppliers and point-of-sale where applicable. The industries to be targeted for activity in 2000–01 are:</p> <ul style="list-style-type: none"> • painters and decorators • mobile businesses (for example, auto repairs, pet grooming, carpet cleaning and gardeners) • small manufacturers • cleaners • turf managers • car washing facilities • landscapers. <p>Environmental managers will be targeted through the development of an accredited training program on stormwater issues, delivered by a registered training provider.</p>

Appendix 2: USEP Reference Group (August 2000)

Name	Organization
Ms Jo Gardner	South Sydney Development Corporation
Ms Frances Milne*	Ethnic Communities Council
Mr David Trewin	Hawkesbury Nepean Catchment Management Trust
Mr Robert Verhey	Local Government and Shires Associations
Ms Rebecca Southgate	Sydney Water
Mr Andre Boerema	Sydney Water
Mr John Wood**	Stormwater Industry Association
Mr William Mowbray	Illawarra Catchment Management Committee
Mr Anthony Collins	Hornsby Shire Council
Ms Kylee Gray	Department of Land and Water Conservation, Marketing Branch
Ms Angela Gillham***	Clean Up Australia

*During the life of the USEP Mr Luciano Ferracin and Ms Irene Ross also represented the organisation

** During the life of the USEP Mr Peter Higgins also represented the organisation

***During the life of the project Mr Richard McManus and Ms Lynda Vickery also represented the organisation

Appendix 3: Continuing Activities Under the USEP 2000–01

The following are not a part of this evaluation as they projects continuing in 2000–01.

Industry Projects

Mobile Businesses

A project is being conducted jointly with Marrickville Council and Southern Sydney Waste Board to develop and trial educational material for mobile businesses. The industries to be targeted are:

- mobile mechanics
- mobile pet groomers
- carpet cleaners
- mobile gardeners.

Painters and Decorators

The EPA will work on projects:

- with the Master Painters, Paint Manufacturers and Paint Specialists Associations to improve environmental management, with specific reference to disposal of paints and liquid wastes
- with The Master Painters Association and relevant training bodies to review the environmental content in training packages for painters.

Cleaning Industry

- education materials development for domestic cleaning contractors

Concreters

- a supply-chain project working with the industry association to produce education products and services for the various sub-sectors of the industry, for example batching plants, concreters and cutters.

Turf Management Industry

- a partnership project with the Golf Course Superintendents Association and turf manufacturers. The aim is to prepare and distribute education materials to promote industry uptake of good environmental practice, thus reducing stormwater impact from run-off .

Small Manufacturers

- working with managers of industrial estates to increase the uptake of cleaner production approaches by individual businesses and the preparation of education materials for councils and peak industry associations

Car Washing Facilities

- working with Marrickville Council on the preparation of education materials for state-wide distribution to car sales yards and mobil car-wash businesses

Landscapers

- in partnership with industry associations, preparation of education materials on chemicals management and a resource kit for councils covering landscape contractors, designers and architects

Local Government

- additional training of local government staff to support them in the use of education and industry auditing. Materials development will support this activity.

Continuing Schools Project

- additional funding offered to councils in rural NSW for innovative local government education projects to support innovative education activities
- an environmental management training program (with the Stormwater Industry Association and Macquarie University)