

Waterwatch-Touching today or tomorrow?

D.J. Lucey

Condamine Balonne Water Committee Inc.
P.O. Box 318, Toowoomba Q 4350
(E-mail Danny.Lucey@nrm.qld.gov.au)

Abstract

Waterwatch Queensland has traditionally adopted two major approaches in its work with communities. The first, and most common approach is centred on community and landholder monitoring such as Landcare groups and involves the collection of quantitative, quality controlled data. The second approach involves working with students to raise their awareness and knowledge about healthy waterways. While no one would argue about the necessity of collecting good quality data in order to assess the effective management of waterways, the proposition is that more emphasis should be placed on the educative process. The very successful Condamine Balonne Waterwatch program, at the headwaters of the Murray-Darling Basin is an extensive educative program. During the 2002-2003 reporting period a total of 32 Primary and 10 Secondary Schools accessed these services. Considering that these schools are among the largest in the area and collectively have a total student population in excess of 16, 000 students it is not difficult to see the potential impact that this program has on a significant segment of the community and the long-term sustainability of our waterways. We should ask why is it so important to continue to monitor what might be deteriorating waterways when there exists the possibility of really making a difference by touching tomorrow through the education of the youth today?

Keywords

Sustainability, environmental education, Waterwatch, Condamine Balonne, water quality

Introduction

The purpose of this paper is to challenge the notion that the most worthwhile investment projects, are those that see the developments of infrastructure and the pursuit of rigorous scientific testing to sustain our riverine environment. As a Waterwatch Coordinator over the past two and a half years and an educator for the previous forty years, I have been astonished to find that in many quarters of the environmental community little regard and less support is given to the role of education. The current fixation seems to be on collecting data that can be scientifically verified and empirically measured. There appears to be a lot of discussion on quality control and the importance of maintaining scientific rigour while considerations about how to win the hearts and minds of the young to environmental issues barely rates a mention. There has been a prevailing attitude among many environmental agencies and government funding bodies that allocating funds for education purposes should be a low priority. The Regional NRM Plans and Federal Government guidelines appear to reward programs that can provide measurable outcomes. Proposals to attract funding for stream health monitoring regimes appear to be given favourable consideration while request for funding to conduct educational programs consistently falls on deaf ears.

Mixed Messages

Curiously, Regional NRM Bodies and catchment management authorities do recognise the need for training, especially in the area of community monitoring but the more fundamental and significant area of educating the next generation is overlooked. This approach seems to be based upon the flawed argument that educational outcomes are not able to be measured and therefore are outside the parameters for most funding programs. While all bodies are motivated by the best intentions, education projects appear to fall into the too hard basket as the outcomes are either too hard to measure or do not fit neatly into the categories that an investment plan has specified.

It is my intention in this paper to demonstrate that this thinking is misdirected and can ultimately result in enormous waste of public funds and even more seriously many tragically missed opportunities. I intend to argue that money allocated for education purpose is essential if we are going to achieve long term, permanent environmental change for tomorrow.

More curiously still this attitude appears to fly in the face of the written statements made by several government agencies who are charged with the responsibility for directing the flow of money into environmental initiatives and plans. Robert Hill, the Ex - Federal Minister for the Environment and Heritage comments in a forward to the Environmental education for a sustainable future section of the National Action Plan in July 2000 states that; "The values and ethics surrounding environmental protection must continue to be addressed through education, so that environmental understanding and participation becomes automatic in our lives. Without this, the focus of environmental management will tend to be on repairs and temporary fixes, rather than long term solutions."(www.deh.gov.au/education/publication/nap/index)

This position is supported by the South Australian Government Department for Environment and Heritage paper on sustainability (2004) which states that; "The whole community has a stake in the condition and future management of the environment. It is widely acknowledged that the conservation ethic will be most successfully realised through education, awareness raising, training and attitude changes in our approach to natural resource management."
(www.dehaa.sa.gov.au/sustainability/education)

I would argue that these motherhood statements made by the legislators are in fact pointing in the right direction and it is the interpretation by those who develop the management plans that are misguided. Apologists might argue that the present approach to caring for the environment does involve training a wide range of people in the acquisition of skills necessary for monitoring and measuring water quality. I assert that this misguided approach which confuses training with education is a dangerously shortsighted one that fails to recognise the real purposes and benefits of environmental education.

The present approach to dealing with water issues seems to say, let's confine our concerns and activities to worrying about what is happening today. It is seemingly acceptable to do this and to constantly look back at the mistakes of the past that while regrettable have already occurred and therefore cannot be eradicated. Certainly, we need to do this and we need to learn from the mistakes of the past but this approach fails totally to focus on the most important aspect of the whole picture and that is, what we are going to do about the future? To paraphrase Einstein, "The significant problems we face cannot be solved by the same level of thinking we used when we created them. We must reinvent the world socially, economically and environmentally. In effect, we must decouple social and economic progress from environmental deterioration."

www.secondnature.org/efs/efs/-part-one

Failing to educate the citizens of tomorrow in new ways of thinking and acting condemns us to relive the mistakes of the past and to continue the mind set that created the problems in the first place. Education is not just about giving people new skills and techniques to apply in modern monitoring. That is mere training and it is not enough. Education is truly about creating new attitudes, giving new insights, questioning old practices and most importantly developing an emotional reaction to the serious environmental issues that confront us in the world today.

Waterwatch Queensland

It would appear that the organisation that I work within i.e. Waterwatch is also in danger of being affected by this same blinkered approach. On a number of occasions in my role as a Waterwatch Coordinator I have been advised to consider moving away from a school-based education focus and to align myself more with what is perceived, erroneously in some quarters, as the government priorities of collection higher quality data with community groups. I believe that to do this is to adopt a very short-term view and to accept this would, I believe, be a very serious mistake. I assert that to neglect the educative component of environmental activities is to remove from the scene any future perspective and this action would condemn us to a situation where we could end up effectively measuring and monitoring a progressively degraded river system. While we can amass considerable data and do it in the most scientifically acceptable manner, this may in the end do nothing to overcome the serious issues that have been identified once this data is analysed. It seems to me that we have a serious and crucial decision to make.

Touching today or tomorrow ?

Do we want to focus on the short term goals that so many agencies seem fixated on in order to amass increasing irrelevant data or do we really want to take on the serious long-term challenge of coming up with effective strategies that are going to make a difference? The real challenge that can only be met through effective educative programs is to win over the hearts and minds of our current and future citizens so that they will develop the appropriate attitudes and the necessary motivation that will ultimately lead to the permanent and meaningful changes in environmental management that will really make a difference.

My experience has led me to recognise that we need not only to take the time to educate the young about the needs of our environment but hopefully to get them to be emotionally attached to the cause so that we not only change what happens in the present but we can also affect dramatically what happens in the future. Hence the title of my discussion **Waterwatch-Touching today or tomorrow.**

Condamine Balonne Water Committee Approach

The approach taken by Condamine Balonne Waterwatch is centred on a belief that the most important task in environmental reform is to develop in the young an attitude that leads to a desire to look after the natural resources. This desire cannot be mandated or imposed but can come about if the students are given the opportunity to engage with their environment in such a way that they become emotionally involved. It has been my experience that once students are exposed to water activities such as a macroinvertebrate search they start to see water conservation and protection issues in a completely different light. Time after time I have seen students come to the activity that we term a macro-invertebrate search blasé and indifferent and leave with a completely changed attitude simply because they have come in to contact, for the first time, with the wondrous life form that inhabit the waterways.

Recently, a Year 10 student from a local school came to me after a water quality session that allowed her to interact with aquatic macroinvertebrates and said that while she had been visiting the site with her parents for many years this was the first time that she really realised just what was living in the water. Her surprise was genuine and her excitement heart warming. She is by no means the exception as her response is typical of the type of reaction that is commonly experienced by students who have the opportunity to discover through educative programs the magic of the macros and water quality testing. If we don't give our young people this experience and a very first hand knowledge of the many creatures that inhabit our local waterways then all we end up doing is preaching a very dry argument that can sound to the young people more and more like propaganda. Water is such an important part of all of our lives that we can naturally take it for granted. However, once we discover the wondrous array of living creatures that inhabit our waterways our attitude is changed forever. Children stop seeing being actively water wise as an adult stricture and become committed to a belief in conservation and protection. For many this can rapidly become something of a passion that will form the basis of their lifelong belief system. After all the National Action Plan statement on environmental education for a sustainable future (July 2000) states “ A key element in the National Action Plan is a move from an emphasis on awareness-raising to an emphasis on providing people with the knowledge, values and skills to actually make a difference to the protection and conservation of Australia's environment.”

[. \(www.deh.gov.au/education/publication/nap/implementing\)](http://www.deh.gov.au/education/publication/nap/implementing) Surely creating this type of life-long emotional connection directed towards ensuring the health of our waterways is of invaluable worth. The beauty of this approach is that it can be achieved at very low cost and is able to returned benefits to the community that just keep on growing.

We have all seen the very expensive government campaigns that have been run throughout the media with the expressed intention of developing acceptable attitudes to such things as smoking and domestic violence. There seems to be an established belief that this sort of sociological modelling is going to be successful, otherwise why would the government agencies expend so much money on their propagation. How is it then that these same governments who in their own statements support education programs allow a situation to exist where regional planners and decision makers regularly assert that spending relatively small sums on programs guaranteed to establish positive, emotion attachment and appropriate attitudes in the area of water quality maintenance are not viable.

Cost Effectiveness

If the argument is raised that such educative programs are not financially justifiable a closer examination of what existing education programs can deliver is quite enlightening. Over the past six years the education programs conducted by Waterwatch coordinators within the Condamine Balonne involved in excess of 30 schools each year with demand out growing availability of coordinator. In the past 12 months, students from 44 schools consisting of 18 High Schools and 22 Primary Schools. If the total population of these schools was added up the numbers would exceed 16 000 students. These students have the potential to impact on the attitudes of their extended families and on a conservative estimate this would involve more than 50,000 people. Remember this is not just awareness raising but a significant and permanent impact. The simple calculation is that the existing program that is delivered as part of the Waterwatch Education project cost no more than \$25 000 annually and therefore provides the environmental agencies with a powerful impact on a very large number of people for an expenditure of approximately 50 cents per head.

A government campaign of awareness building involving the mailing out of material to each household could not be achieved for this investment. In fact this cost would not even cover the cost of a postage stamp affixed to each envelope. What is delivered through these programs is instead a real life adventure that moves environmental issues out of an abstract concept into the world of reality.

There are many other extra benefits from the education programs that can be identified as well:

- While the students are reaping the benefits of a hands- on approach to environmental care many teachers are developing new skills and approaches to their environmental teaching practices. These new skills and approaches become part of their teaching repertoire and as such have the potential to influence and benefits generations to come
- Many of the students that experience these programs live in rural environments and will be the landowners, graziers and farmers whose practices will have a significant impact on the future of water management across the catchment.
- It has been the experience of all those whom work with students in these programs that behavioural management issues are rarely an issue. Students who have seen in-class lessons and activities as irrelevant to their life experiences appear to be switched on by these onsite practical water activities. There is very rarely any need to discipline or chastise students who work within these programs.
- The Waterwatch education programs are not just confined to the biological water quality testing that has been described here as macroinvertebrate testing. We also cover such areas as chemical and physical testing as well as care of catchment activities which are exemplified by such programs as the river story an interactive approach where students participate in a simulated journey down the Condamine catchment where the experiences and actions of those who use and benefit from the river can be experienced

Data Assurance?

If the decision makers accept these assertions regarding the value of education activities they still can respond that the outcomes of these programs cannot be empirically tested and therefore their benefits are problematic. I contend that there is sufficient research available to counter this belief. A case study using data collected by the Victorian Water Quality Monitoring Network (VWQMN) in 2001 aimed to compare Waterwatch water quality data collected by volunteers and Waterwatch coordinators from the Goulburn Broken catchment in northern Victoria.

The study sought to look beyond the educational merits of the program and to assess the scientific value of community monitoring and concluded that monitoring by Waterwatch volunteers, and in this case I include the students, adds to the database on water quality in areas not measured by professionals, with reasonable accuracy. The report includes a quote from Frankle and Souls, (1981), which cuts to the quick of the matter, "Conservationists cannot afford the luxury of methodological elegance. We are soldiers in a war and soldiers must be pragmatists. Thus it is our tenet that crude initiatives based upon rough guidelines are better than the paralysis of procrastination induced in some scientists by the fear of inadequate data."

Conclusions

The issue of balancing training and education is a serious one and one that has to be addressed as a matter of urgency. Confusion between training and education, government words not supported by action and misguided restrictions placed upon regional funders have all conspired to create this situation as this paper has outlined. The place of education in environmental sustainability should be unquestioned. The success of Waterwatch in the Condamine Balonne is evidence that significant long-term environmental outcomes can be achieved by engendering an environmental ethic in the next generation. The approach taken by this project is clearly cost effective and results in tangible social and environmental outcomes. With a small change in mindset, enormous gains could be achieved for long-term sustainability of our waterways. With a more enlightened approach we can have it all – programs that can touch both today and tomorrow.

References

Bishop, J. (2004) Sustainability: South Australian Department for Environment and Heritage
www.deh.sa.gov.au/sustainability/education

Environmental education for a sustainable future: National Action Plan
(www.deh.gov.au/education/publication/nap/implementing)

Hill, R. (2000) Foreword: *Environmental education for a sustainable future: National Action Plan*
(www.deh.gov.au/education/publication/nap/index)

Nicholson, E., Ryan, J. and Hodgkins, (2002) Community Data-where does the value lie? Assessing confidence limits of community collected water quality data. *Proceedings of the Third National Waterwatch Conference, Launceston*

Second Nature (2002): Education for Sustainability. Part one: *Envisioning a Sustainable Future*
www.secondnature.org/efs/efs/-part-one

VWQMN. (2001) <http://www.vicwaterdata.net>