

Questions

1. PAST INTERACTIONS WITH WATERWATCH.

QLD past local waterwatch co-ordinator – I was a Local waterwatch coordinator in a small catchment in the western suburbs of Brisbane for about 6 years. I was employed for 2 days each week and involved with schools education and the community.

We were able to get a good monitoring network regularly testing and collating data. There was some in-service provided regarding calibration and maintenance of equipment, recording of data and quality assurance. In the end it became a question of Why we were testing and who would use the information. Government agencies were understandably reticent to take our data seriously but I think community monitoring has a place but needs a fair bit of support. The catchment group I still belong to has trouble getting waterwatch up and running again even though we now have the use of an Horiba Probe which is maintained by SEQ Catchments.

One stumbling block is the lack of a monitoring plan which has never really been a priority with the group. The schools program was of more value. The quality of the data was not of paramount importance but the process of water testing was a useful tool to get knowledge and enthusiasm for a local place and the care of that place.

Waterwatch sits well with sustainability education and even though I am not so acquainted with what is happening presently, NRW' s water sense program is keeping that process going in schools.

Local Govt VIC - I have worked with Waterwatch coordinators teaching a year 9 unit that has now become embedded in the curriculum-this was very successful.

It need to be better advertised to schools with more introductory PD sessions (what waterwatch can do for you/how to integrate Waterwatch into your curriculum etc)

LandLearn DPI Victoria - LandLearn has worked with Waterwatch in several areas presenting jointly at Professional Development sessions to pre - service teachers and teachers. This partnership has been well received and valued as is shown in our evaluation of these sessions. By working together we add to the depth of information getting to teachers and provide valued resources for them to use with students. We have always found waterwatch staff to be knowledgeable, willing to assist and providing value to education programs.

Adelaide Zoo Education - has been involved in water sampling of the River Torrens for many years. I think this is a good thing for the Education staff here, to have a link into local environmental work as part of a bigger picture. It also equips us with ideas and knowledge for schools that come into the Zoo for sessions on environmental issues and we can educate about the role the community and school students can play in helping to obtain environmental information as part of a larger project.

We run a Frog Week each November, and most years Waterwatch sends Education Officers along for part or all of the week to conduct practical sessions on freshwater invertebrates and health of waterways. These have proven very popular with school groups who come into the Zoo with a focus on frogs and wetland issues. The input of expertise from Waterwatch is again valuable for this program and for upskilling staff at the Zoo.

I hope in the restructure that these types of activities, which involve us and school groups, will be supported and extended. The hands-on nature of them certainly assists understanding, interest and motivation in the students. Combined with the expert knowledge of the Education Officers, these lessons should have a positive effect on the behaviour of many young people relating to environmental issues.

Yarriambiack Creek VIC - I was involved in Waterwatch on the Yarriambiack Creek, as part of a community activity of care and protection of their waterway that is captured in a DVD Our Fair Share. The students interviewed on camera make for heart warming viewing. It featured in a project that was the subject of a submission for a United Nations Environment Award. It was a finalist and it is described in the attached paper that was published in EQ. Waterwatch allowed students to take part in gathering primary data and use it for community development purposes. Its real strength is the science behind it. We often say that it is important that students should learn in the real world, Waterwatch makes this rhetoric a reality.

Bournda EEC NSW - has conducted WaterBug surveys as part of the spring and autumn waterbug surveys for at least 6 years. The program has been very successful with local primary schools and is an important event on the school calendar.

Successes – kids love the activity and are 100% engaged with the program

Limitations – we have limited funds to support this particular activity.

Environmental Training Provider NSW - As a senior project coordinator I am required to undertake community capacity building activities on all environmental restoration projects that I coordinate. Waterwatch is a great way to involve children in a fun activity while teaching them more their catchment. Results from Waterwatch activities are not always recorded on the web site, we leave that to the school to enter. Successes have been the ease at which this environmental/sustainability activity is embraced both by students and teachers.

Local Govt NSW - Professionally I have worked closely with Waterwatch over the past 5 years and my predecessors for a further 4 years prior to this.

We, Lake Macquarie City Council, have used the program as an integral component of our environmental education program, in particular stormwater education and the Adopt-a-SQID Program. Waterwatch links in well with our program with some businesses and organisations sponsoring kits and providing support, both financial and in-kind to assist the successful running of the project.

We promote Waterwatch to schools, individuals and community groups as a positive way they can assist in spreading the environmental messages on good catchment management and behaviours. The curriculum links and practical support we can offer groups has resulted in over 200 data uploads annually and 1100 data sets overall. We have over 40 groups active in any 12 month period.

Due to the training of our groups each data set provides valuable data that is rigorous and can be used to illustrate areas of concern as well utilising in our State of the Environment reporting.

Our only limitation has been finances, to support a stormwater education officer, and time to support those groups that require a 'nudge' if they have not tested for some time - be it to retrain them, offer alternative ways they can assist and the physical limitations of some of our senior members.

We recently had one of our regular (and active) participants resign at 86 years!

The beauty of the program is it can provide active involvement of individuals from 8-80.

Wetlands EEC NSW - As a NSW DET Environmental Education Centre operating in Newcastle, we have had a close and valuable relationship with our local Waterwatch Team over many years. We run a number of high level annual programs for primary and secondary students, which are enhanced by the participation of the Waterwatch staff. EEC staff also participate in and support Waterwatch programs which support students in the implementation of their environmental curricula requirements.

In response to the specific questions:

1. Your past interactions with Waterwatch, and how it has linked with sustainability education / NRM education. What have been the successes, and what have been some of the limitations?

All of our interactions with the local Waterwatch team have been very successful. As a DET facility all of our programs need to support NSW DET curricula requirements and any programs with which we have been involved with either managed by Waterwatch or WEEC, do that.

The EEC is located at a community run Wetlands Centre. Waterwatch staff have trained volunteers to take regular water quality tests across a number of ponds. This information is most valuable for site planning and management.

Waterwatch staff have contributed to EEC run programs and are able to effectively work with students at primary and secondary level. All of their contributions have been most valuable and successful through both the education and community education sectors.

Waterwatch coordinator, Melbourne region - I am a Waterwatch coordinator - my role has been to specifically link WW and schools. Successes of Waterwatch's link with Sustainability education include: for those teachers with motivation and initiative, Waterwatch can be adapted into their sus curriculum via contacting a coordinator to deliver a session, using ww activities to teach classes. Waterwatch motivates students out of a classroom, to a local waterway student may never know exists. Sustainability wise, a students' relationship with natural places will inform their values of it. regularly students associate a waterway with negative social behaviours. Waterwatch's exploratory activities in these places are enjoyed by children, and adults, sometimes providing them with their first positive experience of this place. As coordinators, we love our jobs for the ability to be on the ground working with people in diverse settings. The grass roots approach of waterwatch is loved by teachers, and community groups happy to be involved in a program that they have direct contact with a person on the ground who supports them as they need to achieve their own sustainability aims.

Limitations: Low levels of funding in long term forecasts has slowed the process for Waterwatch to be formed as a professional, structured program. Each coordinator has limited time and money to develop their own resources. Time is wasted re-developing resources with short term visions and our core strength can be lost in lack of consistency brand-wise. Any development would need to explore what waterwatch uniquely offers, leaving autonomy with officers, but formalising these unique approaches (e.g. creative education methods - abstract attached - am happy to provide paper on request).

City West Water VIC - I run a water conservation program for schools in Metropolitan Melbourne (Water – Learn it! Live it!). We have a great working relationship with Waterwatch (Port Phillip and Western Port Catchments). They have presented at our teacher professional development sessions, been involved in joint events, and we also recommend each others' programs to teachers. I am also currently involved in an early childhood education pilot with them. There have been many successes and very few limitations.

Coastalwatch - Coastalwatch is Australia's #1 water sports web sites, and we amass a huge amount of environmental data.

We also average around 400 000 readers a month, and we've been investigating the opportunity to display water quality data via our website.

We haven't done this as yet, and we're not sure how we'll be doing it, but water quality, whether it be inland or coastal, is important information we'd like to help distribute to the broader Community.

Waterwatch will become an integral partner in this initiative and we look forward to the results of the review.

Local Govt WA - The Shire of Yilgarn has not had an NRM Officer working within the Shire of Yilgarn for 3-4 years now, since Federal funding ceased. At that time the then NRM Officer had reasonable success with a number of farmers living & operating in the Bodallin/Moorine Rock area of the District. To what extent he used the Waterwatch Program I do not know, but I know he worked with farmers to improve dam location and run-off into the dams, contouring of land to assist with drainage and help reduce salinity issues, drainage areas on land that are affected by roads, etc. I know he was about to work with the Shire's Works Manager regarding stormwater drainage and Shire controlled roads, however, he left the Shire's employ around the same time.

Local Govt NSW - Officers from the central coast Waterwatch team have been part of the Gosford/Wyong Councils' water education program called Watertight since 2005. This water education program aims to raise awareness of water conservation and water management issues amongst the school community and provide schools with the necessary skills to make responsible decisions about the management of water. Watertight is a one-day holistic water education experience held in the grounds of the participating school and is specifically designed to meet the outcomes of the Primary School curriculum. Gosford and Wyong Council utilise local expertise and resources by partnering with key environmental organisations such as Waterwatch when delivering this water education program.

Waterwatch officers are integral to this program as they help to equip each participating school with the skills necessary to develop stormwater management plans and to assess the impact of their actions on local waterways. Students work with Waterwatch staff on activities such as water quality testing and stormwater auditing. Teachers also develop the confidence to continue monitoring and resource management planning after these sessions.

2. FUTURE DIRECTIONS

QLD past local waterwatch co-ordinator - There is still much duplication of water education materials and programs between local council and state government. There is now more communication between these agencies but they have their own priorities although similar they still get up their own programs.

I am not sure how you get around this but a lot of time, energy and money has been put into water education that might have been better used more strategically.

My experiences as a waterwatch coordinator made me realize the whole is defiantly greater than the sum of the parts and the catchment group which was originally the waterwatch group is still going strong and moved on to bigger issues and outcomes.

Local Govt VIC - I think the Aussi Vic program will be an essential framework in "bio-diversity" and "water" areas Waterwatch will be able to make significant contributions to both of these.

LandLearn DPI Victoria - Sustainability education is growing in Victoria with the rollout of the AuSSi Vic/Resource smart schools program and waterwatch resources, advice and expertise is going to heavily in demand as this program grows. One of the four modules to be addressed by schools is Water. Waterwatch is providing a much needed resource to schools and will be so in the future. By working with LandLearn where possible, it will enable resources to be more effectively used by using one session to cover different areas of the sustainability education program.

Yarriambiack Creek VIC Students must have access to real learning – the Children's Science movement in the 70s/80s taught us that. They can construct meaning that explains their world to them, we are better off when the meaning that they construct is based in the real world. This is the promise of Waterwatch which is so often realized in our outdoor classes. It is an example of authentic learning.

Bournda EEC NSW - We consider WaterWatch to be an important sustainability education program and would like to see future government support to ensure that it plays a continued role. When Bournda EEC first got involved in Waterbug surveys there was support from the then DLAWC, the local Council and the South East Water Quality Program. Gradually each agency withdrew their support until we were left doing it by ourselves. We are happy to do that but if its important to do we would like resources to help us do it

Environmental Training Provider NSW - Waterwatch will always be a great way of getting the environmental/sustainability message out into the community. Acquiring water quality information is a way of bringing players together while spreading the word on biodiversity, threatened species, threatening processes etc.

Local Govt NSW – Environmental education is imperative for all Australians. Unless people can understand ecosystem connectivity, programs to address climate change will be of limited success. Waterwatch plays an important role - engaging community members (including school groups) in their local catchments, providing a common purpose, educating them and providing skills in water quality testing, communication, and the importance of the environment beyond their backyard.

Waterwatch must be supported and valued at the highest level of government.

Waterwatch is a fantastic example of the importance of partnerships across the community- residents, local councils, businesses and catchment management authorities.

Cascade EEC NSW - WaterWatch has an vital part to play in the whole area of sustainability education / NRM education - given that life on the planet basically comes down to water, air and soil. Add to that the whole scenario of climate change - increasing temperatures and dryness (in SE Australia) - that makes the case for water education beyond question I would have thought. Kids need to know about water quality, how to measure it and what factors/human activities impact on it in a negative way. Kids need to know simple strategies to conserve water and clever ways to live in a sustainable fashion.

WaterWatch provides the tools and skills people need to quantify changes in the water quality of specific locations over time - this is vital knowledge. Used in a complimentary way with other education programmes it can help students to understand how important it is to manage natural resources wisely and to be individually responsible for the way that we live; the choices we make.

In my view programmes like WaterWatch need to be well funded and resourced. Managers of the programme need to build networks with other stakeholders (eg. local govt, Landcare) and find ways to work with them collaboratively - to avoid duplication and to tap into the specific skills/contacts that others have.

Wetlands EEC NSW - Education for sustainability within the school education sector is mandatory. The Waterwatch program is able to integrate into many KLAs and support the emphasis on water, water management and water use. Water will continue to be a priority at all levels for all levels of community and government. Having Waterwatch programs to support education priorities in this field is invaluable.

Waterwatch coordinator, Melbourne region – Without positive experiences and relationships with waterways (as an example of a natural environment) people can't value and act in consideration theres places so easily. NRM needs to move away from information-based education to experience/heart-based programs. Waterwatch already does this by default, in the future, Waterwatch would develop and celebrate these educational values / principles, and be a leader in education for sustainability. Waterways are vital sources of life, exist in all landscapes and are accessible features of nature from the country to the sea. Waterwatch is imperative.

City West Water VIC - see Waterwatch as having a huge role in the future of environmental education in Australia when it comes to promoting biodiversity and water quality issues. I think they also fit in very well with the AUSSI program.

Local Govt NSW - Wyong Council has developed a comprehensive Estuary Management Plan to ensure the long term health of the Tuggerah Lakes system. The plan earmarks community engagement projects such as water quality testing as being instrumental in the protection and maintenance of water quality. The roll-out of this enormous program has recently commenced and organisations such as Waterwatch have been earmarked as a key partner in the education strategy.

3. YOUR VIEWS ON THE NEED FOR ONGOING COORDINATION FOR WATERWATCH AT A REGIONAL, STATE & NATIONAL SCALE.

QLD past local waterwatch co-ordinator I am not familiar with the coordination of waterwatch at the different levels so won't comment on this issue but if waterwatch is to continue in its original form it needs a lot of input from government agencies. It may well be that this is already happening but not called the old names.

Local Govt VIC - Waterwatch is essential. It help to connect schools with community groups and can help a whole of stream /whole of catchment approach by connecting various groups.

LandLearn DPI Victoria - I have no view on this other than the fact that individuals have had the ability to respond to our requests for joint presentations and support and this autonomy of the individuals is needed for an effective community based program.

These response are very brief and I am happy to add more depth if required. I look forward to a continuing relationship which adds value to both programs in the future.

Yarriambiack Creek VIC A strength of Waterwatch has been the assistance from state and local governments and from regional catchment and NRM agencies that it has received. Curriculum change is not easy to implement, schools have a great deal of inertia. Support for curriculum programs, from outside of the school, is very important to sustain curriculum change for the time it takes to become a new and formal part of the way a school works. It would be a tragedy for support to be withdrawn before this has become part of an authentic curriculum. Curriculum reform is too often littered with the faint hearts of those who threw it in too soon.

Bournda EEC NSW - We would like to expand into WaterWatch with water quality testing but again there are limited funds to train schools/teachers and there is a need for more local coordination support. Bournda EEC could support/augment existing arrangements with financial support. There is a need for regional, state and national coordinators to ensure that the program is implemented and evaluated effectively.

Environmental Training Provider NSW – I would still undertake Waterwatch activities even if there were no regional, state and national coordination. However this method of collecting data may be the only way records will be available for future monitoring and comparison.

Local Govt NSW – I feel many of the reasons the Waterwatch program has been a success in our local government area is the strong support we have received from our local CMA.

The National Waterwatch Conference in 2007 illustrated the need for a national approach to remove the inconsistency within the bagging across the nation. The NSW Program with a central database for the water quality results is more beneficial for all stakeholder (LGA's, CMAs and residents) than the approach in other states where information is held in regional databases with minimal access available to a few. The changes to water regimes that will occur in every region of Australia, as a result of climate change, will have to be monitored by trained community groups; there are insufficient resources and technical staff to monitor local catchments for short and long term changes, even if there were - local knowledge by local residents is invaluable. Waterwatch gives great value for money, through results, networks and partnerships.

Wetlands EEC NSW - The only way Waterwatch can continue to work in an effective and coordinated way is to have support and planning for programs at National, state and regional levels. Although we only interact with regional staff, having a coordinated planning and development structure at a broader level ensures the programs throughout Australia are nationally relevant and planned but can then be implemented with an appropriate regional perspective.

Waterwatch coordinator, Melbourne region – As alluded to in the previous responses, for such a valuable program / concept, greater, longterm steady support with strong links to current and innovate education techniques will raise the already high quality of this program deeply embedded in the schools' and community curriculum.

City West Water VIC - I am happy with the way Waterwatch is currently coordinated within metropolitan Melbourne and Victoria. I'm not too familiar with the way it is coordinated at a national scale.

Local Govt WA - I believe that there is a need for sustainability and environmental education in the community, and in particular with large land owners. There needs to be cooperation between land owners at a community level and District level to achieve permanent results. Regional, state, and national approaches, due to the size of the area involved will mainly be in theoretical terms or proposals/strategies, and it is questionable as to how much can be or is achieved at this level.

Local Govt NSW - The national and state focus allows a coordinated reporting system. Each states website provides a national database of water quality results and so can be useful for a variety of organisations such as local government, schools etc. The regional coordinators provide teams of volunteers with the ongoing support and expertise necessary when running a high quality program. Waterwatch coordinators ensure quality control of the data through the coordination of professional development workshops, auditing of equipment and monitoring of data collected.

COMMENTS

SA Zoos - In addition to the comments made by Ruth Hall, Education Manager at Zoos SA, I would like to add that the staff at Waterwatch have been an invaluable resource for the keeping and interpretation staff involved in new development projects for Zoos SA. I believe that the link Waterwatch has with other conservation organisations is an important and ongoing part of their operations.

The time and expertise they have given in assisting us to develop appropriate aquatic exhibits in the new Envirodome Centre has ensured both for the care and welfare of the animals on display and in the accurate and comprehensive education of our visitors. As a learning/education resource in this area of NRM and sustainability for adults, teachers and students, they are second to none.

The teacher workshops on frogs and macros are always very popular, highlighting the importance of having access to these kinds of programs for NRM, sustainability and environmental education Australia wide.

I'm happy to be interviewed for this review. I am responsible for managing the Streamwatch Program in Sydney Water's area of operations. My contact details are below.

Community Education Manager

Sydney Water
