Patawalonga Catchment Water Management Board

Torrens Catchment Water Management Board

Submission to the House of Representatives
Standing Committee on Environment and Heritage

INQUIRY INTO CATCHMENT MANAGEMENT

SUMMARY

In Adelaide, South Australia, the Torrens and Patawalonga Catchment Water Management Boards are addressing environmental impacts in their urban and rural catchments caused by runoff and poor land and water management practices of the past. The Boards have a high degree of autonomy and an impressive array of powers through recent legislation, the Water Resources Act, 1997. They have an independent and purpose-built source of funds from a catchment levy. The Boards are accountable and accessible to both government and the community through a very open and transparent management structure. The Boards' programs include catchment works, planning measures and community education and involvement programs. For example structural works such as trash racks and silt traps, wetlands and river restoration projects involving the removal of exotic vegetation and revegetation with native species are undertaken. Planning measures, education and awareness programs, measures to improve public pride in waterways, and the resource value of urban runoff are all high on each Board's agenda. The Boards have much support from all spheres of government and the community despite being new organisations funded by new charges amounting to something in the order of $20 per household per year.

Initially, under the Catchment Water Management Act, 1995, the Boards' job of improving water quality, restoring riparian ecosystems and implementing best practice seemed an overwhelming task. However, by progressively implementing a coordinated program, huge advances have been made psychologically as well as physically. The Boards have done this by developing increasingly detailed catchment management plans, while keeping the community informed on issues and involved in programs and ensuring that State and Local Government "own" the plans. At the same time, leading edge and complex technical issues ranging from the remobilisation of pollutants from water bodies to the setting of practical environmental values for catchment plans are being attempted. The critical success factors in the Boards' integrated catchment management (ICM) programs have been accountability, community ownership and on-the-ground outcomes. As a package, the Torrens and Patawalonga Catchment Water Management Boards' structure and current programs demonstrate an innovative ICM approach with great potential for the rest of Australia.

BACKGROUND

Three of Adelaide's most prominent water bodies, the Patawalonga Basin which discharges near the tourist beach of Glenelg, the Torrens Lake in the central business district, and the ecologically and economically important Port River estuary have been recognised over the past 20 years as becoming increasingly polluted and unsightly.

The discharge of runoff from the Torrens and Patawalonga catchments to the sea has been linked, along with treated sewage discharge, to the gradual decline in sea-grass meadows and the marine environment generally off metropolitan Adelaide. South Australia, with its limited water resources, was also viewing stormwater discharge to Gulf St Vincent as a wasted resource that should be managed with more innovation.

In 1994 the question of who was responsible for cleaning up these vital waterways was the subject of ongoing debate between State and Local Government. The situation was further complicated by the fact that at the time, there were some 23 Local Government councils to deal with. And, typically, there was no resemblance between council and catchment boundaries. Many councils wanted to address the issues but either lacked a funding base or expertise, or there were problems that extended outside their boundaries and agreement could not be reached with other councils.

State Government had liaised with some councils on certain issues, however was reluctant to get too involved because it considered catchment management a Local Government responsibility. Existing agencies were not willing to take on new functions when most were rapidly downsizing or being corporatised (or both).

The impasse was solved by a new piece of legislation - the Catchment Water Management Act, 1995, and a commitment to have it effectively implemented. The legislation was specifically designed to broker a partnership between State and Local Government and between catchment councils. This provided the means to focus community and agency programs on catchment issues.

The Patawalonga and Torrens Catchment Water Management Boards were created as two separate statutory authorities of the South Australian Government. Their catchments cover almost 250 km^2 and 630 km^2 respectively and contain around 700,000 of Adelaide's residents, now in 16 council areas, following a process of Local Government amalgamations. The catchments of both Boards discharge stormwater to the metropolitan Adelaide beaches of Gulf St Vincent. Both catchments' headwaters are in the Mount Lofty Ranges. Rainfall varies from 500 mm per annum near the coast to 800 mm in the hills.

The Patawalonga Board has six members and the Torrens Board eight. Members are skill and expertise-based rather than representative or advocates of other bodies. Members are appointed by the Minister responsible for the catchment program. An administration of seven people services both Boards. The Boards have a combined total annual income of $5.5million collected from constituent councils through a catchment environment levy on each rateable property. One sure way to get the community's interest is to impose a levy on them and involve them in its allocation to programs to improve water quality and waterway management.

The environmental problems requiring the Boards' attention have been well publicised. In fact it can be argued that the infamous icons of the polluted Patawalonga Basin, Torrens

Lake and Port River were primary drivers for the community to pay the levy and let the Boards get on with the job.

In 1994 the Patawalonga Basin had just been labelled Australia's most polluted waterway. This was due in part to the media imagery of the estuarine basin being fast-flushed on low tide with the consequent stirring and discharge of highly coloured organic and heavy-metal rich sediment to the marine environment. The Patawalonga Basin, a small water body fed by Adelaide's polluted stormwater, was very much a political and extremely newsworthy issue.

On the other hand, the Torrens catchment, providing a major water supply for Adelaide, historically has been extensively developed for agriculture in the rural upper catchment. Together with a combination of other factors, this led to the poor reputation of water quality in Adelaide prior to the installation of extensive water filtration treatment systems. In the lower urban catchment the impact on Adelaide's major recreational area, the River Torrens Linear Park and Torrens Lake, was unacceptable due to the poor stormwater quality and typical urban pollution.

The banks of the Port River estuary for many years have accommodated a variety of often-noxious industries. Water quality has been a grave concern – the most obvious issue being the “red tide” of mostly sub-surface algae. The river is an important natural resource providing fish nursery areas among the mangroves and recreational enjoyment to many people.

Along with these issues was the problem that no State or Local Government agencies could take a lead position to focus attention on an overall coordinated catchment plan to integrate existing programs and point out the voids. The Boards, under the Catchment Water Management Act 1995 and now revised Water Resources Act 1997, have this role and, most importantly, have a funding source and an accountable *modus operandi* to ensure it is delivered.

The Boards are also able to attract additional funding by developing partnerships with Commonwealth, State and Local Governments as well as with the private sector. At this stage about $5.5million is raised by the catchment environment levy and a further $0.5million through direct partnerships.

THE BOARDS' FUNCTIONS

The Patawalonga and Torrens Boards' functions can be quite broad, however, initially they have been kept focussed and were adopted as follows;

- to prepare and review their comprehensive catchment water management plans,
- to remove solid and dissolved impurities from catchment water to improve water quality,
- to protect watercourses, lakes and their ecosystems from degradation by pollutants and exotic plants and reverse such degradation where it has occurred,
- to provide financial or other assistance to constituent councils, persons carrying on business, community groups or any other person involved in an activity in a catchment that will improve the quality of catchment water, and

- to educate members of the public about the management of catchment water and of the catchment.

The Boards' functions do not specifically include flood management and drainage, however issues of flooding which cross council boundaries can and are dealt with by the Boards. The ability to take an overall total water management perspective also enables issues such as re-use of effluent, re-use of stormwater and efficient water use strategies to be accommodated in plans. As the Boards and their plans develop under the new Water Resources Act, 1997, there is no doubt that total water management issues, including institutional charging systems, standards, by-laws and permits/approvals for "water affecting" activities will be addressed. The plans also show how to improve the catchments' waterways and their general health in terms of not only water quality but also habitat value and environmental flows.

The functions of the Boards and their roles and responsibilities have been vigorously discussed by local councils. Many seek a clear and simple definition of the Boards' precise responsibilities. However the inter-related nature of water resources management, source pollution control and development controls makes it impossible for any one agency or sector to be solely responsible. Rather the Boards are working at integrating 'best practice' into every conceivable aspect of management and planning. Community awareness and attitudes play a major role in this. There is always the opportunity to review these functions on an annual basis with annual reviews of the Boards' plans.

MODUS OPERANDI OF THE BOARDS

One of the strengths of the South Australian catchment water management program is the ability to have Boards active in making decisions and being accountable to their catchment communities. The Boards meet monthly in public where all agenda material, including financial information, is made available to any interested member of the public. To date, while the public galleries have not been large, on key issues a range of interested people, including media reporters and local Members of Parliament, have attended Board meetings as observers.

Under the recent legislation (Water Resources Act 1997) there was a change in Board membership, from being purely representative, to appointments based on specific knowledge and skills-based criteria. This is helping to ensure that a 'big picture' perspective permeates through the Boards' deliberations.

To be fully effective, the Boards must link with Local Government and State Government agencies to broker in-kind partnerships so they can implement their catchment plans. Similar relationships are developed with Soil Conservation Boards and major Landcare groups to ensure that the Boards' work can complement (rather than replace) existing initiatives.

In terms of the Boards' operations the critical success factors have been;

- a source of funds directly from the catchment constituents,
- an open and accountable planning and decision-making process, funding source and expenditure,
- the ability to forge partnerships through the local community,

- a stronger relationship with Local Government and local area environmental initiatives,
- political interest and influence on the program,
- pressure on the Boards to perform - (they have the funds and the responsibility to deliver),
- ease of community input and accessibility, and
- the Boards' ability to have media profile.

THE CATCHMENT PLANS

In hindsight it was not surprising that with the establishment of the Boards and their funds, unreal expectations of their roles, the expectation that they would fix up pollution problems and would take on a host of existing responsibilities permeated through Local Government and community circles. Indeed, some State Government programs seemed to grasp the opportunity to focus on new areas outside the declared catchments after the Boards' establishment. It took some time to get the community to understand that the Boards were only responsible for the functions, roles and commitments made in their catchment management plans. These documents represent technical status reports as well as program and resource commitments. The plans outline what funds are required and how and where they will be spent on specific projects and programs.

The plans have an integrated but simple mixture of planning measures, physical works and community education/awareness components that combine to support the water quality objectives/environmental values that have been distilled and agreed from the community consultation process.

The plans clearly describe who the partners are in projects, what areas are covered and when outcomes can be expected. The first set of comprehensive plans are being improved and refined. The Boards have found that it is far better to be pro-active and set directions in particular issues. For example, runoff minimisation from new development is promoted through the plan. Basic guidelines are provided rather than spending long, unproductive periods finalising details that will ultimately be thrashed out in the community.

PLANNING MEASURES

Opportunities to implement broad-scale innovative water sensitive designs and appropriate waterway management strategies, particularly in existing urban areas, are limited. The ability to 'retrofit' appropriate designs is related to planning approval legislation that in turn is linked to the economic climate and councils' interest to enforce improvements. The role of the Boards, through their catchment plans, is to ensure consistency across all Local Government areas in the catchments and strengthen the connection with their own environmental plans (e.g. Agenda 21 local action plans). In this way runoff minimisation and riparian/flood zones can be established and implemented for new developments and urban renewal projects.

The Boards are in the process of implementing a Ministerial PAR on urban stormwater management in their catchments. Model PAR guidelines have been produced in the catchment plans. These together with an education process and council specific PARs involving appropriate zoning, will drive stormwater reuse/minimisation outcomes.

Adoption of planning measures by the authorities and developers is enhanced by demonstration sites. The Boards have been active in partnering demonstration projects.

PHYSICAL WORKS

Technical assessments on water quality improvements have justified a combination of trash racks, silt traps, wetlands and sedimentation basins in strategic locations throughout the catchments. The urban portions of both the Torrens and Patawalonga catchments are almost fully developed and wetland opportunities are limited. The distribution of facilities in sub-catchments and maximising multi-objective stormwater management aspects of flood mitigation, recreation amenity, education facilities, water supply and local environmental habitat values have been key components of the Boards' plans.

Physical works also have the real benefit of demonstrating progress with the plan and using facilities as community awareness/education tools that lead to greater ownership of the catchment care ethic.

Urban wetlands, sometimes more correctly termed wet detention basins, also provide important staging works for aquifer storage and recovery (ASR) schemes which are particularly attractive in the Adelaide metropolitan area. Partners for such projects involve the beneficiaries of flood protection, local public area aesthetics and parks and garden irrigation users. As a package these 'wetland' projects deliver multiple benefits. The Boards have a major role ensuring that the cost-sharing of both establishment and maintenance reasonably reflects the partner organisations.

In the rural Torrens catchment the single most effective investment in works is to subsidise landholders to fence off creek lines, remove exotic vegetation and replant native species. This approach has rapidly provided 'demonstration' sites and reaches of the river that in turn fuel further works. A similar approach has recently been taken in the rural part of the Patawalonga catchment. In their urban areas, the Boards are connecting local community groups (eg urban Landcare, Friends, and Urban Forest groups, Rotary and schools) with local councils at areas where riparian remediation works are possible. The 'Our Patch' project as described later is one such example.

COMMUNITY EDUCATION

Virtually every facet of human activity and development has the potential to add to the pollutant load in waterways and stormwater drainage systems. Entrenched contaminant sources such as motor vehicles through to the readily avoidable casual litter sources are all very efficiently flushed down urban drains. The Boards' programs are heavily biased toward source pollution control through encouraging best practice and stimulating community awareness.

Opportunities are actively taken to continually reinforce that action is being taken in the catchments, promote examples of best practice and involve the media in this awareness campaign. The program is wide ranging and involves the promotion of responsible behaviour. The Clean Waters (Waterwatch) Program has been supported by the Boards through the State litter campaign organisation (KESAB) and 250 groups, mainly schools, are engaged in the program.

Pollution prevention programs have been successfully undertaken in light industrial precincts, with special emphasis on small businesses, across both catchments. The key to these programs has been to join local council environmental health programs with the Environment Protection Authority (EPA) and for the Board to assist with funding the shortfall in project resources. Local councils and businesses have been proactive in attending to problem areas.

The Boards are helping to market codes of practice that have been developed by the EPA. However a significant constraint to achieving widespread use of the codes is the lack of readily enforceable penalties. The Boards have committed funds to enable the EPA to employ an enforcement officer for each catchment. These officers spend most of their time in the field, liaising with local councils' Environmental Health Officers and the many Board-funded pollution prevention project officers.

THE MEDIA

The vast array of both good and poor practices which impact on stormwater quality in both urban and rural parts of the catchments, makes it essential to effectively use the media to promote and explain the Boards' programs. The difference between community education and public relations becomes blurred when there is a need to simultaneously show the community examples of poor practice and its implications as well as demonstrate the positive aspects of the levy-funded projects. As a consequence the Boards and their Presiding Members have regular appearances in local and state newspapers, television news and talk-back radio.

The extent of the Boards' access to the media is unprecedented in South Australia. In both State and Local Government organisations the layers of management and advisers would have resulted in lost opportunities and heavily diluted information. It is critically important for the Boards to keep in touch with the community. Regular significant stories on progress and problems have been very useful.

Community surveys of awareness and behavioural influences have shown the time is now right for a major, multi-media behavioural change campaign. The Boards have developed an enduring campaign that will attempt to involve all organisations with an interest in

water management issues under a single brand, WaterCare. The brand and campaign has national and international potential. It is being piloted in the latter half of 1999.

OUR PATCH

An innovative component of the Boards' education program has been to facilitate small on-the-ground works and improvements by the community. Called 'Our Patch', the program has identified and coordinated local projects involving community groups and schools on sections of the waterways. Sometimes an Our Patch area can be a revegetation project in the catchment that directly or indirectly improves runoff quality and habitat. The aim is to get a stronger sense of community ownership and pride in waterway areas to help continue the community to adopt better practices.

The Boards have established more than 90 'Patches' to date and are actively supporting the various groups, many of which have developed action plans.

CONCLUSION

The Patawalonga and Torrens Catchment Water Management Boards, their programs, funding arrangements and catchment plan-based projects, as a package, represent best practice stormwater management. Although early days - four years since establishment and only two years into the five-year term of the comprehensive catchment plans - the future looks good, provided community awareness and support continues to increase at current rates.

While water quality improvements for the Patawalonga, Torrens Lake, the Port River estuary, and the marine environment have been the drivers to date, the opportunity of stormwater re-use through ASR systems built into urban wetlands and riverine parks represents the real potential.