

## **Learnwell Implementation Plan**

The purpose of this plan is to describe the Learnwell Programme and to set a timeframe for its implementation.

The Learnwell programme is part of the Council's Environmental Education and Communication Strategy (hereafter referred to as the Education Strategy). The Education Strategy states that Learnwell aims to:

*“Provide for a better environment in the future by raising children's general awareness, especially as it relates to their local environment, and by helping them gain some skills both to fix problems and ensure that problems don't occur in the first place.”* (Environmental Education and Communication Strategy, pp 11).

This plan outlines the work undertaken so far to develop the Learnwell programme, and sets a plan of action to prepare the programme for its launch in February 2002 (as stated in the strategy). The plan will be used to direct the project over the next two financial years. It must be stated, however, that a degree of flexibility in the implementation plan is required. This will allow for continued consultation with teachers, students, various departments within the Council, and local iwi.

### **What is Learnwell?**

The Learnwell programme is the schools-based element of the Education Strategy. Business Bridges and Community Connections form the other two components of the strategy, each of which reaches a different target audience. In the case of Learnwell, the target audience includes 8-12 year-old students, and through them, their teachers and families. A subsidiary part of Learnwell, the 'Adopt-a-stream' programme, is aimed at both secondary and primary schools.

The principal goal of the Council's Education Strategy is to change behaviour, and is consistent with the goals set by the United Nations Environment Programme (UNEP). The environmental education goals set by UNEP include:

- to provide every person with opportunities to acquire the knowledge, values, attitudes, commitment and skills needed to protect and improve the environment
- to create new patterns of behaviour of individuals, groups and society as a whole towards the environment (Source: UNESCO Report).

The key component of Learnwell is the environmental trail where children experience, at first hand, the way the environment works and how it can be cared for or abused. While the trail is the key component, it should not remain a one-off event isolated from the rest of the child's learning. Instead the trails will be supported by a school resource through which the learning experience can be extended and reinforced in the classroom and at home, giving the child a chance to put into practice what they have learned. It is through 'doing' that children learn, and providing them with ample opportunity to 'do', is the key to lasting behaviour change.

Over the next 10 years, the Education Strategy proposes the development of a series of environmental trails supported by school teaching and learning resources. As water is at the heart of the Council's reason for being and because it is a topic that the community is concerned about, the first trail will focus on local waterways. In subsequent years, it is expected that the trails will explore such matters as healthy air, soil, ecosystems or biodiversity.

The Council is committed to working with this younger age group for the reason that behaviour change takes time. Looking to the future, Learnwell recognises that if we wish to change the way people treat their environment, then we must work with the resource-users of tomorrow, as well as those of today.<sup>1</sup>

### **What is Learnwell trying to achieve?**

The Council has an agenda to improve water quality and is promoting education in addition to regulation as a way to achieve this. A large proportion of the policies and around 50% of the methods of the Regional Policy Statement (RPS) and regional plans contain some form of educational initiative. For example, Method 21 in the RPS states that the Council will;

- *'investigate and engage in public education about the use and care of fresh water'.*

The task of Learnwell is to match the Council's objectives (as set out in the RPS and regional plans) with those of the target audience (as set out in the National

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<sup>1</sup> Behaviours that have become habitual over many years will not change overnight. It is therefore advantageous that the Council has acknowledged the time required, and has established a long-term commitment to the process of environmental education. Such a commitment is in line with the findings of research in this field, summed up in the following extracts:

- 'Programmes lasting more than 3 years had twice the success rate of shorter ones.' (Source: Norris, Kimberly S and Susan K Jacobsen, 1998. Content analysis of tropical conservation education programs: elements of success. Journal of Environmental Education, 10-15-1998.)
- 'Results showed a need for subsequent long term education, for repeated and frequent experience of the interventions ... and for such interventions to be consistently integrated into the syllabus'. (Source: Bogner, Franz Z, 1998.. The influence of short-term outdoor ecology education on long term variables of environmental perspective. Journal of Environmental Education, 07-15-1998.)
- 'Environmental education programmes must be given ongoing support so that schools are not left to flounder after the initial flush of enthusiasm'. (Source: Chidlow, Hilary N, 1997. Environmental education in Auckland schools. A research paper submitted in partial fulfilment of the degree of Master of Education. Faculty of Education, Deakin University.)

Curriculum), and through this combination, to deliver a programme that promotes real change in environmental attitudes, awareness and behaviour.

The starting point is to identify what the Council's educational objectives are in relation to the water quality and conservation issues faced by the region. We have relied on the Council's policy documents and have sought the advice of Council staff working with all aspects of water (pollution response, environmental monitoring, resource consents and the treatment and delivery of water) to determine these objectives. These objectives underpin Learnwell:

- Find out where your water comes from and where it goes to!  
*(understanding the water cycle, and the treatment and delivery of drinking water)*
- Look after the web of life – every part of the web matters, especially water!  
*(understanding the concept of interdependence in ecosystems)*
- Use water wisely and leave enough for everyone, including the fish!  
*(understanding the need for water conservation and avoiding water wastage)*
- Be careful - keep pollution out of our rivers, lakes and seas!  
*(understanding the causes and effects of pollution and erosion)*
- Become a water guardian – keep water clean and plentiful!  
*(learning how every individual can be a powerful agent of change)*

The above objectives have been designed to be achievable learning outcomes for the age-range of our target audience. Within each objective, more specific behaviour changes will be promoted. Some of these messages (for both the children and their parents) are listed below:

**People can prevent stormwater pollution by:**

- disposing of oil at petrol stations
- washing their cars at a car wash or on the grass
- washing paintbrushes in sinks not stormdrains
- keeping litter out of our water (reduce, re-use, recycle)
- keeping dog-poo and leaves out of the stormdrains
- planting flaxes and other filtering plants alongside waterways

**People can prevent erosion by:**

- planting trees alongside waterways
- taking precautions to prevent soil entering streams during earthworks (by using a hay bail at the edge of a stream to filter out the soil)

**People can prevent water wastage by:**

- watering their plants only in the evenings
- planting native garden plants rather than exotics which require more water
- fixing any dripping taps and reporting leaks in their drains
- switching the tap off when they are brushing their teeth or cleaning vegetables
- using the half-flush system in toilets
- having a shower instead of a bath
- using roof water to water their plants

**How will the Learnwell Programme be implemented?**

What follows is a brief description of each component of the Learnwell programme along with a description of, and timeframe for, the work that needs to be undertaken to implement that component (in italics). Dates given refer to the end of the specified month.

**The Focus Group**

It is the intention of Learnwell to match Council objectives to those of the education curriculum. As part of this process, a Focus Group including 5 teachers and a staff member from Wellington College of Education, has been set up and is meeting once a month during March and July 2000. Through this process the teachers provide feedback on the programme as it develops. During May and June, staff have also worked with the students of the Focus Group teachers, spending one afternoon at school and one day at a regional park with each class to trial some of the Learnwell activities. These visits are a form of action research and have taken programme development to the most practical level.

*Implementation: A report on the findings of the Focus Group and action research will be completed by September 2000.*

**The Trail**

The Learnwell programme aims to create a hands-on, and locally relevant education experience that will prepare 8-12 year olds with the awareness, attitude and skills to use the resources of the Wellington Region in an environmentally responsible manner.

The trail is the highlight of the programme. It will be a day for the children to have fun, develop a sense of awe at their surroundings, discover something new about themselves, and learn some skills to address the challenges their generation will face.

In essence, the trail is a field trip that can be transferred across the region to different sites, as opposed to a fixed physical trail or path. Developing transferable trails, increases access to the service and prevents heavy environmental impacts through over-use of any one site. As a result, Learnwell will be accessible to schools throughout the region and those schools that participate will be able to visit nearby sites.

By February 2002, the Council will develop a water trail that can be transferred to 5 different localities. These are Wellington, Kapiti, Porirua, Hutt Valley and Wairarapa. The base sites will be hosted by the regional parks (except in the case of Wairarapa where alternatives will need to be found). The parks have huge potential as educational sites, providing a safe environment, wet weather options (such as the woolshed at Battle Hill), storage facilities, lunch spots and ablutions. They also provide good examples of near pristine environments such as bush walks at Kaitoke, Belmont and Battle Hill, as well as examples of human influence on the landscape (both positive and negative), at Battle Hill, Belmont and Queen Elizabeth Park.

On the day, Learnwell will provide two guides for the trail, and will transport a class of 30 children to their local regional park where they will become environmental investigators. At the base site the children will investigate the characteristics of healthy water, and will examine how water interacts with other parts of the ecosystem. On their way back to school the students will visit a second (and possibly a third) site chosen from a menu of locally relevant options, such as a stream near their school, a water storage tank, or a storm drain outlet. Here they look at the causes and effects of water pollution and water wastage. Their task as environmental investigators will be to find solutions to the problems they will see.

Working with young people in the environment is not without its risks. Once the trail sites have been selected a risk assessment will be undertaken and appropriate procedures will be put in place to manage those risks.

*Implementation: The 5 base sites will be identified by September 2000. The 20 'menu' sites will be selected by December 2000. The necessary infrastructure work will be carried out during the next two financial years according to budgets and workplans yet to be determined. Interpretation materials will be developed as they are needed. Risk management procedures will be established by December 2000.*

#### **Fitting Learnwell into the curriculum – The 4-Week Unit**

The trails are the major component of Learnwell, but the aim is to extend the learning experience beyond a one-off field trip. This can be achieved by supporting the teachers to continue exploring the topic in the classroom. A teaching resource kit is being developed which will provide the teachers with information, materials and activities to teach a 4-week unit focussing on local water issues. The resource pack enables teachers to introduce the main causes and effects of the environmental issues that the children will encounter on the trail. Having experienced the trail, students can opt to put what they have learned into practice by looking after part of their local waterway through the Adopt-a-Stream programme. This will be described below.

The Learnwell teaching unit will provide preparation and follow-up for the trail. The resource will be produced in hard copy and may be available also on the Internet. It will include:

- An introduction to the Learnwell programme (possibly using video)
- A guide to the curriculum links
- A large variety of lesson plans and extension activities

- Resources and materials to reinforce the trail experience, such as Adopt-a-tap (see below)
- Case studies of ways that schools have used the unit.

It is essential that the Learnwell programme be carefully linked into the National Curriculum. In consultation with the Focus Group of teachers who are assisting with the development of Learnwell, the following curriculum areas have been selected as the most appropriate:

- Science: Making Sense of Planet Earth and Beyond; to investigate how people's decisions and activities change planet Earth's physical environment, and develop a responsibility for the guardianship of planet Earth and its resources
- Social Studies: Resources and Economic Activity: people's allocation and management of resources

Teachers are required to teach these topics as part of the National Curriculum. Learnwell provides teachers with the resources to deliver curriculum objectives while teaching about a local and relevant water issue.

Because several environmental education teaching resources already exist, these will be adapted to Learnwell where suitable, and added to where necessary. The Council is working with other environmental education providers within the Wellington region and beyond (such as World Wildlife Fund, Karori Sanctuary, Island Bay Marine Education Centre, Department of Conservation and other regional councils), to ensure that work is not duplicated and to facilitate collaborative efforts.

Implementation: *A draft resource kit for the 4-week unit will be developed by March 2001 and the final kit will be published by December 2001. The introduction kit will be developed by December 2001.*

### **Including water conservation in Learnwell – 'Adopt-a-tap'**

A key part of caring for water is not to use it wastefully. This message is of great significance to the Water Group. The educational objectives of the Water Group coincide, in the most part, with the 5 Learnwell objectives, and have been integrated throughout the Learnwell programme (details of this are included in Appendix 2). The two divisions are therefore working closely together to ensure that both their objectives are met by Learnwell.

As part of the 4-week unit, the students will undertake a water conservation exercise. This may involve a water audit and could also include an 'Adopt-a-tap' project. Materials will be provided for the students to calculate their school or home water use and to assess where savings could be made. Through 'Adopt-a-tap' the students may then organise a water conservation project at school. As schools are charged for their water, there are opportunities here for the school to save money. Alternatively, the students may simply produce a brochure on ways to reduce water use, which they can take home to their parents. Each school is likely to vary in its uptake of any practical projects.

Implementation: *The water audit is part of the 4-week unit and will be developed, drafted and published by December 2001. An assessment of the likely uptake of 'Adopt-a-tap' will be undertaken by December 2000 and will be produced to the required extent over the following year.*

### **'Adopt-a-stream'**

A major goal of the Learnwell programme is to encourage the children to act on what they learn. The programme will provide the students with the tools to undertake a class-led environmental project in which the children themselves become powerful agents of change. People's ability to acknowledge themselves as agents of change is often lacking, and can seriously reduce the likelihood that their behaviour will change. This is recognised in the National Curriculum which states that social studies programmes in school will:

- encourage students to practise creative problem solving
- and develop in students the confidence that they can contribute to the future of their society and help to shape it. (Source: Social Studies Curriculum).

'Adopt-a stream' is a framework for providing the students with the tools and expertise to look after and monitor a stretch of stream near their school. Activities may include a litter clean-up, native tree plantings and maintenance for existing trees along the stream edges (e.g. mulching and releasing). An important part of the project will be to inform the local community about their stream and its value to the community. 'Adopt-a-Stream' is an optional project over and above the trail and 4-week unit. A primary, intermediate or secondary school can undertake an Adopt-a-stream project.

Implementation: *A draft 'Adopt-a-stream' programme and resource kit will be developed by March 2001 and the final kit published by June 2001. The project will become operational in July 2001 and will initially aim to work with one senior school and one primary school during that financial year, as stated in the Annual Plan performance indicator for this programme.*

### **Reaching a wider audience**

There are 239 primary and intermediate schools in the Wellington region. Learnwell will not be able to deliver directly to every one of these. In the first year of running the trails, the aim is to reach between 30 and 60 classes (This may include 3 classes per school). The maximum number of classes likely to be reached is 100 per annum.

Learnwell is a comprehensive programme, recognising that a one-off approach would not bring about the desired behaviour change. Given limited resources it is impossible to provide both comprehensiveness and universal access in a single programme. For this reason a balance between programme depth and audience spread will always have to be reached. Learnwell aims to get the balance right by providing a good depth of programme to a good spread of the target audience without spreading it too thinly. One of the main limiting factors relates to the staffing requirement for guiding 30 students on an outdoor learning experience. Options that are being considered include; increasing staffing numbers by involving the park rangers in trail delivery; providing teaching resources to encourage schools to visit the parks for self-guided trails; and

using the mobile facility to deliver hands-on learning experiences direct to the schools.

In order to reach a wider audience the possibility of developing a web site is being considered. Providing a web site that could be accessed by nearly all of the schools would increase the equity of the programme, reaching a higher percentage of ratepayers. (98% of New Zealand schools are now on-line).

The web site would provide teaching resources for schools that are not participating in the trails, as well as support and feedback to the schools that are participating. The web site would:

- provide teacher support, lesson plans and extension activities;
- provide home-page space for schools to document their field trip; and
- and publish case studies of schools that have undertaken Adopt-a-Stream projects.

Implementation: *If a web site were to be developed, a design company would be contracted to design the site by March 2001, and to construct the site by August 2001.*

### **The Mobile Facility**

A mobile facility will be developed to service the Learnwell programme over the next 10 years. It is expected that the mobile facility will deliver to students a mobile version of Te Papa's nature discovery centre, only more comprehensive. (Te Papa provides very little material that teaches about the necessity of maintaining healthy waterways).

The mobile facility will be capable of adapting to the needs of the different trails as they develop. It is intended that it will provide a variety of interactive models that can be used to teach about water, soil health, air quality, biodiversity and sustainability. It may be taken to schools as a sustainability roadshow, or used to provide additional learning opportunities on the field trips. In the case of bad weather prohibiting a field trip, the mobile facility can be used to deliver the learning experience direct to the school.

The mobile facility should also be able to be used on other occasions such as Harbour day, Conservation Week events, Otaki Lifestyle Farmers' Field-day, Petone Fair, Hutt River Festival and so on. It allows for flexibility in the delivery of environmental education to schools and community events throughout the region.

Implementation: *The mobile facility will be designed by June 2001 and be ready for use by February 2002.*

### **Iwi Consultation**

We hope that the maori view of water and its role in the physical and spiritual worlds will also be available for the school children to learn about through this programme. This will require working with the tangata whenua of the Region to develop appropriate material or activities. Consultation with the iwi will commence in July and will be on-going throughout the development of the programme. There is some



scope within the programme to meet the varying wishes of the iwi, but it is hoped that we will also be able to use a core set of maori views about water for all children to learn about. There are opportunities within Learnwell to promote iwi practices of guardianship (kaitiakitanga).

Implementation: *Consultation with iwi will commence in July 2000 and be on-going throughout the project. Maori components of the programme will be developed by December 2001.*

### **Evaluation of the programme**

Effective evaluation is a necessary and very useful part of any project. Because of the many factors affecting behaviour, including the introduction of new technology, market forces and cultural trends, it is difficult to make direct causal links between education programmes and their desired outcomes. This not to say that the education programmes have been unsuccessful, but rather, that their success is difficult to prove empirically due to the number of uncontrolled variables involved. There is also a time delay before the target audience becomes tomorrow's resource user.

There will be assessment measures that can be used, such as evaluation of the immediate impact of the programme (the learning outcomes), level of school buy-in, increased awareness of the Regional Council, and increased awareness of local environmental issues. Over the long term there might also be a decrease in incidents of stormwater pollution, however, it will be difficult to empirically prove that there is a direct correlation. For example, there may have been a change in technology which has also affected the state of stormwater drains (for better or worse).

Implementation: *An evaluation methodology will be designed for Learnwell by June 2001. An evaluation of the Pilot will be completed by September 2001.*

### **Communication and Marketing**

As envisaged by the Environmental Education Strategy, Learnwell presents many opportunities for communicating the work and purpose of the Council to a wide variety of audiences. We will work closely with the Communications section to ensure matters to do with branding, image, and message meet our organisational communication objectives.

Implementation: *A short report will be prepared outlining how Learnwell will be used to communicate with the community and meet Council's image and branding objectives by December 2000.*

### **Performance Measures for Learnwell implementation**

This section outlines the schedule for implementing Learnwell (see also the diagram in Appendix 1). There are four stages of project implementation which include:

- Programme Development
- Water Trail Pilot
- Refinement and Resource Development
- Launch and Implementation

The expected dates for completing the main tasks in each of these stages are listed below. Some tasks, such as the development of the mobile facility and the construction of Parks infrastructure will continue throughout all four stages.

The process of fine-tuning this programme will continue throughout 2000, and will involve a significant amount of consultation both within the Council and beyond (for example, teachers and iwi). It is therefore necessary to maintain a degree of flexibility in project planning. Nevertheless, the main milestones in the development of Learnwell can be programmed. Progress on the implementation stages will be reported on at least a six monthly basis (and in the Departmental Manager's Report).

### **July 2000 – December 2000: Stage 1 - Programme Development**

By December 2000, the following will be achieved:

- Focus group research and report completed;
- 'Adopt-a-tap' assessment completed;
- Base and 'menu' sites identified;
- Risks assessed and risk management procedures completed,
- Steering committee established and meeting regularly;
- Communications report completed;
- Timetable/budget for infrastructure works completed.

### **January 2001 – June 2001: Stage 2 – Water Trail Pilot**

By June 2001, the following will be achieved:

- Water trail piloted with 5 – 10 schools;
- Draft 4 week unit resource kit (including water audit) completed;
- Mobile facility designed;
- 'Adopt-a-stream' resource kit finalised;
- Evaluation methodology designed;
- Web site designed;
- First stage of trail infrastructure completed (timetable to be determined).

### **July 2001 – December 2001: Stage 3 - Refinement and Resource Development**

By December 2001, the following will be achieved:

- Evaluation of pilot completed;
- 4 week unit resource kit (including water audit) completed;
- Maori components of the programme developed;

- Introduction kit completed;
- Web site constructed;
- Second stage of trail infrastructure completed (timetable to be determined);
- Learnwell programme promoted to schools.

#### **January 2002 - June 2002: Stage 4 – Launch and Implementation**

By June 2002, the following will be achieved:

- Learnwell launched (February 2002);
- Field trips fully operational;
- Mobile facility operational;
- One primary and one secondary school participates in ‘Adopt-a-stream’ programme.

**Appendix 1 - Timeplan Diagram**

## **Appendix 2 - Working with the Water Group.**

### **How and where the water conservation objectives will be delivered within the Learnwell programme.**

#### **A) Appreciation of water as a resource – benefits of quality and of conservation**

- Water, water everywhere – an activity that looks at how the earth's water resources are divided up ie 97% salt water, 2% ice caps, 1% available freshwater. **(Trail)**
- Water as part of the web of life – an activity that shows that all living creatures (including humans) require water for survival. **(Trail)**
- Water quality monitoring - a series of experiments to test water quality. **(Trail)**
- Pollution in the foodchain – a game that demonstrates how pollution accumulates in the foodchain, harming the various creatures (including humans) on route. **(Trail)**

#### **B) Understanding of how water travels from the sky to the tap (water cycle, collection, treatment and distribution).**

- Construct a Terrarium – an experiment that shows the water cycle in action. **(Pre-trail)**
- Follow a water molecule – a game that demonstrates the various parts of the water cycle by children becoming a water molecule and responding to the directions set on a huge dice. **(Pre-trail)**
- Interactive model or video of a treatment plant – shows children how water is treated. **(Pre-trail or Trail)**
- Water filtration challenge – a team challenge to construct the best water filtration system from a variety of objects and materials. **(Trail)**
- Water delivery challenge – a team challenge to transfer water from Point A to B by constructing a simple gravity-fed water delivery system from a variety of objects. **(Trail)**

#### **C) Knowledge of the costs and choices in water management (water is not free)**

- Bathtub Challenge - a team challenge to ration one bathtub of water according to priority uses. **(Pre-Trail)**
- Spot the leak and calculate the costs – a homework activity **(Pre-Trail)**

#### **D) Ability to monitor water consumption (in total and for different purposes).**

- Who uses all the water? – a photo interpretation exercise **(Trail)**
- What would happen if too much water were used? – an interactive model of groundwater (aquifers), and surface water (rivers and lakes) showing effects of water depletion **(Trail)**

**E) Water conservation behaviour being adopted and sustained in the school and transferred to home (including garden water conservation).**

- Water-use audit – an audit of water-use at school/home (**Pre-trail**)
- Brainstorm rules for wise-water usage – this is just to prepare and encourage the children to initiate an Adopt-a-tap project. (**Trail**)
- Adopt-a-tap activities: design a project to reduce water-use. Measure before and after water-use. How much water was saved? How much money would this have cost? (**Follow-up**)