

# DO YOU KNOW

HOW MUCH WATER LOSSES ARE COSTING YOU?

Not all water losses are this obvious.

Up to a third of system input can be lost through leaks. This is probably costing you money.

## INSIDE:

Software and manuals with the latest secrets for managing water losses.



*Wide Bay Water*  
Corporation



Queensland Government  
Environmental Protection Agency

# WHY WATER LOSS MANAGEMENT IS IMPORTANT TO AUSTRALIAN WATER BUSINESSES

Water businesses that have implemented effective water loss and pressure management are beginning to:

- Save money by delaying the need for costly new infrastructure.
- Extend the life of their infrastructure by reducing burst frequency and infrastructure fatigue.
- Save money on the running costs of water systems.
- Recover all the revenue they are entitled to.
- Save our unique natural environment.

**DON'T MISS THIS WATER & MONEY SAVING OPPORTUNITY FOR YOUR BUSINESS. ORDER NOW!**

## POTENTIAL SAVINGS

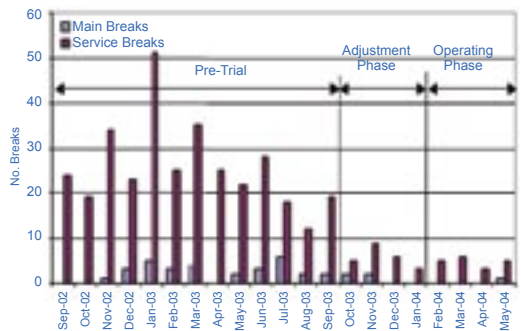
Some recent water loss savings that have been identified by water businesses in Australia are:

WATER ORGANISATION	VOLUME ML - REAL LOSSES	POTENTIAL FINANCIAL SAVINGS/YEAR
Inland City	2076 (13.4%)	\$1,230,400
Metropolitan Growth Corridor City	2937 (14.8%)	\$2,026,500
Rural North City	1650.1 (12.4%)	\$478,500
Small Rural Local Government	263.0 (21.1%)	\$157,800
Small Mining City	612.6 (18.7%)	\$183,800

## PRESSURE MANAGEMENT EXTENDS ASSET LIFE

A recent analysis in a large coastal Australian city estimated that effective pressure management had the potential to cut the operations and maintenance budget by between \$1.8 million and \$2.8 million.

The following graph shows how mains bursts were eliminated and service breaks significantly reduced.



# GOVERNMENT REQUIREMENTS FOR WATER LOSS MANAGEMENT

In an effort to stem these losses and improve sustainable water use, Government regulators are looking at legislative measures to require water businesses to report on and better manage water loss from their systems:

- Recently the Queensland Government has decided to amend the Water Act 2000 to require local governments and water authorities to prepare System Leakage Management Plans (SLMPs).
- The Victorian Government requires water authorities to report regarding their progress to improve water loss performance via the International Water Association's Infrastructure Leakage Index.
- A key requirement of the National Water Initiative, endorsed in 2004 by state premiers and the Prime Minister, is a commitment to address water loss management.

With these moves underway, there is an urgent need for water managers to gather information and tools for implementing such requirements.

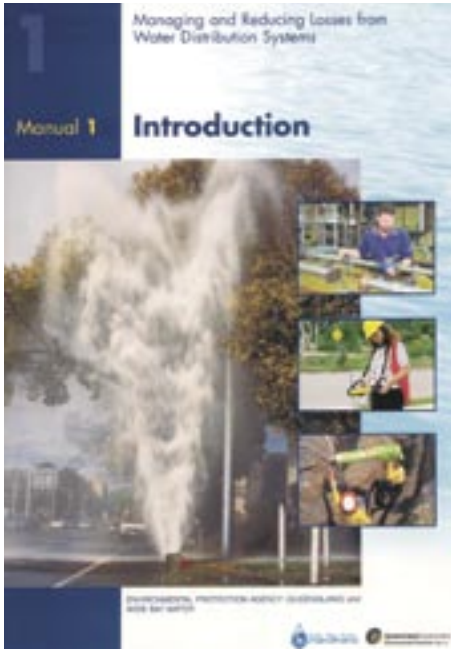
To assist Australian Water Businesses minimise water losses, increase system life and ultimately save money, Wide Bay Water Corporation has developed a range of educational resources and tools.

The available tools include a series of detailed water loss manuals and a number of software programs that allow water managers to analyse their systems and identify the types of water loss programs they should be implementing.



**MANAGING  
WATER LOSSES  
MAKES GOOD  
BUSINESS SENSE!  
SEND FOR YOUR  
SOFTWARE &  
MANUALS  
TODAY.**

# WATER LOSS MANUALS



## MANUAL 1 INTRODUCTION TO MANAGING AND REDUCING WATER LOSSES FROM WATER DISTRIBUTION SYSTEMS

This manual provides water practitioners with a detailed overview of the issues that surround managing and reducing water losses from water distribution systems.

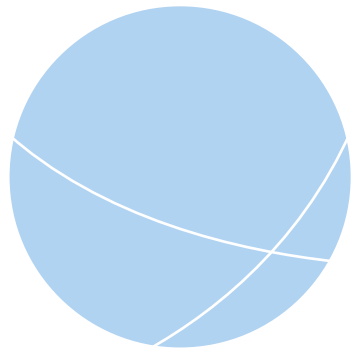
If you are starting the process of managing losses in your network then this manual is an important reference point. In an easy to read format it provides a detailed overview which discusses the issues of demand management, water loss management and pressure control.

Readers are given key tools such as:

- A ten step process for reducing and managing water losses.
- A detailed list of relevant reference points including international websites.
- A list of technology providers in the Australasia region.

This manual is based around the principles developed by the International Water Association's Water Loss Task Force and provides readers with an easy to follow summary of key terminology and appropriate strategies which can be implemented in your business immediately.

Your Investment – \$99+GST



# WATER LOSS MANUALS

## MANUAL 2 WATER AUDITS

One of the first steps in implementing a successful water loss management program is to understand where all the water in your distribution system is going.

The Water Audit manual provides a detailed blueprint to assist water managers to undertake a water audit of their entire distribution system. By following the advice contained in this manual water managers will discover how to undertake an accounting process which accurately identifies:

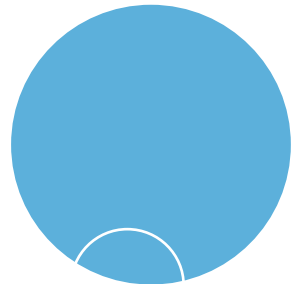
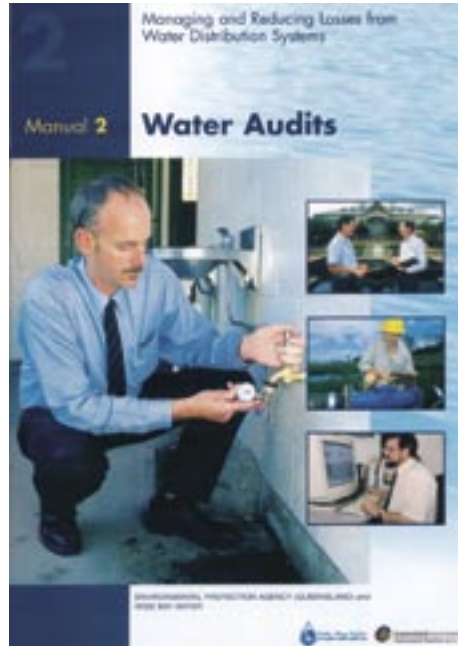
- The total volume of water entering the system.
- The amount of authorised consumption (billed, unbilled and un-metered).
- Water losses (apparent and real).

This manual:

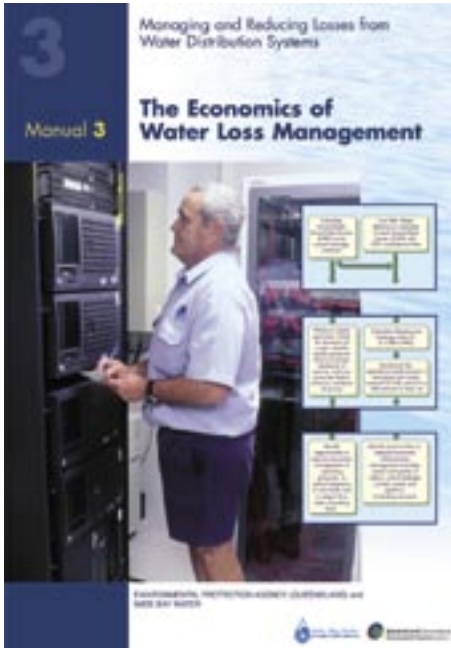
- Is packed full of advice from experienced water managers around the world.
- Includes practical checklists and sheets to make the process easy.
- Contains important information on customer water auditing.

If your water business wants to account for water more accurately then this is a manual that you need to have in your library.

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# WATER LOSS MANUALS



- How often you should be implementing active leakage control programs in your water network.
- Techniques for correctly evaluating economic benefit.
- How to justify water loss programs to financial managers and accounting staff.
- How to correctly report the economic benefits of your demand management activities.

Whilst the manual focuses on economic evaluation, it has been written from an engineering perspective and provides a useful tool to assist water managers to gain support for demand management programs from financial staff and non-technical CEO's.

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## MANUAL 3 THE ECONOMICS OF WATER LOSS MANAGEMENT

If you want to identify which water loss management strategies are cost effective in your business then this manual contains all of the information you need.

This manual gives you a range of tools, checklists and formulas that help you to identify:

- The economic level of leakage in your water supply network.
- What water loss interventions are appropriate for your network.

**CALCULATE  
THE ECONOMICS  
SIMPLY.  
SEE DETAILS FOR  
FASTCALC ON  
PAGE 14**

# WATER LOSS MANUALS

## MANUAL 4

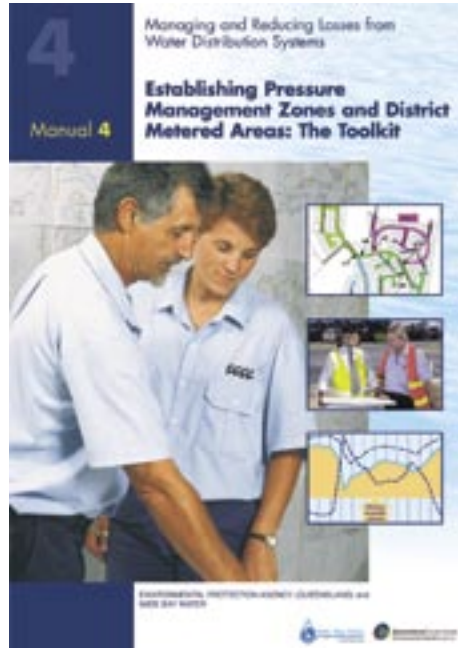
### ESTABLISHING PRESSURE MANAGEMENT ZONES AND DISTRICT METERED AREAS: THE TOOLKIT

In Australia, with its relatively young infrastructure, many water businesses are discovering that a key demand management tool is pressure management.

This manual provides Australian water managers with the information and tools to effectively establish pressure management zones and district metered areas which put them in control of their water network. Issues discussed include:

- Designing district metered areas.
- Measuring water flow accurately.
- Understanding the pressures that are operating in your system.
- Using pressure management to minimise water loss whilst maintaining high customer service standards.
- Zero Pressure Testing.
- Identifying the critical pressure point in the network.
- Using pressure management to increase asset life and reduce burst frequency.

This manual is packed with a range of important checklists and other practical tools which will assist you as you implement your pressure management strategies.



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HAVING  
TROUBLE  
SECTORISING YOUR  
NETWORK?  
GET SOME  
SOFTWARE TO  
HELP. SEE PAGE  
15

# WATER LOSS MANUALS

## MANUAL 5

### ADVANCED PRESSURE MANAGEMENT AND PRV SELECTION

The advanced pressure management and PRV selection manual provides water industry professionals with the latest information on how to implement effective pressure management strategies to reduce water loss and cut burst frequency.

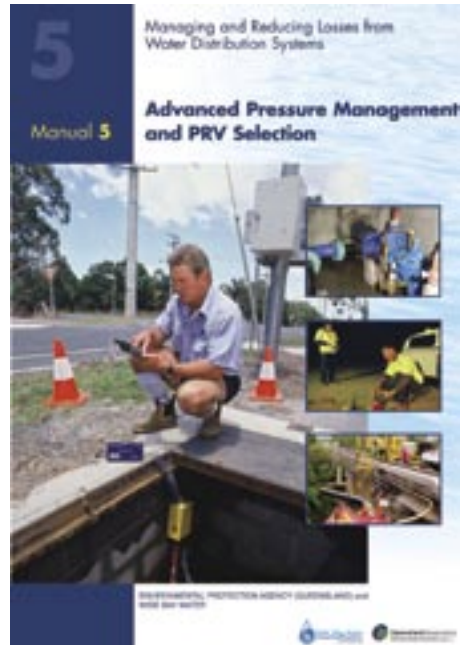
Key topics covered in this manual include:

- Managing customer expectations.
- Using pressure management to reduce consumer consumption.
- Flow Modulated Pressure Control.
- Using computer software to accurately predict water and money savings from pressure management.

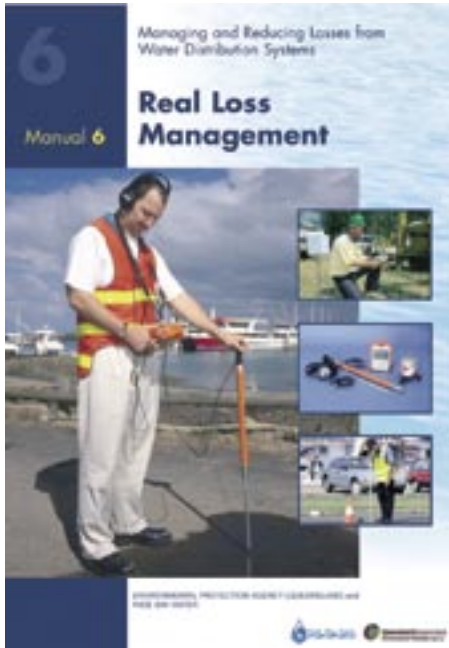
Around the world water professionals are beginning to discover the significant benefits in asset management possible through effective pressure management. This manual contains the latest information available and is something which no modern water manager should be without.

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FOR  
PRESSURE  
MANAGEMENT  
SAVINGS  
SEE PAGE 2



# WATER LOSS MANUALS



## MANUAL 6 REAL LOSS MANAGEMENT (Leak Detection and Control Methodologies)

If you are in the process of implementing strategies and policies to manage real losses in your water business then this manual is a “must have” reference point. It has been written by a team of practitioners that have implemented practical leakage detection and repair programs throughout the world.

The Real Loss Management Manual covers a myriad of key topics including:

- Managing and measuring real losses.
- Secrets behind successful active leakage control programs.
- How to use the latest equipment to enhance the outcomes of your active leakage control programs.
- Managing and designing infrastructure to minimise real losses.
- Creating a culture of operational excellence.
- Enhancing the speed and quality of your repair programs.

This manual also includes a detailed 50-page catalogue listing key technical data and comparison information for leak detection equipment that is currently available. If you are in the process of purchasing equipment for your business then this catalogue is an important reference point which will save you time, effort and money.

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**CAN'T FIND  
LEAKS IN YOUR  
SYSTEM?  
THIS MANUAL  
GIVES YOU THE  
SECRETS TO  
SUCCESS!**

# WATER LOSS MANUALS

## MANUAL 7 MANAGING APPARENT LOSSES

This manual provides water managers with a range of strategies to:

- Reduce water theft.
- Ensure meter fleets record water usage accurately.
- Ensure all customers pay for the water they use.

If your water business is looking to better manage data collection systems and minimise the amount of water which you are not receiving revenue for, then the material contained in this manual may be of importance.

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ARE YOU  
BEING PAID  
FOR ALL THE  
WATER YOU  
PRODUCE?



# WATER LOSS MANUALS

## MANUAL 8

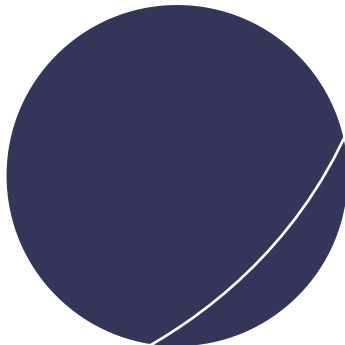
### CASE STUDIES IN WATER LOSS MANAGEMENT

This manual is packed with more than 90 pages of practical case studies of water businesses that have implemented water leakage and demand management projects.

These case studies have been gathered from Australian businesses and several countries throughout the world including Japan, United Kingdom, and South Africa.

Access to these case studies gives water managers the opportunity to tap into international best practice experience without leaving their desks.

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# WATER LOSS MANUALS

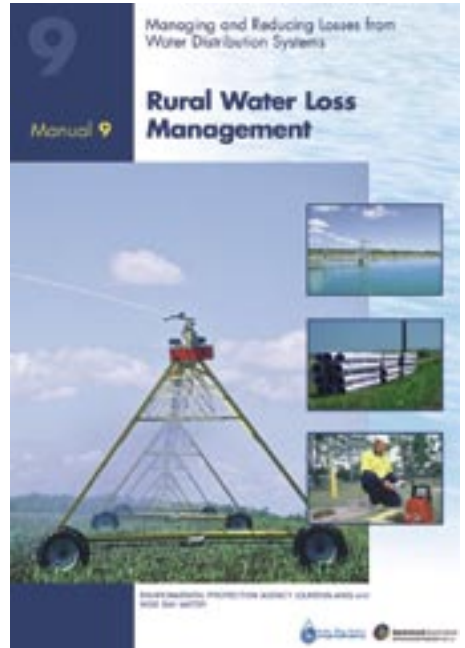
## MANUAL 9 RURAL WATER LOSS MANAGEMENT

Small rural local governments and water businesses face the same problems of water loss as experienced by their city cousins. However, typically, the time and resources to deal with these issues are less.

This manual provides a simply “recipe book” solution suitable for small water businesses with less than 3000 water connections. The information comes with easy to follow checklists, graphs and maps, and uses equipment which is available in any water company. If you are a CEO or a water manager in a small water business this is a must-have guide.

The manual also touches on on-farm water losses and general water efficiency – providing a basis for water managers to work with the farming community to reduce rural water losses.

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# WATER LOSS MANUALS

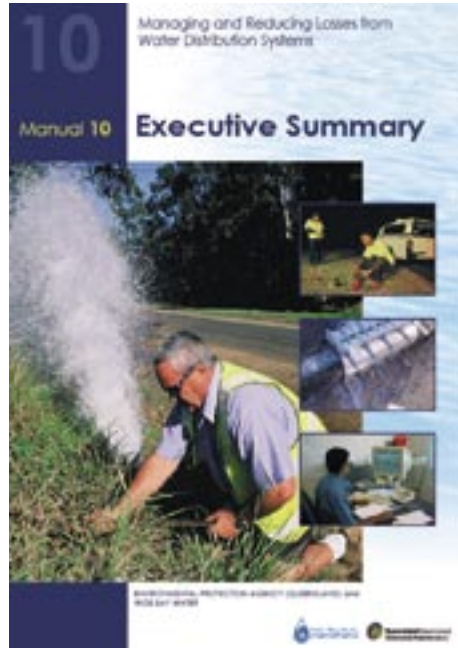
## MANUAL 10 EXECUTIVE SUMMARY

This manual provides a comprehensive overview of the key issues surrounding water losses, and a summary of the techniques and principles for managing and reducing losses from distribution systems, as detailed in the first nine manuals.

Key action plans from the other manuals have been incorporated into one easy-to-use section in a format that provides a quick reference guide and checklist for staff working in the field. A detailed list of software for calculating losses and determining appropriate actions is also included.

This is a one-stop-shop for busy CEOs and managers wanting a greater understanding of the issues and solutions, to make appropriate decisions for their water business.

Your Investment – \$99+GST



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# WATER LOSS SOFTWARE

## FASTCALC

To assist water companies attack water loss issues, the International Water Association (IWA) has introduced the best practice Water Balance and a number of key Performance Indicators.

The FASTCALC software has been designed to allow Australian water managers to conduct an evaluation of their system and to identify the type of management interventions that they should implement to begin saving water and money.

FASTCALC is an Excel Workbook that has been customised for Australian conditions. It processes system information entered by the user so that:

- Components of the IWA standard Water Balance can be calculated using 95% confidence limits.
- Where 95% confidence levels of 'output' data are considered to need improvement, the 'input' data requiring the most action can be easily identified.
- Valuations in AUD/kilolitre can be assigned to all Non-Revenue Water (NRW) components, allowing them to be costed in AUDs.
- Unavoidable Annual Real Losses (UARL) can be calculated for individual systems with more than 5000 service connections, more than 25 metres pressure, and more than 20 service connections per km of mains.

- Unavoidable background leakage can be calculated for any system, but is more useful for systems with fewer than 5000 service connections.
- An Infrastructure Leakage Index can be calculated to enable water businesses to compare their performance with other similar authorities in Australia and around the world.

The FASTCALC software is an ideal tool to enable water businesses to quickly and efficiently identify whether they have a water loss problem and the key areas where action needs to occur. If you are interested in reducing system losses and beginning to save money then Fastcalc is an important element of your toolkit.

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# WATER LOSS SOFTWARE

## SECTOR ANALYSIS

This software enables water companies to investigate opportunities for pressure management and more intensive active leakage control in their system.

Sector Analysis is an Excel Workbook that can identify for managers whether there is more financial benefit in carrying out leakage control, pressure reduction, or both. It has been customised for Australian conditions and is available from Wide Bay Water Corporation.

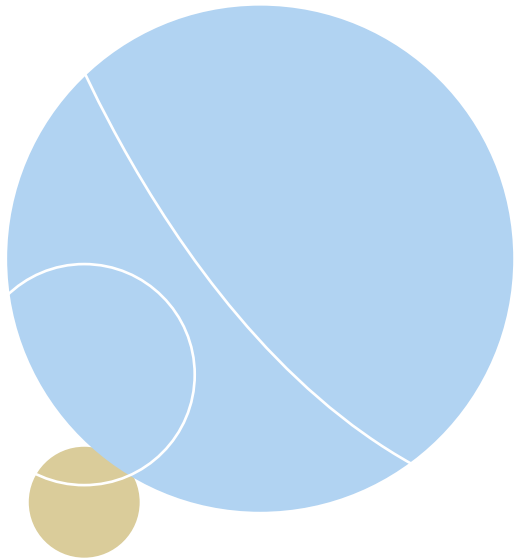
Based on the internationally-accepted concepts for detecting leakage - BABE (Bursts and Background Estimates) and FAVAD (Fixed and Variable Area Discharge) – Sector Analysis computes a range of measurements from a sector to assess whether there is any significant, potentially recoverable leakage within a zone.

It can be used to:

- Assess whether it is worthwhile to undertake a leak detection survey to locate unreported leaks.
- Consider the pressure management option in more detail (based on a payback period approach).
- Conclude whether any immediate leakage management or pressure management action is required.

The Sector Analysis software tells managers which work is worthwhile, and justifies the need for the work. It is a critical tool for those managers seeking a solid financial appraisal of water loss management options.

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A range of other software is also available to help with different aspects of water loss management. For further information about these packages, tick the information box on the following order page, and fax it back to Wide Bay Water Corporation.

# ORDER FORM

To take advantage of the opportunities offered through water loss management simply indicate below which of the resources you wish to purchase and fax the order form to Wide Bay Water Corporation: Fax (07 4125 5118).

Name: \_\_\_\_\_

Company: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone: \_\_\_\_\_ (Work) \_\_\_\_\_ (Mobile)

Email: \_\_\_\_\_

Please tick which products you wish to purchase. (Delivery will occur within seven days of receipt of your order)

PRODUCT	YOUR PURCHASE TOTAL (EXC. GST)
<b>Manual 1</b> Introduction to Managing and Reducing Water Losses from Water Distribution Systems (\$99)	
<b>Manual 2</b> Water Audits (\$189)	
<b>Manual 3</b> The Economics of Water Loss Management (\$189)	
<b>Manual 4</b> Establishing Pressure Management Zones and District Metered Areas: The Toolkit (\$189)	
<b>Manual 5</b> Advanced Pressure Management and PRV selection (\$189)	
<b>Manual 6</b> Real Loss Management – Leak Detection (\$189)	
<b>Manual 7</b> Managing Apparent Losses (\$99)	
<b>Manual 8</b> Case Studies in Water Loss Management (\$129)	
<b>Manual 9</b> Rural Water Loss Management (\$199)	
<b>Manual 10</b> Executive Summary (\$99)	
<b>I would like the set of 10 manuals</b> (\$1275)	
<b>FastCALC</b> Software (\$390)	
<b>Sector Analysis</b> (\$390)	
Add Postage and handling	\$30
<b>TOTAL</b>	
+ GST	
<b>TOTAL PAYMENT DUE</b>	

Payment method (please tick):

Government Order

Cheque

Credit Card

Bankcard

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MasterCard

No: \_\_\_\_\_ Expiry Date: \_\_\_\_\_ / \_\_\_\_\_

Name on card: \_\_\_\_\_

Amount authorised: \$ \_\_\_\_\_

Signed: \_\_\_\_\_ Date: \_\_\_\_\_

Credit Card Authority: I authorise Wide Bay Water Corporation or its agents to charge the stated amount on my credit card as outlined above and enclose my signature for this authorisation. I also acknowledge that Wide Bay Water Corporation is not required to produce a copy of a signed and validated sales voucher to obtain payment.

Return this form to: Wide Bay Water Research and Training Centre  
PO Box 5499, Hervey Bay QLD 4655  
Fax 07 4125 5118

Yes, I'd like further information on other software packages.

Alternatively, you can email your request to: davidw@widebaywater.com.au