

Introduction to the Water Management System (WMS)

History

As early as the 1980s the Water Quality Management function of the Department recognised the need for an integrated information system. The green light was given for the development of such a system in 1996. Some of the critical success factors for the system were:

- Standardisation of the business practices of Water Quality Management throughout the Department;
- Easy availability of the data to all users on their desktop computers

The system should be able to cover the following business areas:

- Monitoring
- Water Quality Assessment
- Water Quality Catchment and Resource Management
- Point Source Management
- Non-Point Source Management
- Water Quality Education and Awareness
- Best Water Quality Practices and Technology

The integration of the following smaller systems that were used in different parts of the Department has happened within the WMS:

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|------------------------|----------------------------------|
| • QUALDB | Hydrological Services (Hydro) |
| • PC-Polmon | Waste Discharge & Disposal (WQM) |
| • Water Care Works | Waste Discharge & Disposal (WQM) |
| • PERMEX | Waste Discharge & Disposal (WQM) |
| • Muniwater | Waste Discharge & Disposal (WQM) |
| • WaterMarque | Resource Quality Services (IWQS) |
| • WQIMS (Gibs-O-Meter) | Resource Quality Services (IWQS) |

The WMS main sub-systems

WMS consists of three main sub-systems. These are the:

- *Monitoring Management Subsystem*, which is used to manage resource quality operational monitoring on a national scale
- *Water Resource Management Subsystem*, which is used to achieve the sustainable use of water and the protection of the quality of the water resource. At the same time, this subsystem is also utilised to apply source control. Water Quality Data exporting from WMS to other systems and users is also managed through this subsystem
- *GIS subsystem*, which is used to geographically display Water Resource information in order to assist in interpreting and determining the quality and the status of the water resource.

Data is available within minutes after update at regional servers and central servers.

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Some WMS statistics	Year 2003	Year 2007	Year 2012
Number of monitoring points registered on WMS	56 641	63 270	66 088
Number of monitoring points that have released results	50 215	55 343	57 788
Number of active resource quality monitoring programmes registered on WMS	199	488	514
Number of active monitoring points used in consolidation	2 711	3 567	4 566
Number of monitoring variables registered on WMS	226	538 Fundamental 14 Derived	989 fundamental 16 Derived
The number of Analysis Methods registered on WMS for these variables	1 353	2 085	3 471
The number of executive Laboratories registered on WMS	85	145	
The number of monitoring actions provides for monitoring management	29	30	31
Number of executive (operational) monitors registered on WMS		332	376
Number of released Results	10 331 196	13 039 083	19 792 240