



SWIM Manual

Revised July 2012

STATEWIDE WATER INFORMATION MANAGEMENT SYSTEM

www.swim.qldwater.com.au

Published by: Queensland Water Directorate, Brisbane,
Australia. www.qldwater.com.au
Authors: R. Souter, D.M. Scheltinga and S. Walding
Date: 13 July 2012

Table of Contents

1	Reporting and SWIM	5
1.1	SWIM purpose.....	5
1.2	SWIM functionality.....	6
1.2.1	Access to data in SWIM	6
1.2.2	Data transfers to and from SWIM	6
1.3	Reporting requirements	7
1.3.1	Queensland Government water data.....	7
1.3.2	National Performance Report (NPR)	8
1.3.3	Bureau of Meteorology (BoM) – Water Resources Information.....	8
1.3.4	Australian Bureau of Statistics	10
	SWIM Submission dates.....	11
	Data required	12
1.1	Indicators.....	12
1.1.1	Spatial resolution of data: Schemes and sites.....	13
1.1.2	Temporal resolution of data.....	14
1.1.3	BoM quality code and validation status	14
1.2	Sources of data.....	15
1.3	Audit information: NPR audits	15
2	Metadata (requirements and submission)	16
2.1	Metadata requirements for all SWIM users.....	17
2.1.1	Organisation (WSP) information	17
2.1.2	Schemes metadata	17
2.2	Metadata requirements for BoM reporting.....	18
2.2.1	Additional metadata for schemes	19
2.2.2	Major storages metadata	19
2.2.3	Minor storages metadata	20
2.2.4	Groundwater bores metadata.....	21
2.2.5	Meteorological station metadata.....	22
2.2.6	Watercourses (names) metadata.....	23
2.2.7	Watercourses – level and flow metadata	24
2.2.8	Watercourses – water quality monitoring sites	25
2.2.9	Water quality indicators.....	25
2.2.10	Sewage discharge point metadata	26
2.2.11	Stormwater discharge point metadata	27
2.3	Submitting metadata to SWIM online.....	28
3	Data Submission procedures	29
3.1	Options for collating and delivering data to SWIM.....	29
3.2	General rules for submitting/entering SWIM data	30
3.3	SWIM online	30
3.3.1	Accessing SWIM.....	30
3.3.2	Entering data using SWIM Webforms	31
3.4	SWIM templates	34
3.4.1	Types of SWIM templates	34
3.4.2	Downloading SWIM templates.....	34
3.4.3	Structure and format of data entry worksheet in SWIM templates	35
3.4.4	Entering data into SWIM templates.....	38
3.4.5	Submitting SWIM templates	46
3.4.6	Notification of submitted data	47
3.4.7	Quality Control report	48
3.5	WSP database export to SWIM	48

3.5.1	SWIM horizontal-format CSV import format – single-indicator.....	49
3.5.2	SWIM horizontal-format CSV import format – multi-indicator	51
3.5.3	SWIM horizontal-format CSV import format – water-quality.....	54
3.6	Finalising data entry	58
4	Accessing & modifying data in SWIM	58
5	Additional instructions: NPR data.....	59
6	SWIM Reports.....	60
6.1	Dataset reports.....	60
6.2	Administration reports.....	60
6.3	Analysed data: SWIM comparative report.....	61
6.3.1	Indicators in the comparative report	61
6.3.2	Comparison groups	63
7	Appendices	64
	Appendix A: BoM Water Regulations definitions	64
	Appendix B: BoM’s Water Data Transfer Format (WDTF)	69
	Appendix C: BoM accepted Geodetic Grid References.....	69
	Appendix D: WSP ID numbers for use as ftp username.....	71

1 Reporting and SWIM

1.1 SWIM purpose

SWIM: State-wide Water Information Management

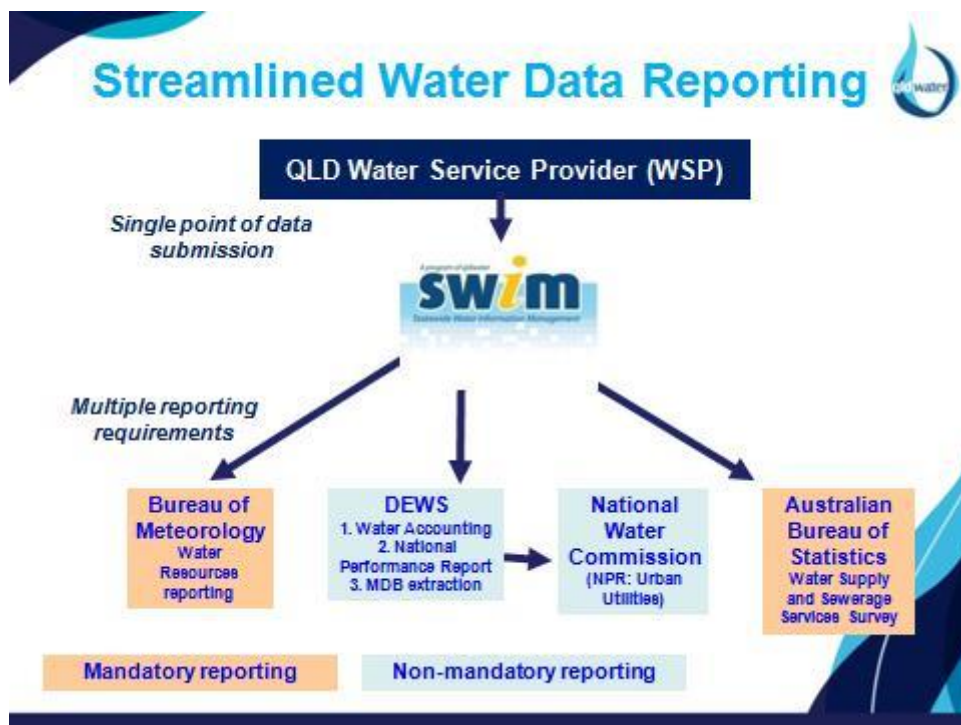
The SWIM project was developed to make it easier for Queensland's Water Service Providers (WSPs) to supply data requested by State and Commonwealth Governments, and to help them get the greatest value from their own data.

Queensland WSPs are required to submit data to multiple government agencies. Prior to SWIM, WSPs were required to submit data on many occasions throughout the year, to many different government departments (or different sections within departments). Often these data requests were for the same or similar data.

SWIM is a significant advancement in the challenge to streamline water reporting by WSPs. As shown in the figure below, currently SWIM streamlines the reporting for the Queensland Government Department of DEWS, The National Performance Report (for the National Water Commission) and Bureau of Meteorology (*Water Regulations Act 2008*). SWIM also provides the majority of data required by the Australian Bureau of Statistics for their National Water Account.

From the 2007-2008 reporting year, SWIM replaced the direct submission of water data to the Queensland Government. SWIM offers an alternative submission method for NPR reporting, BoM reporting and ABS reporting.

As the SWIM system provides benefits to both WSPs and recipient organisations, the additional reporting of water data that is not yet streamlined through SWIM can (and will) be included.



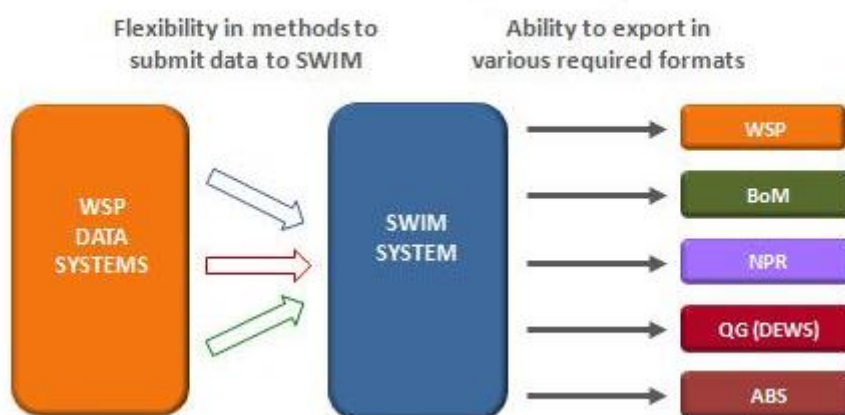
1.2 SWIM functionality

1.2.1 Access to data in SWIM

At present, SWIM is designed to receive data (from Qld WSPs), and to forward required subsets of that data to specified recipients (to meet reporting requirements). WSPs that submit data to SWIM can access all data they have submitted. They cannot access the data of any other WSP (although a comparative report summarising other WSP data is available – see SWIM reports section).

SWIM performs the role of “data broker” – receiving data from WSPs and forwarding on required data to recipient organisations, in the format they require. The recipient organisations cannot interrogate or access raw data in SWIM.

SWIM = data broker on behalf of WSPs, not an open-access datahouse



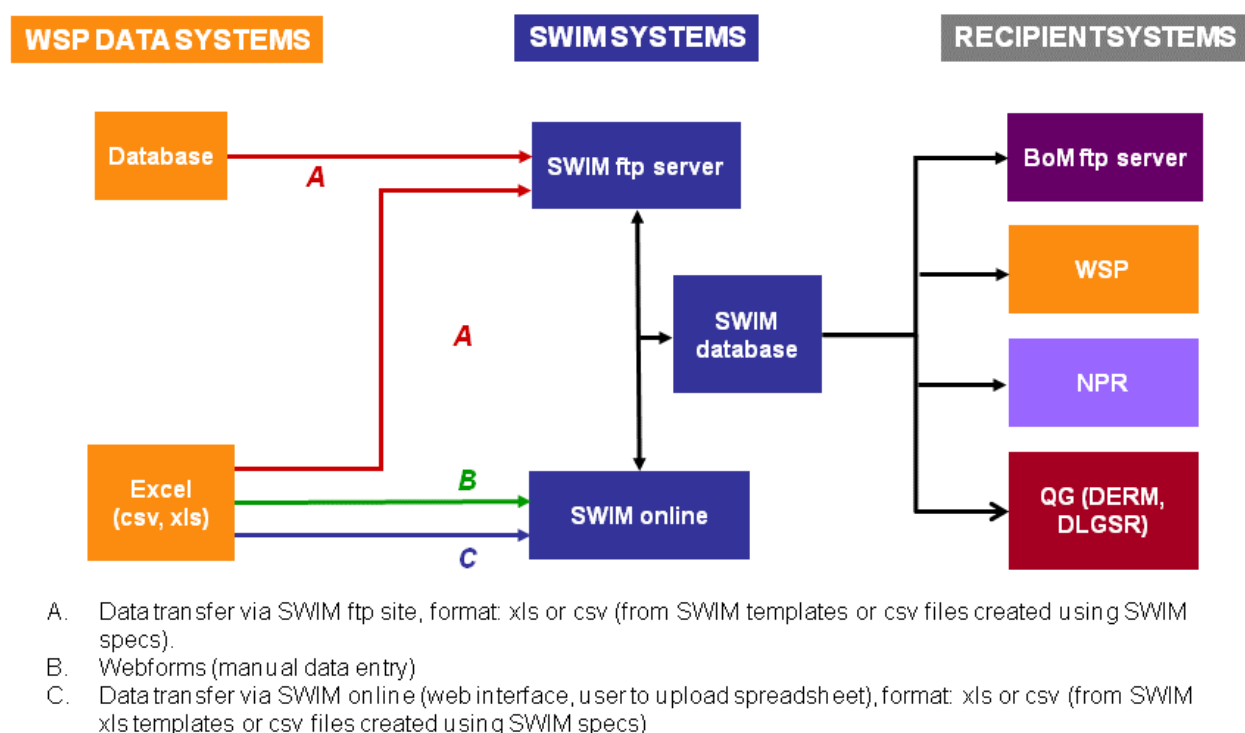
Although all data submitted into the SWIM database remains there in perpetuity, SWIM is not designed as a data warehouse.

As only WSPs report water data via SWIM, there are no other users. There is a guest login which gives interested parties access to the SWIM online website, where they can only view dummy data submitted under the guest account.

1.2.2 Data transfers to and from SWIM

SWIM has been designed to receive data from WSPs by a range of methods, to allow for the varying technological capacities and data systems used by WSPs (refer to figure below).

Data transfer pathways to and from SWIM.



1.3 Reporting requirements

The initial version of SWIM was designed to streamline reporting of five major reports (see Table 1). Table 1 also summarises the number of indicators required to satisfy complete reporting for each of the five reports, and demonstrates the benefits of streamlined reporting through SWIM.

Report	Number of Indicators required/requested
Queensland Government Water Data: DERM	243
Queensland Government Water Data: DIP	280
Bureau of Meteorology (BoM) (some WSPs only)	46
National Performance Report (NPR) (some WSPs only)	306
Australian Bureau of Statistics	47
Total	922
SWIM total (which removes for duplicate indicators/reporting)	260

The general requirements of each of these reports are outlined below.

1.3.1 Queensland Government water data

For many years the Queensland Government departments with responsibilities for natural resources and local governments have requested water data annually from all Queensland local government

water service providers. Although the submission of this data is not mandatory (it is not enforced through legislation, to date), submission rates of this data have traditionally been high.

The Department of Energy and Water Supply (DEWS) use the water data in their annual water accounting activities, and water resource assessment and planning.

The timing of this reporting has evolved to coincide with that of the National Performance Report – both require data once per year, representing the previous financial year. This is usually due around September of each year.

1.3.2 National Performance Report (NPR)

The “National Performance Report: urban water utilities” delivers on the commitment of the Commonwealth, States and Territories in the National Water Initiative to ‘report independently, publicly, and on an annual basis, benchmarking of pricing and service quality for metropolitan [and] non-metropolitan... water delivery agencies.’

The report builds on WSAAfacts which was a benchmarking report for major utilities above 50,000 connected properties produced by the Water Services Association of Australia, from 1996 to 2005. The first National Performance Report was produced in 2005-06 and introduced non-major utilities with 10,000 properties or more. In 2006-07, the report introduced a ‘Comparative Analysis’, which provided commentary and analysis on 29 selected performance indicators.

The NPR remains focussed on the larger WSPs. In Queensland participation in the NPR by large WSPs is not mandatory, but for the purposes of industry development and WSP management, WSPs are strongly encouraged to participate, and many do.

Data representing each financial year is submitted around September of each. The final report is released to the public around February of the following year.

1.3.3 Bureau of Meteorology (BoM) – Water Resources Information

Purpose

To secure the long term water supply of all Australians, the Australian Government has announced *Water for the Future*, a \$12.9 billion water investment program. This includes \$450 million for the ‘Improving Water Information Program’ administered by the Bureau of Meteorology and backed by the Commonwealth *Water Act 2007* and key stakeholders.

The Bureau will enhance the quality and utility of Australia's water information by producing the National Water Account, supported by a truly national water monitoring and data collection network. The program includes development and maintenance of an integrated, national water information system freely accessible to the public.

Water Regulations 2008

To support BoM in this expanded role, a new piece of legislation was enacted in 2008: *Water Regulations Act 2008*.

The Water Regulations 2008 commenced on Monday 30 June 2008 and were amended in May 2012. The Regulations individually name over 200 persons who are required to give the Bureau specified water information that is in their possession, custody or control. You can go to the '[Water Regulations Online](#)' tool to find out if your organisation is named in the Regulations.

BoM's expanded responsibilities under the *Water Act 2007* are:

- Issuing national water information standards
- Collecting and publishing water information
- Conducting regular national water resources assessments
- Publishing an annual National Water Account
- Providing regular water availability forecasts
- Giving advice on matters relating to water information
- Enhancing understanding of Australia's water resources

More information about the regulations is available at the BoM's website at:

<http://www.bom.gov.au/water/regulations/index.shtml>

Who is required to report what?

Not all WSPs are required to report data to BoM. The regulations name various organisations from around Australia as being required to report various types of water information. These organisations include local government water service providers, as well as regional natural resource management groups, water authorities, and state governments. The following Queensland Councils/WSPs are named in the regulations:

- Allconnex Water (Category F)
- Brisbane City Council (Category F, Category H)
- Burdekin Shire Council (Category H)
- Cairns Regional Council (Category D, Category F, Category H)
- Cassowary Coast Regional Council (Category H)
- Cloncurry Shire Council (Category D)
- Croydon Shire Council (Category D)
- Fraser Coast Regional Council (Category F, Category H)
- Gladstone Area Water Board (Category D, Category F)
- Gold Coast City Council (Category F, Category H)
- Hinchinbrook Shire Council (Category H)
- Ipswich City Council (Category F, Category H)
- Logan City Council (Category F, Category H)
- Mackay Regional Council (Category H)
- Moreton Bay Regional Council (Category H)
- Mount Isa Water Board (Category D)
- North Burdekin Water Board (Category D)
- Queensland Bulk Water Supply Authority (Seqwater) (Category D, Category F, Category H)
- Queensland Urban Utilities (Category F)
- Redland City Council (Category F)
- Rockhampton Regional Council (Category D, Category F)
- Scenic Rim Regional Council (Category H)
- South Burdekin Water Board (Category D)
- South Burnett Regional Council (Category D)
- Southern Downs Regional Council (Category D, Category H)
- Sunshine Coast Regional Council (Category F, Category H)
- SunWater (Category D, Category E, Category F, Category H)
- Toowoomba Regional Council (Category D, Category F)
- Torres Shire Council (Category D)
- Townsville City Council (Category D, Category F, Category H)
- UnityWater (Category F)
- Western Downs Regional Council (Category H)

- Whitsunday Regional Council (Category H)
- Wide Bay Water Corporation (Category D, Category F, Category H)

The data required from local government WSPs by BoM includes from watercourse quantity and quality, groundwater data, meteorological data, water storage data, water sources and uses and water use management. The data have varying requirements with respect the frequency of sampling/collection and reporting. Data may be required to be:

- Sampled/collected and submitted to BoM annually
- Sampled/collected monthly (or as often as possible) and reported annually
- Sampled/collected and reported monthly
- Sampled/collected and reported daily.

Data must be submitted in an xml format written specifically for this BoM reporting, named WDTF (water data transfer format). Translating data into this format requires coding the data using the WDTF language and requires a high level of understanding of xml and data systems. SWIM is designed to receive data in either excel or text (csv) format and complete this translation into xml before sending the data to BoM. Some information about the WDTF format is provided in Appendix B. More information about the WDTF is available from the BoM website:

<http://www.bom.gov.au/water/regulations/wdtf/index.shtml>

SWIM is a data broker – not provider or owner

The process of submitting data to BoM requires the data be sent to the specific ftp folder setup by BoM for each reporting organisation; each Queensland WSP has an ftp folder on the BoM ftp server that is password protected. SWIM has stored a copy of this access information (provided by each WSP to *qldwater*) to allow SWIM to send the data on behalf of the WSP. The data sent by SWIM is not classified as *qldwater* data – *qldwater* is not a data owner or data provider of WSP data; *qldwater* is acting as a data broker.

1.3.4 Australian Bureau of Statistics

The Australian Bureau of Statistics (ABS) uses water data collected via SWIM and their annual 'Water Supply and Sewerage Services Survey' to produce an annual national water account (called the Water Account Australia (WAA)). Note that this national water account is different to the one produced by BoM as it has a differing but complementary purposes. The ABS' WAA emphasise different aspects of Australian water resources and the use of these resources by the Australian community. For more details on the differences and similarities of the two reports please see

<http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/4610.0Feature+Article12009-10>

In short the "WAA shows how much water is used by human activity. It focuses on flows of water from the environment to the water supply industry and other economic activities, particularly agricultural production and the flows of water from the water supply industry to households and businesses. The WAA also records the monetary values associated with water supplied and used in the economy. A particular feature of the WAA is the ability to link water use to the economic data contained in the System of National Accounts (from which the headline indicator 'Gross Domestic Product' is derived)."

SWIM Submission dates

The SWIM submission deadlines have been developed to streamline the reporting deadlines of the multiple recipient organisations. This allows WSPs to submit annual data only once each year.

Deadline for submitting SWIM annual data:

- 31st August 2012:** for WSPs required to report to BoM;
- 1st October 2012:** for all NPR reporting WSPs (all annual data)
- 15th October 2012:** for all other WSPs (DEWS, ABS)

Deadlines for submitting BoM daily and monthly data: daily data must be submitted by midday the day after it was sampled, monthly data within 1 week of the end of the sampling month.

Dates SWIM will forward on data to meet reporting requirements:

- BoM daily data: within 3 hours of receiving it
- BoM monthly data: within 3 hours of receiving it
- BoM annual data: **31st August** (within 3 hours of it being finalised)
- NPR report: **5th October**
- DEWS, ABS report: **22nd October**

Data required

1.1 Indicators

A full list of the 2011-12 indicators, their definitions and other useful information is provided in The SWIM Indicators List or SWIM Indicators Definitions documents available from Help section of SWIM online.

Category	Subcategory
Organisation data	Organisational data
Connections	Connections - Water
	Connections - Sewerage
Sources & Uses of Water (potable, raw-partially treated, recycled, stormwater)	Sources of Water
	Uses of Water Supplied
	Waste water
	Uses of Recycled Water
Assets & asset performance	Water Treatment and Supply Assets
	Sewerage Assets
	Recycled Water Assets
	Asset Performance - Water
	Asset Performance - Sewerage
Customer Service	Customer Service - sewerage
	Customer Service - water
	Customer Service - overall
Compliance	Compliance & treatment- sewerage
	Compliance - Drinking Water
Environmental	Biosolids
	Greenhouse Gas Emissions
	Revenue
Costs & Finance	Costs
	Capital Expenditure
	Financial
	Capital Works Grants
	Net profit after tax - Community Service Obligations
	Water Pricing
	Sewerage Pricing
	Pricing
Water resources	Surface Water flows
	Groundwater
	Storages
	Meteorology
Water Quality	Water Quality

1.1.1 Spatial resolution of data: Schemes and sites

The data to submit to SWIM has varying requirements for the spatial resolution (or scale) at which the data is collected. These are determined by the reporting requirements, as follows:

Reporting requirement	Spatial resolution of data
DEWS	WSP-wide, schemes
NPR	WSP-wide
BoM	Finest resolution available (i.e. schemes and sites)
ABS	WSP-wide

Note: WSP-wide = data values representing the entire service area of the water service provider. Usually this is a summation of the schemes.

Types of Schemes

A scheme is taken to be a geographical-section of the WSP that is operationally separate from other water or sewerage services. For example, a WSP that covers a large region may divide their water services into say, three sections representing three geographic divisions of the region, each with separate water supply service(s). As these three water supply systems are not connected to each other, and might be comprised of different types of water supply infrastructure of differing ages (and conditions), they are usually managed separately. Operationally, it is more beneficial to look at performance of these schemes separately – if their data is lumped together some emerging problems may not be detected.

In general all SWIM annual data (except BoM data) should be schemes-based data. This vastly improves the usability of SWIM data and SWIM reports by WSPs as scheme data is more useful for operational purposes

For most indicators, only the schemes-based values need be submitted as the SWIM database will automatically calculate the WSP-wide values that are required for reporting to the QLD GOVT and NPR from the scheme-based data that is provided.

For the purposes of the SWIM database, at least one water scheme must be entered. If the WSP has only one water or sewerage scheme, data should be reported against the scheme; SWIM will also assign it to the WSP-wide values.

There are some indicators for which schemes-based data is not useful or obtainable – for these, WSP-wide values are to be entered. These are identified in the SWIM systems.

Types of schemes:

1. Potable water schemes (a distribution system supplying only potable water)
2. Raw-Partially treated water schemes (distribution systems supplying water that is untreated or partially treated, i.e. not treated to potable standards)
3. Recycled water schemes (distribution systems supplying recycled sewage effluent or recycled stormwater)
4. Sewerage schemes (sewage collection and treatment system, may include recycling facilities)

Note: recycled water must be reported against recycled water schemes (unlike previous years where it was possible to report it against sewerage schemes). This has simplified the reporting templates/forms. If you do not reuse any sewage effluent, you can leave this scheme blank (or report zeros where appropriate).

Schemes and sites for BoM data

For WSPs that are required to report to BoM, the BoM requires data at the finest spatial (and temporal) resolution available, for most indicators. For Water sources and uses data (category 7 of BoM data), schemes-scale data is acceptable. The other BoM categories of data typically represent data collected from a single location/point (e.g. water quality monitoring site, meteorological station, flow gauge, water storage) and so the site-scale data must be submitted.

1.1.2 Temporal resolution of data

The data to submit to SWIM has varying requirements for the temporal resolution (or scale) at which the data is collected. These are determined by the reporting requirements, as follows:

Reporting requirement	Temporal resolution of data
DEWS	annual
NPR	annual
ABS	annual
BoM	Finest available (and reported either daily, monthly or annually)

SWIM systems have been developed to allow submission of data to meet these requirements – refer to submission procedures sections.

1.1.3 BoM quality code and validation status

Along with each measurement submitted for BoM reporting, BoM also requires a **BoM quality code**. These are defined by BoM as follows:

BoM Quality Code	Description	Description to be used by the Data Provider for transferring data to the Bureau of Meteorology
A	The record set is the best available given the technologies, techniques and monitoring objectives at the time of classification.	The data provider releases the recorded measurements for use, declaring that it is the best available given the technologies, techniques and monitoring objectives at the time of classification.
B	The record set is compromised in its ability to truly represent the parameter.	The data provider releases the recorded measurement for use with the provision that the data is compromised in its ability to represent the monitored parameter.
C	The record set is an estimate.	The data provider releases the record set for use, declaring that the data is an estimate
D	This code has been withdrawn.	

E	The record set's ability to truly represent the monitored parameter is not known.	The data provider releases the record set declaring that the data's ability to represent the monitored parameter is not known.
F	The record set is not of release quality or contains missing data.	The data provider releases the record set declaring that the data is missing, void or known to be incorrect.

SWIM data submission systems are designed to capture BoM quality code information. Data records that do not contain a value for the BoM Quality Code will be rejected by the SWIM importer.

Each measurement also requires a **validation status**. These are defined by BoM as follows:

Status name	Status description
validated	The data series has been inspected and validated
combined	The data series contains a Validated and ProvisionalBest values
provisionalBest	The data series contains Provisional data of the highest quality. This is the provisional data that should be used for publication to the public.
provisional	An identifier of a particular instance of provisional data, this identifier should remain consistent subsequent supply of this data series

Because the validation status is likely to be the same for batches of data submitted, SWIM data systems capture this for each batch of data (for each indicator) that is submitted. The validation status is then applied to every data record in the batch and stored as part of each data record.

If data that is initially submitted as provisional is later validated, the data should be resubmitted to SWIM with the revised validation status.

1.2 Sources of data

Most of the data required must be entered/submitted by the user ('raw data'). There are two exceptions:

- Derived indicators: these are values that are derived from data submitted for other indicators. The formula to calculate these derived values are embedded in the SWIM data templates and the SWIM online data webforms. These values can be changed by the user by entering a new value in place of the calculated value.
- Default indicators: data for these indicators is unlikely to change from year to year, and so data from the previous year is provided as default data.

1.3 Audit information: NPR audits

Organisations who are participating in the National Performance Report (urban utilities) are required to commission an external audit of the indicator data reported every three years.

Audit results are to be submitted to SWIM using the data template which is downloadable from the 'Download Data templates' section of SWIM online (download the "Annual data template for NPR AUDIT results").

The confidence/compliance grading is a combination of the Reliability assessment with the Accuracy assessment. The NPR has produced a audit requirements document which is available from the 'Help' section of SWIM online.

Note that the audit results are required to be sent through to the Qld Govt NPR co-ordinators independently of SWIM (i.e. the SWIM Audit template is separate from the NPR audit template).

2 Metadata (requirements and submission)

Before any data is submitted to SWIM, metadata must be submitted first!

Metadata is information used to assist in the interpretation of data. For example, it includes location information for a monitoring site and information about the methods used to generate the data. This information must be reported together with every submission of data from SWIM to, for example, BoM. As metadata rarely changes, SWIM is designed to capture the metadata once, before any data is submitted, then SWIM will use the same metadata information every time associated data is reported. Metadata only needs to be updated on SWIM online when changes are made to sites, schemes, procedures, etc.

The processes developed to import data into the SWIM database require some metadata be entered to the SWIM database before any data can be submitted. This information mostly describes the sites/schemes for the data, and procedures/methods for obtaining the data. **Importantly**, as the SWIM database uses the metadata to generate the data templates for data entry once you have downloaded your data template you cannot modify your metadata or the template will not be accepted when it is uploaded to SWIM.

Mandatory Vs. Optional and unknown

Some metadata information is mandatory; some is optional. If you do not have the information for a mandatory field you cannot leave it blank – enter “**unknown**”. You can come back at a later date to update any metadata.

Categories of Metadata

	Required by all SWIM users	Required if reporting to BoM
Organisation	Yes	Yes
Potable Water Schemes	Yes	Yes
Nonpotable water schemes	Optional	Optional
Sewerage schemes	Optional	Yes
Major storages	No	Yes (if reporting storage data, category 3)
Minor storages	No	Yes (if reporting storage data, category 3)
Groundwater bores	No	Yes (if reporting groundwater data, category 2)
Meteorological stations	No	Yes (if reporting meteorological data, category 4)
Watercourses (quantity and quality measurements)	No	Yes (if reporting water flow category 1) or water quality (category 9) from watercourses)
Watercourse level and flow sites	No	Yes (if reporting watercourse flow (category 1) data)
Water quality monitoring sites	No	Yes (if reporting water quality (category 9))
Water quality indicators	No	Yes (if reporting water quality

		(category 9))
Sewage discharge points	No	Yes (if reporting sewerage discharge volumes (BoM indicator 7n))
Stormwater discharge points	No	Yes (if reporting stormwater discharge volumes (BoM indicator 7o))

2.1 Metadata requirements for all SWIM users

All metadata must be submitted at SWIM online. Log in to SWIM online and from the SWIM Data Portal pages, click on “Submit metadata”. Select the category of metadata and fill in the fields as required.

2.1.1 Organisation (WSP) information

All WSPs are required to enter at least some organisation information. This includes essential contacts information, including the contact for receiving email notifications generated from the SWIM database after submission of data or error notifications.

2.1.2 Schemes metadata

All WSPs are required to enter at least some schemes information.

SWIM is designed to capture data at the spatial resolution of schemes: these should align with the schemes described in the WSP’s SAMP or other management unit. There may be one or more schemes of each type: Potable, Sewerage, Recycled or Raw-Partially Treated schemes.

The table below provides a list of the schemes metadata that is to be submitted through SWIM online.

The information required for **potable water, raw-partially treated (Raw-PT), recycled water and sewerage schemes** is:

Metadata field*	Description	Mandatory or optional
Name	Scheme name (this is the official reference name and will appear on all data templates and SWIM online) (e.g. western)	Mandatory
Created year	Year scheme was created OR year when data first submitted to SWIM	Mandatory
Inactive year	Year when scheme was no longer used (i.e. made inactive)	Mandatory
Population size	Total population living within the scheme boundary	Mandatory
Connection size	Number of connections serviced within the scheme	Mandatory
Soil Type	Major soil type within the scheme	Mandatory

	boundary	
Climate Zone	Climate zone within which the scheme occurs	Mandatory
Rainfall Zone	Rainfall zone within which the scheme occurs	Mandatory
NRM Region	NRM Region within which the scheme occurs	Mandatory
Regional Water Supply Region	Regional Water Supply Region within which the scheme occurs	Mandatory
Water Resources Plan Region	Water Resources Plan Region within which the scheme occurs	Mandatory
Long name	A longer version of the name (e.g. western water scheme)	Optional
Location description	A text description of the location of the scheme (e.g. covers the western communities of Redwood, Sandy Hill and Feridale)	Mandatory

*For more detailed information on these metadata criteria, including maps, please see the “Metadata Help” file located within the ‘Help’ section of SWIM online.

2.2 Metadata requirements for BoM reporting

Additional metadata is required for all data that is to be reported to BoM.

If you are not required to report data to BoM, you do not need to complete any metadata other than schemes (above). However, it is good practice and highly advisable to complete any/all metadata fields that you can.

The additional BoM metadata is separated into the following categories (which generally represent different types of sites):

- Potable water schemes
- Nonpotable water schemes
- Sewerage schemes
- Major storages
- Minor storages
- Groundwater bores
- Meteorological stations
- Watercourses (quantity and quality measurements)
 - Watercourse level and flow sites
- Water quality monitoring sites
 - Water quality indicators
- Sewage discharge point
- Stormwater discharge points

You need only supply metadata for the type of data you are required to submit to BoM.

The requirements for each of these are listed in the following sections.

2.2.1 Additional metadata for schemes

Metadata field	Description	Mandatory or optional
Longitude	Positions are measured using longitudes and latitudes, measured in decimal degrees. Approximate longitude and latitude can be obtained using the free Google Earth program (www.earth.google.com/download-earth.html). For schemes, a single position cannot represent the entire scheme area, so choose either a geographically central position, or a relevant position (such as the location of the treatment plant). e.g. latitude, longitude: -37.314060, 145.930861	Mandatory for BoM reporters
Latitude		Mandatory for BoM reporters
Geodetic grid (datum)	This is the reference system for the easting and northing or latitude and longitude values. Options accepted by BoM are listed in Appendix C.	Mandatory for BoM reporters
Procedure used to determine data for the BoM indicators relating to this type of scheme; i.e. water sources and water uses.	The procedure is the methods used to obtain the data. Be as specific as you can (no more than 100 characters are allowed in this field). (e.g. a gauge of meter of some type, billing data from biannual meter reads, invoice for purchased water, estimate from STP outflow meter, sum of indicators x, y and z).	Mandatory for BoM reporters

2.2.2 Major storages metadata

Metadata field	Description	Mandatory or optional
Name	Site name (this is the official reference name and will appear on all data templates and SWIM online) (e.g. BarryCk_34)	Mandatory
Long name	A longer version of the name (e.g. Barry Creek Dam site 34)	Optional
Location description	A text description of the location of the site (e.g. Barry Creek Dam site 34 near the Dolphin boat ramp off Blackberry St.)	Optional

Longitude	Positions are measured using longitudes and latitudes, measured in decimal degrees. Approximate longitude and latitude can be obtained using the free Google Earth program (www.earth.google.com/download-earth.html). e.g. latitude, longitude: -37.314060, 145.930861	Mandatory
Latitude		Mandatory
Geodetic grid (datum)	This is the reference system for the easting and northing or latitude and longitude values. Options accepted by BoM are listed in Appendix C.	Mandatory
Full supply level	The level at which water cannot be contained by this storage. Units = metres	Mandatory
Dead storage level	The level at which water can't be extracted from this storage. Units = metres	Mandatory
Level Datum	Datum against on which storage/supply levels are based. Select from: <ul style="list-style-type: none"> • DepthFromSurface • GaugeDatum • AHD • AHDTasmania • DepthFromBed See below for definitions of these terms.	Mandatory
Procedure used to determine: <ul style="list-style-type: none"> • storage level • storage volume • vol released • procedure: vol transferred 	The procedure is the methods used to obtain the data. Be as specific as you can (no more than 100 characters are allowed in this field). If an indicator is not measured, please enter: not measured. (e.g. depth gradients on dam wall, derived from level-flow conversion table, meter at release outlet).	Mandatory

2.2.3 Minor storages metadata

Metadata field	Description	Mandatory or optional
Name	Site name (this is the official reference name and will appear on all data templates and SWIM online) (e.g. JohnCk_13)	Mandatory
Long name	A longer version of the name (e.g. John Creek weir site 13)	Optional
Location description	A text description of the location of	Optional

	the site (e.g. John Creek weir site 13 near the weir wall on Tomas St)	
Easting/Longitude	Positions are measured using longitudes and latitudes, measured in decimal degrees. Approximate longitude and latitude can be obtained using the free Google Earth program (www.earth.google.com/download-earth.html). e.g. latitude, longitude: -37.314060, 145.930861	Mandatory
Northing/Latitude		Mandatory
Geodetic grid (datum)	This is the reference system for the easting and northing or latitude and longitude values. Options accepted by BoM are listed in Appendix C.	Mandatory
Full supply level	The level at which water cannot be contained by this storage. Units = metres	Mandatory
Dead storage level	The level at which water can't be extracted from this storage. Units = metres	Mandatory
Level Datum	Datum against on which storage/supply levels are based. Select from: <ul style="list-style-type: none"> • DepthFromSurface • GaugeDatum • AHD • AHDTasmania • DepthFromBed See below for definitions of these terms.	Mandatory
Procedure used to determine: <ul style="list-style-type: none"> • storage level 	The procedure is the methods used to obtain the data. Be as specific as you can (no more than 100 characters are allowed in this field). If an indicator is not measured, please enter: not measured. (e.g. depth gradients on dam wall, derived from level-flow conversion table, meter at release outlet).	Mandatory

2.2.4 Groundwater bores metadata

Metadata field	Description	Mandatory or optional
Name	Site name (this is the official reference name and will appear on all data templates and SWIM online) (e.g. Rob Bore_5)	Mandatory
Long name	A longer version of the name (e.g. Rob	Optional

	Street Production Bore site 5)	
Location description	A text description of the location of the site (e.g. Rob Street Production Bore site 5 within High Park on the corner of John and Dave Streets)	Optional
Easting/Longitude	Positions are measured using longitudes and latitudes, measured in decimal degrees. Approximate longitude and latitude can be obtained using the free Google Earth program (www.earth.google.com/download-earth.html). e.g. latitude, longitude: -37.314060, 145.930861	Mandatory
Northing/Latitude		Mandatory
Geodetic grid (datum)	This is the reference system for the easting and northing or latitude and longitude values. Options accepted by BoM are listed in Appendix C.	Mandatory
Aquifer layer	The name of the aquifer (and layer if known) from which the water is drawn.	Optional
Level Datum	Datum against on which storage/supply levels are based. Select from: <ul style="list-style-type: none"> • DepthFromSurface • GaugeDatum • AHD • AHDTasmania • DepthFromBed See below for definitions of these terms.	Mandatory
Procedure used to determine: <ul style="list-style-type: none"> • Water level • Water pressure 	The procedure is the methods used to obtain the data. Be as specific as you can (no more than 100 characters are allowed in this field). If an indicator is not measured, please enter: not measured. (e.g. depth stick, pressure gauge).	Mandatory

2.2.5 Meteorological station metadata

Metadata field	Description	Mandatory or optional
Name	Site name (this is the official reference name and will appear on all data templates and SWIM online) (e.g. King Park_2)	Mandatory
Long name	A longer version of the name (e.g. King's Recreational Park site 2)	Optional
Location description	A text description of the location of	Optional

	the site (e.g. King's Recreational Park site 2 near the old water fountain, at Smith Street entrance)	
Easting/Longitude	Positions are measured using longitudes and latitudes, measured in decimal degrees. Approximate longitude and latitude can be obtained using the free Google Earth program (www.earth.google.com/download-earth.html). e.g. latitude, longitude: -37.314060, 145.930861	Mandatory
Northing/Latitude		Mandatory
Geodetic grid (datum)	This is the reference system for the easting and northing or latitude and longitude values. Options accepted by BoM are listed in Appendix C.	Mandatory
Procedure used to determine: <ul style="list-style-type: none"> rainfall evaporation 	The procedure is the methods used to obtain the data. Be as specific as you can (no more than 100 characters are allowed in this field). If an indicator is not measured, please enter: not measured. (e.g. rainfall gauge, estimate of evaporation, evaporation gauge).	Mandatory

2.2.6 Watercourses (names) metadata

Metadata field	Description	Mandatory or optional
Name	Site name (this is the official reference name and will appear on all data templates and SWIM online) (e.g. Mary R_6)	Mandatory
Long name	A longer version of the name (e.g. Mary River site 6)	Optional
Location description	A text description of the location of the site (e.g. Mary River site 6 near the Lamington Bridge, Gympie Road)	Optional
Level Datum	Datum against on which storage/flow levels are based. Select from: <ul style="list-style-type: none"> DepthFromSurface GaugeDatum AHD AHDTasmania DepthFromBed See below for definitions of these terms.	Mandatory
Control	Name for control structure used to regulate this water course (e.g. west weir, none)	Mandatory
Ceases to flow	The level at which this water course	Mandatory

	ceases to flow, relative to the Level Datum. Units =metres (m)	
--	---	--

2.2.7 Watercourses – level and flow metadata

Metadata field	Description	Mandatory or optional
Name	Site name (this is the official reference name and will appear on all data templates and SWIM online) (e.g. SusanR_34)	Mandatory
Long name	A longer version of the name (e.g. Susan River site 34)	Optional
Location description	A text description of the location of the site (e.g. Susan River site 34 near the boat ramp at the mouth)	Optional
Easting/Longitude	Positions are measured using longitudes and latitudes, measured in decimal degrees. Approximate longitude and latitude can be obtained using the free Google Earth program (www.earth.google.com/download-earth.html). e.g. latitude, longitude: -37.314060, 145.930861	Mandatory
Northing/Latitude		Mandatory
Geodetic grid (datum)	This is the reference system for the easting and northing or latitude and longitude values. Options accepted by BoM are listed in Appendix C.	Mandatory
Watercourse this site belongs to	The name of the watercourse this site belongs to. Watercourse names must first be entered into the Watercourse names metadata section.	Mandatory
Level Datum	Datum against on which storage/flow levels are based. Select from: <ul style="list-style-type: none"> • DepthFromSurface • GaugeDatum • AHD • AHDTasmania • DepthFromBed See below for definitions of these terms.	Mandatory
Procedure used to determine <ul style="list-style-type: none"> • watercourse level • watercourse flow 	The procedure is the methods used to obtain the data. Be as specific as you can (no more than 100 characters are allowed in this field). If an indicator is not measured, please enter: not measured. (e.g. depth stick, flow gauge).	Mandatory

2.2.8 Watercourses – water quality monitoring sites

Metadata field	Description	Mandatory or optional
Name	Site name (this is the official reference name and will appear on all data templates and SWIM online) (e.g. Burrum_1)	Mandatory
Long name	A longer version of the name (e.g. Burrum River site 1)	Optional
Location description	A text description of the location of the site (e.g. Burrum River site 1 just below the south weir wall)	Optional
Easting/Longitude	Positions are measured using longitudes and latitudes, measured in decimal degrees. Approximate longitude and latitude can be obtained using the free Google Earth program	Mandatory
Northing/Latitude	(www.earth.google.com/download-earth.html). e.g. latitude, longitude: -37.314060, 145.930861	Mandatory
Geodetic grid (datum)	This is the reference system for the easting and northing or latitude and longitude values. Options accepted by BoM are listed in Appendix C.	Mandatory
Watercourse this site belongs to	The name of the watercourse this site belongs to. Watercourse names must first be entered into the Watercourse names metadata section.	Mandatory
Site sampling depth datum	Level on which depth measurements are based. Select from: <ul style="list-style-type: none"> • Surface • DepthFromSurface • GaugeDatum • AHD • AHDTasmania • DepthFromBed • Bed 	Mandatory
Site security constraint	Identifies whether the site is commercially-sensitive (or otherwise sensitive). The alternative is “unclassified” meaning not sensitive.	Mandatory

2.2.9 Water quality indicators

Metadata field	Description	Mandatory or optional
Name	Indicator name. Select from the following: <ul style="list-style-type: none"> • electrical conductivity surface water[WA1] 	Mandatory

	<ul style="list-style-type: none"> • electrical conductivity groundwater[WA2] • total suspended solids[WA3] • turbidity[WA4] • total phosphorus[WA5] • total nitrogen[WA6] • pH[WA7] • temperature[WA8] 	
Long name	A longer version of the name (e.g. Total Phosphorus)	Optional
Description	A text description of the location of the site (e.g. concentration of total phosphorus in a surface watercourse)	Optional
Procedure (for this indicator)	The procedure used to make the measurement of this indicator. This can be a common name for the procedure. (e.g. nephelometric turbidity measurement, eMeter, lab analysis)	Mandatory
Person/lab conducting procedure	Name of the person and/or lab conducting the procedure.	Mandatory

2.2.10 Sewage discharge point metadata

Metadata field	Description	Mandatory or optional
Name	Site name (this is the official reference name and will appear on all data templates and SWIM online) (e.g. UranganSTP_3)	Mandatory
Long name	A longer version of the name (e.g. Urangan Sewerage Treatment Plant Discharge Pipe site 3)	Optional
Location description	A text description of the location of the site (e.g. Urangan Sewerage Treatment Plant Discharge at site 3 into Uli Creek)	Optional
Easting/Longitude	Positions are measured using longitudes and latitudes, measured in decimal degrees. Approximate longitude and latitude can be obtained using the free Google Earth program (www.earth.google.com/download-earth.html). e.g. latitude, longitude: -37.314060, 145.930861	Mandatory
Northing/Latitude		Mandatory
Geodetic grid (datum)	This is the reference system for the easting and northing or latitude and longitude values. Options accepted by BoM are listed in Appendix C.	Mandatory
Procedure used to determine:	The procedure is the methods used to	Mandatory

<ul style="list-style-type: none"> Sewage discharge volume (WA44) 	obtain the data. Be as specific as you can (no more than 100 characters are allowed in this field). If an indicator is not measured, please enter: not measured. (e.g. meter at outlet, meter at STP outflow).	
--	--	--

2.2.11 Stormwater discharge point metadata

Metadata field	Description	Mandatory or optional
Name	Site name (this is the official reference name and will appear on all data templates and SWIM online) (e.g. MarySt_2)	Mandatory
Long name	A longer version of the name (e.g. Mary Street site 2)	Optional
Location description	A text description of the location of the site (e.g. Mary Street site 2 near the esplanade off Mary Street)	Optional
Easting/Longitude	Positions are measured using longitudes and latitudes, measured in decimal degrees. Approximate longitude and latitude can be obtained using the free Google Earth program	Mandatory
Northing/Latitude	(www.earth.google.com/download-earth.html). e.g. latitude, longitude: -37.314060, 145.930861	Mandatory
Geodetic grid (datum)	This is the reference system for the easting and northing or latitude and longitude values. Options accepted by BoM are listed in Appendix C.	Mandatory
Procedure used to determine: <ul style="list-style-type: none"> stormwater discharge volume 	The procedure is the methods used to obtain the data. Be as specific as you can (no more than 100 characters are allowed in this field). If an indicator is not measured, please enter: not measured. (e.g. meter at outlet, estimate from rainfall data and modelling).	Mandatory

The following definitions apply to SWIM metadata:

1. **Level Datum** definitions (for watercourse levels, groundwater bore levels, storage levels):

- DepthFromSurface The level is measured as depth from the surface
- GaugeDatum The level is measured as depth with respect to the local datum
- AHD The level is measured as depth with respect to the Australian Height Datum
- AHDTasmania The level is measured as depth with respect to the Australian Height

- DepthFromBed Datum Tasmania
The level is measured as distance from the bed
- 2. **Site sampling depth** datum (for water quality sampling):
 - Surface Water sample is taken at the water surface
 - DepthFromSurface The sample is taken at the nominated depth from the surface
 - GaugeDatum The sample is taken at the depth nominated depth with respect to the local datum
 - AHD The sample is taken at the depth nominated depth with respect to the Australian Height Datum
 - AHDTasmania The sample is taken at the depth nominated depth with respect to the Australian Height Datum Tasmania
 - DepthFromBed The sample is taken at the nominated distance from the bed
 - Bed The sample is taken at the stream / waterbody bed

2.3 Submitting metadata to SWIM online

1. To enter metadata, log in to SWIM online (www.swm.qldwater.com.au) using the SWIM username and password assigned to your organisation (contact swim@qldwater.com.au if you don't know what these are). Once logged in, you will be at the SWIM data portal page.
2. Select "Metadata".
3. Choose the category of metadata to be entered. To access watercourse flow or water quality monitoring stations or water quality indicators, first select watercourses.
4. Complete the fields (described above).
5. Press "submit" to save metadata to the SWIM database.

Metadata can be added or modified anytime at SWIM online. Any changes to any aspects of the above metadata should be changed at SWIM online as soon as the changes take effect. For example, if a new monitoring site is added to the water quality sampling network, the metadata for the new site must be added to SWIM online before any data from the new station can be uploaded to SWIM.

General rules for submitting metadata

1. Ensure all metadata is submitted (and up-to-date) before downloading any SWIM templates.
2. All scheme and site names must be unique: e.g. do not use the same site name for a meteorology station and a water quality monitoring site.
3. Ensure all mandatory fields are complete. If you do not know the information for a mandatory field, enter "unknown". You can return and update this information at any later time.

3 Data Submission procedures

3.1 Options for collating and delivering data to SWIM

There are a number of methods by which data can be submitted to the SWIM database:

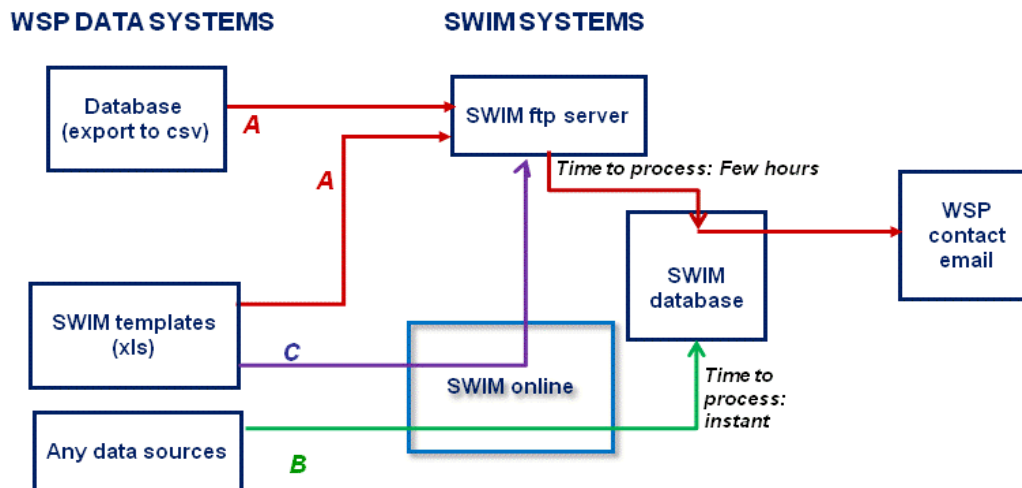
- SWIM online:** log in to the SWIM website and enter data manually using webforms. Data can be entered over a period of days or weeks – it does not have to be entered in one session.
- SWIM templates:** download an excel template from SWIM online, enter/past data into the template, and upload the template containing data to SWIM (by ftp or at SWIM online).
- Database export to SWIM:** export data from in-house data systems in a format that can be directly imported by SWIM. All the relevant data for a data record must be contained within the in house data system (e.g. for BoM data, a quality code must be included for every data point).

Not all options can be used for all types of reporting. The table below summarise the options for methods of submitting each of the datasets

Table 2. Summary table: data sets submission methods

Data set	SWIM online webforms	SWIM templates	Database export to SWIM
SWIM (annual submission): for DEWS	Y	Y	N
NPR	Y	Y	N
BoM:			
Annual	N	Y	Y
Monthly	N	Y	Y
Daily	N	Y	Y
Metadata (all)	Y	N	N

Figure 1 below provides an overview of the data submission pathways, and time required for processing at various steps.



- A. Data transfer via SWIM ftp site, format: xls or csv (from SWIM templates or csv files created using SWIM specs).
- B. Webforms (manual data entry)
- C. Data transfer via SWIM online (web interface, user to upload spreadsheet), format: xls or csv (from SWIM xls templates or csv files created using SWIM specs)

3.2 General rules for submitting/entering SWIM data

1. When entering numeric values, please ensure there are no spaces or commas, only numbers, or an error message will occur.
2. Check the units – you can only enter data using the units specified in SWIM.
3. Zeros and blanks: no data fields/cells should be left blank (this will cause calculations and formulas to work incorrectly). A blank field should contain one of the following:
 - a. 0 (zero) only when appropriate
 - b. ND (no data for the indicator, although the indicator is relevant to the WSP)
 - c. NR (not relevant: this indicator is not relevant to the WSP e.g. not required to be reported, or applies to a service not provided by the WSP).
4. It is recommend you enter data for indicators in the order they are presented, as this makes it easier to view and check derived indicators (the data they are derived from will have been entered before you view the derived value, and so should be correct).

3.3 SWIM online

3.3.1 Accessing SWIM

The SWIM online website address is: www.swim.qldwater.com.au

The home page is freely accessible and contains background information to the SWIM project.

To ensure privacy, each WSP is assigned a login (usually the name of the WSP) and unique password to access the SWIM online Data Portal. If you are unsure what these are, please email swim@qldwater.com.au or Ph: 07 36326852).

1. From the SWIM homepage, select “submit and access SWIM data”
2. Select your WSP from the drop down list
3. Enter your password

4. Enter your name (SWIM keeps a record of users for the user log report)

Multiple users from the same WSP can login to SWIM at the same time. SWIM will save the most recent data entered.

After logging in to SWIM online, if the website remains inactive for more than 180 minutes (i.e. you don't use the website), you will be logged out and will need to login to re-access SWIM online.

3.3.2 Entering data using SWIM Webforms

Webforms are a series of webpages containing field/spaces for data to be entered.

Instructions

1. Once logged in you will arrive at the SWIM Data Portal page. To submit data using forms click on "Submit data"
2. At the "Submit data page", next to "submit all SWIM annual data" select "using SWIM online webforms"

The screenshot shows the SWIM Data Portal interface. At the top, there is a navigation bar with links: SWIM home, Data Portal, Help, Logout, qldwater, and Contact SWIM. Below this, a blue banner displays 'Login details: SWIM Test Region / regina / 2008-09'. The main heading is 'Submit data'. Below the heading, a message states: 'Please click on the group of data to be submitted and method of submission'. There are three main sections for data submission:

- Submit annual SWIM data for 1/7/2009 - 30/6/2010**
Annual data for 2009-2010 can be submitted from the end of July 2010. Please note: this does not affect data being submitted for BoM reporting.
Options: [manual using webforms](#) (highlighted with a red circle and a red arrow), [using SWIM data template](#)
- Submit monthly BoM data**
Option: [using SWIM data template](#)
- Submit daily BoM data**
Option: [using SWIM data templates](#)

Below these sections, there is a 'Notes:' section with three bullet points:

- Annual data can be submitted using a combination of manual data entry and templates - please see the [help page](#) for more information
- If you are submitting NPR data that has been independently audited, you must supply a copy of the auditor's report to the NPR coordinator. You can do that directly, or by [emailing from here](#)
- If you are required to report changes to your water restrictions to the BoM, you can contact them directly, or by emailing the information [from here](#)

3. The indicators are grouped into categories; there is one data webform for each category. At the top of the SWIM data webforms is a series of buttons that provide a link to each category of indicators.

Indicator categories for data entry via webforms

1 Connections water sewerage	5 Waste water	9 Customer service: sewerage	13 Asset performance sewerage	17 Revenue costs grants
2 Sources of water	6 Water assets	10 Customer service: water	14 Compliance & treatment: sewage	18 Water pricing
3 Uses of water supplied	7 Sewerage assets	11 Customer service: overall	15 Compliance & treatment: water	19 Sewerage pricing
4 Uses of recycled water	8 Recycled water assets	12 Asset performance water	16 Biosolids & GHG emissions	20 Financial

4. Each data entry page contains a list of related indicators. For each indicator there is:
- a series of data entry fields, one for each scheme, and one for the WSP-wide value
 - units of measurement
 - a link to the definition of the indicator (including any calculations) and other useful information (e.g. the end users of the data such as NPR, DEWS, ABS, BoM; spatial and temporal resolution required etc)
 - a comments field for you to enter notes about each indicator (comments are reported with the data, but not published in the NPR)

Connections - Water & Sewerage

More information on these indicators

CS1 (Population receiving water supply services)

	2009 - 2010	Units
fred_west_water	<input type="text" value="25"/>	000s
fred_north	<input type="text" value="12"/>	000s
lucilia_water	<input type="text" value="7.31"/>	000s
jerandaria	<input type="text" value="1.03"/>	000s
hills_raw	<input type="text" value="0.12"/>	000s
scenic_raw	<input type="text" value="0.05"/>	000s
Aggregated WSP-wide value (manually change this if required)	<input type="text" value="45.51"/>	000s

Please do not leave empty fields. Enter **ND** (for no data) or **NR** (for not required)

Comments on indicator CS1:

Submit data for this indicator

Note: this indicator *is* used to calculate other linked indicators--click here to see which ones.

5. **Entering data:** enter the data value in to each of the schemes fields. If you do not have data for all or any schemes, **do not leave any blank/empty data fields** – you must enter either:

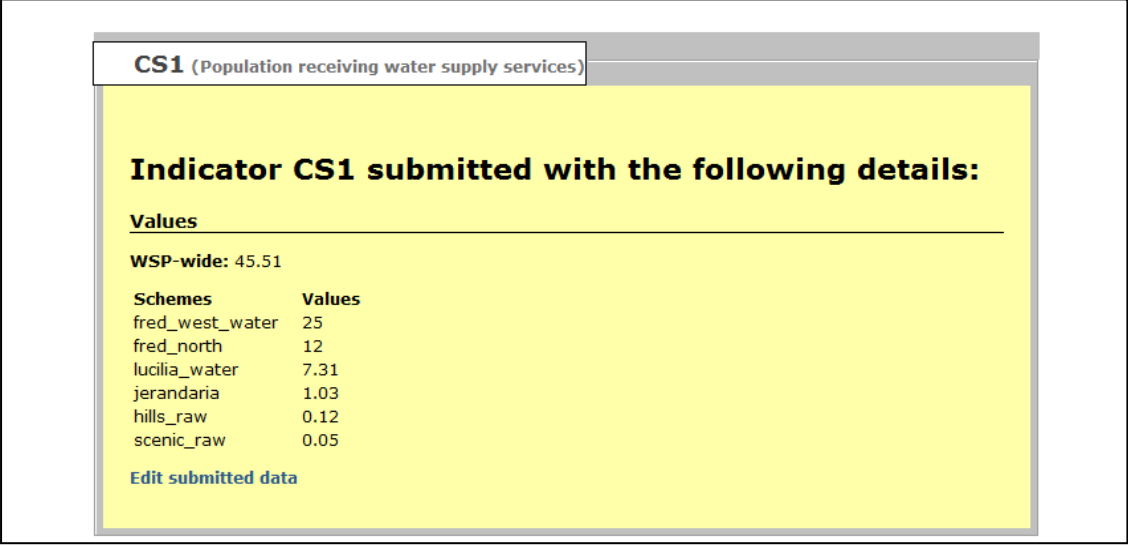
- a. A value (and zero is a legitimate value if appropriate)
- b. ND: if there is no data for this indicator, although the indicator is relevant to this WSP
- c. NR: if this indicator is not relevant to this WSP

Once you have entered the values in to the schemes fields, SWIM will calculate the value for the WSP-wide (whole water service area/council). If you need to, you can edit the calculated WSP-wide value (type over it).

If you want to add a comment to explain your data (or lack of data), type your comment in to the comments field. Please keep your comment to a few sentences at most.

After you are happy with the values displayed in the data fields and your comment (if you added one), you must hit “Save data” to save your data and comment to the SWIM database. If you do not hit this button, no data will be saved to the database.

Once you have submitted data, you will see a summary of the data you submitted. If you want to edit/change this data at anytime, you can click on ‘edit data’.



CS1 (Population receiving water supply services)

Indicator CS1 submitted with the following details:

Values

WSP-wide: 45.51

Schemes	Values
fred_west_water	25
fred_north	12
lucilia_water	7.31
jerandaria	1.03
hills_raw	0.12
scenic_raw	0.05

[Edit submitted data](#)

6. **Default values:** for some indicators that are not likely to change from year to year, the previous year’s data will be displayed in the data field. If they are incorrect, they can be typed over.
7. **Derived values:** some indicators are derived (calculated) from others. These are identified by the tag of ‘derived value’ in the title of the indicator.

To calculate the value, you must hit “recalculate derived value”. Then you must hit the “Save data” button to save the derived value to the database. If a derived value does not look correct, first check the values of the source indicators are correct before changing a derived value.

If you change data for any of the indicators used to calculate a derived indicator, you must go to the derived indicator and ‘recalculate’ and ‘save data’ again. You can tell which indicators are used to calculate other by clicking on the link “Note this indicator is used to calculate other linked indicators - click to see which ones”.

CS4 (Total connected properties - water supply) [derived value]	
	2009 - 2010 Units
fred_west_water	5 000s
fred_north	9 000s
lucilia_water	9 000s
jerandaria	3.5 000s
hills_raw	2.2 000s
scenic_raw	4.5 000s
fred_west_sew	0.5 000s
fred_north_sew	3.5 000s
lucilia_sew	1.7 000s
jer_wison	2.1 000s
Aggregated WSP-wide value (manually change this if required)	41 000s

Please do not leave empty fields. Enter **ND** (for no data) or **NR** (for not required)

Comments on indicator CS4:

Please press recalculate to ensure the most up-to-date values are displayed before submitting the data

Note: this indicator *is* used to calculate other linked indicators--click here to see which ones.

3.4 SWIM templates

3.4.1 Types of SWIM templates

To accommodate the different reporting requirements of different WSPs, there are 5 types of SWIM templates:

For WSPs reporting at least some data to BoM:

1. SWIM_template_annual_with_BoM (for all SWIM annual data, not only BoM)
2. SWIM_template_BoMmonthly (for sending groundwater data)
3. SWIM_template_BoMdaily (for sending daily data: meteorological, storage, some water quality)

Regardless of whether the data you are submitting for BoM daily and monthly reporting was actually collected daily and monthly, please use the templates designated for the daily and monthly indicators – the actual dates can be entered into the template whether they are daily/monthly or other.

For WSPs not reporting any data to BoM:

4. SWIM_template_annual_noBoM

3.4.2 Downloading SWIM templates

Metadata must be entered to SWIM online before any SWIM data templates are downloaded. If the metadata is changed, a new version of the SWIM template should be downloaded and used.

The templates are customised for each WSP – they contain site/scheme names and other metadata (previously submitted at SWIM online). For annual data they will also contain some default data.

Because the templates are customised you must log in to SWIM online before can download them. From the SWIM Data Portal page, select “Download data templates”, select the template you want, and either double click it or right click and “save as” to save the file on your computer.

The data templates are available any time from SWIM online. If some data has already been submitted for the reporting period, then a newly-downloaded version of the template will contain the previously submitted data. This data can be modified, or left as is. If it is deleted from the template, it will not be deleted from the SWIM database.

It is recommended a backup copy of the empty (but current) template is stored on your computer/system, in case you need to refer to the original version (for example, you accidentally delete a formula from your working version).

NOTES:

1. These templates are Excel 2007 format (.XLSX). If you are using an older version of Excel (e.g. Excel 2003):
 - a) You must first install the free *Microsoft Office Compatibility Pack* to allow Excel to open and save the templates.
 - b) After opening a template, **press Ctrl-Alt-F9** to update and correctly display the spreadsheet formulas.
2. Your internet browser may initially block the download of files from the internet. If you try to download and no file appears, check the top of your window for a message from internet explorer about blocking the download. If this message is present, click on it, select ‘Download file’, wait for the window to reset, then attempt to download the template again.

3.4.3 Structure and format of data entry worksheet in SWIM templates

There are 2 basic structures of the data entry worksheet within SWIM templates:

- (1) Data entry for multiple date-time entries for each indicator and site
- (2) Data entry for one date-time (i.e. the financial year) entry for each indicator-site.

(1) Multiple date-time data: for BoM data only

Multiple date-time data might represent daily, weekly, monthly or other (e.g. billing cycle) data. Whether it is submitted daily, monthly or annually, the data entry form is structured the same way. Each worksheet is designed to enter data either for a single indicator (e.g. volume sewerage discharge from discharge points), or for groups of related indicators (e.g. water sourced from surface water, from groundwater, from desalination, etc).

The top of the worksheet identifies the name of the indicator, and the site or scheme names. The data entry section of the worksheet (the white cells below – these are also white cells in SWIM templates), is where the raw data is entered. The date-time for each measurement are recorded in the first (left) column. The measurement data are entered under each scheme or site name.

indicator name 1					indicator name 2				
WSP – wide scheme1 scheme2 scheme3					WSP – wide scheme1 scheme2 scheme3				
Annual Totals annual subtotals annual subtotals annual subtotals					Annual Totals annual subtotals annual subtotals annual subtotals				
Date	Subtotal	← Value	value	value	Subtotal	← Value	value	value	
Date	Subtotal	← Value	value	value	Subtotal	← Value	value	value	
Date	Subtotal	← Value	value	value	Subtotal	← Value	value	value	
Date	Subtotal	← Value	value	value	Subtotal	← Value	value	value	
Date	Subtotal	← Value	value	value	Subtotal	← Value	value	value	
Date	Subtotal	← Value	value	value	Subtotal	← Value	value	value	
Date	Subtotal	← Value	value	value	Subtotal	← Value	value	value	
Date	Subtotal	← Value	value	value	Subtotal	← Value	value	value	
Date	Subtotal	← Value	value	value	Subtotal	← Value	value	value	
Date	Subtotal	← Value	value	value	Subtotal	← Value	value	value	
Date	Subtotal	← Value	value	value	Subtotal	← Value	value	value	
Date	Subtotal	← Value	value	value	Subtotal	← Value	value	value	
Date	Subtotal	← Value	value	value	Subtotal	← Value	value	value	
Date	Subtotal	← Value	value	value	Subtotal	← Value	value	value	
Date	Subtotal	← Value	value	value	Subtotal	← Value	value	value	

In some cases, where it is appropriate, subtotals (for the whole WSP for each date-time, or for the whole reporting period for each scheme or site) are calculated.

(2) Single date-time (i.e. annual) data

Single date-time data are a single value representing a whole year (the financial year), for one or more schemes.

The worksheet (name 'annual data') is designed to enter data for many indicators for one or more schemes.

The top of the worksheet identifies the scheme names. The indicators are listed on the left. No date-time value is required – all data is assumed to represent the financial year.

The data entry section of the worksheet (the white cells below – these are also white cells in SWIM templates), is where the raw data is entered. The data are entered under each scheme name. In some cases there is default data (pale blue cells) – these can be changed. And in other cases there are derived values (pale green cells) – these can also be changed if required (although not recommended).

	WSP-wide value	water scheme1	water scheme2	water scheme3	sewerage schemeA	sewerage schemeB	recycled scheme1
Indicator 1	Derived value	Value	value	value			
Indicator 2	Derived value	Value	value	value			
Indicator 3	Derived value				Value	value	
Indicator 4	Derived value				Value	value	
Indicator 5	value						
Indicator 6	Default value	Default	Default	Default			
Indicator 7	value						
Indicator 8	Derived value				Derived	Derived	
Indicator 9	value						
Indicator 10	Derived value	Derived	Derived	Derived			
Indicator 11	Derived value						value
Indicator 12	Derived value	Value	value	value			

The formatting of the SWIM templates has been standardised across the 4 types of templates, for easier use.

The following **general formatting rules** apply to all templates:

1. Each template is an excel file containing between 2 and 10 worksheets:

- Coversheet, containing instructions and other useful information.
- Data entry worksheet (or multiple worksheets).

2. KEY to template cell colours:

- Dark blue: field/column names (do not edit)
- Orange/Plum/Green: special field names = site or scheme names (do not edit)
- Yellow: information & tips on entering data (do not edit)
- Grey: metadata and information about data records (do not edit) and data values derived from data in this file, and used only for further calculations (not for import by SWIM)
- White: data entry fields (editable)
- Pale green: derived (calculated) data (editable)

3. Do not move or delete columns from the templates. If columns are moved or deleted, the SWIM importer may reject the file. **Do not rename any worksheets** containing data. Additional worksheets can be inserted and used for any purpose – these will be ignored by the SWIM importer.

4. Whole worksheets that contain no data must be deleted. For example, in the SWIM_template_annual_with_bom, there are several worksheets for different categories of indicators. If you are not submitting any data for any of the indicators on an entire worksheet, delete the worksheet. Failing to delete empty (no data) worksheets may cause the file to be rejected by the SWIM importer.

5. Worksheet structures: Indicators for which there is only one value for the year (most SWIM annual indicators), will be listed together on the worksheet 'annual data'. Indicators for which there may be more than one value per year (e.g. weekly water sources, water quality data), will be grouped on several separate worksheets, so that many data records can be pasted into the template. These are detailed below.

In effect, this means the worksheet 'annual data' contains only data for DEWS, ABS and NPR. Generally, data for BoM is to be entered on the series of other worksheets.

3.4.4 Entering data into SWIM templates

Important notes:

1. Any **formulas** contained in the worksheets are not locked. Take care not to accidentally delete these formulas. The formula is shown in columns H and I ("derivation" and "WSP-wide" derivation). However, the item in the formula are the indicator codes, not the excel cell references – recreating the formulas in excel may be time consuming. If you accidentally delete the formula, and cannot get it back by 'undoing', refer to your backup copy of the template. If you don't have one, download another copy from SWIM online.
2. **Blank** data entry cells:
 - a. **DO not leave any cells blank.**
 - b. If the value for an indicator is zero, then enter the digit 0. E.g. if no water is taken from groundwater, enter 0. Any other response suggests the quantity of groundwater taken is unknown.
 - c. If the indicator is relevant to the WSP, but there is no data available, enter ND.
 - d. If the indicator is not relevant to the WSP (e.g. the service is not provided or monitoring of that indicator is not required), then enter NR.
3. Save the template file regularly as you are working.
4. **Formulas that are linked to external files** (e.g. source data files) will not be accepted by the SWIM importer. These values must first be copied and pasted (paste special – values only), to remove the link to external data sources).
5. **Dates must be entered in the following format:** 30/06/2009 not 30-6-2009 or any other format.

Specific instructions are provided below for each of the four SWIM templates.

(A) SWIM_template_annual_noBoM (for WSPs not reporting ANY annual data to BOM)

Index of worksheets:

1. coversheet: contains instructions and other useful information
2. annual data: data entry worksheet for indicators requiring one value for the reporting year (for each scheme or organisation)
3. data checking tools: some comparisons to assist you checking the accuracy of your data
4. definitions: lists the indicators and their definitions

Instructions for entering data:

The data for indicators can be completed in any order. However some indicators are derived from others – working down the list will usually mean when you get to a derived indicator, it should have all the data required for a correct calculation. If some indicators used in the derived calculation are missing, the value against the derived indicator may be incorrect or missing.

1. **Check the schemes names.** If these are not correct, you cannot change them in this template – it will be rejected by the SWIM importer. Go to SWIM online-metadata and change the schemes information. Then download the template again and it should contain the updated information.
2. Column A: "Internal WSP use" is provided for your internal use. For example, many WSPs will share the responsibility to collate data among many officers – the name of the responsible

officer can be added here for your own use. Or the source of the data being used can be recorded here. This column of information is NOT imported into SWIM.

3. Check the default values (existing data in data fields) and change as required.
4. Enter data into WHITE cells, not grey cells. For some indicators, the white cells will be in the schemes columns, for others it will be in the WSP-wide column. Even if you have only one scheme, please enter schemes data in the schemes column – wherever there is a white cell.
5. When schemes data is entered, the WSP-wide value will be calculated using the formula in the WSP-wide column. THESE FORMULAS ARE NOT LOCKED FOR EDITING – be careful not to accidentally delete this formula! You may enter a value in place of the formula in the WSP-wide column if you must.
6. Derived (calculated) values are in pale green cells. These cells currently contain formulas to calculate the derived value. THESE FORMULAS ARE NOT LOCKED FOR EDITING – be careful not to accidentally delete this formula! The formula is shown in the column ‘calculations’. However, the items in the formula are the SWIM indicator codes, not the excel cell references – recreating the formulas in excel may be time consuming. Only override this formula (with a value) if you are not able to supply the values required for the calculation).
7. You may include a comment for each indicator in the ‘comments’ column – this is not essential but highly recommended especially if you have high/low values. These comments will not be published externally but are used for the NPR reports (for those WSPs reporting to the NPR).
8. Save the file regularly as you are working. You can use any filename you like.

(B) SWIM_template_BoMdaily (for WSPs reporting data for BoM daily indicators)

Index of worksheets:

1. coversheet: contains instructions and other useful information
2. SW1: data entry worksheet for watercourse level data
3. SW2: data entry worksheet for watercourse flow data
4. ST1: data entry worksheet for major storage level data
5. ST2: data entry worksheet for major storage volume data
6. ST3: data entry worksheet for major storage release volume data
7. ST4: data entry worksheet for major storage transfer volume data
8. ST5: data entry worksheet for minor storage level data
9. MT1: data entry worksheet for rainfall data
10. MT2: data entry worksheet for evaporation data

Instructions for entering data:

Refer to section above for the key to cell colours.

1. **Check the site names.** If these are not correct, you cannot change them in this template – it will be rejected by the SWIM importer. Go to SWIM online-metadata, choose the relevant category of metadata and change the sites information. Then download the template again and it should contain the updated information.
2. Enter data into white cells. Each **data record must include:**
 - a. A date-time (in some cases there must be a start and end date)
 - b. A value (or measurement)

- c. BoM quality code
- d. Water quality and groundwater pressure data records must also contain a depth value, indicating the depth at which the sample/measurement was taken
3. Make sure there are **no blank rows** in between data rows: any data below the blank row will not be imported.
4. Each data entry worksheet also contains the field: **validation status**. One value should be entered for each worksheet. SWIM will apply this value to all data records on the worksheet. If the status is changed at a later date, the data should be resubmitted to SWIM with the updated validation status.

Save the template file

Use any name to save the file, but the format **MUST be Excel 2003 or higher**.

Shortcuts for transferring data from existing excel files

Many WSP's store daily data in excel files. The SWIM data templates can be setup to automatically source the latest daily data from the source files, rather than the user having to cut and paste these values.

Using "lookup" function to insert today's data

This is possible when the data in your source files is structured into columns, where there are columns for: date; measurement-site.

For example

filename:Watercourse_daily.xls

A	B	C	D	E
date	sandy ck level	sandy ck flow	hilly hill level	hilly hill flow
10/07/2009	1.62	50.00	0.40	23.00
11/07/2009	1.45	35.00	0.32	17.00
12/07/2009	1.41	30.00	0.30	14.00

1. If the date column in your source file contains date-time, insert a column (in column A) that can contain date is date only format (no time). If the date in your source file already contains a date column in the date only format, make sure it is in column A.
2. In the SWIM daily template, Insert formula "today()" in any unused (grey)cell in the worksheet (e.g. A11). If you want to insert yesterday's data into the template use the formula "(today())-1"
3. Change the format of this cell to "d/mm/yyyy" (without a time)
4. To automatically insert the date in the template file: In the template file, in the first cell of the date column for the first site (e.g. sandy ck):
 - (a) Change the format of the cell to date-time (d/mm/yyyy h:mm, from the custom list of cell formats)
 - (b) In the same cell insert the formula:
=vlookup(LOOKUP DATE, SOURCE FILENAME_SOURCE DATA RANGE,1,FALSE)

Where

LOOKUP DATE is the cell containing today's (or yesterday's date) e.g. \$A\$11

SOURCE FILENAME_SOURCE DATA RANGE is the range of cells or columns in the source file that contain the data (including the date and measurements)

1 is the number of the column in the source file that contains the date

Using the example above, this formula would be:

=vlookup(\$A\$11, [watercourse_daily.xlsx]Sheet1!\$A\$1:\$E\$431,1,FALSE)

If the source file contained both a date-only column (in column A), and a date-time column (say in column B), then the number 1 in the formula should be changed to the number of the column containing the date-time value (e.g. 2 for column B).

This will return today's (or yesterday's) date (or date-time) in the date-time column of the template.

5. To automatically insert the measurement in the template file: In the template file, in the first cell of the value (measurement) column for the first site (e.g. sandy ck) insert the same lookup value as above, but replace the number 1 with the number of the column in the source file containing the measurement value.

For example, using the data above, to insert the flow value for sandy creek into the template, the formula would be:

=vlookup(\$A\$11, [watercourse_daily.xlsx]Sheet1!\$A\$1:\$E\$431,3,FALSE)

Where 3 is the third column (column C) which contains the flow value for sandy creek.

6. Continue to enter the formula into all date-time and measurement fields in the daily template.

Save this file as your new template. Now the template is setup all that is required to obtain a new day's data is to open the file on the new day – the formulas will recalculate when the file is opened. Some manual data entry will still be required – for example the BoM quality code. However, if this code is unlikely to change from day to day, so very little manual changes to file will be required.

7. **Before the file can be imported by SWIM, the link to the external data file must be replaced by the actual values.** These values must first be copy and pasted (paste special – values only), to remove the link to external data sources). After pasting the values, save the file with a different filename to the template – otherwise the formulas linking to the source data will be lost.

The process of obtaining updated daily data and submitting would be:

- (a) Open the new template (containing the links to the source data). It will update with the new data.
- (b) Save the file with a different file name (e.g. daily_030809).
- (c) Send this file to SWIM via ftp (see below for details – this will be faster than logging in to SWIM online).

For assistance in linking source data, contact swim@qldwater.com.au

(C) SWIM_template_BoMmonthly (for WSPs reporting data for BoM monthly indicators)

Index of worksheets:

1. coversheet: contains instructions and other useful information
2. GW1: data entry worksheet for groundwater level data
3. GW2: data entry worksheet for groundwater pressure data

Instructions for entering data:

Refer to the above instructions in the section on SWIM_template_BoMdaily – the instructions for BoM monthly are the same.

(D) SWIM_template_annual_with_bom (for WSPs reporting at least some annual data to BOM)

This is the most complex of the SWIM templates as it must capture all data for annual reporting, some of which is comprised of only one value per year (as for SWIM_noBoM data), and others which may be comprised of weekly or billing cycle data.

To enable this, the SWIM_template_annual_with_bom file contains both types of template worksheets described above:

- (a) one annual data worksheet
- (b) many worksheets for single or groups of related indicators – as structured in the daily and monthly templates described above

Index of worksheets:

1. coversheet: contains instructions and other useful information
2. annual data: data entry worksheet for indicators requiring one value for the reporting year (for each scheme or organisation)
3. data checking tools (for checking annual data values)
4. NPRdata: a display of the data that will be transmitted for your NPR reporting. This sheet is not editable, and is not imported, it is present only for your reference.
5. water sources-BOMdata: data entry worksheet for weekly data describing water sources
6. water uses-nonpotable BoMdata: data entry worksheet for weekly data describing nonpotable water uses (except exports)
7. water uses-potable BoMdata: data entry worksheet for weekly and billing data describing potable water distribution (except exports)
8. water uses-subtotals BoMdata: displays derived data for WA8,9,10 (combined potable and nonpotable uses), and data entry for quality codes and comments for these data records
9. water exports-BoMdata: data entry worksheet for weekly data describing export of potable and recycled water (SWIM indicators: WA14, WA15, WA40, WA41, WA42, WA43)
10. sewerage discharge: data entry worksheet for weekly data describing discharge volumes from each discharge point (not from each treatment plant) (SWIM indicator: WA31)
11. stormwater discharge: data entry worksheet for weekly data describing water volumes discharged from stormwater discharge points (SWIM indicator: UW1)
12. WQ2: data entry worksheet for data (of any collection frequency) describing the water quality parameter electrical conductivity (groundwater)
13. WQ3: data entry worksheet for data (of any collection frequency) describing the water quality parameter total suspended solids
14. WQ4: data entry worksheet for data (of any collection frequency) describing the water quality parameter turbidity
15. WQ5: data entry worksheet for data (of any collection frequency) describing the water quality parameter total phosphorus
16. WQ6: data entry worksheet for data (of any collection frequency) describing the water quality parameter total nitrogen
17. WQ7: data entry worksheet for data (of any collection frequency) describing the water quality parameter pH
18. WQ8: data entry worksheet for data (of any collection frequency) describing the water quality parameter temperature
19. Definitions for SWIM indicators

Instructions for entering data:

In general, the instructions for entering data into the worksheets containing weekly or billing data are the same as those described above for daily and monthly data.

And the instructions for entering annual data onto the annual worksheet are the same as those described above for SWIM_annual_noBoM.

For BoM, all data must form a complete data record.

A data record = data value + sampling dates (start and end) + quality code + comment (optional)

The worksheets are structured so there is one set of date columns to the left of the sheet, for a group of indicators. You can change the dates and add as many rows as is needed if you want to add other date periods. You do need to use the same dates for every indicator or scheme, add rows for other date ranges (see examples below).

Every row must contain at least one complete data record (the SWIM importer will not look below a blank row for any more data).

Additional specific instructions for the SWIM_annual_all template:

1. Some of the **annual data values are derived** from values entered on the weekly or billing data worksheets. For this reason, it is recommended you enter the weekly and billing data worksheet data before completing the annual worksheet.
2. The worksheet “**water uses_subtotals**” contains summaries of data provided on the worksheets “water uses_potable” and “water uses-nonpotable”. This is so that these values can be combined to generate total (potable and nonpotable) water use values. Because the values for potable are entered according to water scheme, and the values for nonpotable water uses are entered according to nonpotable or sewerage schemes, the values cannot be summed to give a scheme-based value (potable water and nonpotable and sewerage schemes often cover different geographic regions). Consequently only the WSP-wide values for potable and non-potable use are summed, for each billing cycle (the finest temporal resolution available).

Example 1: Entering data which has different date ranges for different schemes

Instructions (for different sampling periods for each scheme, or different indicators)

1. Enter dates for scheme 1 and the date column, then enter water volumes in the Volume column (enter the quality codes and any comments).
2. add rows for dates for scheme 2, enter dates for scheme 2 and water volumes for scheme 2 in these rows
3. repeat for other schemes (add rows, enter dates and data)
4. remove all the #N/A from all columns except the WSP-wide column
5. Delete the formulas in the WSP-wide column (E) that are next to the date rows (e.g. E6:E18), and replace them with the text #N/A
6. check the annual totals row at the top: check the formula for each schemes annual total is summing all the relevant rows; and then manually change to formula in the annual total for the WSP-wide cell (e.g. X18) to sum the schemes annual totals

			WSP-wide			Water scheme 1			Water scheme 2			Water scheme 3		
		annual total (for reference only, this row is not imported)	14043.00			9362.00			4681.00			1328.00		
	week starting (date-time)	week ending (date-time)	Volume	BoM quality code	comment	Volume	BoM quality code	comment	Volume	BoM quality code	comment	Volume	BoM quality code	comment
weekly dates for scheme 1	1/07/2010 0:00	7/07/2010 23:59	#N/A			2567.00	B							
	8/07/2010 0:00	14/07/2010 23:59	#N/A			3578.00	B							
	15/07/2010 0:00	21/07/2010 23:59	#N/A			3217.00	B							
	etc for all weeks with data		#N/A											
quarterly dates for scheme 2	1/07/2010 0:00	31/10/2009 23:59	#N/A						1283.50	B				
	1/11/2009 0:00	28/02/2010 23:59	#N/A						1789.00	B				
	1/03/2010 0:00	30/06/2011 23:59	#N/A						1608.50	B				
monthly dates for scheme 3	1/07/2010 0:00	31/07/2009 23:59	#N/A									427.00	B	
	1/08/2009 0:00	31/08/2009 23:59	#N/A									478.00	B	
	1/09/2009 0:00	30/09/2009 23:59	#N/A									423.00	B	
	1/10/2010 0:00	31/10/2009 23:59	#N/A									432.00	B	
	1/11/2009 0:00	30/11/2009 23:59	#N/A									401.00	B	
	etc for all months with data		#N/A											

Example 2: use data from meters (billing systems)

Instructions (for different billing cycles for each scheme)

1. Enter dates for scheme 1 and the date column, then enter water volumes in the Volume column (enter the quality codes and any comments).
2. add rows for dates for scheme 2, enter dates for scheme 2 and water volumes for scheme 2 in these rows
3. repeat for other schemes (add rows, enter dates and data)
4. remove all the #N/A from all columns except the WSP-wide column
5. Delete the formulas in the WSP-wide column (R) that are next to the date rows (e.g. R7:R16), and replace them with the text #N/A
6. check the annual totals row at the top: check the formula for each schemes annual total is summing all the relevant rows; and then manually change to formula in the annual total for the WSP-wide cell (e.g. X18) to sum the schemes annual totals

SAMPLE: DIFFERENT TIME PERIODS (BILLING CYCLES) FOR DIFFERENT SCHEMES

		WSP-wide			Water scheme 1			Water scheme 2			Water scheme 3			Water scheme 4		
		annual total (for reference only, this row is not imported)			17031.00			12350.00			4681.00			5233.00		
start time (date-time)	end time (date-time)	Volume	BoM quality code	comment	Volume	BoM quality code	comment	Volume	BoM quality code	comment	Volume	BoM quality code	comment	Volume	BoM quality code	comment
1/07/2010 0:00	30/09/2009 23:59				2567.00	B										
1/10/2010 0:00	31/12/2010 23:59				3578.00	B										
1/01/2011 0:00	31/03/2011 23:59				3217.00	B										
1/04/2011 0:00	30/06/2011 23:59				2988.00	B										
1/07/2010 0:00	31/10/2009 23:59							1283.50	B							
1/11/2009 0:00	28/02/2010 23:59							1789.00	B							
1/03/2010 0:00	30/06/2011 23:59							1608.50	B							
1/07/2010 0:00	30/06/2011 23:59										5233.00	C				
1/07/2010 0:00	31/12/2010 23:59													1789.00	B	
1/01/2011 0:00	30/06/2011 23:59													1608.50	B	

3.4.5 Submitting SWIM templates

There are two options for submitting SWIM templates:

- (a) Upload via SWIM online
- (b) ftp

(a) Uploading SWIM template via SWIM online

1. After logging in to SWIM online using your WSPs username and password, you will be at the SWIM Data Portal page.
2. Select "Submit data"
3. Select the type of data you are uploading:

Login details: SWIM Test Region / regina / 2008-09

Submit data

Please click on the group of data to be submitted and method of submission

Submit annual SWIM data for 1/7/2009 - 30/6/2010 Annual data for 2009-2010 can be submitted from the end of July 2010. Please note: this does not affect data being submitted for BoM reporting	<input type="checkbox"/> manual using webforms <input checked="" type="checkbox"/> using SWIM data template
Submit monthly BoM data	<input checked="" type="checkbox"/> using SWIM data template
Submit daily BoM data	<input checked="" type="checkbox"/> using SWIM data templates

Notes:

- ☒ Annual data can be submitted using a combination of manual data entry and templates - please see the [help page](#) for more information
- ☒ If you are submitting NPR data that has been independently audited, you must supply a copy of the auditor's report to the NPR coordinator. You can do that directly, or by [emailing from here](#)
- ☒ If you are required to report changes to your water restrictions to the BoM, you can contact them directly, or by emailing the information [from here](#)

4. You will then be asked to point/browse/find the file you want to upload from you local computer/server. Find the template you have entered data into and press "upload".
5. Once a template is uploaded it is stored on the SWIM server (in the same place as files that are sent via ftp). The SWIM importer checks this folder **every 15 mins** for new files and processes them immediately (although the processing make take a few hours).

All files sent to the SWIM server are stored (as well as the data being extracted from them). However, if a file with the same name is sent to the SWIM server on the same day, it will replace the original file.

(b) Sending SWIM template via ftp

SWIM data templates may alternatively be submitted by sending via ftp to the SWIM ftp site.

There are many free ftp software programs available – many are very easy to use and will make submitting data regularly a much faster task than logging in to SWIM online (option (a) above). For advice on ftp, contact your local computer administrators, or swim@qldwater.com.au.

SWIM ftp address: <ftp.swim.qldwater.com.au>,

You will need your SWIM ftp username and password to send files to this secure ftp server. Your SWIM ftp username is an ID number assigned to your WSP – these are listed in Appendix D. Your password is the same as your SWIM online password. If you are unsure about the password for your WSP, please contact swim@qldwater.com.au

3.4.6 Notification of submitted data

The SWIM importer checks the SWIM server ftp folder **every 15 mins** for new files (received either by ftp or through SWIM online) and processes them immediately (although the processing may take several hours).

Once data has been extracted from a template and entered into the SWIM database, you will receive an email notification. The email will be sent to the current report contact listed in the SWIM 'organisation' metadata.

To change/check this address, log in to SWIM online, go to "submit metadata", select "Organisation data". You can change any of the organisation information recorded here by typing over it.

The email notification will identify the number of complete data records (measurements, dates, quality codes – all data fields) that were:

- Added
- Updated (i.e. replace existing values in the database)

Missing/invalid

SWIM is unable to provide specific information about the cause of an invalid or missing data. If this message is received, the template that was submitted should be checked. Common reasons for invalid/missing data include:

- incomplete data records for BoM data: e.g. missing BoM quality code, date-time, or measurement
- daily or monthly data with a date earlier than 1/7/2009
- templates containing worksheets with no data – delete these.

Missing or incorrect validation

If the email notification contains the message: "Missing or incorrect validation"; check there is a valid validation status entered in this field on every worksheet of the template.

Cannot import file

If the email notification contains the message: cannot import file, this could be because:

- the site name is incorrect (it does not match any sites recorded in SWIM online metadata)

Errors NOT detected by the SWIM importer:

- Text in number fields (as sometimes this is legitimate)
- A blank row in between data: any data below the blank row will not be imported.
- Date-time format – if no time is entered – only date, the data record will be imported and a default time added to the correct date.

If you cannot resolve the problem, reply to the notification email (or email to swim@qldwater.com.au), or call **qldwater** on (07) 36326852 and we will assist you as soon as possible.

3.4.7 Quality Control report

Annual data that is entered to SWIM, is subject to a series of QC checks.

Once the data has been submitted, the user can download a “QA_report_dd-mm-yyyy”, from the reports section of SWIM online.

Data that does not comply with any of the QC rules is identified. It is the user’s responsibility to further examine the data and check its correctness. Corrected data can be submitted using the data template (use your original one, with the corrected data), or by logging in to SWIM and changing the values using the Webforms (not for BoM data).

3.5 WSP database export to SWIM

Some organisations with in-house database or SCADA systems may choose to export data from these systems and submit direct to the SWIM database. This method would allow for scheduling of automatic export and sending of data to SWIM – particularly useful for data that must be reported daily.

Indicators suited to this submission method:

Indicators	Format (specs reference)
BoM category 1,3,4 (water course quantity, storage data, meteorological data)	SWIM horizontal-format CSV import format – single-indicator OR SWIM horizontal-format CSV import format – multi-indicator
Category 9 (water quality data)	SWIM horizontal-format CSV import format – water-quality

Files created using these specifications may be submitted to the SWIM database either by:

- (1) sending via ftp to <ftp.swim.qldwater.com.au>, using your swim ftp username (see Appendix D) and password; OR
- (2) logging in to SWIM online and uploading the file.

There are many ftp software programs available, many for free.

The following sections provide the specifications for exporting data from in-house data systems.

3.5.1 SWIM horizontal-format CSV import format – single-indicator

This section describes a format for submitting SWIM data in CSV (comma-delimited text) format. This applies to SWIM data that is to be forwarded to the BoM – not any other SWIM data. This format is suitable for SCADA data submissions containing a single indicator per file.

A file may contain multiple measurements from a single site, or from multiple sites.

The file may have any name.

The format is ASCII text, comma-delimited, variable record length, with optional quotes around fields. Fields values containing commas or quotes must be quoted.

The record structure is:

- header record (1)
- data status record (1)
- column headers (1)
- data records (multiple)

An empty data line is treated as ending the file (no records will be read past a blank line).

The SWIM header record

This record identifies the file type and the SWIM indicator for the import processor.

Field name	Data type	Details
File type identifier	Text	SWIM3/HORZ
Indicator	Text	SWIM indicator id. E.g. 'WQ1'

Example: "SWIM3/HORZ,ST1"

The data status record

This record specifies the status of the data records in the file. This must be one of the BoM data status values ("validated", "provisional", etc.)

Field name	Data type	Details
Status record	Text	"validated", "provisional", "provisionalbest", "combined"

The options for status are as follows:

- validated – The data series has been inspected and validated
- combined – The data series contains both Validated and ProvisionalBest values
- provisionalBest – The data series contains Provisional data of the highest quality. This is the provisional data that should be used for publication to the public
- provisional – An identifier of a particular instance of provisional data, this identifier should remain consistent subsequent supply of this data series

Example: "validated"

The data column header line

The data column headers identify the measurement columns. Columns may appear in any order, but time period measurements always consider the first (left-most) time-date column as the starting time and the second time-date column as the ending time. Both instantaneous and time-period indicators have identical columns. The second time-date column is always ignored for instantaneous measurements, but must be present in the file.

Field name	Data type	Details
Time-date header	Text	"time-date"
Time-date header	Text	"time-date"
Site header	Text	"site"
Value header	Text	"value"
Quality header	Text	"quality"
Comment header	Text	"comment"

Example: "time-date,time-date,site,value,quality,comment", "time-date,site,value,quality,comment"

Note that both time-date columns must be present if the indicator represents a measurement taken over a time period.

The data lines

Data lines contain the indicator measurements for each site at the specified instant or for the time period. The order of data rows in the file is not important – data rows do not need to be grouped in any way.

Field name	Data type	Details
Start Time-date	Text	The time-date value for the measurement. For an instantaneous measurement this is the only time-date required. E.g. '02/07/2008 13:08:04'
End Time-date	Text	For a duration measurement this is the ending time-date of the measurement. For an instantaneous measurement this field should be omitted. E.g. '12/07/2009 13:08:04'
Site name	Text	The name of the measurement site. E.g. 'Green Dam'
Value	Text/Numeric	The recorded measurement. E.g. '105.72'
Quality	Text	The BoM quality code for this measurement. The quality code can be in upper or lower-case. E.g. 'A', or 'a'.
Comment	Text	Any comment about this measurement. Can be blank

IMPORTANT: Site names must be entered into the metadata section of SWIM online before they can be accepted by the SWIM database. www.swim.qldwater.com.au. Please ensure the site name used is exactly as it appears in SWIM online.

Time-date columns

Time-dates can be in any of the following formats and are assumed to be a local (AEST) time value.

DD/MM/YYYY hh:mm:ss (e.g. 02/07/2008 13:08:04)

DD/MM/YYYY hh:mm (e.g. 29/07/2008 13:08)

YYYY-MM-DD hh:mm:ss (e.g. 2008-07-02 13:08:04)

YYYY-MM-DD hh:mm (e.g. 2008-07-29 13:08)

Format codes:

DD = 2-digit day (01..31)

MM = 2-digit month (01..12)

YYYY = 4-digit year (2009..)

hh = 2-digit hour (00..23). NOTE: always 24-hour format

mm = 2-digit minutes (00..59)

ss = 2-digit seconds (00..59)

BoM quality column

The quality value is one of the BoM quality codes (A..F). This is not optional information – files that do not contain quality codes will be rejected.

quality-A = The record set is the best available given the technologies, techniques and monitoring objectives at the time of classification.

quality-B = The record set is compromised in its ability to truly represent the parameter.

quality-C = The record set is an estimate.

quality-D is withdrawn and unused.

quality-E = The record set's ability to truly represent the monitored parameter is not known.

quality-F = The record set is not of release quality or contains missing data.

File Example(Instantaneous indicator)

```
SWIM3/HORZ,ST1
validated
time-date,site,value,quality,comment
12/07/2008 13:00,Malpas Dam,5.71,a,'a comment'
12/07/2008 11:08,,Dumaresq Dam,0.75,C,another comment
```

File Example(Duration indicator)

```
SWIM3/HORZ,ST3
validated
time-date (START),time-date (END),site,value,quality,comment
12/07/2008 10:00 AM,12/07/2008 01:00 PM,Malpas Dam,5.71,a,'a
comment'
12/07/2008 11:08 AM,12/07/2008 01:00 PM,Dumaresq Dam,3.0192,A,
```

3.5.2 SWIM horizontal-format CSV import format – multi-indicator

This section describes a format for submitting SWIM data in CSV (comma-delimited text) format. This applies to SWIM data that is to be forwarded to the BoM – not any other SWIM data. This format is

suitable for SCADA data submissions containing multiple indicators per file.

The file may have any name.

A file may contain multiple measurements from a single site, or from multiple sites.

The format is ASCII text, comma-delimited, variable record length, with optional quotes around fields. Fields values containing commas or quotes must be quoted.

The record structure is:

- header record (1)
- data status record (1)
- column headers (1)
- data records (multiple)

An empty data line is treated as ending the file (no records will be read past a blank line).

The SWIM header record

This record identifies the file type for the import processor. A single value is recognized and required

Field name	Data type	Details
File type identifier	Text	SWIM3/HORZ/MULTI

Example: "SWIM3/HORZ/MULTI"

The data status record

This record specifies the status of the data records in the file. This must be one of the BoM data status values ("validated", "provisional", etc.).

Field name	Data type	Details
Status record	Text	"validated", "provisional", "provisionalbest", "combination"

The options for status are as follows:

- validated – The data series has been inspected and validated
- combined – The data series contains a Validated and ProvisionalBest values
- provisionalBest – The data series contains Provisional data of the highest quality. This is the provisional data that should be used for publication to the public.
- provisional – An identifier of a particular instance of provisional data, this identifier should remain consistent subsequent supply of this data series

Example: "validated"

The data column header line

The data column headers identify the measurement columns. Columns may appear in any order, but time period measurements always consider the first (left-most) time-date column as the starting time and the second time-date column as the ending time. Both instantaneous and time-period

indicators have identical columns. The second time-date column is always ignored for instantaneous measurements, but must be present in the file

Field name	Data type	Details
Indicator header	Text	"indicator"
Time-date header	Text	"time-date"
Time-date header	Text	"time-date"
Site header	Text	"site"
Value header	Text	"value"
Quality header	Text	"quality"
Comment header	Text	"comment"

Example: "indicator,time-date,time-date,site,value,quality,comment"

Note that both time-date columns must always be present, even if you are sending only instantaneous measurement data in the file.

The data lines

Data lines contain the indicator measurements for each site at the specified instant or for the time period. The order of data rows in the file is not important – sites and indicators do not need to be grouped in any way.

Field name	Data type	Details
Indicator	Text	One of the SWIM indicator codes. E.g. 'SW1'
Start Time-date	Text	The time-date value for the measurement. For an instantaneous measurement this is the only time-date required. E.g. '02/07/2008 13:08:04'
End Time-date	Text	For a duration measurement this is the ending time-date of the measurement. For an instantaneous measurement this field will be blank E.g. '12/07/2009 13:08:04'
Site name	Text	The name of the measurement site. E.g. 'Green Dam'
Value	Text/Numeric	The recorded measurement. E.g. '105.72'
Quality	Text	The BoM quality code for this measurement. The quality code can be in upper or lower-case. E.g. 'A', or 'a'.
Comment	Text	Any comment about this measurement. Can be blank

IMPORTANT: Site names must be entered into the metadata section of SWIM online before they can be accepted by the SWIM database. www.swim.gldwater.com.au. Please ensure the site name used is exactly as it appears in SWIM online.

Time-date columns

Time-dates can be in any of the following formats and are assumed to be a local (AEST) time value.

DD/MM/YYYY hh:mm:ss (e.g. 02/07/2008 13:08:04)

DD/MM/YYYY hh:mm (e.g. 29/07/2008 13:08)

YYYY-MM-DD hh:mm:ss (e.g. 2008-07-02 13:08:04)

YYYY-MM-DD hh:mm (e.g. 2008-07-29 13:08)

Format codes:

DD = 2-digit day (01..31)

MM = 2-digit month (01..12)

YYYY = 4-digit year (2009..)

hh = 2-digit hour (00..23). NOTE: always 24-hour format

mm = 2-digit minutes (00..59)

ss = 2-digit seconds (00..59)

BoM quality column

The quality value is one of the BoM quality codes (A..F). This is not optional information – files that do not contain quality codes will be rejected.

quality-A = The record set is the best available given the technologies, techniques and monitoring objectives at the time of classification.

quality-B = The record set is compromised in its ability to truly represent the parameter.

quality-C = The record set is an estimate.

quality-D is withdrawn and unused.

quality-E = The record set's ability to truly represent the monitored parameter is not known.

quality-F = The record set is not of release quality or contains missing data.

File Example

```
SWIM3/HORZ/MULTI
validated
indicator,time-date (START),time-date
(END),site,value,quality,comment
ST3,12/07/2008 10:00 AM,12/07/2008 01:00 PM,Malpas Dam,5.71,a,'a
comment'
ST1,12/07/2008 11:08,,Malpas Dam,1.23,a,
ST3,12/07/2008 11:08 AM,12/07/2008 01:00 PM,Dumaresq Dam,3.0192,A,
ST4,12/07/2008 11:08,,Dumaresq Dam,0.75,C,another comment
```

3.5.3 SWIM horizontal-format CSV import format – water-quality

This section describes a format for submitting SWIM water quality data in CSV (comma-delimited text) format. This applies to SWIM data that is to be forwarded to the BoM – not any other SWIM data. This format is suitable for SCADA data submissions containing a single water quality indicator per file.

The file may have any name.

A file may contain multiple measurements from a single site, or from multiple sites.

The format is ASCII text, comma-delimited, variable record length, with optional quotes around fields. Fields values containing commas or quotes must be quoted.

The record structure is:

- header record (1)
- data status record (1)
- column headers (1)
- data records (multiple)

An empty data line is treated as ending the file (no records will be read past a blank line).

The SWIM header record

This record identifies the file type and the SWIM indicator for the import processor.

Field name	Data type	Details
File type identifier	Text	SWIM3/HORZ
Indicator	Text	SWIM indicator id. E.g. 'ST1'

Example: "SWIM3/HORZ,ST1"

The data status record

This record specifies the status of the data records in the file. This must be one of the BoM data status values ("validated","provisional",etc)

Field name	Data type	Details
Status record	Text	"validated", "provisional", "provisionalbest", "combination"

The options for status are as follows:

- validated – The data series has been inspected and validated
- combined – The data series contains both Validated and ProvisionalBest values
- provisionalBest – The data series contains Provisional data of the highest quality. This is the provisional data that should be used for publication to the public
- provisional – An identifier of a particular instance of provisional data, this identifier should remain consistent subsequent supply of this data series

Example: "validated".

The data column header line

The data column headers identify the measurement columns. Columns may appear in any order, but time period measurements always consider the first (left-most) time-date column as the starting time and the second time-date column as the ending time. Both instantaneous and time-period indicators have identical columns. The second time-date column is always ignored for instantaneous

measurements, but must be present in the file

Field name	Data type	Details
Time-date header	Text	"time-date"
Time-date header	Text	"time-date"
Site header	Text	"site"
Depth	Text	"depth"
Value header	Text	"value"
Quality header	Text	"quality"
Value qualifier header	Text	"value qualifier"
Comment header	Text	"comment"

Example: "time-date,time-date,depth,site,value,quality,value qualifier,comment", "time-date,site,depth,value,quality,value qualifier,comment"

Note that both time-date columns *must* be present if the indicator represents a measurement taken over a time period.

The data lines

Data lines contain the indicator measurements for each site at the specified instant or for the time period. The order of data rows in the file is not important – data rows do not need to be grouped in any way.

Field name	Data type	Details
Start Time-date	Text	The time-date value for the measurement. For an instantaneous measurement this is the only time-date required. E.g. '02/07/2008 13:08:04'
End Time-date	Text	For a duration measurement this is the ending time-date of the measurement. For an instantaneous measurement this field should be omitted. E.g. '12/07/2009 13:08:04'
Site name	Text	The name of the measurement site ¹ . E.g. 'Green Dam'
Value	Text/Numeric	The recorded measurement. E.g. '105.72'
Depth	Numeric	Depth in metres at which the sample was taken for this measurement. E.g. '5', '1.75'. Depth is relative to the depth datum specified for this site. This will typically be 'depth from surface', but may be, for example, depth relative to a specific geodesic datum.
Quality	Text	The BoM quality code for this measurement. The quality code can be in upper or lower-case. E.g. 'A', or 'a'.

¹ Site names must be entered into the metadata section of SWIM online before they can be accepted by the SWIM database. www.swim.qldwater.com.au

Value qualifier	Text	An optional qualifier for the value. E.g. '<0', 'too many to count'
Comment	Text	Any comment about this measurement. Can be blank

IMPORTANT: Site names must be entered into the metadata section of SWIM online before they can be accepted by the SWIM database. www.swim.gldwater.com.au. Please ensure the site name used is exactly as it appears in SWIM online.

Time-date columns

Time-dates can be in any of the following formats and are assumed to be a local (AEST) time value.

DD/MM/YYYY hh:mm:ss (e.g. 02/07/2008 13:08:04)

DD/MM/YYYY hh:mm (e.g. 29/07/2008 13:08)

YYYY-MM-DD hh:mm:ss (e.g. 2008-07-02 13:08:04)

YYYY-MM-DD hh:mm (e.g. 2008-07-29 13:08)

Format codes:

DD = 2-digit day (01..31)

MM = 2-digit month (01..12)

YYYY = 4-digit year (2009..)

hh = 2-digit hour (00..23). NOTE: always 24-hour format

mm = 2-digit minutes (00..59)

ss = 2-digit seconds (00..59)

BoM quality column

The quality value is one of the BoM quality codes (A..F). This is not optional information – files that do not contain quality codes will be rejected.

quality-A = The record set is the best available given the technologies, techniques and monitoring objectives at the time of classification.

quality-B = The record set is compromised in its ability to truly represent the parameter.

quality-C = The record set is an estimate.

quality-D is withdrawn and unused.

quality-E = The record set's ability to truly represent the monitored parameter is not known.

quality-F = The record set is not of release quality or contains missing data.

File Example(Instantaneous indicator)

SWIM3/HORZ,WQ1

validated

time-date,site,depth,value,quality,value qualifier,comment

12/07/2008 13:00,Malpas Dam,1,5000,a,'too many to count',''

12/07/2008 13:00,Malpas Dam,3,200,a,'','',''

12/07/2008 13:00,Malpas Dam, ,0,a,'','','OFFLINE'

12/07/2008 11:08,,Dumaresq Dam,3,0.75,C,'','',''

3.6 Finalising data entry

SWIM is designed to allow WSPs to submit data in batches over a period of time, whether using webforms and/or templates. Because of this flexibility, you must indicate when you have finalised the data entry for your WSP so that SWIM can record that the data is ready to be reported.

You must confirm you have downloaded and checked your QC report before finalising your data.

When SWIM forwards data on to recipient organisations it will send only data from organisations that have finalised annual data submission. If the data has not been identified as finalised, it will not be sent.

Finalisation is only required for annual data – not for daily or monthly BoM data (daily and monthly data is forwarded on to BoM as it is received).

To finalise data submission:

Choose the “finalise annual data submission” option from the SWIM online Data Portal page and click “Annual data submission is finalised” to confirm you want to finalise all data submission.

This will signify to the SWIM database the data is ready to be reported to the recipient organisations (when the date for forwarding on that data arrives).

When you visit the “submit data” page after annual data submission has been finalised, a message will appear at the top of this page, identifying that annual data submission has been finalised.

Undoing “finalise data submission”

It is possible to reset the “finalised data” option if you need to identify that submission is not complete and data is not ready to be forwarded on to the recipient organisations. From the SWIM Data Portal page, go to “Finalise data” and select “Annual data submission is not finalised”.

If you reset finalised data to “not finalised” *after* the date SWIM reports the data on to recipient organisations, the data will already have been sent. After making the changes you require (to the data), contact swim@qldwater.com.au to arrange to forward on the revised data to the recipient organisations.

4 Accessing & modifying data in SWIM

All data that is submitted to SWIM can be accessed only by the WSP that submitted it and SWIM administrators.

Users can download from SWIM online using the download data and reports option from the SWIM Data Portal page (after logging in to SWIM online).

Annual data can be viewed and modified by accessing the data submission webforms (from the data portal, go to ‘submit data’, then ‘manually using webforms’).

5 Additional instructions: NPR data

After data destined for the NPR has been submitted to SWIM (via the SWIM annual template), and the submission of data has been 'finalised', the data will be forwarded on to the NPR data coordinator. In Queensland this is the Water Accounting section of DEWS.

The deadline for submitting data to be forwarded for NPR reporting is the **1st October 2012**.

SWIM will forward this data on the 5th **October** to the NPR data coordinator.

The data that is forwarded is a subset of all SWIM data. A copy of what is forwarded for NPR reporting is available from the download data section of SWIM online (SWIM_NPR report). It is also displayed for your reference in the SWIM annual data template. This report is in the format specified by the NPR for their NPR template – this file will be directly imported into the NPR database. It is recommended you download this report and check its contents.

If changes to data are required, please contact swim@qldwater.com.au to arrange resubmission of the data.

Audits

If an external **compliance audit** was conducted, the auditor's report must be forwarded to the NPR coordinator (DEWS).

You should submit your audit results using the SWIM_template_NPR_audit_results. Download this file from the SWIM template page, and upload as for all other SWIM templates.

After the data coordinator receives the SWIM-NPR data report and auditor's report (if required) they will check the data. If there are any problems, they will contact the WSP directly. If data needs to be resubmitted, this can be done either through SWIM, or by changing values in the SWIM-NPR report file – as this file is formatted for import by the NPR database, changes can be made directly to this file. CAUTION – any changes to the SWIM-NPR data file made after it is downloaded from SWIM online will not be reflected in the SWIM database.

After the data coordinator is satisfied with the NPR data report, it will be uploaded to the NPR database.

The NPR team will then generate a "proof" of the data report for your WSP that is to appear in the NPR for that year. The NPR data coordinator will contact you directly to request you log in the NPR database (not the SWIM database) to check and 'sign-off' on your NPR data.

The NPR database is accessible at: <https://www.nwcnpr.com.au/login.aspx>. You will need your NPR login information, not your SWIM access information.

6 SWIM Reports

Data that is submitted to SWIM can be downloaded (by the WSP only) in several forms. All reports are available from the “View or download data & reports” section of SWIM online. The WSP must first log in to SWIM online, and these reports only contain the information from their WSP – not any other (but see report section for the comparative report).

There are three broad categories of reports:

1. Dataset reports
2. Administration reports
3. Analysed data reports

Some of these reports are in development and will be made available over the coming year.

6.1 Dataset reports

These reports reflect the various reporting requirements of WSPs, and are a copy of the data that was/will be sent to the recipient organisation (e.g. BoM, DEWS, ABS).

Reports available:

1. **SWIM annual dataset** (no BoM data):
2. **QLD GOVT data** (DEWS (previously DERM & DIP)):
3. **BoM data (annual)**
4. **BoM data (daily, monthly)**: [specified dates]
5. **NPR data**
6. **Metadata**: current metadata held by SWIM

The following reports can be also be treated as SWIM templates – the data within them can be modified and the file can be resubmitted to SWIM to update the data within the SWIM database:

- SWIM annual (no BoM)
- BoM annual
- BoM monthly
- BoM daily

The format of the NPR report is that required by the NPR for import into their NPR database. SWIM will automatically forward this report to the NPR data coordinator – this option is if you want to store a copy of the data submitted via SWIM to the NPR. It can be downloaded to checked before data is sent to the NPR by SWIM.

6.2 Administration reports

These reports provide information for managing the submission of data through SWIM. Some of these reports are in development and will be released soon.

1. **SWIM_QA_report**: contains a list of the indicators whose values were outside the expected range. This can be downloaded after new data has been submitted to SWIM, and is most useful for data that was submitted via SWIM templates. Any data submitted using Webforms at SWIM online are checked as they are entered on-screen.
2. **SWIM_Access_log**: contains a list of users who logged in (and time, date) to the WSPs’ account.

6.3 Analysed data: SWIM comparative report

In order to deliver some additional benefits to SWIM users, a comparative report is available. This report displays the WSPs' values for certain indicators, and the range of value submitted by other WSPs.

6.3.1 Indicators in the comparative report

Not all SWIM indicators are useful for comparing against other WSPs. Those included in the SWIM comparative report are listed below. Some of the indicators listed here are useful for direct benchmarking, while others provide important context and help explain the differences observed for benchmarking indicators.

SWIM category	SWIM (code)	Indicator title
Sources of Water	WA7	The total volume of water taken/obtained
Uses of Water Supplied	WA32	The total volume of metered and estimated non-metered POTABLE residential water supplied
	WA34	The total volume of metered and estimated non-metered POTABLE commercial, municipal and industrial water supplied
	WA36	The total volume of metered and estimated non-metered POTABLE water supplied, other than residential , commercial, municipal and industrial water
	WA38	The total volume of metered and estimated non-metered POTABLE urban water supplied
	WA12	Average annual residential water supplied per property
	WA30	Average annual total potable water supplied per connection
Waste water	WA18	Total volume sewage collected
	WA19	Average volume sewage collected per property
	WA26	Total volume recycled water supplied (within the WSPs geographic area of responsibility)
	WA27	Recycled water (percent of effluent recycled)
Water Treatment and Supply Assets	AS3	Properties served per km of water main
Sewerage Assets	AS6	Properties served per km of sewer main
Asset Performance - Water	AS14	Number of water main breaks (total)
	AS8	Number of water main breaks (per 100 km water main)
	AS9	Infrastructure Leakage Index
	AS10	Real water losses
	AS11	Real water losses
	CS38	Minimum flow (water)
	CS39	Minimum pressure (water)
Asset	AS12	Number of sewer main breaks and chokes per 100 km

Performance - Sewerage	AS35	Property connection sewer main breaks and chokes (per 100km of sewer main)
	CS35	Sewage inflow and infiltration (peak day flow / average day flow)
	CS36	Sewage overflow to customer property (number per 1000 connections)
	EN13	Sewage overflows reported to the environmental regulator (per 100 km of main)
	AS37	Total number sewage overflows (per 100km sewer main)
Customer Service - sewerage	CS11	Sewerage service complaints (per 1000 properties)
	CS33	(Average) Response/reaction time for incidents (sewerage)
	CS60	Average sewerage interruption (minutes)
Customer Service - water	CS9	Number of drinking water quality complaints (per 1000 properties)
	CS10	Number water service complaints (per 1000 properties)
	CS30	Average duration of a planned interruption to water supply
	CS15	Average duration of an unplanned interruption- water
	CS17	Average frequency of unplanned interruptions – water (per 1000 properties).
	CS31	Relative incidence of planned incidents (i.e. number planned / number unplanned) Water supply
	CS18	Number of restrictions applied for non-payment of water bill (per 1000 properties)
	CS19	Number of legal actions applied for non-payment of water bill (per 1000 properties)
Customer Service - overall	CS12	Billing and account complaints – water and sewerage (per 1000 properties)
	CS13	Total water and Sewerage service complaints (per 1000 Prop)
	CS14	Per cent of calls answered by an operator within 30 seconds (%)
Compliance & treatment- sewerage	EN3	Percent of sewage treated to a tertiary level
	EH11	% of samples which complied with the licence standard for BOD
	EH14	% of samples which complied with the licence standard for Suspended Solids
	EH17	% of samples which complied with the licence standard for Nitrogen
	EH20	% of samples which complied with the licence standard for Phosphorus
Compliance - Drinking Water	HL3	% of total population where microbiological compliance was achieved
	EH5	% of samples which complied with the relevant guideline on <i>E. coli</i>
	EH8	% of samples which complied with the relevant guideline on physical and chemical parameters
Biosolids	EN8	Percent of biosolids reused
Greenhouse Gas Emissions	EN9	greenhouse gas emissions - Water (per 1000 properties)
	EN10	greenhouse gas emissions - Sewage (per 1000 properties)
	EN11	Net greenhouse gas emissions - Other (per 1000 properties)
	EN12	Total Net greenhouse gas emissions – total (per 1000 properties)
Revenue, Costs & Grants	FN4	Residential revenue from usage charges – water (%)
	FN5	Revenue per property for water supply services (\$/property)
	FN6	Revenue per property for sewerage services (\$/property)
	FN7	Income per property for utility (\$/property)

	FN8	Revenue from Community Service Obligations (%)
	FN11	Operating cost - water (\$/property)
	FN12	Operating cost – sewerage (\$/property)
	PR26	Annual bill based on 200kL/a - water
	PR35	Annual bill based on 200kL/a - sewerage
	PR38	Annual bill based on 200kL/a (water & sewerage)

6.3.2 Comparison groups

It is not always meaningful to compare all WSPs against all others, and some groupings of similarity provide more useful comparisons. Data in the SWIM comparative report is compared in three ways:

- Comparison with all WSPs
- Comparison with WSPs of a similar size (number of water connections), using the following definitions for size:
 - Large: equal to or greater than 10000 water connections
 - Medium: equal to or greater than 1000 but less than 10000 water connections
 - Small: less than 1000 water connections
- Comparison with WSPs of a similar soil type, using the following categories:
 - Reactive soils
 - Nonreactive soils
- Comparison with WSPs in the same demand group, based upon the residential demand per connection, using the following categories:
 - Central Coastal
 - Central Inland
 - Darling Downs
 - Northern
 - Northern Coastal
 - South-east
 - Western

The accuracy and usefulness of the comparative data is dependent upon the number of other WSPs that have finalised submitting their SWIM data. Consequently the comparative report will only be available after 30% of WSPs have submitted data, to ensure a minimum amount of data is available for comparisons. Each report also identifies the number of WSPs whose data was used for each comparison – low numbers mean the comparison may not be reliable.

7 Appendices

Appendix A: BoM Water Regulations definitions

Australian water access entitlement means a perpetual or ongoing entitlement, by or under a law of a State, to exclusive access to a share of the water resources of a water resource plan area or other water management area.

Australian water allocation means the specific volume of water allocated to an Australian water access entitlement in a given water accounting period.

Commercial water means the total amount of metered and estimated non metered, potable and non potable, water supplied to commercial properties.

Downward longwave exposure means the total amount of terrestrial electromagnetic energy that falls on a specified unit horizontal surface.

Downward longwave irradiance means the longwave irradiance emitted from the sky that falls on a specified unit horizontal surface.

Dry bulb air temperature means the temperature of air measured by a thermometer freely exposed to the air but shielded from radiation and moisture.

Electrical conductivity, in relation to a water sample, means the ability of the water in the sample to conduct an electrical current.

Exposure means the measure of the energy received per unit area.

Global solar exposure means the total amount of electromagnetic energy emitted from the sun that falls on a specified unit horizontal surface.

Global solar irradiance means the irradiance emitted from the sun that falls on a specified unit horizontal surface.

Industrial water is the total amount of metered and estimated non metered, potable and non potable, water supplied to industrial properties.

Irradiance means the measure of the rate of electromagnetic energy received per unit area.

Minor storage means any water storage in which water is stored for taking and that meets the following criteria:

- (a) it is not a major storage;
- (b) it has a storage capacity of 100 ML or more;
- (c) it is not used primarily for the precipitation of ash;
- (d) it is not a mine tailings dam;
- (e) it is not managed by an urban infrastructure operator primarily for the purposes of flood management or pollution abatement.

Municipal water means the total amount of metered and estimated non metered, potable and non potable, water supplied for municipal purposes.

Net exposure means the net global solar exposure plus the net longwave exposure.

Net global solar exposure means the global solar exposure less the reflected global solar exposure.

Net global solar irradiance means the global solar irradiance less the reflected global solar irradiance.

Net irradiance means the net global solar irradiance plus the net longwave irradiance.

Net longwave exposure means the downward longwave exposure less the upward longwave exposure.

Net longwave irradiance means the downward longwave irradiance less the upward longwave exposure.

Reflected global solar exposure means the total amount of electromagnetic energy emitted from the sun that is reflected from the ground and irradiates a specified unit horizontal surface from underneath.

Reflected global solar irradiance means the irradiance emitted from the sun that is reflected from the ground and irradiates a specified unit horizontal surface from underneath.

Residential water means the total amount of metered and estimated non metered, potable and non potable water supplied to residential properties.

Self extract means to take water directly from a water resource for the use of the person who takes the water, but does not include taking water:

- (a) to provide it to another person; or
- (b) under a stock and domestic right; or
- (b) from an infrastructure operator.

Tidal limit, in relation to a watercourse, means the maximum upstream location on that watercourse at which a tidal variation in water level is observed.

Total nitrogen, in relation to a water sample, means the measure of all forms of nitrogen found in the water sample, including nitrate, nitrite, ammonia N and organic forms of nitrogen.

Total phosphorus, in relation to a water sample, means the total concentration of all forms of phosphorus found in the water sample.

Total suspended solids, in relation to a water sample, means the measure of the particles mixed in the water sample.

Turbidity, in relation to a water sample, means the amount of small particles of solid matter suspended in the water sample, measured by the amount of scattering and absorption of light rays caused by the particles.

Upward longwave exposure means the total amount of terrestrial electromagnetic energy emitted from the Earth's surface that irradiates a specified unit horizontal surface from underneath.

Upward longwave irradiance means the longwave irradiance emitted by the Earth's surface that irradiates a specified unit horizontal surface from underneath.

Urban water means the total residential, commercial, municipal, industrial and other water supplied by urban water utilities.

Vapour pressure deficit means the difference between the amount of moisture in the air and how much moisture the air can hold when it is saturated.

Water management area means any area defined for the purposes of water management, including a water resource plan area.

Wet bulb air temperature means the temperature of air measured by a thermometer that has its bulb wrapped in wet muslin.

Wind run means the product of the average wind speed and the period over which that average speed was measured

General comments about terminology (extract from BoM information Bulletin, 22 Dec 2008)

It has come to our attention that the common urban water management terms listed below are currently not defined adequately, and in some cases are not defined or referred to in the Regulations. We have included our definitions of these terms in this Bulletin to assist you in understanding the information we require now or may require in the future. The terms should be read with reference to the table of subcategories that follows.

Non-revenue water is the amount of water not accounted for by billed water use metering. It may include delivery systems losses such as leakage from water mains, water stolen or unaccounted for due to inaccurate meters, water used for fire-fighting purposes and water used for cleaning water mains.

Recycled water is water generated from sewage, greywater or stormwater systems that is treated as required then used as a water supply source.

Sewage is waste from residential and non-residential properties collected and/or treated via sewerage infrastructure. It includes any volumes collected in the sewerage system due to

stormwater, illegal connection inflow and infiltration to the sewerage system. It covers both untreated and treated sewage but does not include sewage treatment plant effluent that is subsequently recycled.

Take: This term is defined in the Water Act 2007 but it has generated some confusion. In Category 7, the term “volume of water taken” refers to the water that the named urban water utility extracts from a particular water source. It does not include the water extracted by another infrastructure operator on its behalf.

Reporting period: You may not currently hold data in the weekly reporting period specified in the Regulations. Please supply data in the shortest reporting period available if that is longer than one week.

Potable and non-potable water: Under Regulations subcategories 7h – 7m, please report separate values for potable and non-potable where you have that information.

Comments about specific BoM indicators (extract from BoM information Bulletin, 22 Dec 2008)

Subcategory no.	Subcategory information	Clarification comment
7b	The total weekly volume of water taken from groundwater, expressed in megalitres per week, the start and finish times of the observations, and dates of the observations.	7b includes the portion of groundwater volume originating from artificial recharge and desalinated groundwater.
7c	The total weekly volume of water taken from desalination, expressed in megalitres per week, the start and finish times of the observations, and dates of the observations.	7c only includes water taken from marine desalination and therefore excludes desalinated groundwater.
7d	The total weekly volume of water taken from recycling, expressed in megalitres per week, the start and finish times of the observations, and dates of the observations.	7d includes the total amount of recycled water taken from your organisation’s sewerage infrastructure (e.g. sewage treatment plant) and used for supply either to your customers or to another water utility as a bulk recycled water supply. It also includes recycled water used by your own organisation but not supplied to a customer.
7e	The total weekly volume of water received from infrastructure operators, expressed in megalitres per week, the start and finish times of the observations, and dates of the observations.	7e refers to water supplied to you from another organisation, such as a bulk water utility and/or neighbouring water utility. The water may or may not have been purchased. The main point is that another organisation has provided your organisation with the water. The volume includes water which is subsequently exported to another water utility.

7e excludes purchased recycled water which is included in 7f. It also excludes water that is included in "volume of water taken" under subcategories 7a, 7b, 7c and 7d.

7f	The total weekly volume of bulk recycled water purchased, expressed in megalitres per week, the start and finish times of the observations, and dates of the observations.	7f includes the total amount of recycled water received by your organisation from another organisation (infrastructure operator). The water may or may not have been purchased. The main point is that another organisation provided you with the recycled water, rather than you directly taking it from your own sewerage infrastructure (e.g. sewage treatment plant).
7h	The total weekly volume of residential water supplied, expressed in megalitres per week, the start and finish times of the observations, and dates of the observations.	7h includes both potable and non-potable water, supplied to residential customers located within your organisation's management area. The volume includes both total metered and estimated non-metered residential water supplied.
7i	The total weekly volume of commercial, municipal and industrial water supplied, expressed in megalitres per week, the start and finish times of the observations, and dates of the observations.	7i includes both potable and non-potable water supplied to commercial, municipal and industrial customers located within your organisation's management area. The volume includes both total metered and estimated non-metered commercial, municipal and industrial water supplied.
7j	The total weekly volume of water supplied, other than residential, commercial, municipal and industrial water, expressed in megalitres per week, the start and finish times of the observations, and dates of the observations.	7j includes all the potable and non-potable water supplied to customers other than residential, commercial, municipal and industrial customers located within your organisation's management area. It also includes non-revenue water (see definition on page 2). "Other" may include agricultural or horticultural customers. The types of use falling into the "other" category should be specified in Category 10e: Metadata about other water information. The volume includes both total metered and estimated non-metered 'other water' supplied.

7k	The total weekly volume of urban water supplied, expressed in megalitres per week, the start and finish times of the observations, and dates of the observations.	7k includes all potable and non-potable water supplied to residential, commercial, municipal and industrial, and other customers. Note that 7k includes the non-revenue water which has been reported as part of 7j.
		The volume includes total metered and estimated non-metered urban water supplied.
7l	The total weekly volume of bulk water exports, expressed in megalitres per week, the start and finish times of the observations, and dates of the observations.	7l is the bulk, non-recycled, potable and non-potable water delivered to another water utility or infrastructure operator for the purposes of supplying their customers. Usually this water will be exported outside your organisation's jurisdictional boundaries.
		To prevent overlap with Category 7m, this data should not include the bulk recycled water exports which are reported in Category 7m.
7m	The total weekly volume of bulk recycled water exports, expressed in megalitres per week, the start and finish times of the observations, and dates of the observations.	7m refers to the volume of recycled water (potable and non-potable) delivered to another water utility or infrastructure operator for the purpose of supplying recycled water to their customers. This exported bulk recycled water could subsequently be used for urban and non-urban uses.
7n	The total weekly volume of sewage discharges from a sewage discharge point into a watercourse, expressed in megalitres per week, the start and finish times of the observations, and dates of the observations.	Note the definition of "sewage" on page 2 which is broader than just untreated sewage.
		When reporting sewage discharge into a watercourse, please report all sewage discharge including: (1) surface water or ocean within or adjacent to the organisation's geographic area of responsibility (2) sewerage infrastructure operated by another organisation.
		This data includes all discharges of sewage treatment plant effluent into watercourses and marine water bodies and sewage exported to another sewerage infrastructure operator.
7o	The total weekly volume of stormwater discharges from a stormwater discharge point into a watercourse, expressed in megalitres per week, the start and finish times of the observations, and dates of the observations.	When reporting stormwater discharge into a watercourse, please report all sewage discharge including: (1) surface water or ocean within or adjacent to the organisation's geographic area of responsibility (2) the stormwater drainage system operated by another organisation.
		This data includes all discharges of stormwater into watercourses and

marine water bodies and stormwater
exported to another stormwater
drainage system operator.

Appendix B: BoM's Water Data Transfer Format (WDTF)

The [Water Data Transfer Format \(WDTF\)](#) is an XML data transfer format enabling Australian water data interoperability. WDTF was developed by the Bureau in collaboration with CSIRO under the Water Information Research and Development Alliance ([WIRADA](#)). Initial development was completed in July 2008.

The transfer format is an XML format adapted from the [Observations and Measurements Encoding Standard](#) published by Open Geospatial Consortium (OGC). The XML schema has been designed to conform to the GML Simple Features profile, and is compatible with the OGC's Web Feature Service interchange standard. The current version of the WDTF supports data for Regulations [categories 1, 3, 4, 5, 7, 9, 10a and 10b](#). We are currently working on including support for data [category 2 \(Ground water resource information\)](#).

Appendix C: BoM accepted Geodetic Grid References

BoM has identified the following geodectic grid references as acceptable:

Plain name	Long Name	Domain of Validity	EPSG Code (enter this to SWIM)
MGA Zone 48	GDA94 / MGA zone 48	Australia - 102°E to 108°E	EPSG::28348
MGA Zone 49	GDA94 / MGA zone 48	Australia - 108°E to 114°E	EPSG::28349
MGA Zone 50	GDA94 / MGA zone 50	Australia - 114°E to 120°E	EPSG::28350
MGA Zone 51	GDA94 / MGA zone 51	Australia - 120°E to 126°E	EPSG::28351
MGA Zone 52	GDA94 / MGA zone 52	Australia - 126°E to 132°E	EPSG::28352
MGA Zone 53	GDA94 / MGA zone 53	Australia - 132°E to 138°E	EPSG::28353
MGA Zone 54	GDA94 / MGA zone 54	Australia - 138°E to 144°E	EPSG::28354
MGA Zone 55	GDA94 / MGA zone 55	Australia - 144°E to 150°E	EPSG::28355
MGA Zone 56	GDA94 / MGA zone 56	Australia - 150°E to 156°E	EPSG::28356
MGA Zone 57	GDA94 / MGA zone 57	Australia - 156°E to 162°E	EPSG::28357
MGA Zone 58	GDA94 / MGA zone 58	Australia - 162°E to 168°E	EPSG::28358
AMG Zone 48	AGD66 / AMG zone 48	Australia - 102°E to 108°E	EPSG::20248
AMG Zone 49	AGD66 / AMG zone 49	Australia - 108°E to 114°E	EPSG::20249
AMG Zone 50	AGD66 / AMG zone 50	Australia - 114°E to 120°E	EPSG::20250
AMG Zone 51	AGD66 / AMG zone 51	Australia - 120°E to 126°E	EPSG::20251
AMG Zone 52	AGD66 / AMG zone 52	Australia - 126°E to 132°E	EPSG::20252

AMG Zone 53	AGD66 / AMG zone 53	Australia - 132°E to 138°E	EPSG::20253
AMG Zone 54	AGD66 / AMG zone 54	Australasia - Australia and PNG - 138°E to 144°E	EPSG::20254
AMG Zone 55	AGD66 / AMG zone 55	Australasia - Australia and PNG - 144°E to 150°E	EPSG::20255
AMG Zone 56	AGD66 / AMG zone 56	Australia - 150°E to 156°E	EPSG::20256
AMG Zone 57	AGD66 / AMG zone 57	Australia - 156°E to 162°E	EPSG::20257
AMG Zone 58	AGD66 / AMG zone 58	Australia - 162°E to 168°E	EPSG::20258
AMG Zone 48	AGD84 / AMG zone 48	Australia - 102°E to 108°E	EPSG::20348
AMG Zone 49	AGD84 / AMG zone 49	Australia - 108°E to 114°E	EPSG::20349
AMG Zone 50	AGD84 / AMG zone 50	Australia - 114°E to 120°E	EPSG::20350
AMG Zone 51	AGD84 / AMG zone 51	Australia - 120°E to 126°E	EPSG::20351
AMG Zone 52	AGD84 / AMG zone 52	Australia - 126°E to 132°E	EPSG::20352
AMG Zone 53	AGD84 / AMG zone 53	Australia - 132°E to 138°E	EPSG::20353
AMG Zone 54	AGD84 / AMG zone 54	Australia - 138°E to 144°E	EPSG::20354
AMG Zone 55	AGD84 / AMG zone 55	Australia - 144°E to 150°E	EPSG::20355
AMG Zone 56	AGD84 / AMG zone 56	Australia - 150°E to 156°E	EPSG::20356
AMG Zone 57	AGD84 / AMG zone 57	Australia - 156°E to 162°E	EPSG::20357
AMG Zone 58	AGD84 / AMG zone 58	Australia - 162°E to 168°E	EPSG::20358
Geoscience Australia Lambert	GDA94 / Geoscience Australia Lambert	Australia - all states	EPSG::3112
New South Wales Lambert	GDA94 / NSW Lambert	Australia - New South Wales (NSW)	EPSG::3308
South Australia Lambert	GDA94 / SA Lambert	Australia - South Australia	EPSG::3107
South Australia Lambert			EPSG::102172
VicGrid94	GDA94 / Vicgrid94	Australia - Victoria	EPSG::3111
Victoria Grid 1994			EPSG:102171
BCSG02	GDA94 / BCSG02	Australia - Queensland - Brisbane	EPSG::3113
ACT Grid AGC Zone	AGD 1966 ACT Grid AGC Zone		EPSG:102071
ISG Zones 54 (2)	AGD 1966 NSW ISG Zone 54 / 2		EPSG:102072
ISG Zones 54 (3)	AGD 1966 NSW ISG Zone 54 / 3		EPSG:102073
ISG Zones 55 (1)	AGD 1966 NSW ISG Zone 55 / 1		EPSG:102074
ISG Zones 55 (2)	AGD 1966 NSW ISG Zone 55 / 2		EPSG:102075
ISG Zones 55 (3)	AGD 1966 NSW ISG Zone 55 / 3		EPSG:102076
ISG Zones 56 (1)	AGD 1966 NSW ISG Zone 56 / 1		EPSG:102077
ISG Zones 56 (2)	AGD 1966 NSW ISG Zone 56 / 2		EPSG:102078
ISG Zones 56 (3)	AGD 1966 NSW ISG Zone 56 / 3		EPSG:102079
VicGrid	AGD66 / Vicgrid66	Australia - Victoria	EPSG::3110
Victoria Grid			EPSG:102170
	GDA94 / Australian Albers	Australia - all states	EPSG::3577
	AHD	Australia - mainland	EPSG::5711
	AHD (Tasmania)	Australia - Tasmania	EPSG::5712
	GDA94	Australia - all states	EPSG::4283

	GDA94	Australia - all states	EPSG::4939
	GDA94	Australia - all states	EPSG::4938
AGD66	AGD66	Australasia - Australia and PNG - AGD66	EPSG::4202
WGS84	WGS 84	World (by country)	EPSG::4979
ITRF2005		World (by country)	EPSG::4896

Appendix D: WSP ID numbers for use as ftp username

WSP name	ID (ftp login name)
Aurukun Shire Council	swim1
Balonne Shire Council	swim2
Banana Shire Council	swim3
Barcaldine Regional Council	swim4
Barcoo Shire Council	swim5
Blackall-Tambo Regional Council	swim7
Boulia Shire Council	swim8
Brisbane City Council	swim75
Bulloo Shire Council	swim9
Bundaberg Regional Council	swim10
Burdekin Shire Council	swim11
Burke Shire Council	swim12
Cairns Regional Council	swim13
Carpentaria Shire Council	swim14
Cassowary Coast Regional Council	swim15
Central Highlands Regional Council	swim24
Charters Towers Regional Council	swim16
Cherbourg Aboriginal Shire Council	swim17
Cloncurry Shire Council	swim18
Cook Shire Council	swim19
Croydon Shire Council	swim20
Western Downs Regional Council	swim21
Diamantina Shire Council	swim22
Doomadgee Aboriginal Shire Council	swim23
Etheridge Shire Council	swim25
Flinders Shire Council	swim26
Fraser Coast Regional Council	swim27
Gladstone Area Water Board	swim78
Gladstone Regional Council	swim28
Gold Coast City Council	swim72
Goondiwindi Regional Council	swim29
Gympie Regional Council	swim30
Hinchinbrook Shire Council	swim31
Hope Vale Aboriginal Shire Council	swim32
Ipswich Regional Council	swim71
Isaac Regional Council	swim33
Kowanyama Aboriginal Shire Council	swim34
Lockhart River Aboriginal Shire Council	swim35
Lockyer Valley Regional Council	swim36
Logan City Council	swim37

Longreach Regional Council	swim38
Mackay Regional Council	swim39
Mapoon Aboriginal Shire Council	swim40
McKinlay Shire Council	swim41
Moreton Bay Regional Council	swim76
Mornington Shire Council	swim42
Mt Isa City Council	swim66
Murweh Shire Council	swim43
Napranum Aboriginal Shire Council	swim44
North Burnett Regional Council	swim45
Northern Peninsula Area Regional Councils	swim46
Palm Island Aboriginal Shire Council	swim47
Paroo Shire Council	swim48
Pormpuraaw Aboriginal Shire Council	swim49
Quilpie Shire Council	swim50
Redlands City Council	swim73
Richmond Shire Council	swim51
Rockhampton Regional Council	swim52
Maranoa Regional Council	swim53
Scenic Rim Regional Council	swim6
Somerset Regional Council	swim54
South Burnett Regional Council	swim55
Southern Downs Regional Council	swim56
Sunshine Coast Regional Council	swim70
Tablelands Regional Council	swim57
Toowoomba Regional Council	swim58
Torres Shire Council	swim59
Torres Strait Island Regional Council	swim60
Townsville City Council	swim74
Whitsunday Regional Council	swim61
Wide Bay Water	swim77
Winton Shire Council	swim62
Woorabinda Aboriginal Shire Council	swim63
Wujal Wujal Aboriginal Shire Council	swim64
Yarrabah Aboriginal Shire Council	swim65