



Western Cape
Government

BETTER TOGETHER.

INTEGRATED POLLUTANT AND WASTE INFORMATION SYSTEM (IPWIS)

Waste Management Summit

Ingwenyama Conference Centre, 9-11 March 2015
Mpumalanga

E. Hanekom





WESTERN CAPE



What is IPWIS?

- IPWIS is the information management **platform** to cater for Pollution and Waste business processes.
- IPWIS must provide accurate and complete information on:
 - Potentially harmful **pollutant releases or transfers** to the environment from a variety of sources;
 - **Waste generators, treaters, transporters and disposers** and the quantities they handle.
- IPWIS is designed to **cope with changes** to policy directives, legislation, regulations, needs and trends.



Why there was a need for IPWIS?

- **No accurate baseline data is available** and due to the **cost and limited frequency of conducting baseline surveys**.
- The need to establish a **centralised** knowledge and information portal for Pollution and Waste management.
- Provide **current and relevant** information to support proactive decision-making.
- Provide **all users (stakeholders)** with on-line-on demand access to the system and information in line with their access rights.
- Provide **officials and management** with on-line-on demand access to the system and available information support them in performing their duties.

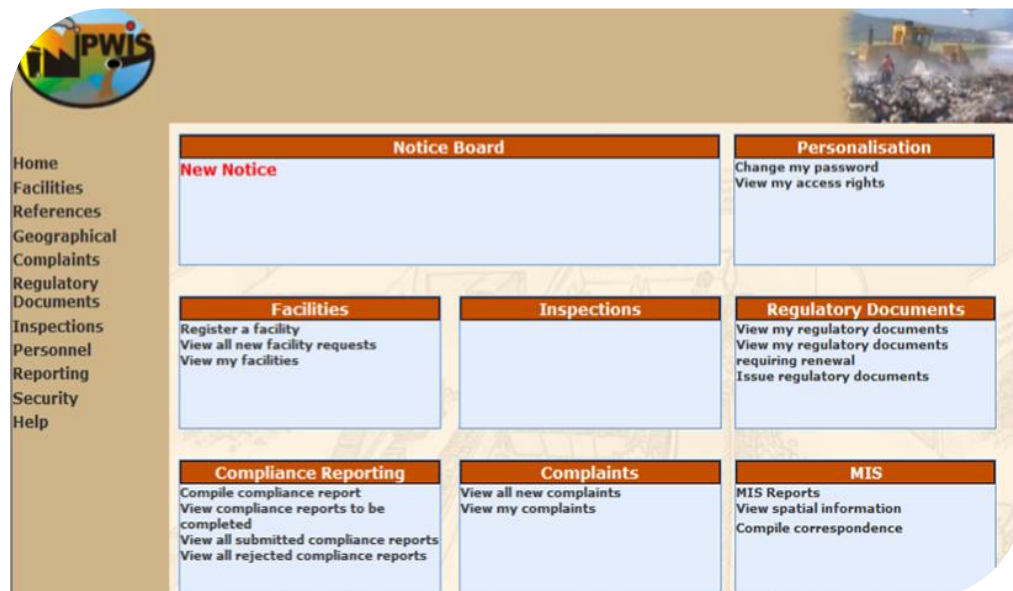
IPWIS Background

IPWIS Version 2

Existing IPWIS Version 2 Modules:

- Registration
- Reporting
- Complaints
- Letters
- Regulatory
- MIS
- GIS
- Inspections
- Security
- Personnel

- Initially developed on the Barracuda Framework Technology platform and the Java 1.4 codebase are no longer supported in the IT industry – limit mobile device access.

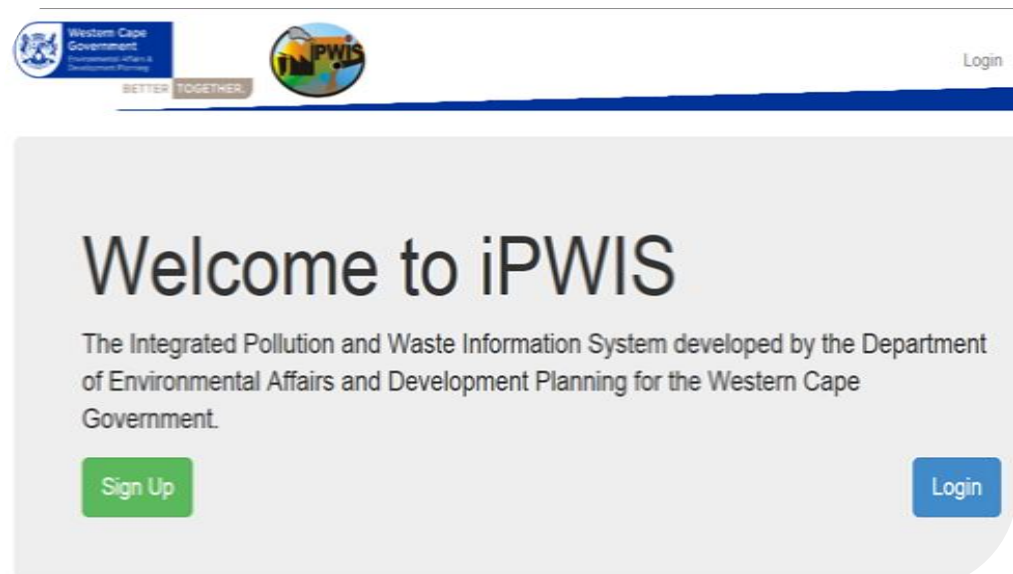


IPWIS Background

IPWIS Version 3

Current IPWIS Version 3 Modules:

- IPWIS Registration
- Waste Reporting
- Complaints/Compliance
 - On going
- Envisaged to complete:
 - Finalise the Complaints/Compliance module
- Version 3 is built on the Apache Framework.



Status Quo and Challenges



IPWIS Status Quo

IPWIS Migration from Version 2 to 3

■ Migration of IPWIS stakeholders from IPWIS V2 to V3

- Validation is prompted by the DEADP via email.
- Migration enables stakeholders to verify their facility details.
- Stakeholders obtain the Waste Information Registration (WIR) number and registration certificate.
- Completion of the migration process prompts waste reporting.
- IPWIS has a built in organogram to structure stakeholders which creates an oversight and management tool of facilities.



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Op die Berg Landfill - Landfill

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[Migrate](#)

Drakenstein Municipality - Landfill

Ronald Brown - Ronald.Brown@drakenstein.gov.za

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[Migrate](#)



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IPWIS Status Quo

Current IPWIS Registration

Registration:

- Stakeholder captures minimum registration information.
- Email address is the unique identifier.
- Stakeholders create and reset their own password.
- Google Maps is used to locate facilities using street addresses and GPS co-ordinates.
- IPWIS integration with the National South African Waste Information System (SAWIS).
- The integration ensures real time issuing of the WIR number and registration certificate.



Certificate of Registration

This is to certify that:

Toxic Bunch cc

has been registered as a:

Hazardous Waste Generator

With the Western Cape Government Environmental Affairs and Development Planning and has been issued with the following registration number for use when reporting to the Integrated Pollutant and Waste Information System

WIR NUMBER:

D02625-01

IPWIS NUMBER:

W401000809

DATE OF REGISTRATION:

2015-02-16

IPWIS Status Quo

Current IPWIS Waste Reporting

■ Waste Reporting:

- IPWIS has waste reporting in terms of the National Waste Information Regulations (WIS) for Level 1, Level 2 and Level 3.
- IPWIS incorporates the requirements for Health care risk waste (HCRW) registration and reporting in terms of the Provincial Health Care Risk Waste Act, 2007, the amendments in 2010 and HCRW regulations in 2013.
- IPWIS has the ability to back date waste information, which will aid in trend spotting.
- HCRW stakeholders with small quantities, have the ability to select kilograms (kg) or tonnes(T) when reporting and IPWIS converts it to the required tonnage.
- Waste tracking (waste manifest) and waste diversion forms part of the system.

IPWIS Status Quo

DEADP Waste Calculator

● Waste Calculator:

- Due to limited baseline information at municipalities, the DEADP developed the Waste Calculator.
- It can be used to quantify waste quantities at waste management facilities with no weighbridges and converts the waste quantities into tonnages.
- The Waste Calculator can assist municipalities to improve quantification, reporting and record keeping.
- The waste tonnages can then be captured in IPWIS, when reporting on waste generated and disposed.
- **Waste diversion** reporting forms part of the Waste Calculator.

Waste Calculator

SUBMIT YOUR ESTIMATED WASTE TONNAGES TO IPWIS, USING THE INFORMATION BELOW



$$\text{Truck capacity (m}^3\text{)} \times \text{Number of loads} \times \text{Waste Density} = \text{Estimated Waste mass(t)}$$

Total Domestic/Municipal waste per month	13
Total Construction & Demolition waste per month	0
Total Organic waste per month	1.5
Total Commercial & Industrial waste per month	0

DOMESTIC WASTE		Waste Facility Name	Insert Vehicle registration number	Truck capacity (m³)	Number of loads	Waste type	Total waste disposed per week
	Week 1	Bredasdorp Landfill	CS 7008	20	1	A. Domestic waste compacted in a REL	Week 1 = 4.5 tons and Week 2 = 0.75 = 5.25
	Week 2	Bredasdorp Landfill	CS 10671	17	1	A. Domestic waste compacted in a REL	
		Atlantis drop off	CS 10674	17	1	A. Domestic waste compacted in a REL	
Total waste per month in estimated Tons (Week 1 + Week 2 + Week 3+ Week 4)							27

CALCULATE YOUR ESTIMATED WASTE TONNAGES FOR EACH WASTE TYPE BELOW

SELECT MONTH OF REPORTING >>>>>

Date:

Week 1 -4	Waste Facility Name	Insert Vehicle registration number	*Truck capacity (m³)	*Number of loads	Waste type & density	Total waste disposed per week
Week 1	Gwaing Landfill Site	CX77u	4	6.5	A. Domestic waste compacted in a REL	13

Stakeholder Support

■ Capacity Building sessions:

- 10 registration workshops (2012-2014)
- 4 waste reporting (2015)
- Waste Calculator training sessions at municipalities (2012-2014), 66 waste management facilities currently using the Waste Calculator.

■ To drive change management - internal capacity building within the Chief Directorate: Environmental Quality.

■ Face to face contact sessions with external stakeholders to build capacity.

■ Telephonic and walk in assistance provided to stakeholders.

IPWIS Challenges

● **Transboundary movement of waste:**

- Instances of transporters from Eastern Cape collecting waste in the Western Cape.

● **Internet access vs hardcopy registrations:**

- Limited Internet access and Internet Explorer browser compatibility are experienced with stakeholders.

● **Waste Tracking:**

- Transporters of not being required to register, results in a gap in waste tracking and closing the loop.
- Health care risk waste transporters are legislatively required to report in terms of the HCRW regulations - waste manifest.

IPWIS Successes

● Registration and reporting of waste holders

- Improved management of waste.
- Improvement in the quality of waste information available – diversion stats.

● Upgraded IPWIS infrastructure – user-friendly system:

- Successful migrations in terms of waste reporting and thus data can be exported to SAWIS.
- Audit trail of documents and processes.
- Version control of changes made and saved in PDF format in IPWIS.
- Document management system for stakeholders.
- Ability to serve users utilising mobile devices.

● Developed an API for IPWIS:

- Ability to communicate and exchange waste information with third party systems.

Way Forward



IPWIS Infrastructure/Modules

● Integrated Complaints functionality

- This module will cater for the reporting of complaints relating to waste, air and pollution management by the public which will be dealt with by internal staff as well as complaints referred to the Law Enforcement Section.

● Integrated Regulatory functionality for Waste Management and Air Quality Licensing.

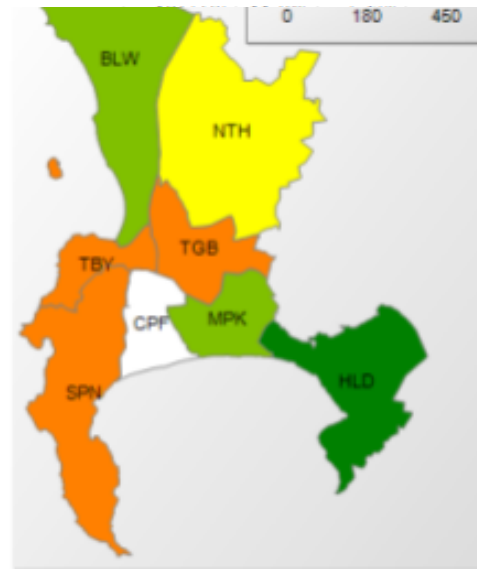
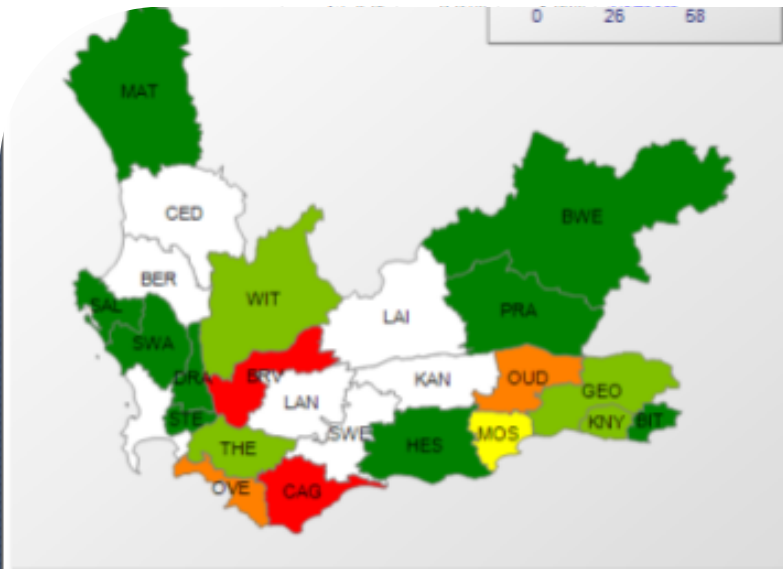
- This module will cater for the licence requirements in terms of NEM:WA and NEM:AQA.

● Integrated Air Quality Module

- This functionality will enable real time data transfer between the Department's remote Air Quality monitoring stations and the IPWIS database.

● Business Intelligence (Biz Brain)

- It's a transversal project amongst Provincial Departments.
- Includes a Provincial BI project and individual departmental BI projects.
- Aligned to the Department ICT plan.
- Access to relevant and reliable data and information; in a range of formats; including spatial representation of data, dashboards and reports.



CPF	Cape Flats	7100	7110
HLD	Heldeberg	7120	7160
MPK	Mitchells Plain/Khayelitsha	7700	7899
NTH	Northern	7531	7650
SPN	South Peninsula	7900	7980
TBY	Table Bay	7340	7440
TGB	Tygerberg	7460	7530

{Report} zy2014pw 16 Generated Activity By Weight {Run Date} 2015-01-05

{From} 2013-01 {To} 2014-11 [Area] ALL [Sector] ALL [HCRW] ALL [Activity] ALL

{Transport} ALL {Treatment} ALL {Disposal} ALL {Facility} ALL

Hazardous Waste Generators NON-METRO			
Municipality	Weight Kg	% Non-Metro	% Province
ALL	1,962.7615	100.00%	53.92%
Cape Agulhas	1,683.4216	85.77%	46.24%
Breede Valley	60.7944	3.10%	1.67%
Oudtshoorn	56.6913	2.89%	1.56%

Hazardous Waste Generators METRO			
CoCT Area	Weight Kg	% Metro	% Province
ALL	1,677.6450	100.00%	46.08%
South Peninsula	440.0922	26.23%	12.09%
Table Bay	423.1694	25.22%	11.62%
Tygerberg	250.1747	14.91%	6.87%

Hazardous Waste Generators SUMMARY		
Regional Group	Weight Kg	% Province
ALL	3,640.4065	100.00%
NON-METRO	1,962.7616	53.92%
METRO	1,677.6449	46.08%

Contact Us



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