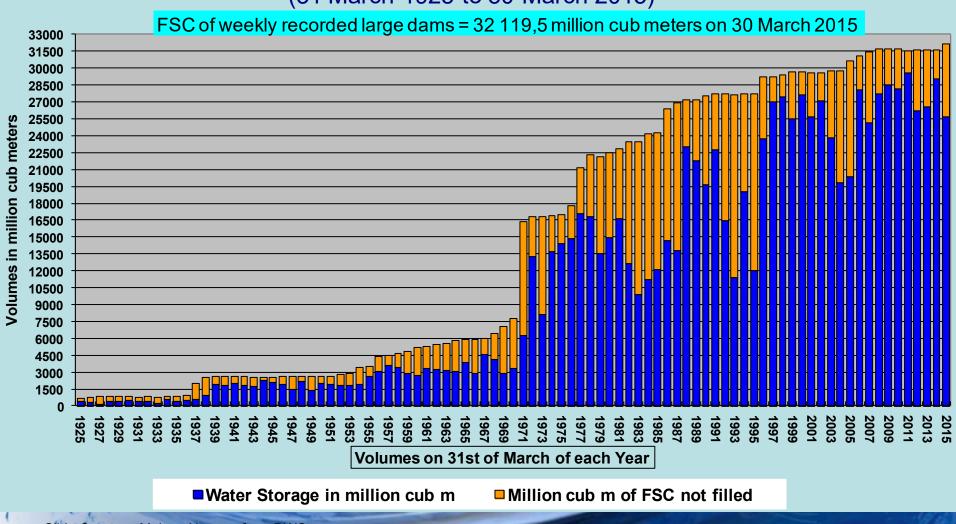
Water Stewardship & "War on Leaks"

Facilitator:
Ronnie Mckenzie
WRP Pty Ltd

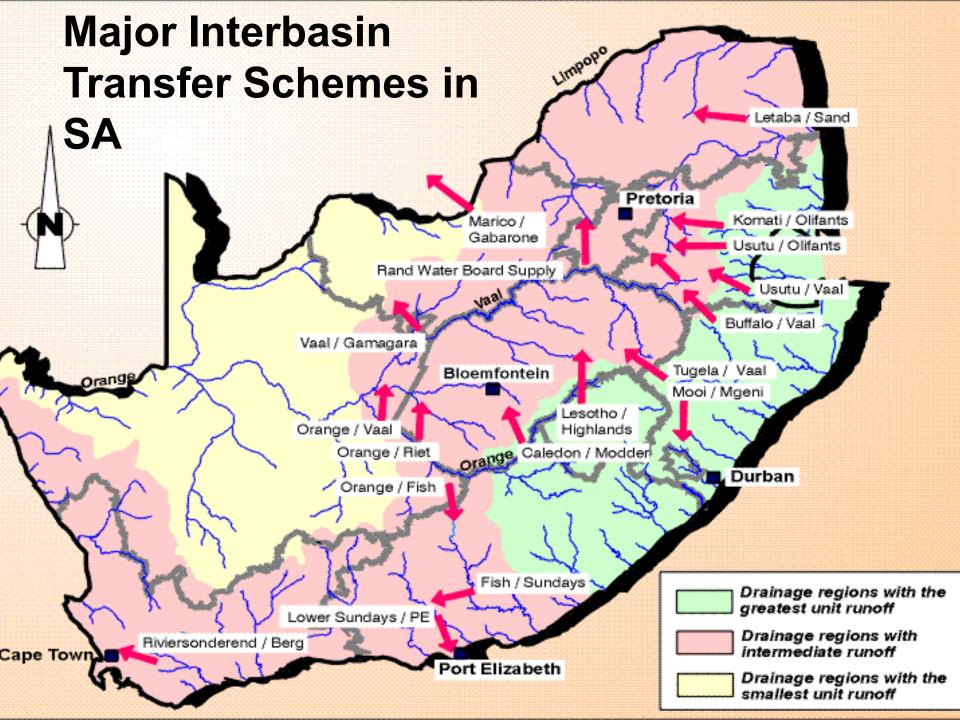


Water Storage in Major RSA Dams Volume Water Storage and Volume Available Capacity (31 March 1925 to 30 March 2015)

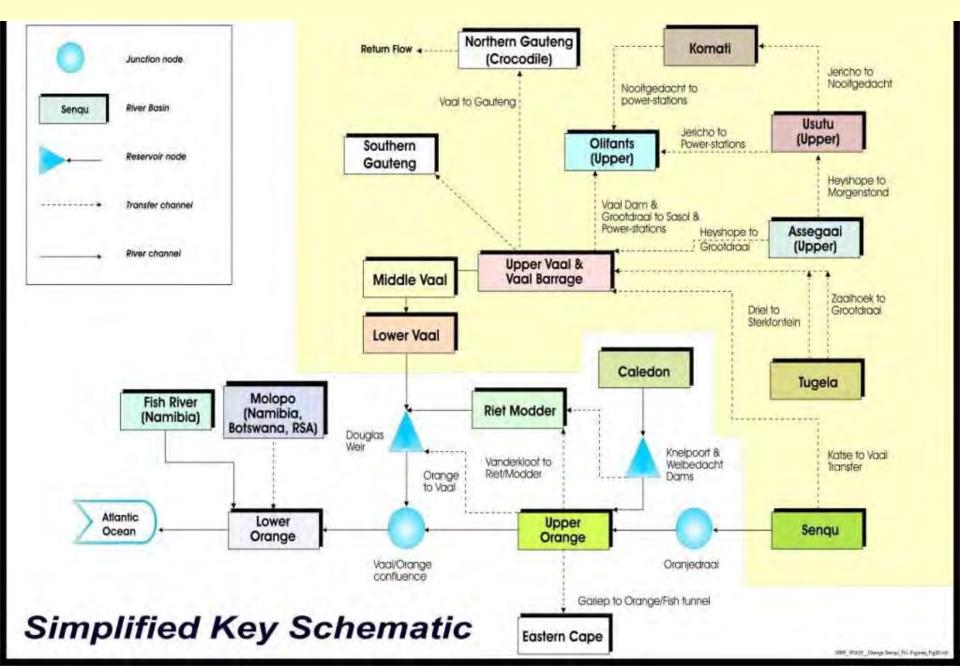


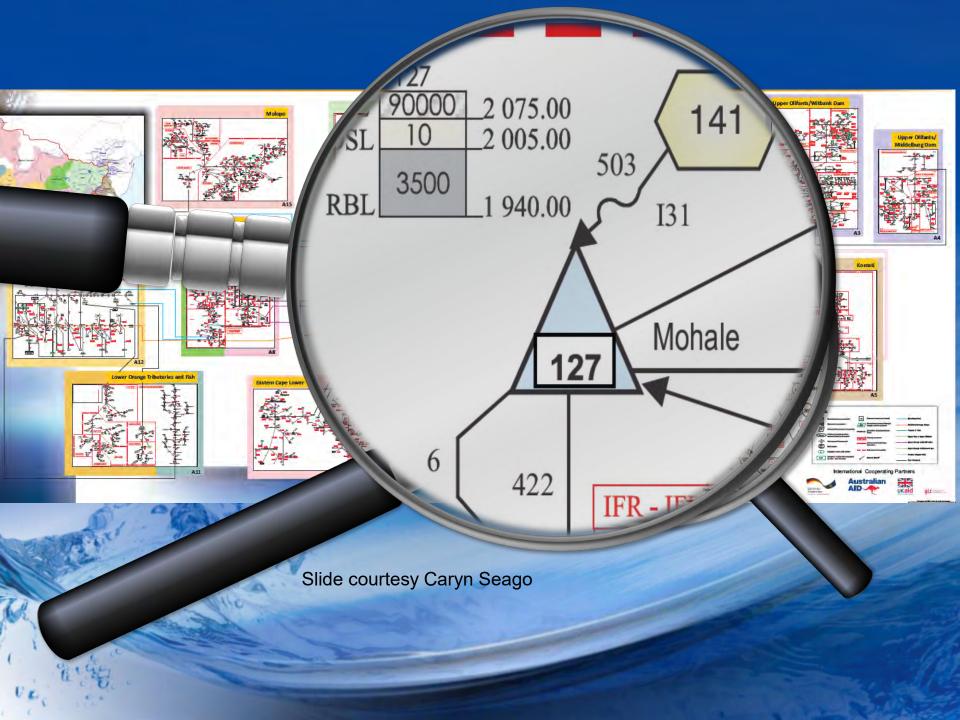






Integrated Orange /Vaal system



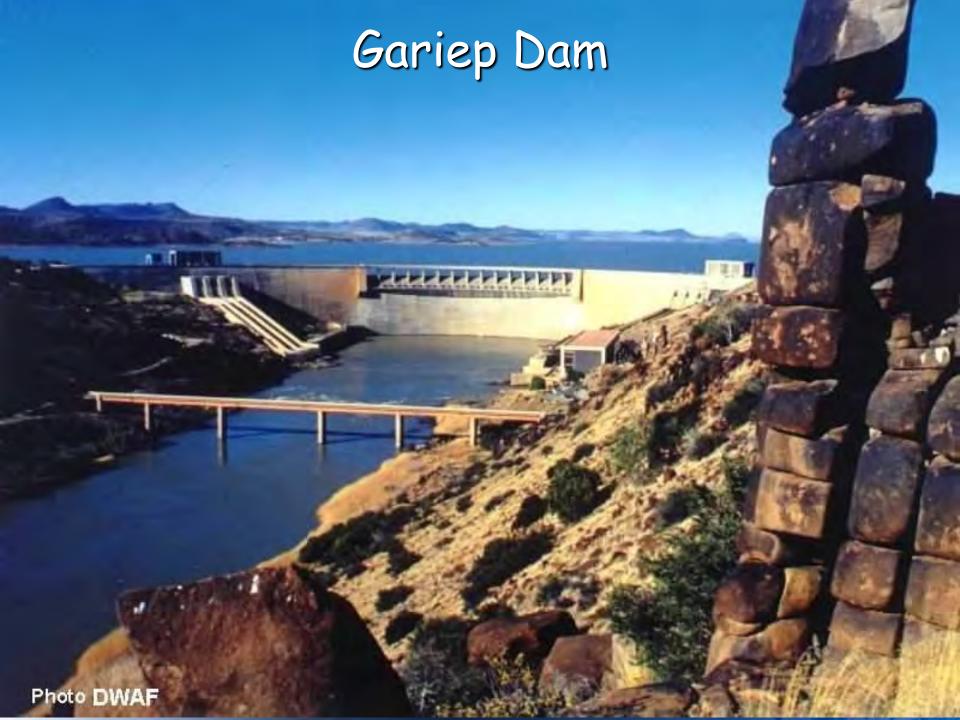


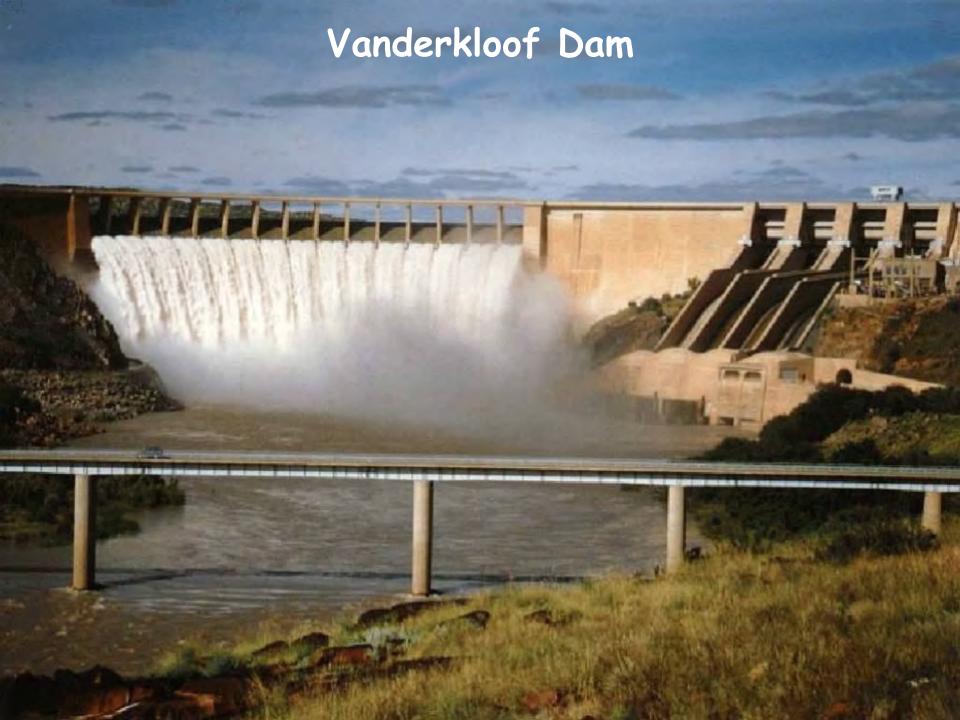
Orange/Senqu Water Resource System

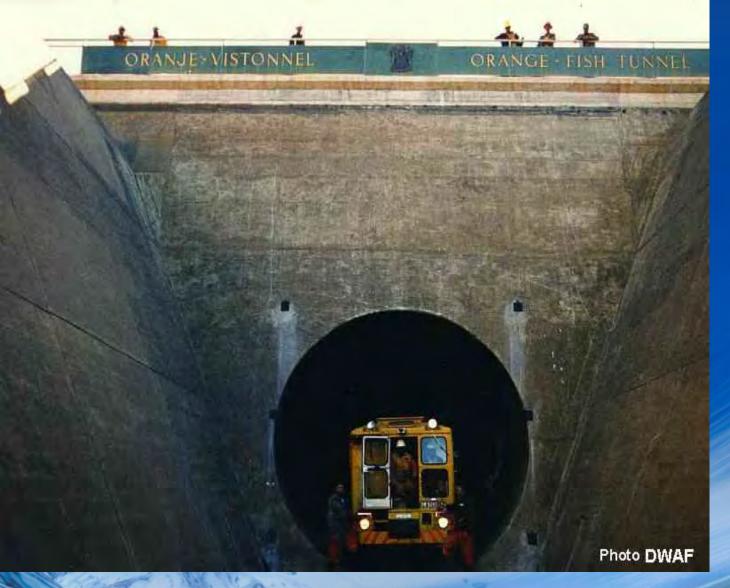
- 4 Countries (Botswana, Lesotho Namibia and SA)
- **6 87 Large Dams**
- **♦ 279 Small Dams**
- **♦ ± 1 250 Abstractions/Demand Centres**
- **8** integrated subsystems
- **b** ± 4 000 channels/arcs
- Over 300 naturalized streamflow records
- Over 300 point rainfall time series











Orange Fish Tunnel

One of longest water transfer tunnels in the World (over 80km)



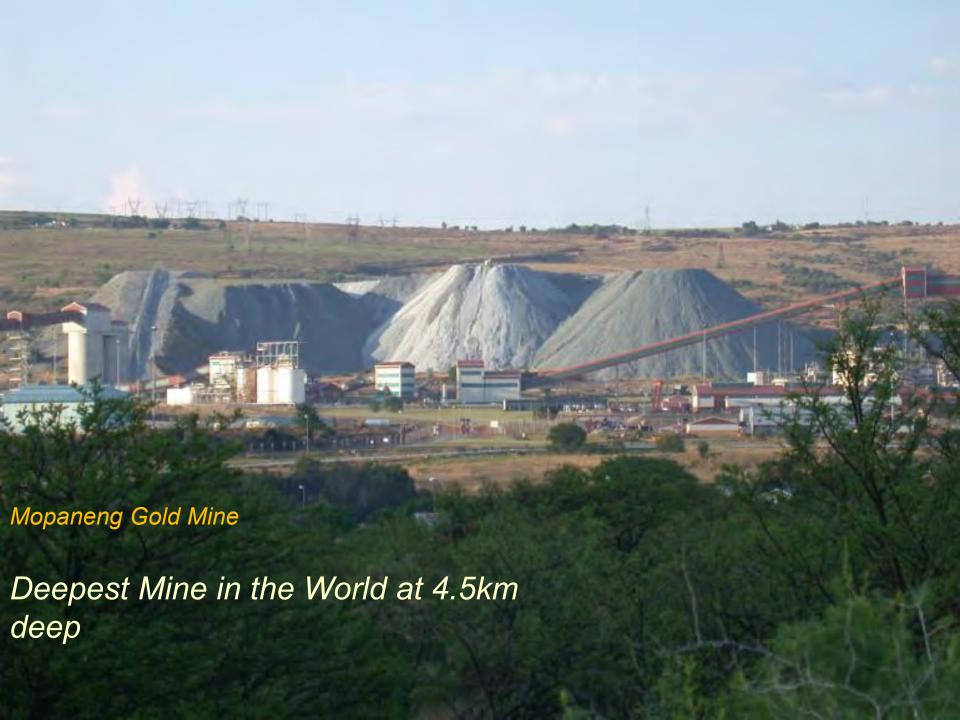


Katse Tunnel (85km @ 4.5m Diameter)







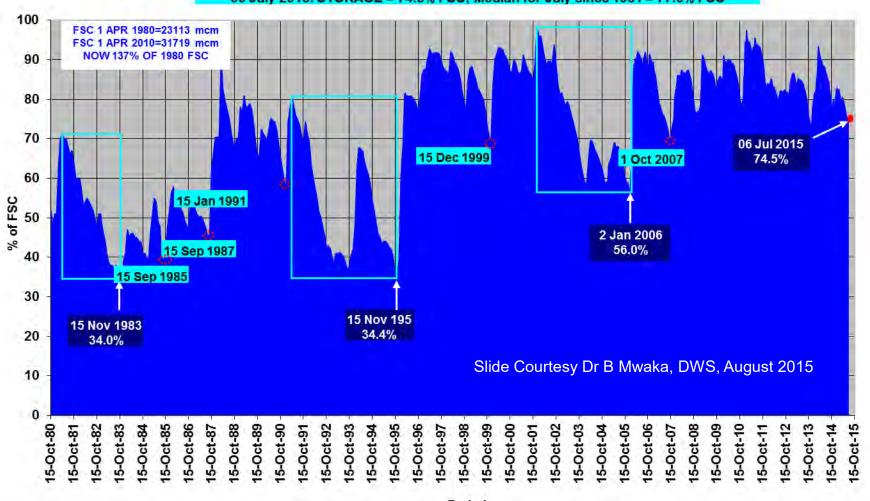






National Dams: Water Storage: The Storage for 06 July 2015 since August 1981 (Weekly values since 4/10/04)



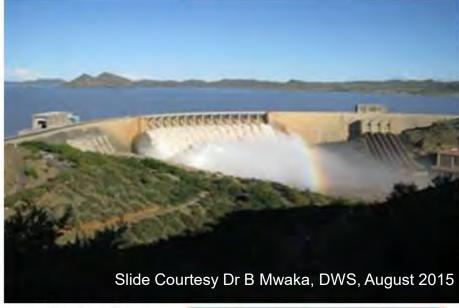






Vaal Dam = 69.9%, Last Year 92.0%

Bloemhof Dam = 63.9%, Last Year 95.5%



Gariep Dam =





75.1%, Last Year 89.3%

Van der Kloof Dam = 99.8%, Last Year 98.7%



BLOOM THANKS SHACK

DWELLER - Page 2

BRAINY BEAUTY EYES





ERL

MIS 5 SA TITLE - Page 3

Thousands of litres lost every day

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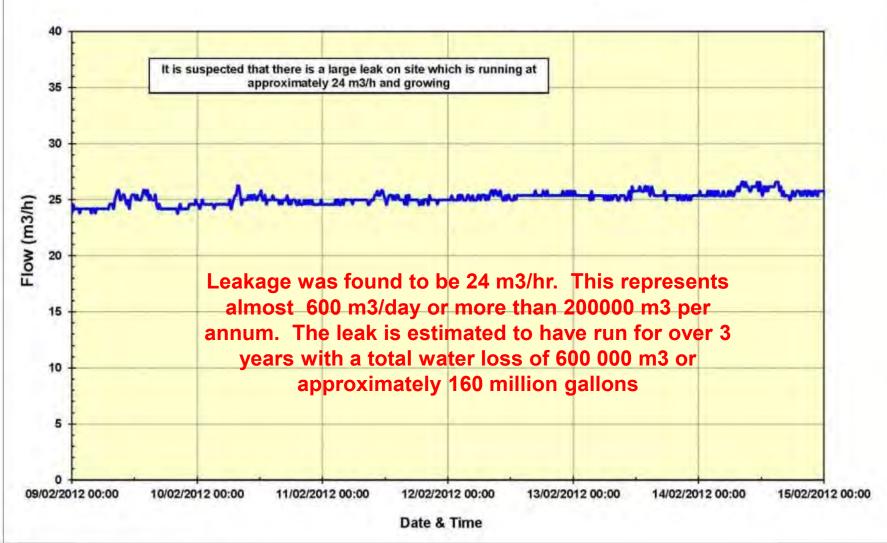
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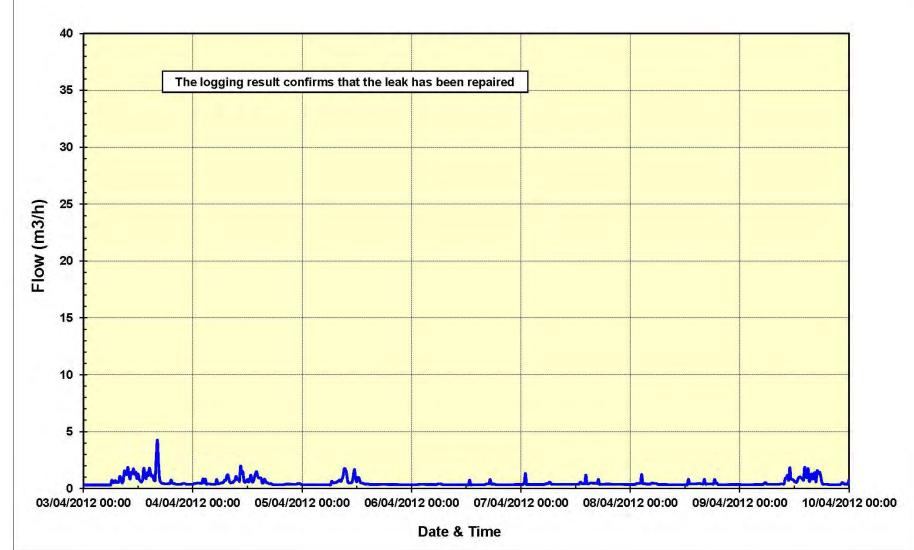


PERSONAL PROPERTY AND INCOME.



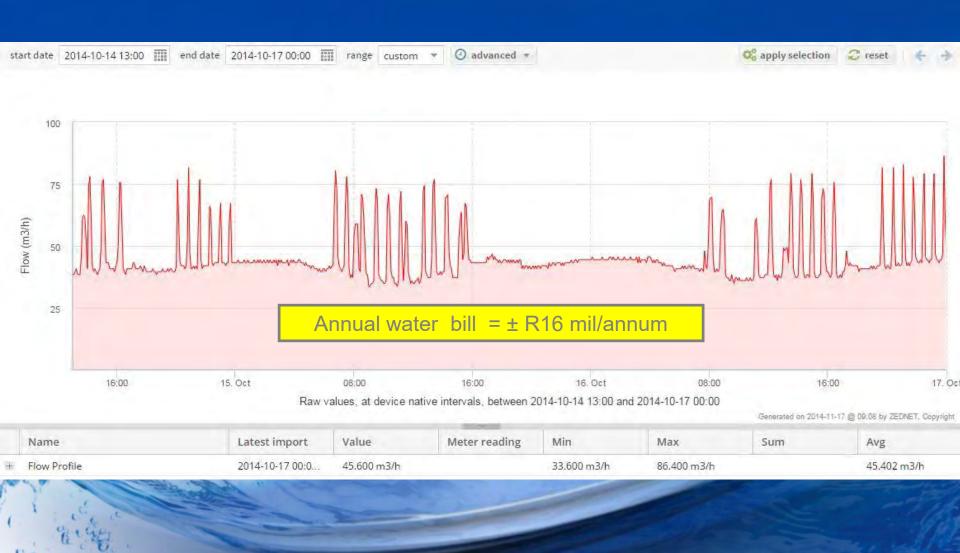


Industry 1 Leak – After

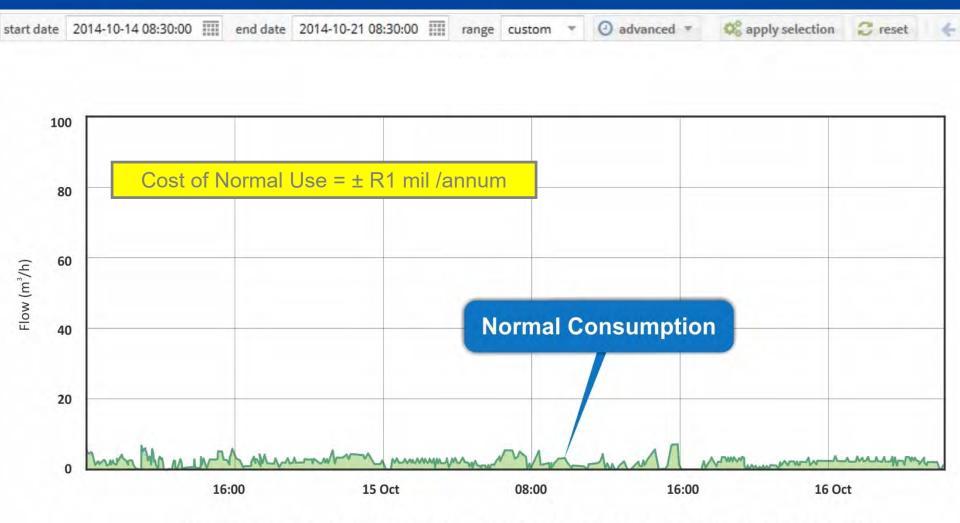




Industrial Water Use

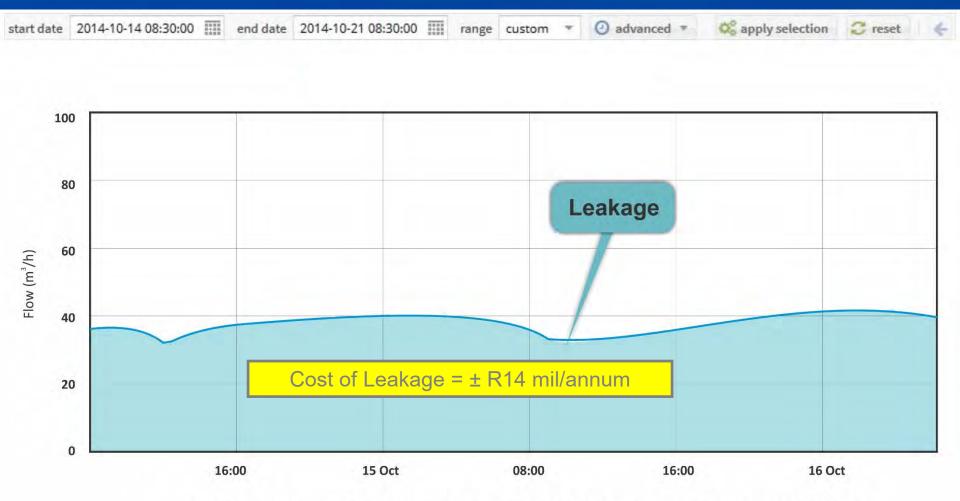


Actual Usage



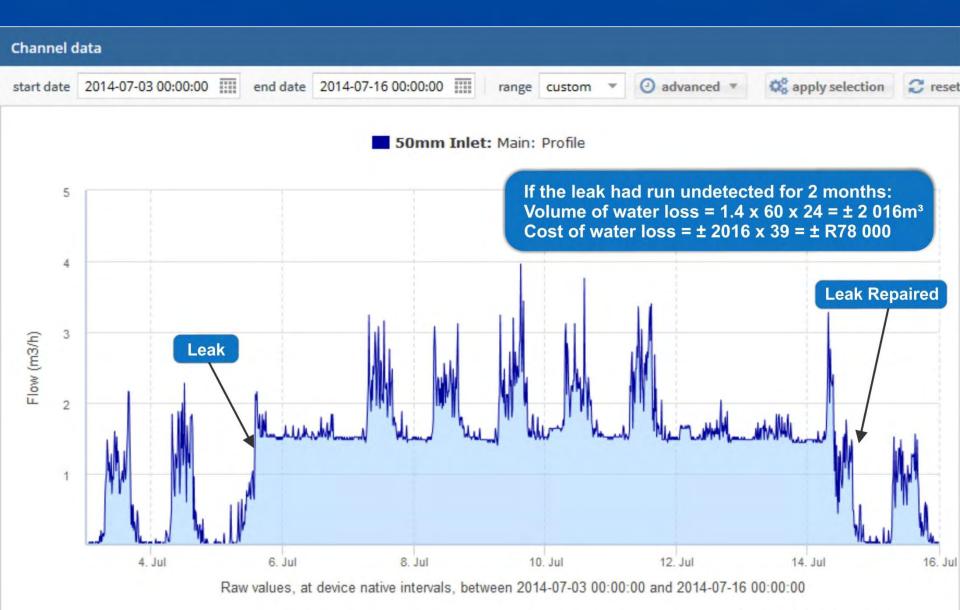
Raw values, at device native intervals, between 2014-10-14 08:30:00 and 2014-10-21 08:30:00

Leakage



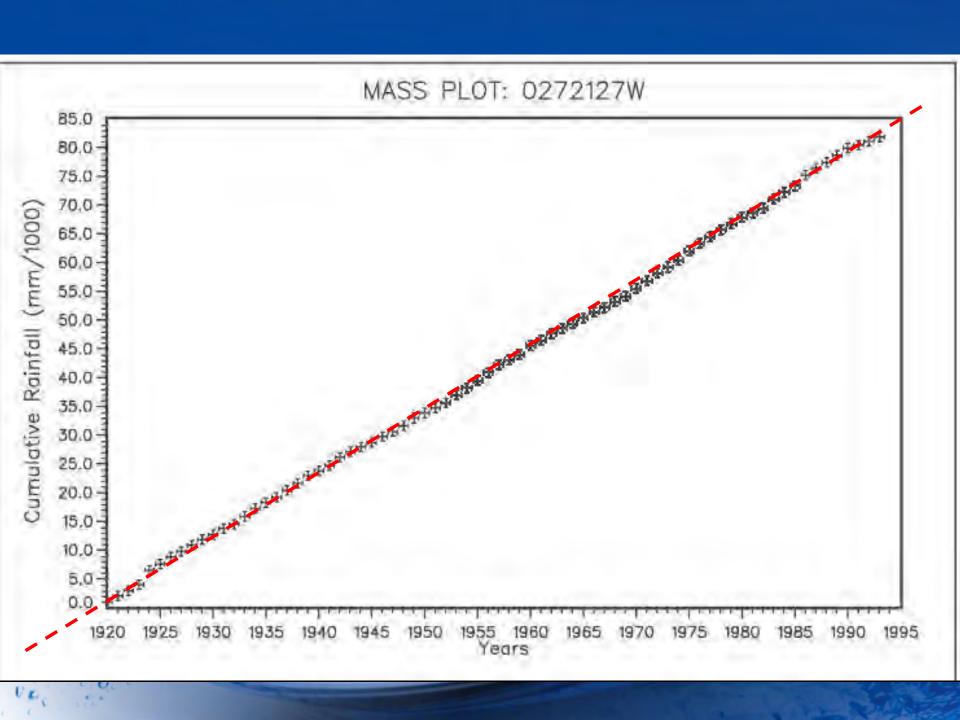
Raw values, at device native intervals, between 2014-10-14 08:30:00 and 2014-10-21 08:30:00

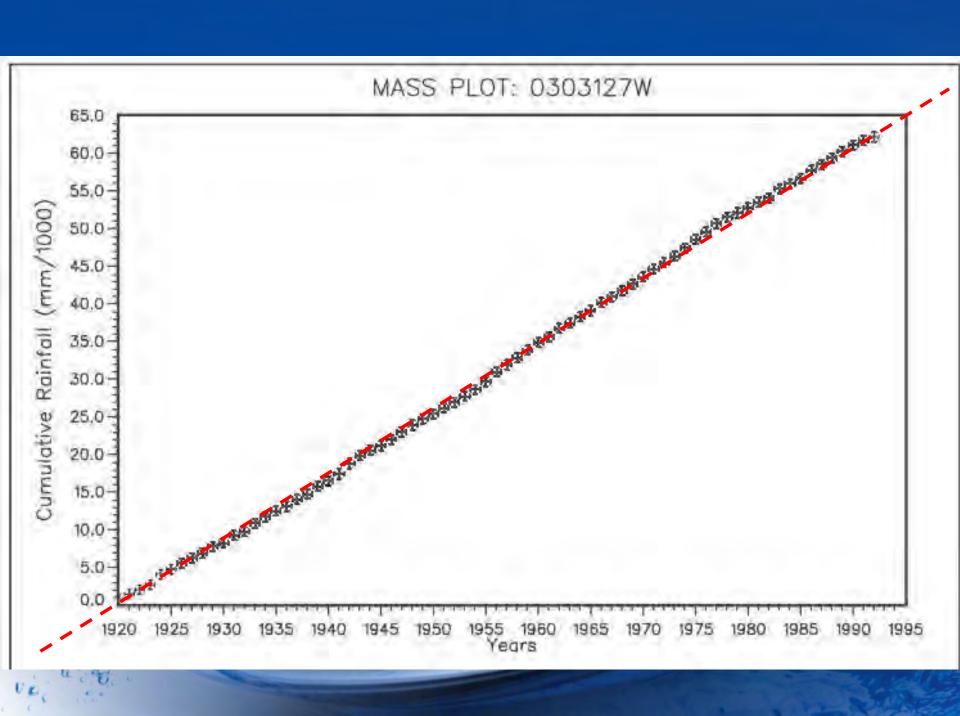
Industry 2 Leak – Before and After











Climate Change

- Clear evidence that the climate is changing.
- Difficult to quantify or predict the influence of future Climate Change on rainfall and streamflow
- Christiana Figueres (Sky News 28 October 2015) "Natural Disasters are not caused by Climate Change but the Intensity and Frequency of such disasters are exacerbated by Climate Change"

Enhancing Water Security

- Water Use Efficiency: Priorities
 - Repair reported leaks quickly

Reduce pressures