



*Excellence through measurement*

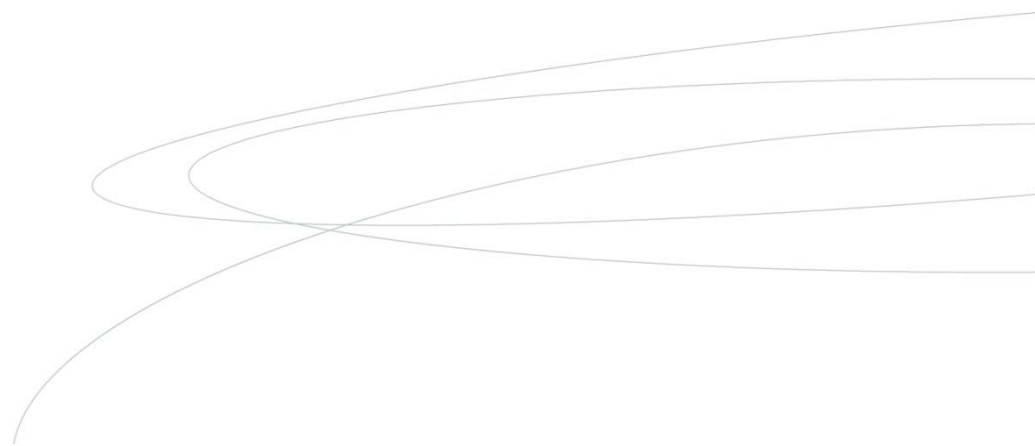


## QWAS Technical Update 2011

Tracey Noblett

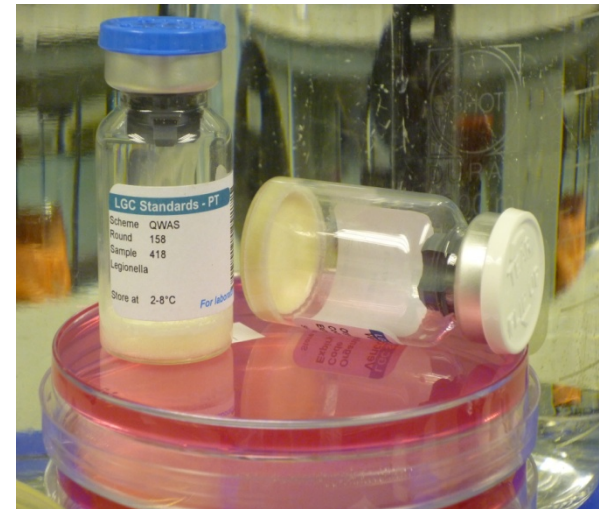
# Agenda

- Past history of QWAS
- Present QWAS 2011
- Future development for 2012

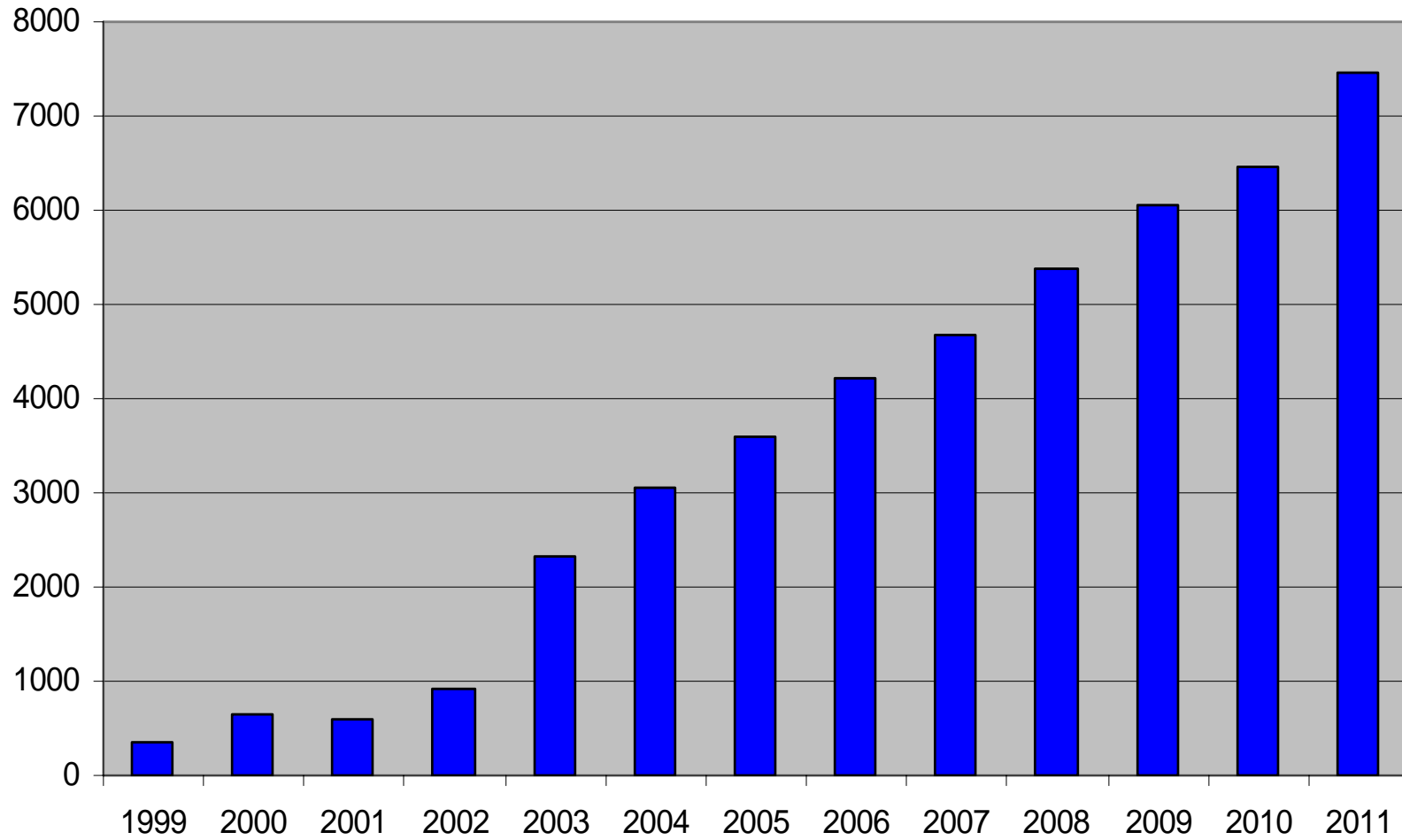


# QWAS history

- First introduced in 1998
- One sample 12W added to QMS
- Targeting food labs who also tested potable water
- QWAS scheme introduced in 2000
- Merged with Aquacheck 2002
- Lyophilised samples



# QWAS history



# QWAS geography



Algeria	1	Cyprus	1	Israel	2	Morocco	1	South Africa	2
Argentina	12	Czech Republic	11	Italy	317	Netherlands	21	Spain	125
Austria	21	Denmark	3	Ivory Coast	1	Nigeria	2	Sri Lanka	1
Azerbaijan	2	Ecuador	4	Jordan	3	Oman	4	Switzerland	14
Bahrain	1	Egypt	3	Kazakhstan	1	Pakistan	7	Taiwan	1
Barbados	2	Estonia	10	Kenya	5	Peru	6	Tanzania	1
Belgium	14	Finland	7	Korea	6	Philippines	7	Thailand	31
Bosnia & Herzegovina	1	France	52	Kuwait	1	Poland	146	Trinidad & Tobago	1
Brazil	11	French Polynesia	1	Latvia	11	Portugal	54	Turkey	22
Bulgaria	12	Germany	40	Lebanon	1	Puerto Rico	1	Uganda	1
Canada	4	Ghana	1	Libyan Arab	1	Qatar	2	Ukraine	1
Canary Islands	6	Greece	47	Lithuania	2	Romania	25	UAE	14
Cayman Islands	1	Honduras	1	Luxembourg	1	Russia	7	UK	153
Chile	9	Hong Kong	12	Madagascar	1	San Marino	2	USA	31
China	14	Hungary	6	Malaysia	3	Saudi Arabia	8	Uruguay	1
Columbia	1	India	29	Malta	3	Serbia	3	Uzbekistan	1
Costa Rica	3	Indonesia	2	Martinique	1	Singapore	7	Vietnam	6
Croatia	19	Iran	4	Mauritius	2	Slovakia	7		
Cuba	2	Ireland	51	Mexico	39	Slovenia	7		

# QWAS 2011- Potable water



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## 412 – Indicator organisms (enumeration)

TVC at 22 and 37°C

Enumeration of E.coli and coliforms

Enumeration of Enterococci

## 413 – Clostridium/Pseudomonas

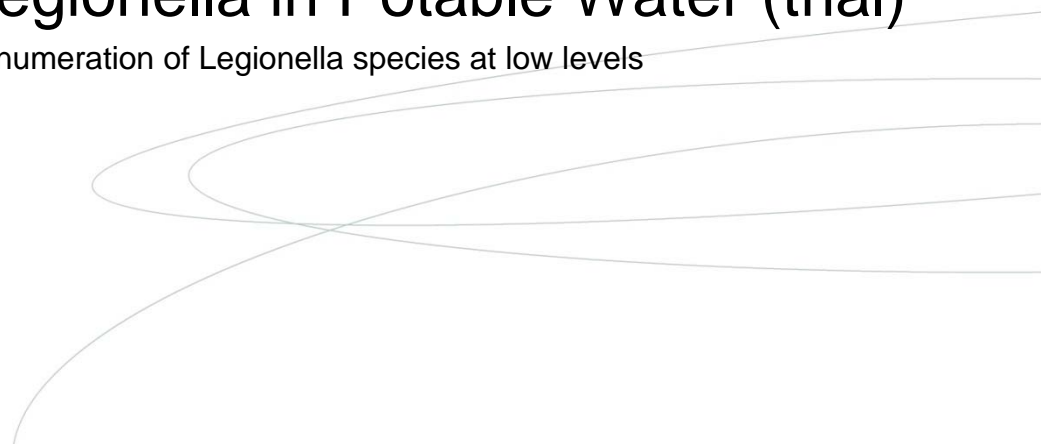
Clostridium perfringens

Pseudomonas aeruginosa

Sulphite-reducing Clostridia

## 423 – Legionella in Potable Water (trial)

Enumeration of Legionella species at low levels



# QWAS 2011- Mineral water



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## 420 – Indicator organisms

- Total aerobic count
- Enumeration of E.coli
- Enumeration of Enterococci
- Enumeration of Pseudomonas aeruginosa

## 424 – Pathogens

- Coagulase positive Staphylococci
- Sulphite reducing Clostridia (spores)
- Sulphite reducing Clostridia (spores and vegetative cells)



# QWAS 2011 - Industrial waters

## 414 – Process (enumeration)

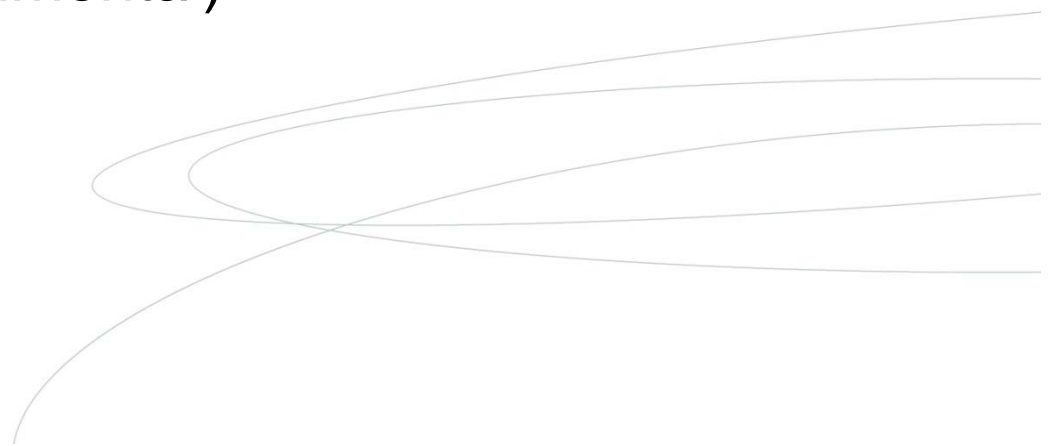
Total aerobic count  
Enumeration of Pseudomonas  
Enumeration of yeast and mould

## 416 – Sludge

Salmonella presence/absence  
Enumeration of E.coli

## 417/8 – Legionella (environmental)

Enumeration of Legionella species



# QWAS 2011- Surface/bathing waters



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## 419 – Indicator organisms

- Enumeration of E.coli and coliforms (total and faecal)
- Enumeration of Enterococci
- Salmonella presence/absence

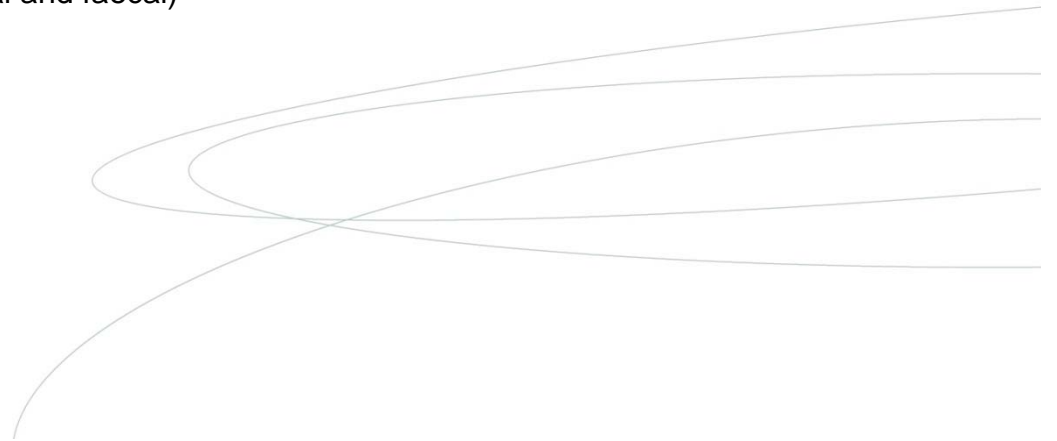
## 421 – Staphylococci

- Enumeration of coagulase-positive Staphylococci

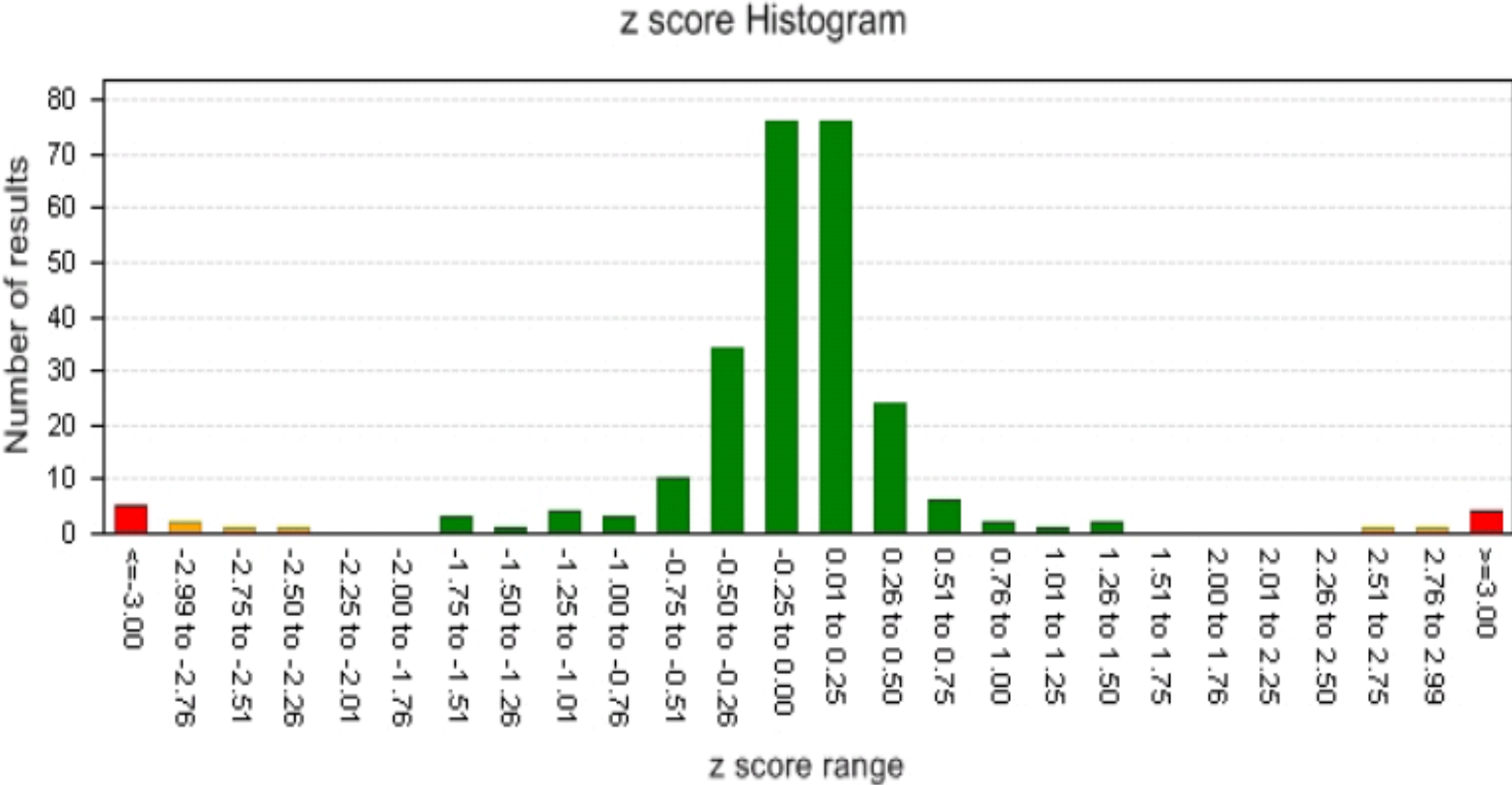


## 422 – Sea water

- Enumeration of E.coli and coliforms (total and faecal)
- Enumeration of Enterococci
- Salmonella presence/absence



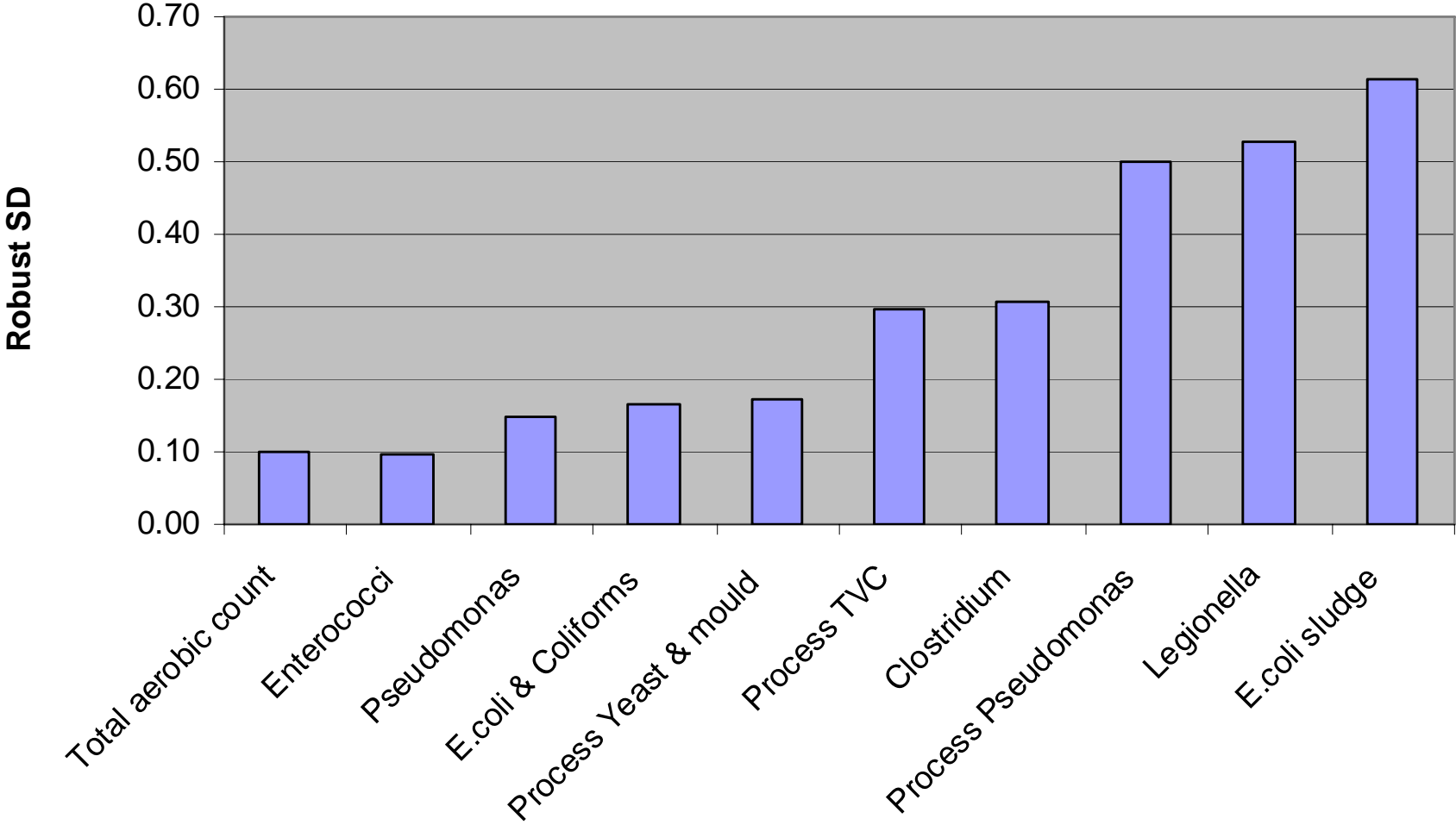
# How do participants perform



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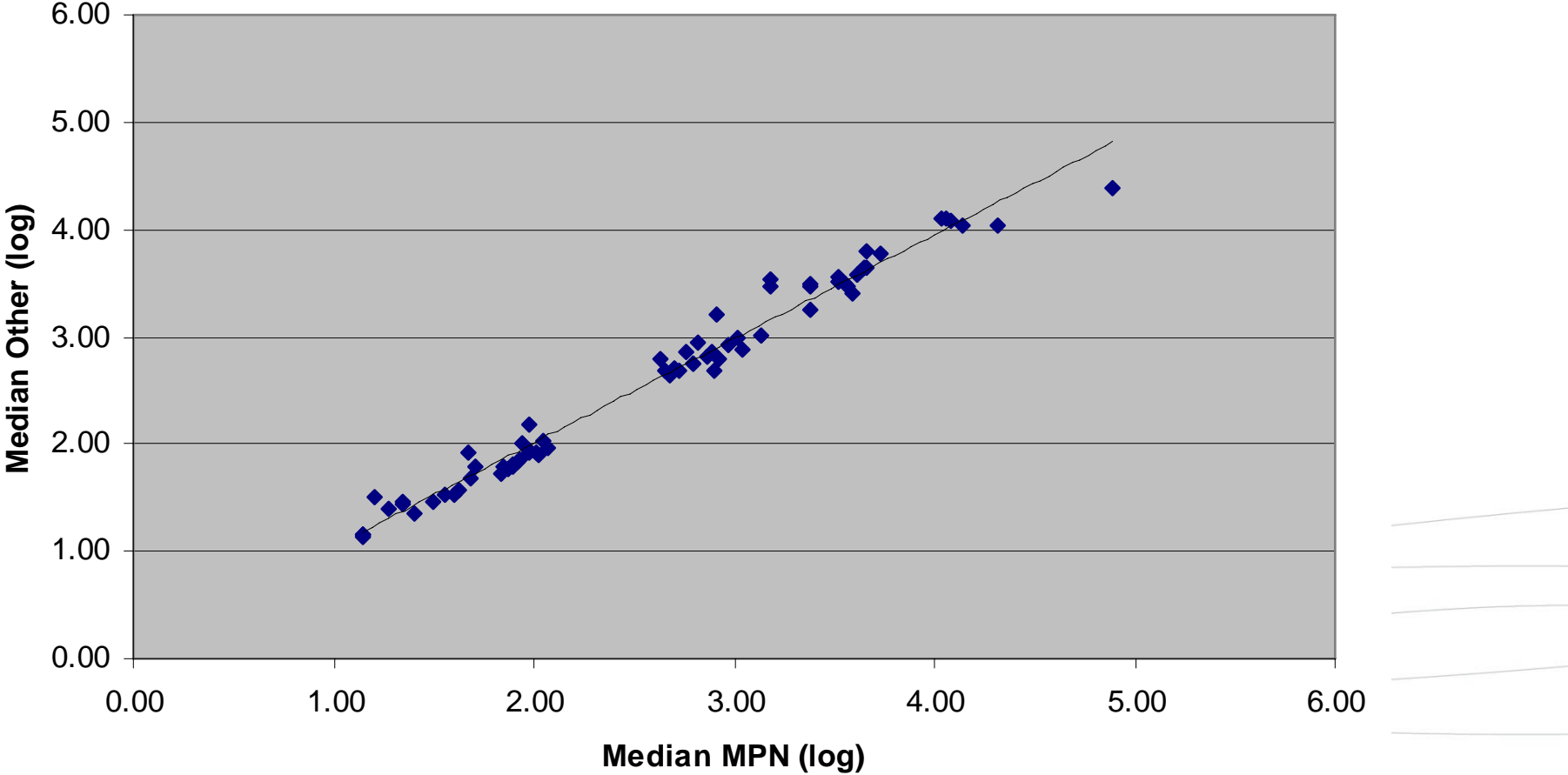


# How do methods perform

Method	Number of Results	Excluded Results	% of Total	Median	Robust SD	Range	Sat.
				Log10			%
MEMF MLGA 37	30	0	9.65	1.48	0.12	13 to 43	100.0
MEMF MLSB 37	14	1	4.5	1.51	0.11	22 to 42	100.0
MPN	23	1	7.4	1.55	0.12	8 to 62	100.0
MEMF Chromogenic agar 37	29	0	9.32	1.43	0.15	2 to 310	93.1
MEMF mFC	9	1	2.89	1.48	0.13	2 to 50	87.5
MEMF TTC + Tergitol 7	84	4	27.01	1.55	0.12	1 to 83	96.3
Colilert	60	17	19.29	1.61	0.08	1 to 130	95.6
Other	62	6	19.94	1.49	0.24	2 to 100	94.6
All	311	30	100	1.53	0.14	1 to 310	96.1

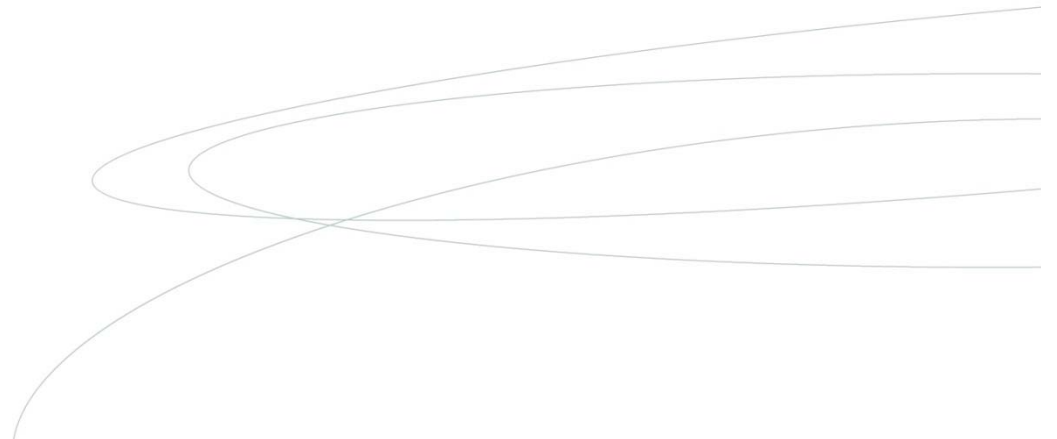
# How do methods perform

### Comparison of MPN vs Other



# Factors affecting performance

- Atypical/unusual organisms
- Organism type
- Matrix
- Inoculum level
- Method used



# How do we perform?

<b>Category</b>	<b>Details</b>
Reports	1 Problems inputting results
Orders	1 Order not sent
	1 Invoice incorrect
Despatch	4 Samples not received
	1 Sample received broken
Technical	1 vial broke on opening
	4 Problems with dissolution
	1 Legionella levels too low

# Developments for 2012

## New sample 425 – Indicator organisms

E.coli presence/absence  
Coliforms presence/absence  
Enterococci presence/absence

Legionella identification

Legionella PCR

Helminths in regenerated water



Thank you



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