



Waste Water Treatment Works Compliance

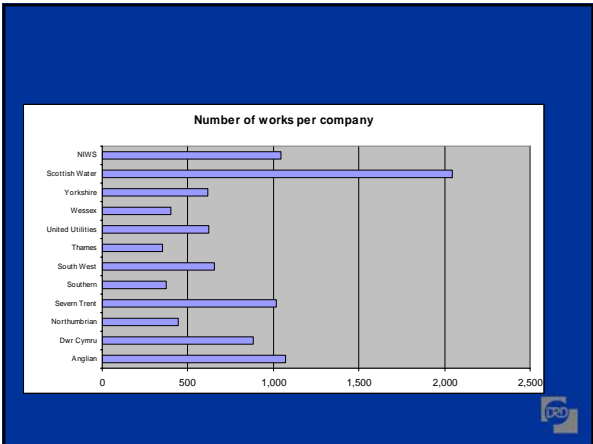
George Alexander
Head of Crown Immunity Issues

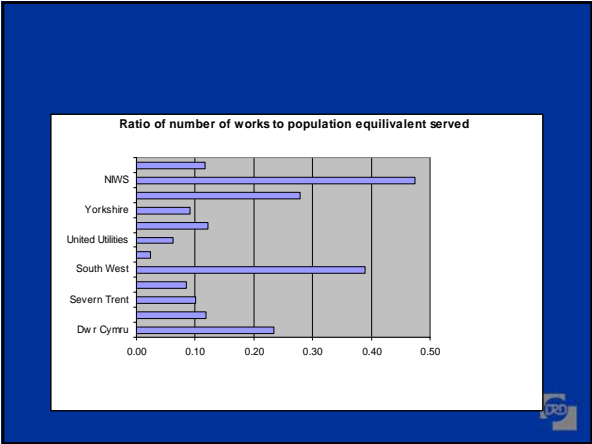


Numbers of Sewage Works by Size

Size of Works	Numbers	Population Served
>15000	34	82%
10000-15000	2	10%
2000-15000	40	
250-2000	207	6%
2-250	c800	2%
Total	>1080	2.1Million

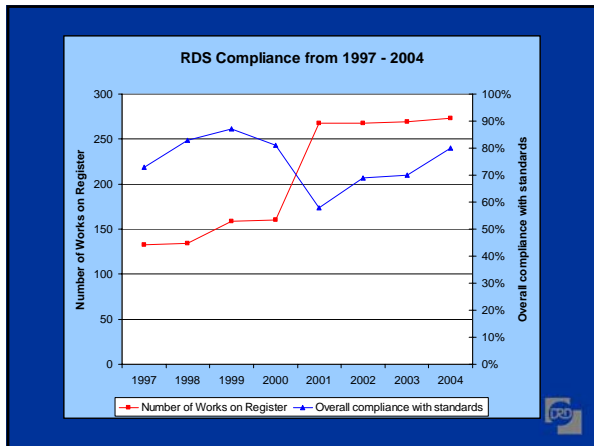






- ### Compliance Drivers
- EHS Consenting Policy
 - EC Directives
 - Changing Standards
 - Assessment Criteria
 - Waste Water Treatment Works Condition
 - Finance
 - Competing Priorities

- ### EHS Consenting Policy
- 1993 - standards for WWTW > 1000 PE based on operational performance (110 works)
 - 1996 - standards reviewed and termed "Registered Discharge Standards" RDS
 - 1999 - 2000 standards issued to all WWTW > 250 PE (278 works)
 - made up of RDS, environmental needs, or Urban Waste Water Treatment standards
 - 2006 all standards to be environmental needs



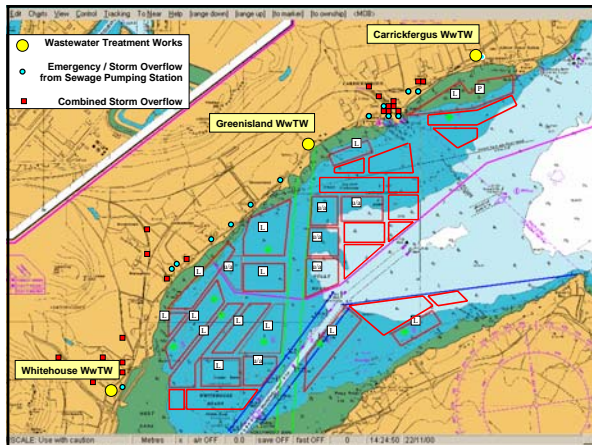
- ## EC DIRECTIVES
- Freshwater Fish
 - Bathing Waters
 - Shellfish Waters
 - Urban Waste Water Treatment
 - Water Framework Directive

- ## Freshwater Fish Directive
- Designated Waters
 - Salmonid
 - Cyprinid
 - Each class has its own standard criteria
 - 1191 km designated in 1984
 - 4269 km designated in 2003

Shellfish Waters Directive

- Shellfish Waters
 - Carlingford Lough
 - Larne Lough
 - Strangford Lough
 - Dundrum Bay
 - Lough Foyle
- Consultation on further designations





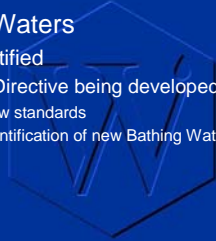
Estimate of cost to upgrade treatment and collection systems for Belfast Lough as a Shellfish Water

- WWTW: Lowest cost option-
- Tertiary filtration + UV disinfection at relevant works:
 - £12m Capex + £1.2m Opex / year
- Collection system: Lowest estimate
- Upgrade to sewerage system – CSOs etc
 - c £26m
- £38m capex + £1.2m/yr additional opex
- Cost benefit?

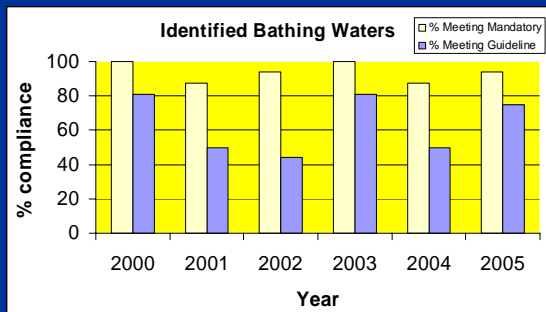


Bathing Waters Directive

- Bathing Waters
 - 16 Identified
 - New Directive being developed
 - New standards
 - Identification of new Bathing Waters



NI Compliance with Bathing Water Regulations 2000 to 2004



Urban Waste Water Treatment Directive

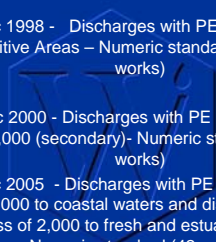
Key Treatment Dates

Dec 1998 - Discharges with PE > 10,000 to Sensitive Areas – Numeric standard (NIWS -13 works)

Dec 2000 - Discharges with PE in excess of 15,000 (secondary)- Numeric standard (21 works)

Dec 2005 - Discharges with PE in excess of 10,000 to coastal waters and discharges in excess of 2,000 to fresh and estuarine waters – Numeric standard (42 works)

Dec 2005 - All other discharges "appropriate treatment"

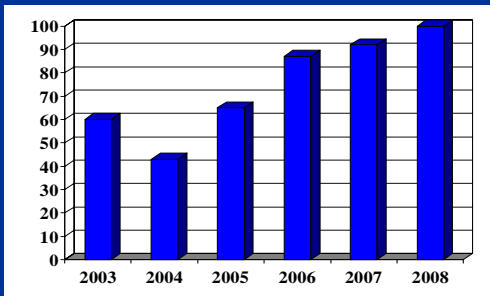


Compliance Assessment Urban Waste Water Treatment Directive

Sample Numbers	Permitted Failures
4-7	1
8-16	2
17-28	3
29-40	4

UWWTR Projections:

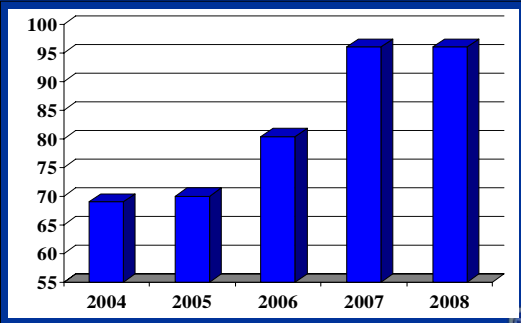
2003 and 2004 based on 34 Works
2005 to 2008 based on 76 Works



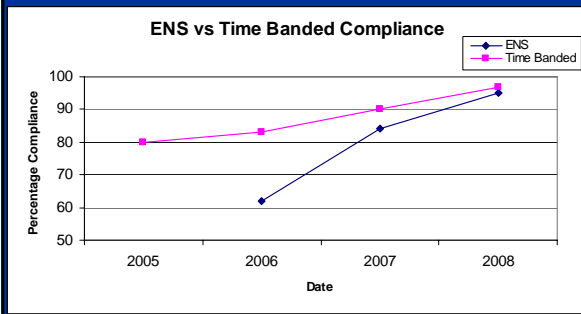
Environmental Needs Standards

- Will apply to all Waste Water Treatment Works.
- Will take into account all relevant directives
- Standards for works serving >250 PE
 - In process of being agreed
- Standards for works serving < 250 PE
 - Subject to a joint EHS/ WS survey scheduled to be completed before the end of 2005

ENS Projections



Managing the public perception – RDS / ENS Graph 3 – based on PE > 250



Waste Water Treatment Works Condition



Belfast WwTW - Duncrue St
Activated Sludge Plant for 320K PE



Kinawley WwTW
Primary Tank for c100 PE



What does the Future Hold

- WATER FRAMEWORK DIRECTIVE
Good Surface Water Status
 - 2015