

EPA Guidance on Protecting Groundwater Supplies



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Presentation Outline

- Role of Environmental Protection Agency
 - Drinking Water Quality
 - Drinking Water Enforcement
 - Provision of Guidance
- Drinking Water Safety Plan Approach
- Catchment Management
- Borehole Construction and Wellhead Protection
- Advice on *Cryptosporidium*

Role of Environmental Protection Agency

- Multi functional role
- Drinking Water
 - Drinking water quality at the tap
 - Drinking water enforcement
 - Provision of guidance
- Groundwater
 - Monitoring and Assessment
 - WFD Characterisation and Risk Assessment
 - Status Classification

Drinking Water Quality

- Annual report
 - Based on DW returns from LAs
 - Historic information
 - Enforcement activities
- 952 Public Water Supplies
 - 58% from GW
 - 12% of Total Volume supplied
- 830 Public Group Water Supplies
- 588 Private Group Water Supplies
- 888 Small Private Supplies
- Groundwater derived sources generally have disinfection only

Drinking Water Enforcement (1)

- 2007 Regulations
 - EPA supervisory authority for Public Water Supplies
 - LA supervisory authority for Group Water Supplies and Private Supplies
- Incident notifications
 - Regulation 9 and 10
 - Consultation with HSE (risk to human health)
 - 407 investigation files were open at end of 2009
- Enforcement Actions
 - Directions (28)
 - Strategic enforcement e.g. chlorine monitors (93%)

Drinking Water Enforcement (2)

■ Auditing

- Audit report with recommendations issued to LA
- 114 audits carried out in 2009

■ Remedial Action List (RAL)

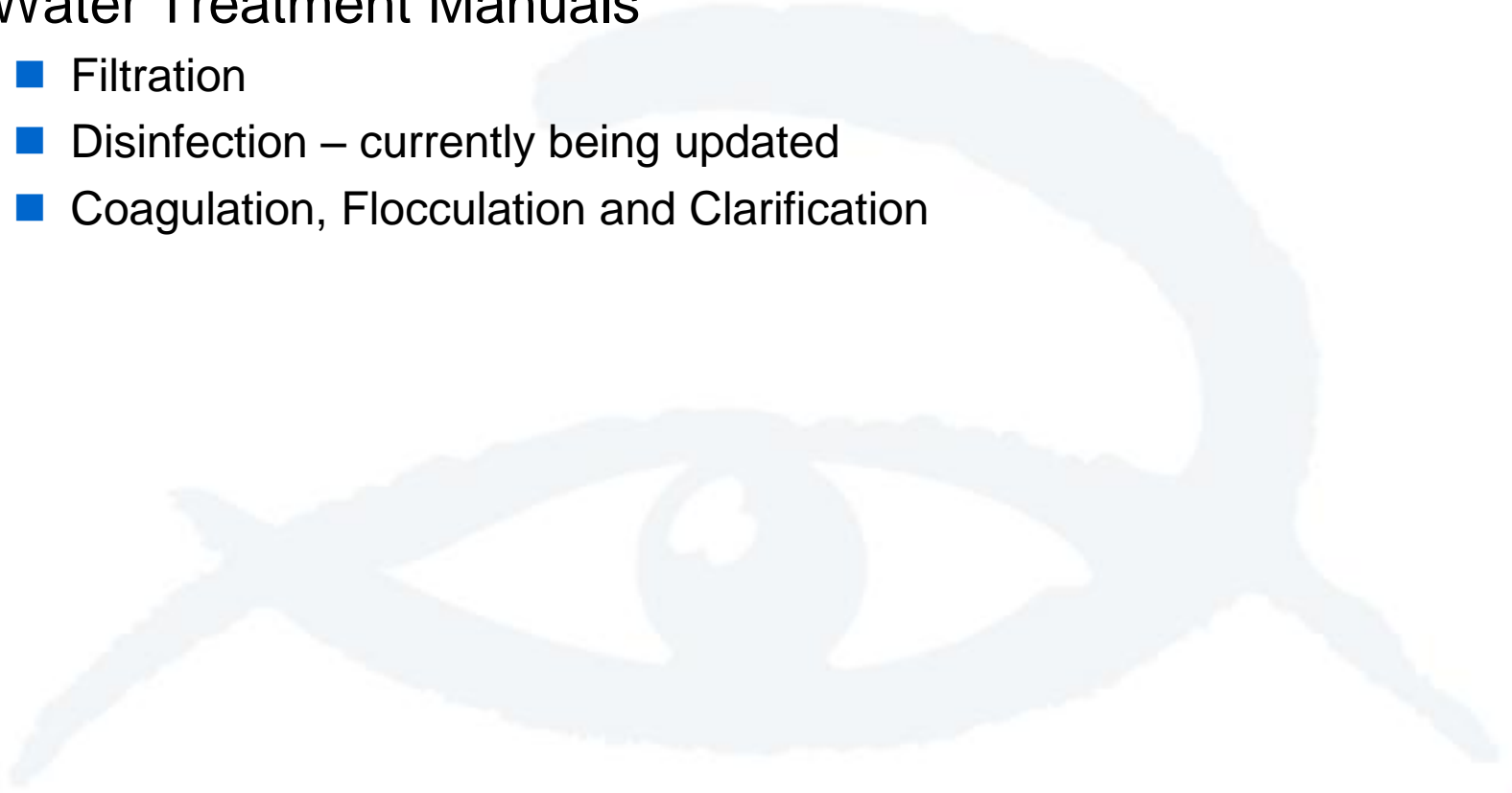
- PWS that required detailed profiling
- Initially 339 (2008)
- 134 supplies removed; 80 supplies added
- At end of March 2010 have 285 PWS on RAL – **fluid number**
- High priority for enforcement action and infrastructural funding

Provision of Guidance

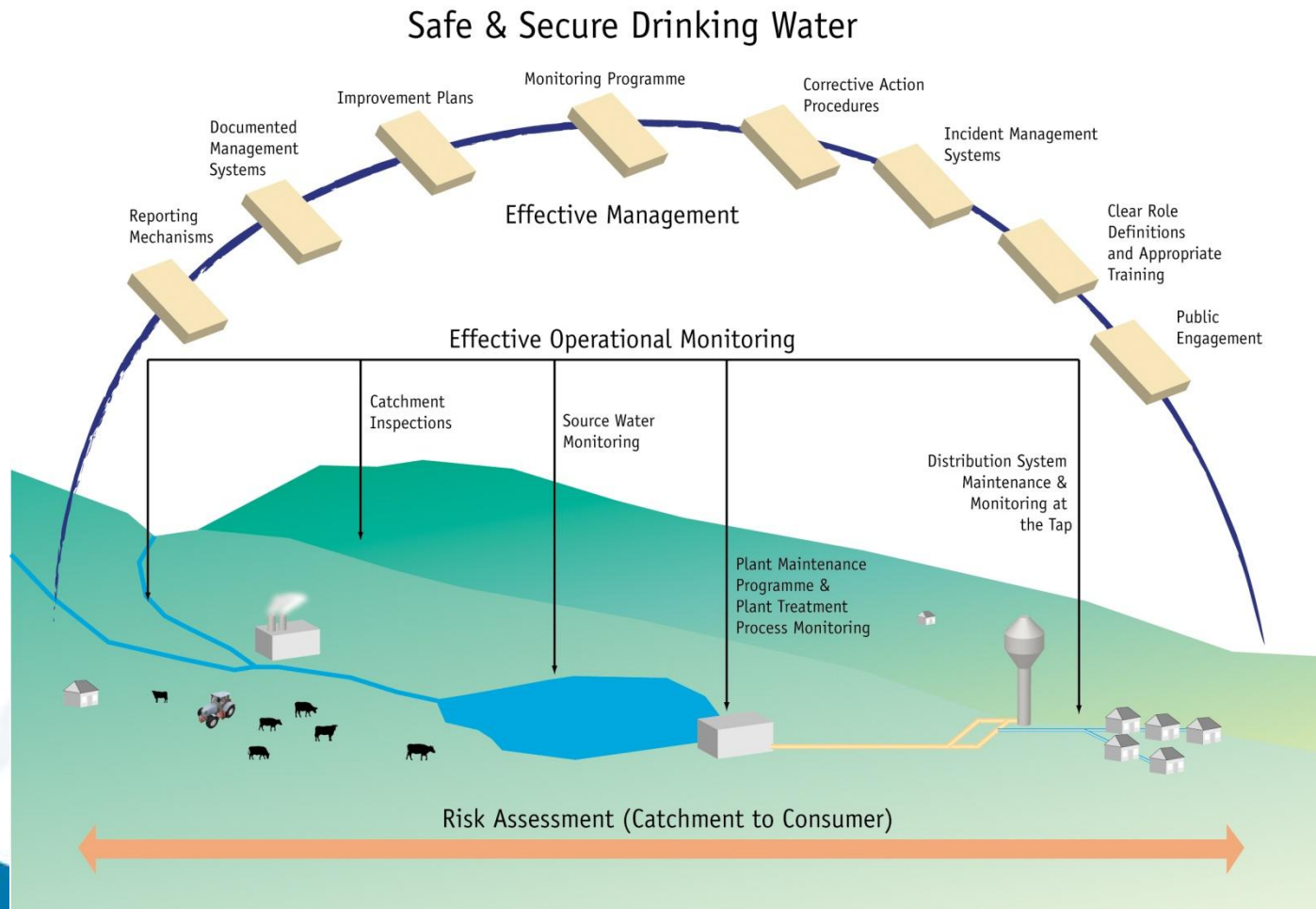
- Binding Guidance
 - Handbook on Implementation of the DW Regulations (2010)
 - Incorporates previous Guidance booklets
 - Training being provided to all Water Service authorities and Group Water Schemes
- Advice Notes
 - Lead (x2)
 - *E.Coli*
 - Disinfection By-products
 - Turbidity
 - Restoring Public Water Supplies affected by Flooding

Provision of Guidance (2)

- Water Treatment Manuals
 - Filtration
 - Disinfection – currently being updated
 - Coagulation, Flocculation and Clarification



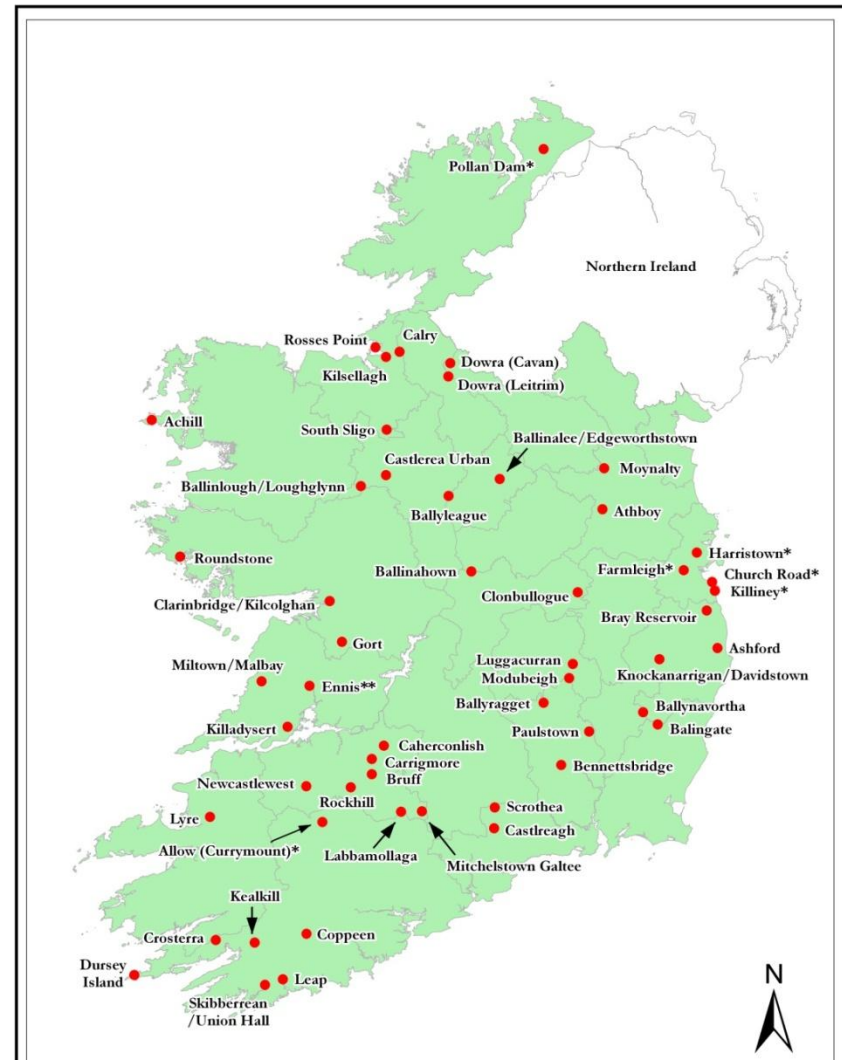
Drinking Water Safety Plan Approach (1)



DW Safety Plan Approach (2)

Why Implement a DWSP?

- Boil Water/Restrictions in 53 supplies
- 118,000 people affected
- Preventable



**Boil water/Restrictions
notices in 2008**

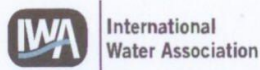
WHO manual, available on WHO website:

http://whqlibdoc.who.int/publications/2009/9789241562638_eng.pdf

Practical Guidance to facilitate WSP development

Water Safety Plan Manual

Step-by-step risk management
for drinking-water suppliers



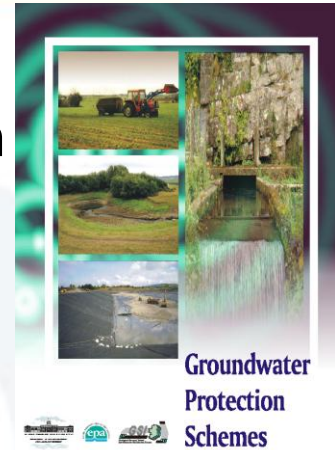
DW Safety Plan Approach (3)

Developing a DWSP

- Not new, builds on good practice of risk assessment and risk mitigation
 - Links to HACCP but goes further
 - Basically sound operating practice and common sense
 - Puts emphasis on mitigating risks above sampling (after the event, cause unknown)
- BUT**
- Targeted monitoring is still very important

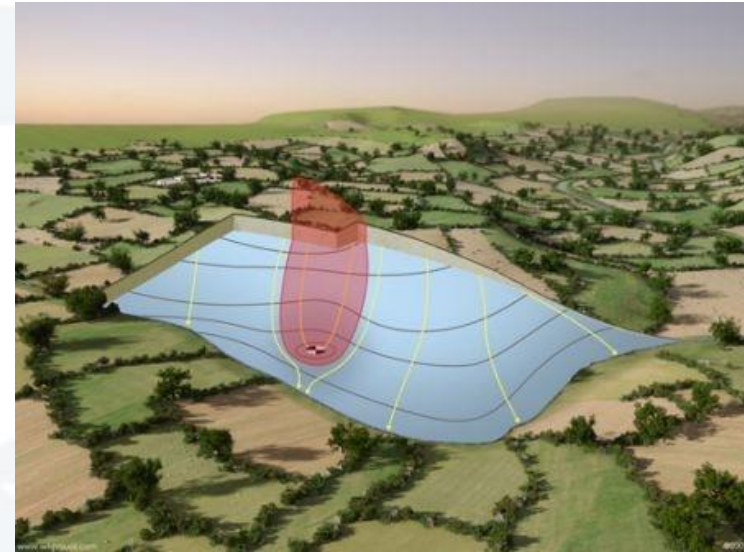
Catchment Management (1)

- Advice Note to issue in 2010
- Builds on the GWPS document but focussing on hazard mapping
 - Farmyard inspections and landspreading buffer zones (Nitrate Regulations)
 - OSWTS assessment – legacy and priority for new applications
 - Waste activities
 - Industrial activities
- In line with DWSPA



Catchment Management (2)

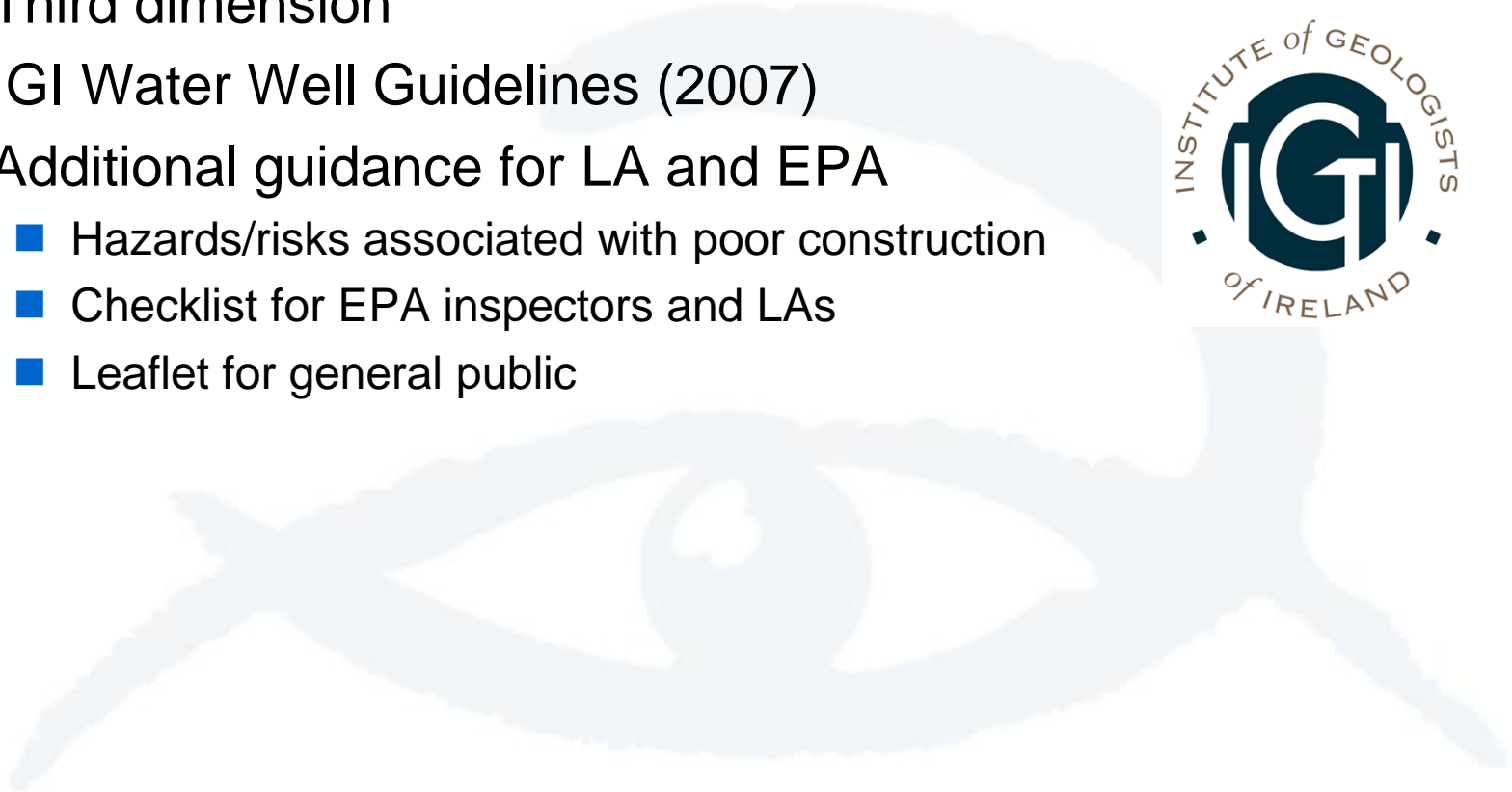
- Zone of Contribution Project
 - National Groundwater Monitoring Programme (280 locations)
 - High Risk Public Water Supplies
 - 20 identified in 2009 (LA informed)
 - Additional PWS in 2010
 - ZoC reports to be made available to all local authorities on epa website



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Borehole Construction and Wellhead Protection

- Third dimension
- IGI Water Well Guidelines (2007)
- Additional guidance for LA and EPA
 - Hazards/risks associated with poor construction
 - Checklist for EPA inspectors and LAs
 - Leaflet for general public



Advice on *Cryptosporidium*

- National Enforcement Working Group (2007)
- Risk Assessment Guidance Booklet No. 4 (new Handbook)
- Circular Letter – Crypto Monitoring
 - >20,000 people – once/week in 24 hour sample
 - <20,000 people – on risk assessment basis and treatment works monitoring
 - Monitor supplies at high risk /insufficient treatment barriers in consultation with HSE
 - Monitor supplies with new treatment barriers on a temporary basis
- Recently completed study on the development of appropriate monitoring programme
 - new Advice Note end of Q2

Recap

- Role of the EPA
 - Drinking Water Quality
 - Enforcement
 - Provision of Guidance
- Specific Guidance
 - DWSP
 - Catchment Management
 - Borehole Construction and Wellhead Protection
 - *Cryptosporidium*

THANK YOU