

# EPA Role in Lead Strategy



Ruth Barrington, Inspector  
EPA Drinking Water Team  
Athlone 28 February 2017



**Protection of public health through limiting exposure to lead in drinking water**

**Lead affects brain development - unborn babies, bottle fed infants & young children are most at risk**

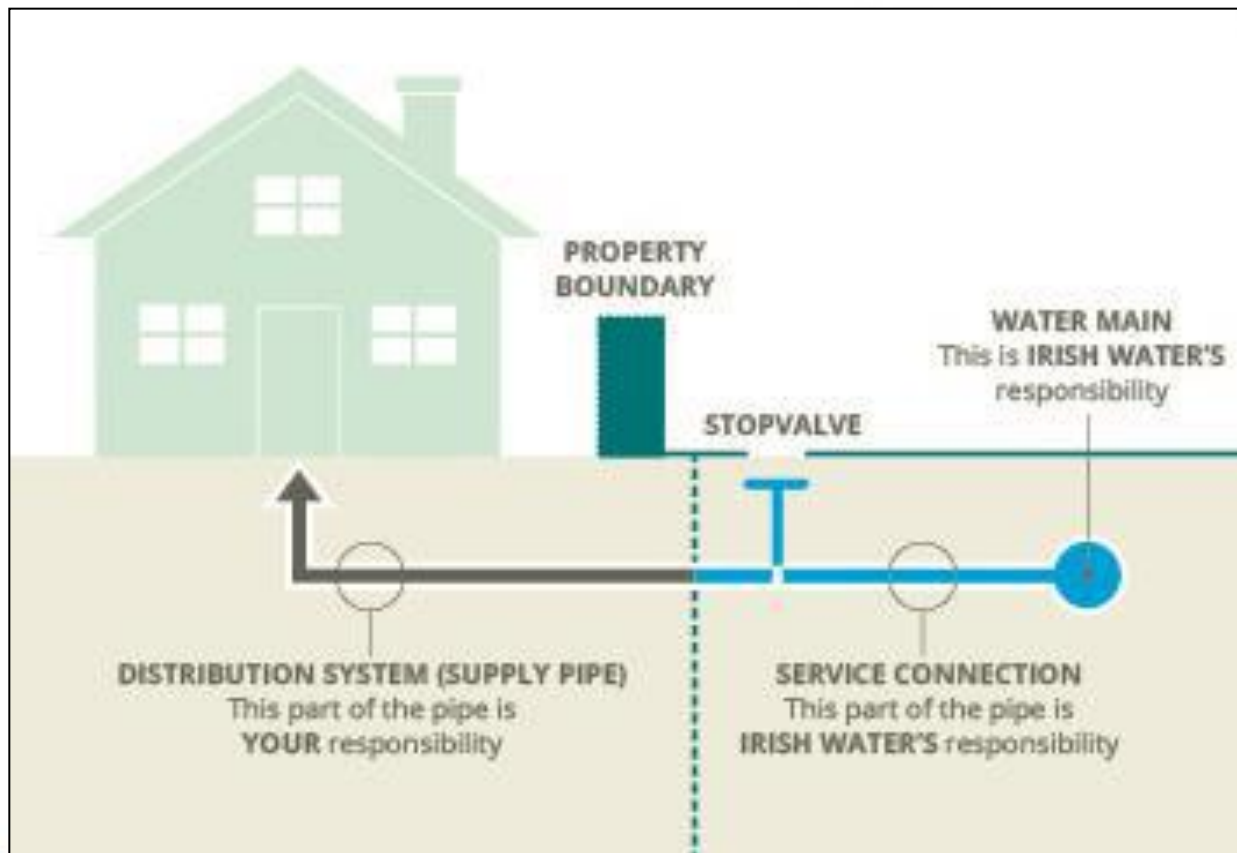
# Drinking Water Regulations

- Parametric value (limit) has decreased to 10 µg/l
- No safe level of lead in drinking water (WHO/HSE)
- Responsibilities of water suppliers and premises owners in relation to exceedances
- Responsibilities include the internal plumbing of a building
- Exceedances must be notified to the EPA
- EPA reports on exceedances annually

## Strategy development

- 2013: Joint Position Paper (HSE/EPA): key points for actions to reduce lead exposure
- January 2015: EPA Drinking Water Report called for a national strategy on lead in drinking water
- June 2015: National Strategy published by DoECLG and DoH  
<http://www.environ.ie/water/water-quality/lead-drinking-water/national-lead-strategy-june-2015>
- June 2015, July 2016: Irish Water lead mitigation plan for public consultation
- Strategies provide a framework for assessing and responding to lead exposure across the population

# Responsibilities for distribution pipework- public supply



# National Strategy Actions 1-7

- Action 1 Raising awareness
- Action 2 Water providers (Irish Water and Group Water Supplies)
- Action 3 Removing lead from housing stock
- Action 4 Education sector
- Action 5 Hospitals and health care facilities
- Action 6 Other public bodies
- Action 7 Research and monitoring

# Action 1 Raising awareness

- EPA/HSE information and guidance to suppliers and consumers
- Irish Water advice to consumers
  - Development of template letters and advice leaflets to consumers
  - In conjunction with the EPA and the HSE
- DECLG engagement with stakeholders in health, education, public sectors on plumbing of public buildings, properties they own or operate
- Grant aid for domestic lead replacement- leaflet and supporting materials
- Action 2: Water suppliers to be dealt with in more detail below

## Action 3 Removal of lead from housing stock

- Ultimate removal of exposure to lead in drinking water
- Private side lead: provision of advice to property owners, grant aid, IW Opt In scheme
- DHPCLG engagement with building regulations on approved materials/fittings (link to Action 1 on advice)
- Social housing with internal lead plumbing
  - Housing authorities recommended to survey properties
  - DCC pilot use of lead lining system in properties during renovations



## Actions 4-6 Education, Health and Public Bodies

- High level seminar in November 2015 for stakeholders: e.g. HSE, Depts. Education and Health, OPW, CCMA
- Responsibilities of organisations owning or operating public buildings
- Information on risk and compliance- EPA and HSE
- Start assessment process- estimate scale of lead plumbing within these properties through lead surveys
- Start process of designating funding for lead replacement e.g. schools, hospitals on a risk basis
- DHPCLG & WSNTG workshops for LA

## Action 7 Research and monitoring

- EPA reporting on an annual basis
- EPA compliance tracking for public supplies on a national basis quarterly since Q1 2016, facilitated by the framework of the national strategy and Irish Water draft mitigation plan
- Irish Water chemical lining system trial
- Dublin City Council use of lining systems
- Orthophosphate treatment pilot in Limerick
- Expanded Irish Water sampling programme to determine lead levels and help define priority areas

# Irish Water Lead in Drinking Water Mitigation Plan

- Describes plans within Action 2 of the National Strategy
- Issues Paper published by Irish Water mid June 2015
- Irish Water preparation of environmental assessment reports for Strategic Environmental Assessment and Appropriate Assessment legislation
- Final Plan for publication March 2017

## The scale of lead exceedance (public supplies)

- Irish Water programme of Random Daytime Sampling
- Estimated 140,000 houses at risk of lead non-compliance
- Estimated up to 40,000 additional homes with “backyard shared service” containing lead pipework
- Public buildings to be assessed
- Risk prioritisation of individual water supplies- population at risk of lead exposure
- Output: Irish Water plumbosolvency maps to show high risk supplies- to be used to prioritise mitigation actions

## Lead replacement- ultimate goal

- Both private and public side need to be replaced at the same time
- Replacement plumbing fittings to be of suitable quality and standards
- Grant for householders since February 2016
- Irish Water Opt In scheme

# Lead mitigation options

- Interim actions to limit exposure prior to lead replacement
  - Corrective water treatment
  - pH adjustment
  - Lead lining systems
  - Point of use filtration
  - Advice to consumers
- Actions assessed within mitigation plan- e.g. complexity, compliance achieved, cost, delivery time...
  - Corrective water treatment, replacement public and private side lead, replacement public side lead
  - Actions in parallel

## Corrective water treatment – orthophosphate dosing

- Orthophosphate as food grade additive
- Prevent contact of the drinking water with lead, taking 6-24 months to develop coating, maintenance dose then required
- Irish Water proposal for 400 “high risk” water supplies where technically, economically, environmentally viable
- Addition of phosphorus to aquatic environment (e.g. through leakage, wastewater)
- Site specific risk assessment for each proposed supply
- Range of environmental protection measures may be required
- Model for risk assessment developed by Irish Water

## Limerick Orthophosphate pilot

- Enable development of suitable dose and monitoring protocols for an Irish setting (climate/water chemistry/maintenance dose rates)
- Has been subject to Appropriate Assessment under Habitats Directive
- Baseline sampling to measure impact on compliance
- Inform and further develop Environmental Assessment Methodology for screening “high risk” supplies



# What's next?

- Irish Water Lead Mitigation Plan
  - Publication of SEA final reports
  - Limerick orthophosphate pilot tracking & reporting
  - Continue expanded monitoring programme
- National Strategy
  - Public Buildings: assessment & action
  - Individual houses: promotion of lead replacement
  - Annual progress report

# Thank you

## ■ Acknowledgements

- EPA Drinking Water Team
- Ms Marie Archbold, EPA Catchment Science and Management Unit
- Mr John Hynes, Mr Maurice O'Connell, Irish Water
- Mr Stephen Dineen, DHPCLG
- Ms Catherine Comer, DHPCLG