

Review required under Environmental Objectives (Surface Water) Regulations



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Environmental Licensing Programme

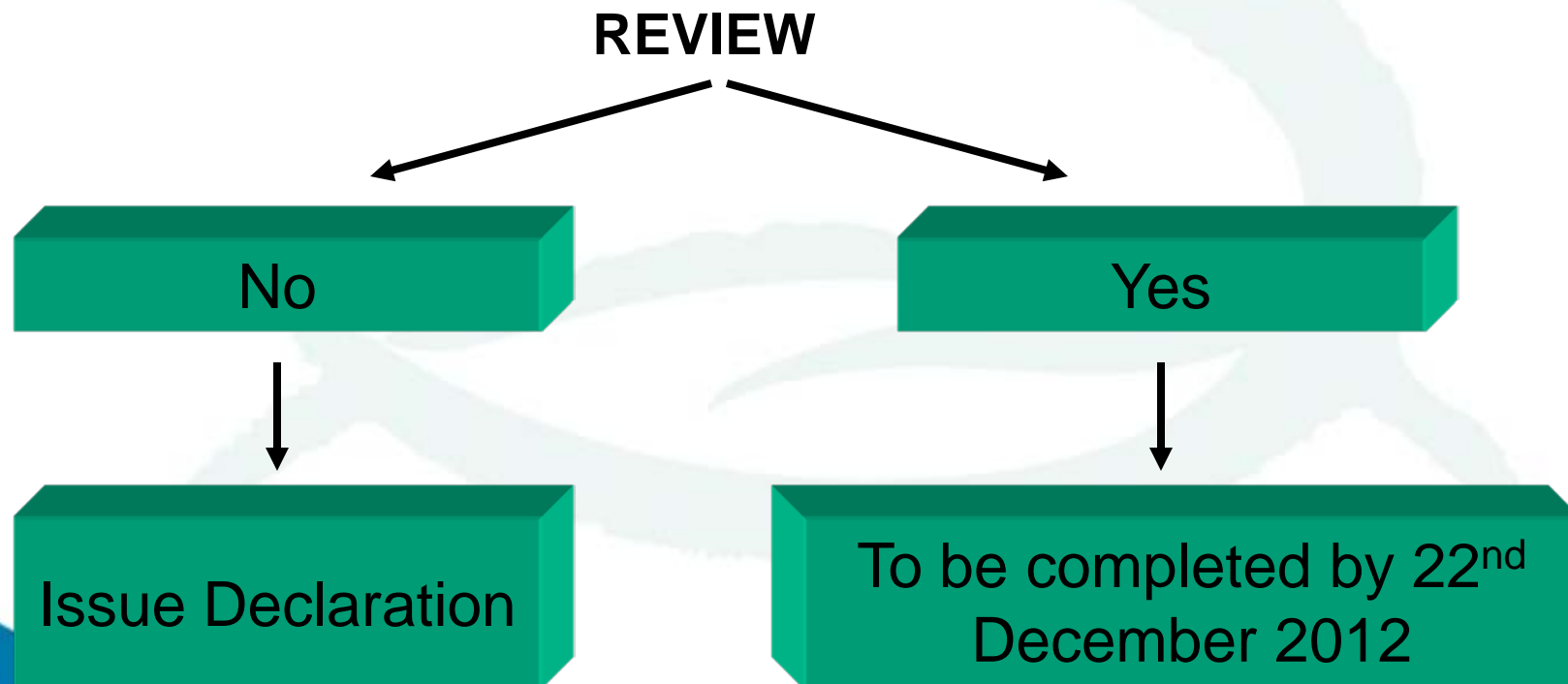
Thursday 19th May 2011, Horse & Jockey

Overview of Presentation

- Environmental Objectives (Surface Waters) Regulations 2009
- Why a review is required
- The Review Form
- Assessment /Monitoring required

Surface Waters Regulations Article 11

- Examine all authorisations IPPC, Waste, Waste Water, Dumping at Sea for compliance with the regulations by 22nd December 2012.



Surface Waters Regulations (Schedule 5 and 6)

- Standards for rivers, lakes, transitional & coastal waters
- General conditions
 - Temperature, pH, DO, BOD,
 - Nutrients (Total Ammonia, MRP, DIN)
- BOD and Nutrients
 - Mean and 95%ile standards
- Specific Pollutants and Priority (Hazardous) Substances
 - Annual average and maximum allowable concentration

Dissolved Inorganic Nitrogen (DIN)

- Applies to coastal waters
- Sum of nitrate (NO_3), nitrite (NO_2) and ammonia (NH_3).
- Standard is a median value & is dependant on salinity

Article 70, legislation revoked

■ Article 70:

Local Government (Water Pollution) Act 1977 (Water Quality Standards for Phosphorous) Regulations 1998 (S.I. No. 258 of 1998)

Water Quality (Dangerous Substances) Regulations 2001 (S.I. No 12 of 2001)

ARE REVOKED

Standards for rivers (BOD and Nutrients)

Parameter	Good Status	High Status
BOD (mg O ₂ /l)	≤1.5 (mean) or ≤2.6 (95%ile)	≤1.3 (mean) or ≤2.2 (95%ile)
Total Ammonia (mg N/l)	≤0.140 (mean) or ≤0.065 (95%ile)	≤0.040 (mean) ≤0.090 (95%ile)
MRP (mg P/l)	≤0.035 (mean) or ≤ 0.075 (95%ile)	≤0.025 (mean) ≤0.045 (95%ile)

- Standard depends on the status and objective for the waterbody

www.wfdireland.ie

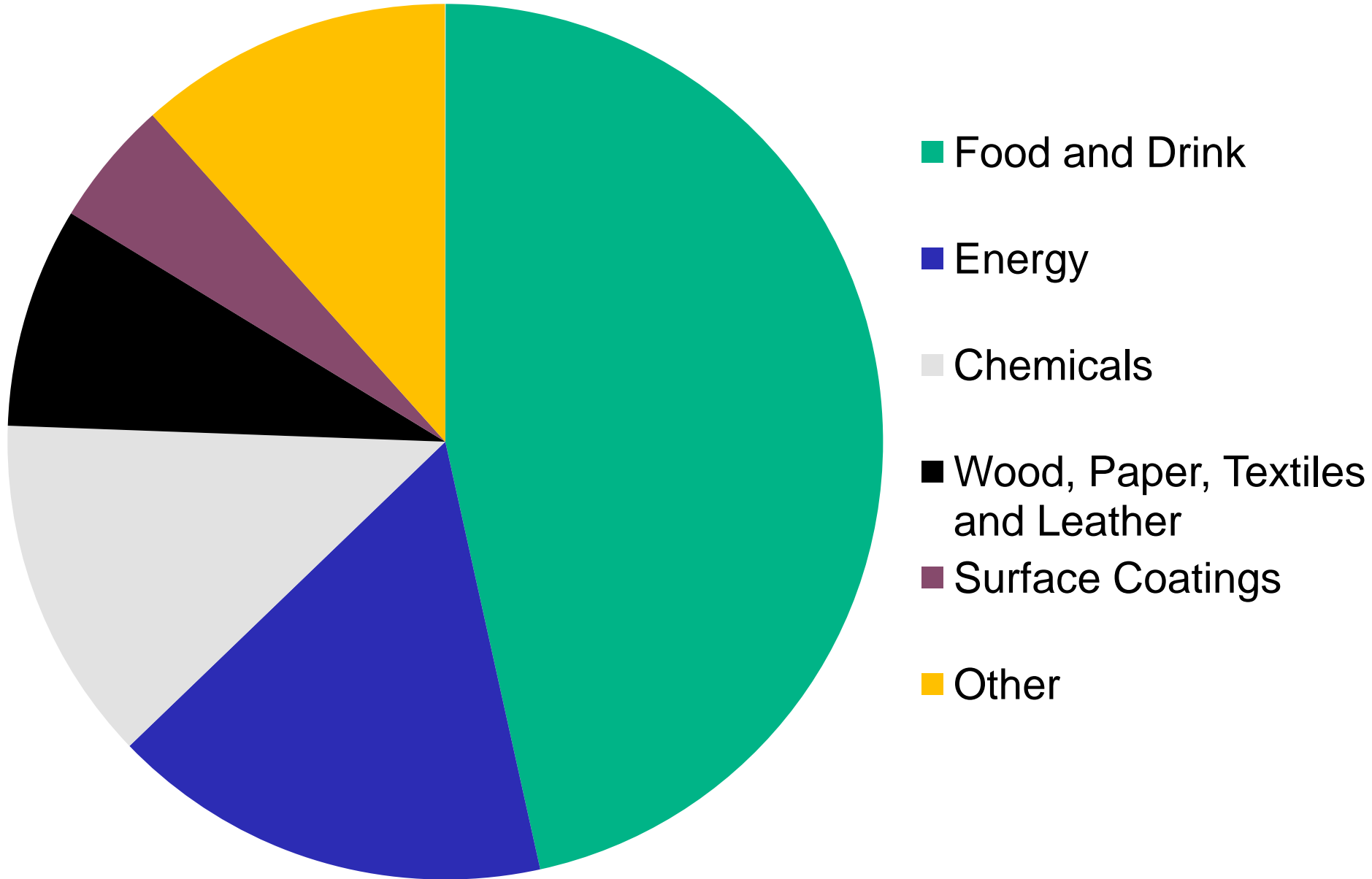
Freshwater Pearl Mussel Regulations 2009

- Where there are discharges into designated freshwater pearl mussel sites, these licences must be reviewed by the earlier date of 22nd December 2011 according to Article 13 of **European Communities Environmental Objectives (Freshwater Pearl Mussel) Regulations 2009**, S.I. No. 296 of 2009.
- The First Schedule of the regulations lists the 27 designated freshwater pearl mussel sites and shows a map of the catchments of the specified freshwater pearl mussel populations.

Overview of licences requiring review

- Agency carried out an assessment of IPPC and Waste licences and licences can either be issued a declaration if compliant otherwise a review is required
- Reviews generally triggered due to
 - discharge to river waters requiring mass balance calculation
 - discharge to coastal/transitional/lake waters requiring an assessment

Sector



The Review Form

- There is no fee for the review and the scope is strictly limited to these regulations
- You will be officially notified of the review between June 2011 and June 2012
- In general, you will be given 8 weeks to submit the review form once you have been notified
- Pilot electronic form

The Review Form

- Section A General (name, address, location)
- Section B Emissions to Surface Waters (source, location, characteristics)
- Section C Control and Monitoring (abatement systems, monitoring & sampling points)

Ambient Monitoring: at least 12 samples should be taken at regular intervals

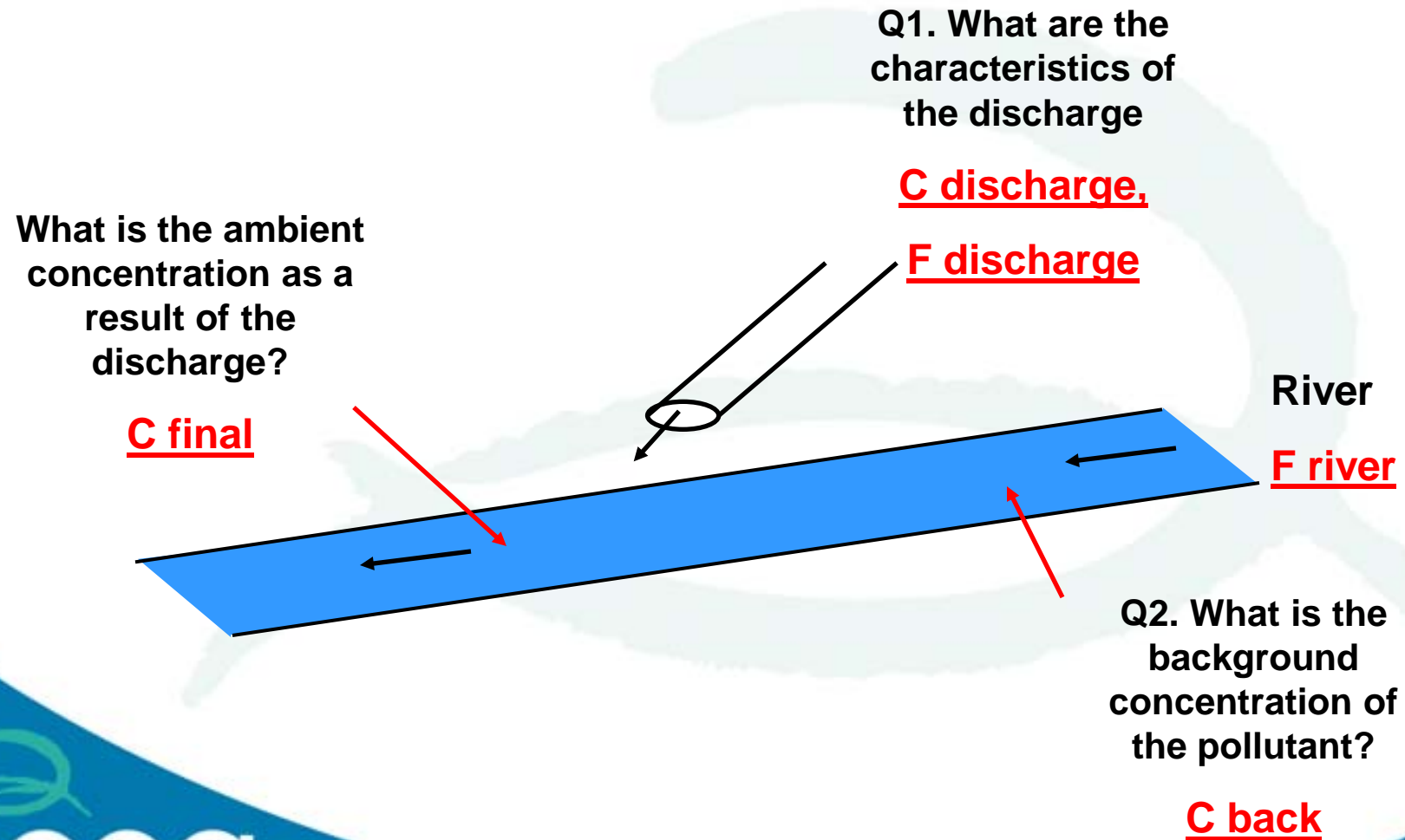
The Review Form

- Section D Existing Environment and Impact of the Activity (assess impact of discharge on surface water (mass balance calculation/ modelling study may be required), state distance to nearest downstream water dependent protected area, demonstrate BAT)
- Section E Statutory Requirements (compliance with legislation)
- Section F Declaration & Annex 1 Tables/Attachments

Mass balance calculation

- The mass balanced discharge concentration should not exceed
 - the 95%ile concentration quality standard
 - at the 95%ile flow in the receiving waters.

Mass balance calculation



Mass balance calculation

$$C_{\text{final}} = \frac{(C_{\text{back}} * F_{\text{river}}) + (C_{\text{discharge}} * F_{\text{discharge}})}{(F_{\text{river}} + F_{\text{discharge}})}$$

C_{final} = Resultant concentration after discharge (mg/l)

C_{back} = Background (u/s) concentration in river (mg/l)

F_{river} = Flow in river (m^3/s)

$C_{\text{discharge}}$ = Maximum concentration in discharge (mg/l)

$F_{\text{discharge}}$ = Flow of discharge (m^3/s)

Sources of flow data

- Long term flow records - Low Flow Statistics at selected hydrometric stations (95% percentile and dry weather flows) www.epa.ie
- EPA HydroNet - online hydrometric data (water levels, flows and summary statistics) <http://hydronet.epa.ie>
- www.opw.ie/hydro/ Hydro-Data provided by the OPW
- EPA Hydrotool: The system provides an estimate of flows exceeded for 5% - 95% of time, at ungauged locations. Flows are estimated based on observed flows at similar catchments. Register as a user:
<http://watermaps.wfdireland.ie/HydroTool/Authentication/Register.aspx>

Discharge Modelling

Usually required for discharges to waterbodies other than rivers;
Coastal Waters, Transitional Waters, Lakes

Modelling may be based on EC Technical Guidance for Mixing Zones

Technical Guidance uses a Tiered Approach

Format of Agency's Tiered Approach yet to be determined

Relevant Licensee's to be informed a.s.a.p.

Thank You

