

**S.I. No. 293/1988 – European Communities (Quality of Salmonid Waters) Regulations, 1988.**



**FIRST SCHEDULE  
Salmonid Waters**

**SECOND SCHEDULE  
Salmonid Water Quality Standards**

**THIRD SCHEDULE  
Frequency of Sampling and Methods of Analysis and Inspection**

**FIRST SCHEDULE****Salmonid Waters**

<b>Salmonid Water</b>	<b>Extent</b>
River Aherlow	Main channel
River Argideen	Main channel
River Blackwater (Munster)	Main channel
River Boyne	Main channel
River Bride	Main channel
River Brown Flesk	Main channel
River Corrib, including Lough Corrib	Main channel and lake
River Dargle	Main channel
River Feale	Main channel
River Fergus	Main channel
River Finn	Main channel
River Glashagh	Main channel
River Lee	Main channel from source to Cork City waterworks at Lee Road
River Leannan	Main channel
River Lurgy	Main channel
River Maggisburn	Main channel
River Maine	Main channel downstream of confluence with the River Brown Flesk
River Moy The following tributaries of the River Moy:— Owengarve, Mullaghanoe, Spaddagh, Trimoge, Glore, Yellow, Gwesstion, Manulla, Castlebar, Deel and Corry.	Main channel
River Nore	Main channel
River Slaney	Main channel
River Swilly	Main channel
River Vartry	Main channel

## SECOND SCHEDULE Salmonid Water Quality Standards

Parameter	Unit of Measurement	Standard
Temperature	°C	<p>Temperature measured downstream of a point of thermal discharge (at the edge of the mixing zone as determined by the local authority) must not</p> <ul style="list-style-type: none"> <li>a) exceed the unaffected temperature by more than 1.5°C,</li> <li>b) exceed               <ul style="list-style-type: none"> <li>(i) 21.5°C, or</li> <li>(ii) 10°C, during the period from 1 November to 30 April where species which need cold water for reproduction are present</li> </ul> </li> </ul> <p>A thermal discharge must not cause sudden variations in temperature. (Temperature limits to be conformed with for 98% of the time).</p>
Dissolved Oxygen	mg/litre O <sub>2</sub>	<p style="text-align: center;"><b>50% ≥ 9</b></p> <p>When the oxygen content falls below 6 mg/litre the local authority must prove that there will be no harmful consequence for the balanced development of the fish population.</p>
pH		<p style="text-align: center;"><b>≥ 6 ≤ 9</b></p> <p>Artificial pH variations with respect to the unaffected values shall not exceed ± 0.5 of a pH unit within the limits 6 and 9 provided that these variations do not increase the harmfulness of other substances present in the water.</p> <p>Standard to be conformed with by 95% of samples over a period of 12 months where sampling is carried out at least once per month; where sampling is less frequent the standard shall be conformed with by all samples.</p>

Parameter	Unit of Measurement	Standard
Suspended Solids	mg/litre	<p style="text-align: center;"><b>≤ 25</b></p> <p>The standard is expressed as an average concentration over a period of 12 months and does not apply to suspended solids with harmful chemical properties.</p>
BOD <sub>5</sub>	mg/litre O <sub>2</sub>	<p style="text-align: center;"><b>≤ 5</b></p> <p>Where weed or sewage fungus growths are excessive appropriate measures for control should be taken.</p> <p>Standard to be conformed with by 95% of samples over a period of 12 months where sampling is carried out at least once per month; where sampling is less frequent the standard shall be conformed with by all samples.</p>
Nitrites	mg/litre NO <sub>2</sub>	<p style="text-align: center;"><b>≤ 0.05</b></p> <p>To be conformed with by 95% of samples over a period of 12 months where sampling is carried out at least once per month; where sampling is less frequent the standard shall be conformed with by all samples.</p>
Phenolic Compounds		Phenolic compounds must not be present in such quantities that they adversely affect fish favour.
Petroleum Hydrocarbons		<p>Petroleum products must not be present in such quantities that they:</p> <ul style="list-style-type: none"> <li>➤ form visible film face on the surface of the water or form coatings on the beds of water-courses and lakes</li> <li>➤ impart a detectable "hydrocarbon" taste to fish</li> <li>➤ produce harmful effects in fish.</li> </ul>
Non-ionized Ammonia	mg/litre NH <sub>3</sub>	<p style="text-align: center;"><b>≤ 0.02</b></p> <p>Standard may be exceeded in the form of minor peaks in daytime and, subject to this, be conformed with by 95% of samples over a period of 12 months where sampling is carried out at least once per month; where sampling is less frequent the standard shall be conformed with by all samples.</p>

Parameter	Unit of Measurement	Standard	
Total Ammonium	mg/litre NH <sub>4</sub>	<p style="text-align: center;"><b>≤ 1</b></p> <p>subject to conforming with the standard for non-ionized ammonia.</p> <p>Standard to be conformed with by 95% of samples over a period of 12 months where sampling is carried out at least once per month; where sampling is less frequent the standard shall be conformed with by all samples.</p>	
Total Residual Chlorine	mg/litre HOC1	<p style="text-align: center;"><b>≤ 0.005</b></p> <p>Standard to be conformed with by 95% of samples over a period of 12 months where sampling is carried out at least once per month; where sampling is less frequent the standard shall be conformed with by all samples.</p>	
Total Zinc	mg/litre Zn	Water Hardness (mg/litre Ca CO <sub>3</sub> )	Standard
		10	≤ 0.03
		50	≤ 0.2
		100	≤ 0.3
		500	≤ 0.5
Standard to be conformed with by 95% of samples over a period of 12 months where sampling is carried out at least once per month; where sampling is less frequent the standard shall be conformed with by all samples.			
Dissolved Copper	mg/litre Cu	Water Hardness (mg/litre Ca CO <sub>3</sub> )	Standard
		10	≤ 0.005
		50	≤ 0.022
		100	≤ 0.04
		300	≤ 0.112
Standard to be conformed with by 95% of samples over a period of 12 months where sampling is carried out at least once per month; where sampling is less frequent the standard shall be conformed with by all samples.			

### THIRD SCHEDULE      Frequency of Sampling and Methods of Analysis and Inspection

Parameter	Frequency and Manner of Sampling	Method of Analysis or Inspection
<b>Temperature</b>	Weekly, both upstream and downstream of the point of thermal discharge.	Thermometry.
<b>Dissolved Oxygen</b>	Monthly, minimum one sample representative of low oxygen conditions of the day of sampling.	Winkler's method or specific electrodes (electro-chemical method). However, where major daily variations are suspected, a minimum of two samples in one day shall be taken.
<b>pH</b>	Monthly	Electrometry calibration by means of two solutions with known pH values, preferably on either side of, and close to the pH being measured.
<b>Suspended Solids</b>	Monthly	Filtration through a 0.45 µm filtering membrane, or centrifugation (five minutes minimum, average acceleration of 2800 to 3200g) drying at 105° C and weighing.
<b>BOD<sub>5</sub></b>	Monthly	Determination of O <sub>2</sub> by the Winkler method before and after five days incubation in complete darkness at 20 ± 1°C (nitrification should not be inhibited).
<b>Nitrites</b>	Monthly	Molecular absorption spectrophotometry.
<b>Phenolic Compounds</b>	Monthly where the presence of phenolic compounds is presumed.	By tasting fish.
<b>Petroleum Hydrocarbons</b>	Monthly	Visual, supplemented by tasting fish where the presence of hydrocarbons is presumed.
<b>Non-ionized Ammonia and Total Ammonium</b>	Monthly	Molecular absorption spectrophotometry using indophenol blue or Nessler's method associated with pH and temperature determination.
<b>Total Residual Chlorine</b>	Monthly	DPD-method (diethyl-p-phenylenediamine).
<b>Total Zinc</b>	Monthly	Atomic absorption spectrometry.
<b>Dissolved Copper</b>	Monthly	Atomic absorption spectrometry.