


**Boora
Priority Action Area**

Boora_010 Waterbody

Midlands & Eastern Region

Referral Report



Draft referral: Local Authority				
PAA Name	Boora	Description of referral area		
WB code	IE_SH_25B080100			
EPA referral number		A discharge pipe was noted to the rear of the BnM works. The pipe is connected to the on-site wastewater treatment facility. The pipe was discharging on 3 occasions, samples were collected and sampled for BOD, Ammonia, Ortho P and Nitrate. This waterbody is one of 2 waterbodies within the Boora PAA.		
EPA Referral ID				
Grid Reference	53.224903, -7.735629			
Description				
Pressure Category	wastewater	Significant issue	BOD & Ammonia	
Pressure Sub-category	Onsite wastewater treatment system	Pathway (s)	Pipes	
Pressure Type (s)	Discharge pipe			
Evidence to Support Significant Issue				
Water chemistry	Physicochemical	Visual		
Y	Y	Y		
Supporting Information				
Field Map (no.)		Location of point sources		
<p>Significant issue (Evidence)</p> <p>As part of the LCA assessment on the Boora_010 a pipe was identified to the rear of the BnM facility/workshops. The pipe was sampled on 3 occasions. On two occasions the sample showed high elevations of Ammonia and BOD.</p> <p>In February the Ammonia was 0.5mg/l and in June it was 6.6mg/l both of which were significantly above the 95%ile EQS.</p> <p>In February the BOD at the discharge was only slightly above the mean EQS of 1.5mg/l, however in June the BOD was 97mg/l.</p> <p>Based on results the discharge pipe is deemed to be delivering untreated effluent to the Boora_010. As the results varied during each monitoring event this could indicate dilution of the pollutant source.</p> <p>As the pipe is discharging intermittently it is difficult to determine the concentration and volume of flow.</p> <p>As a result of covid 19 the staff numbers at the facility would have decreased significantly. This may have had an impact on the efficiency of the treatment system. Staffing may increase in future when employees return.</p> <p>Proposed Actions</p> <p>EPA to take appropriate steps to investigate this discharge pipe and wastewater treatment system to determine whether it is discharging polluting material into the river. Actions taken to be uploaded to the WFD App.</p>				
Agreed LA Measures				
Measure category	Description			
Pathway Interception	Percolation area		Draft referral to be issued and discussed further with EPA on measures proposed	
	Integrated constructed wetland (polishing filter)			
Source Control	Assess treatment system			
Mobilisation Control	Decommission discharge pipe			
				

The elevated results from the three monitoring events are displayed in Table 1 below. As can be seen BOD, Ammonia and Ortho P were elevated during the February and June sampling rounds. Nitrate was elevated in February and March, however, it was less than the limit of detection in June. Further assessment is required to determine the level of potential impact this discharge may have on the receiving waters (Boora_010). Based on the excel table above I have focused on BOD and Ammonia specifically, as the chemistry results recorded at Gorteen bridge highlights BOD and ammonia as the significant issues at this EPA monitoring station. This does not rule out Ortho P as a potential issue in this waterbody.

There is a wastewater treatment system serving the BnM workshops and office buildings, which is located to the west of the workshops, as per the red arrow on the map below. The WWTS falls within the Boora IPPC license P0500-01. As per the EPA inspector report from the 19/11/99 under the Groundwater section it stated the following: *Domestic sewage which emanates from toilet facilities serving the individual works receives primary treatment in a septic tank or similar sewage treatment system and the effluent from these units typically discharge to ground.* This indicates that the wastewater on site was to be sent to a septic tank and then discharged to ground most likely into a percolation area. There are two reasons why a discharge pipe may be associated with this wastewater treatment system 1) if the percolation area is not effective and the area is ponding, therefore it may have been diverted, or 2) there is potentially an overflow pipe diverting wastewater from the system when overloaded. LAWPRO visually inspected the wastewater treatment system, no odours or visual signs of impact were noted. Based on discussions with BnM it is believed that there is a bypass on the system, which activates during heavy rainfall events as wastewater and surface water off the yard combine tripping the pump at the treatment system allowing wastewater to discharge through the pipe at sampling location 12. Resulting in a combination of wastewater and surface water runoff being released into the Boora_010.

However, it must be noted that under condition 9.1.1 of the license it states “No potentially polluting substance or matter shall be permitted to discharge to off-site surface waters, off site storm drains or groundwaters”. Therefore, the discharge pipe requires further assessment in an effort to determine the level of impact it is having on the receiving waters.

LAWPRO has already discussed these issues with BnM, who proposed the following measures:

1. Empty the initial settlement chamber, with a permitted waste contractor.
2. Clean the existing grease trap at the main office canteen.
3. Look at raising the by-pass outlet so that during high rainfall events there is less flow diverted via this by-pass channel

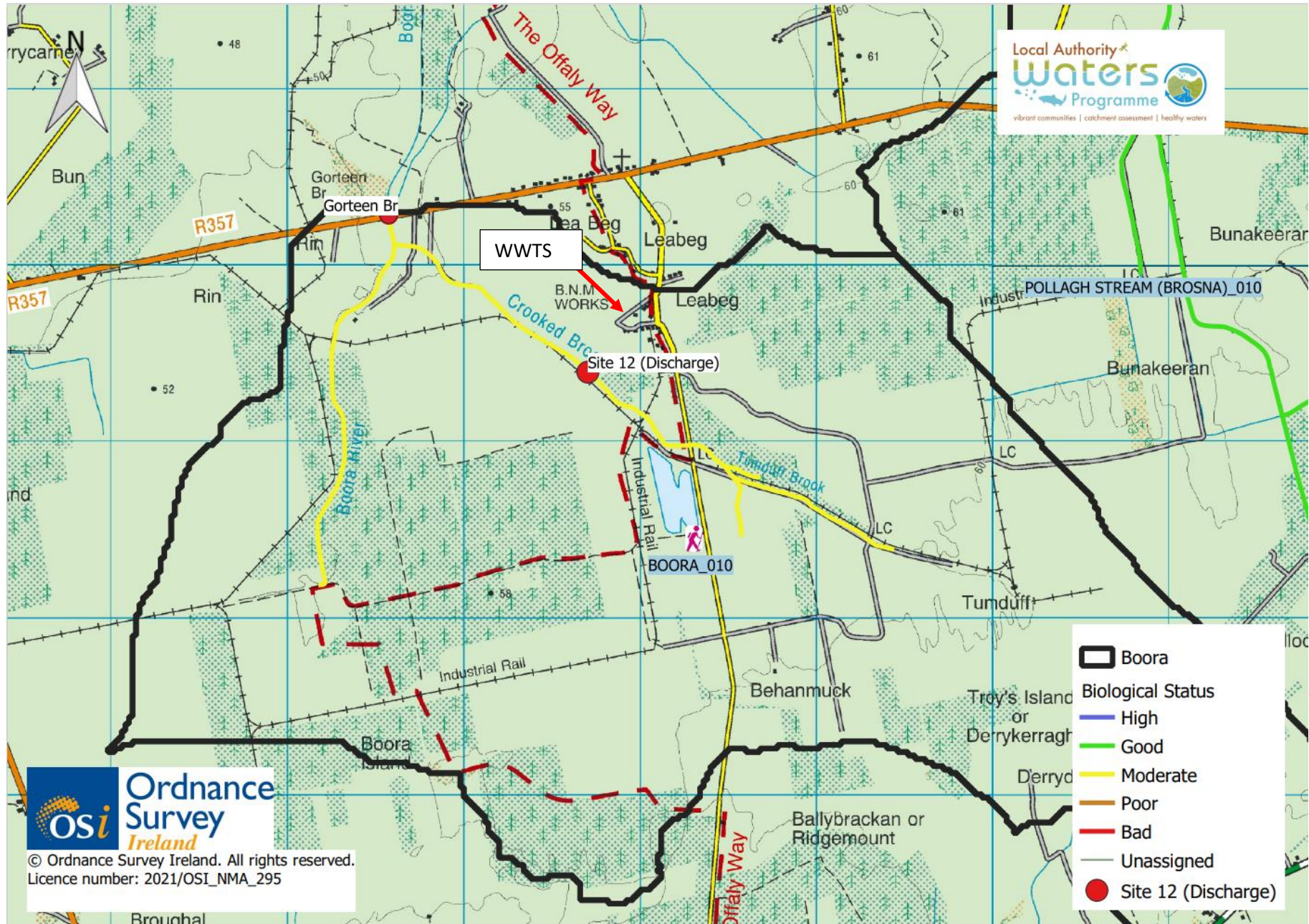
4. Look at re-configuring the current pump controls so that the system does not trip out during high rainfall events, allowing excessive effluent to by-pass the treatment system, but to at least allow more overflow into the treatment system, all be it not via the sprinkler system, during storm events.
5. Implement a maintenance procedure to ensure periodic inspection and maintenance of the grease trap, pumps, and overall system.

Site 12 Discharge					
	17/02/2021	16/03/2021	09/06/2021	Mean EQS (mg/l)	95%ile EQS (mg/l)
Ammonia (mg/l)	0.5	0.025	6.6	0.065	0.14
BOD (mg/l)	1.8	1	97	1.5	2.6
Ortho P (mg/l)	0.094	0.035	0.65	0.035	0.075
Nitrate (mg/l)	4.2	3	<1	2.6 (Surrogate EQS mg/l)	

Table 1: Chemistry results for sampling location 12

*Figures highlighted in red are over the respective 95% ile EQS

*Figures highlighted in amber are over the respective mean EQS



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