Farming and Water – Point Source Pollution Checklist.

The quality of water in our waterways (streams, rivers and lakes) is important to all of us. It is a source of much of our drinking water as well as fundamental to the natural environment and countryside which we live in and enjoy.

While farming does much to sustain and enhance the environment, we use products and produce slurry and effluent which ,if not carefully managed, can have a serious impact on water quality. These products and processes are an essential part of modern farming and a familiar part of daily routines. This Checklist serves as a reminder of their importance and the need for constant care in their use while running a busy farm business.

This checklist focuses primarily on the pollution which can occur in and around farmyards. The process starts with regular checks of sheughs and streams near the farmyard to identify a potential problem before it becomes a major issue or comes to the attention of others using the waterways - or the enforcing authorities. A series of Guidance Notes then provides advice on how any deficiencies can be remedied.

The overall approach is therefore a four-stage self-help process –

Check it – regular checks of yards, stores, silos and adjacent sheughs, streams and drain outflows.
Find it – trace the source of the problem back to find the cause
Fix it – repair any faulty stores etc; improve designs e.g. collection of dirty water; change procedures.
Check it again – and again as a routine.

Note: This checklist and guidance focuses on the farmyard and associated “point sources” of pollution. It complements the need to avoid “diffuse pollution” as advocated through the Soil Nutrient Health Scheme and associated training.

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	Question	Answer		Action
1	Do you know the layout and discharge of all drains in the farmyard?	No		Take time to trace all drains and record these on a simple farmyard diagram. For details of how to trace drain flows see **Guidance Note 1**.
		Yes		Keep this up to date and available for easy reference.
2	Do you regularly check watercourses for traces of farm pollution?	No		Get into the habit of having a quick check of drains and streams close to the farm and to any outside silage bale stores. For photographs and information on how to recognise pollution in watercourses see **Guidance Note 2.**
		Yes		Excellent . Make this a routine procedure – especially in Winter when the risk of runoff is greatest, and when making silage. If evidence of pollution is found, then check for the source and fix any defects using advice in the Guidance Notes.
3	Do you know if you have sufficient storage capacity for slurry and dirty water?	No		The slurry produced and therefore capacity required can be calculated using the information contained in **Guidance Note 3** or using the CAFRE Manure Storage Calculator which can be accessed through DAERA on-line services at www.daera-ni.gov.uk/onlineservices.
		Yes		Capacity needs to include any dirty water / parlour washing etc.
4	Does the storage capacity include rainfall entering tanks as dirty water or slurry?	Yes		For dairy cattle an allowance must be made for parlour washings. **Guidance Note 4** provides information on how to calculate rainfall and parlour washing volumes. Always include the minimum freeboard (750mm for lagoons and 300mm for tanks) in your store capacity calculations.
		No		These rainfall volumes can be very considerable so must be calculated and added to the storage volumes required.

5	Is clean rainwater kept separate and diverted to storm drains with all "Dirty Water" collected and stored in well manged Dirty Water or Slurry stores?	Yes		Storage should be minimised by keeping clean water separate and discharging to streams and sheughs. Water run-off from regularly swept yards, and tidy silos can be classed as "Dirty (lightly contaminated) Water", otherwise it should be treated as slurry. Regular checks of tanks should avoid freeboard being breeched and overflows. For further information see **Guidance Note 5.**
		No		Dirty (water cannot be discharged into steams or sheughs so must be stored in separate dirty water stores or in slurry stores. Silage Effluent and heavily contaminated water must be treated as slurry – see **Guidance Note 5.** Regularly check that gutters and downspouts are working and directing clean water into the relevant gulleys. Gully surrounds contain clean water and prevent contaminated rainwater having to be treated as slurry from dirty yards
6	Are all tanks and silos constructed to the required standard (complete with channels to collect any seepage) and maintained to prevent leakage?	No		The Nutrient Action Programme sets minimum standards for the construction of new and substantially altered silos, effluent tanks and channels. Details are contained in **Guidance Note 6**. This also contains guidance on methods to repair defective concrete and how to reduce effluent leakage from silos. Silage effluent is highly toxic to aquatic life, so channels and tanks need to be in good repair and checked regularly at silage time.
		Yes		A summary of the required standards and repair / maintenance suggestions are provided in **Guidance Note 6 .**
7	Do you **use pesticides** in your farm business?	No		Remember Rodenticides are classed as pesticides. **Pesticides** include herbicides, insecticides, fungicides, rodenticides, molluscicides and nematicides , but also include synthetic plant growth regulators, defoliants and desiccants.
		Yes		Further information on the protection of water quality when storing and using pesticides in agriculture is provided in **Guidance Note 7**. Stores must be "bunded" to contain any leaks. Ensure the sprayer operator holds a Certificate of Competence relevant to the task and/or equipment being used and make them aware of waterways and any buffer strips. Older equipment must be tested by NSTS qualified engineer.

				Up to 70% of pesticide chemicals reaching water comes from handling areas so handling in the filling area is especially important. The grassland herbicide MCPA poses a real risk to aquatic life and is costly to remove from drinking water. Weed wiping gives effective control while avoiding MCPA contamination. Records must be kept of all pesticides stored and applied.
8	Do you store fuel (diesel) oil for farm use?	No		No action required
		Yes		Fuel and lubricating oils form a surface film on water which reduces the oxygen content and can kill fish and plants. Diesel fuel is very toxic to invertebrates. Conditions relating to the storage of fuel oil on farms are summarised in **Guidance Note 8.** New stores must be notified to NIEA before use.
9	Do you need to dip sheep on your farm?	No		No action required
		Yes		Sheep dip chemicals are extremely toxic to both people and the aquatic environment. Their use is covered in comprehensive Codes of Practice and legislation. Those requirements and recommendations which relate specifically to water quality when using sheep dips are summarised in **Guidance Note 9.** Disposal of used sheep dip requires prior authorisation by Northern Ireland Environment Agency. Tel: 028 92633486 / 028 92623280
10	Are there any places where your stock has access to a watercourse for drinking?	No		No action required
		Yes		Where stock have access to rivers they will tend to tramp in the banks and this, as well as the faecal contamination, will have a detrimental effect on water quality and biosecurity.

				These areas should be fenced off and alternative water supplies provided. For further information see **Guidance Note 10.**
11	Do you take specific steps to prevent soil and nutrient runoff from fields to watercourses ?	No		Phosphorous is held in soil in different forms and is primarily lost to waterways as surface runoffs which carry away both soluble (dissolved) phosphorus and phosphorous adhering to soil particles. The soil particles also cause discoloration (turbidity) in drinking water and so increases treatment costs. Surface flow due to rain after pesticide application will also include pesticides which must then be removed from drinking water – an expensive process. Reducing surface flow is therefore an important element of protecting the water quality in our waterways. **Guidance Note 11** contains guidance on how this surface runoff can be minimised.
		Yes		Ensure that any measures are maintained to sustain their effectiveness.
12	Is your farm dwelling connected to a municipal (public) sewage system which treats the wastewater?	Yes		NI Water operates the Wastewater treatment and sewage system in Northern Ireland. There are restrictions on materials which should be put into sewage systems. Fat should not be washed down sinks and only the 3Ps flushed down toilets.
		No		In this case you should check on the Domestic Consent Public Register whether your septic tank discharge has been registered. If not apply for registration. This applies to all discharges (including Packaged Sewage Treatment Plants (PSTPs). Septic Tanks and PSTPs require regular maintenance, including regular removal of sludge. and checking for the effectiveness of the drainage field /soakaway area. Further information on the installation and maintenance of Septic Tanks and PSTPs is provided in **Guidance Note 12**

Thank you for taking the time to complete this checklist which will have helped identified risks and things which could be done better. Please follow through and make the suggested changes. High Quality water is essential for our own lives as well for our natural environment and we can all contribute in our own way to its improvement. Together we will make a difference.