REF.	ACTIONS	PARTNERS (lead partners in bold)
7.1	**Upgrade, or connect to a public sewerage network, private treatment plants and septic tanks which are impacting upon watercourses.**	**SEPA / Householders / Sewerage operator**
7.1.1	Identify private sewage treatment plants and septic tanks which are impacting upon watercourses.	**SEPA**
7.1.2	Investigate means of upgrade (including financing) and implement improvements.	**SEPA / Householders / Sewerage operator**
7.2	**Consider issuing CAR licences with single responsibility for all private sewage treatment plants serving more than 15pe (population equivalent) that cannot be connected to a public sewerage network.**	**SEPA**
7.3	**Encourage and undertake appropriate maintenance of all private septic tanks and sewage treatment plants.**	**SEPA** / AC / ACC / CNPA / NFUS / Developers / Land owners / Land managers / SRPBA / **Householders / SW** / DCP
7.3.1	Promote SW leaflets and septic tank services (emptying, desludging etc)	**SW** / AC / ACC / CNPA / NFUS
7.3.2	Produce up to date guidance on septic tank maintenance.	SW / **SEPA**
7.3.3	Run a publicity campaign on maintenance of private sewage treatment systems.	**SEPA** / DCP
7.3.4	Take enforcement action where appropriate.	**SEPA**

Acronyms are listed in the centre of this Action Card

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private sewage treatment

7 WATER QUALITY

OBJECTIVE 7. Improve effluent quality from private sewage treatment systems to ensure compliance with the requirements of the SAC interests.

BACKGROUND

Not all households are able to connect to a sewerage network. Either their community has not yet been provided with sewerage or, particularly in rural Aberdeenshire, it is impractical to provide a sewerage network for the numerous individual dwellings dispersed throughout the countryside. In these situations, owners of properties are responsible for treating and discharging their sewage to a standard acceptable to the Scottish Environment Protection Agency (SEPA), the regulator.

The simplest private sewerage system is a septic tank which removes solid matter but discharges a polluting supernatant and therefore a discharge to a watercourse is only allowed where substantial dilution exists. Otherwise the effluent must drain to a soakaway but only if the ground characteristics are appropriate. In these circumstances it is up to the householder to ensure the septic tank is properly maintained to minimise environmental pollution. Periodically, the accumulated solids must be removed by vacuum tanker otherwise they overflow and cause odour and environmental health problems. Septic tanks should be emptied a minimum of once every two years.

If a better quality of effluent is required the property owner may be required to install a reed bed or a powered sewage treatment plant. The latter are referred to as package plants and use similar biological treatment processes to the larger public sewage treatment plants. Treatment plants that require electricity need to be checked regularly and fitted with an alarm to warn of power failure. Under the Water Environment Regulations, all private treatment systems serving up to fifteen people need to be registered with SEPA. Private systems serving more than fifteen people will be subject to a simple licence. SEPA will only issue a licence if it is satisfied that a responsible person has been identified who will secure long-term compliance with the licence conditions.

ISSUES

- The Dee catchment, in common with much of the North East of Scotland, has a high proportion of households using a septic tank to treat household waste water.
- Poorly treated effluent from private sewage treatment systems has the potential to cause significant environmental damage:
  - The discharge of organic matter to surface waters raises the Biological Oxygen Demand (BOD), causing the depletion of oxygen available to aquatic life.
  - The discharge of nutrients (e.g. nitrates and phosphates) can cause enrichment – also known as eutrophication – enabling the growth of bacteria and algae, again leading to the depletion of oxygen and the loss of larger aquatic plants which are an important food source and habitat for other aquatic life.
  - 'Sewage fungus' - seen as slime on a river bed around outfalls – is a sign of untreated or poorly treated sewage effluent.
  - In addition to oxygen depleting substances, sewage effluent contains toxic substances. Ammonia is a main component of sewage, which is directly toxic to aquatic life.
- High levels of bacteria, viruses and parasites from human and animal sources pose a threat to the recreational use of water bodies, as defined by the EU Bathing Waters Directive.
- Sanitary waste flushed down toilets blocks drains and damages screening equipment at treatment plants, resulting in the littering of river banks and beaches around Scotland's coast.
- While the most effective means of disposing of household sewage effluent is often to ensure the premises is connected to a Waste Water Treatment Plant (WWTP), connecting small communities to a large public network may not always be the best environmental option, particularly

WHO IS INVOLVED?

Aberdeenshire Council

Aberdeen City Council

Dee Catchment Partnership

Developers

Householders

Landowners

Land managers

National Farmers' Union Scotland

Scottish Environment Protection Agency

Scottish Rural Property & Business Association

Scottish Water

Sewerage Operators

Further copies can be downloaded at www.theriverdee.org. For further information contact the Dee Catchment Officer c/o The Macaulay Institute, Craigiebuckler, Aberdeen AB15 8QH Telephone: 01224 498200 email: info@theriverdee.org

deecatchment partnership

in relation to energy consumption and given that small scale sustainable treatment systems play an important role in rural development.

EXISTING / RECENT INITIATIVES

- SEPA is working with The Scottish Government and Scottish Water to provide first-time sewerage schemes for communities without access to a public sewer.
- All new developments are subject to a drainage assessment. Developers are required to demonstrate that they have chosen a satisfactory means of foul water disposal.
- Developers are encouraged to connect new houses to the foul sewer where available.
- Scottish Water provides a septic tank emptying service.
- Control of Pollution Act (COPA) discharge consents of approximately greater than 50pe (population equivalent) are being transferred to Controlled Activities regulations (CAR) licenses, but extending this to include all small impact discharges, i.e. between 15 population equivalent (pe) and 50pe, would require a level of resource disproportionate to the environmental benefit.

ACTIONS REQUIRED

- Septic tanks that are impacting on watercourses need to be upgraded or connected to private treatment systems.
- Consider issuing CAR licences with single responsibility for all private sewage treatment plants serving more than 15pe
- Encourage appropriate maintenance:
  - Produce up to date guidance on the maintenance of private sewage treatment systems.
  - Promote existing guidance and services.
  - Develop better contacts between Scottish Water and householders to raise awareness of maintenance issues.

LEGISLATION

See Action Pack Annex for information sources

- Water Framework Directive 2000
- Water Environment and Water Services Act (Scotland) 2003
- Water Environment (Controlled Activities) (Scotland) Regulations 2005
- Sewerage (Scotland) Act 1968 (as amended)
- Town and Country Planning (Scotland) Act 1997
- Building (Scotland) Regulations 2004
- Urban Wastewater Treatment (Scotland) Regulations 1994 (as amended)

GUIDELINES AND INFORMATION

See Action Pack Annex for information sources

- SEPA Pollution Prevention Guidelines.
- Drainage Assessment, A Guide For Scotland.
- Scottish Building Standards Agency Domestic Handbook May 2005.
- Scottish Water Septic Tank leaflet

BENEFITS TO PROTECTED SPECIES

The following specially protected species will benefit from the Actions:

- Grass wrack pond weed *Potamogeton compressus*
- Pillwort *Pilularia globulifera*
- Freshwater pearl mussel *Margaritifera margaritifera*
- Common frog *Rana temporaria*
- Palmate newt *Triturus helveticus*
- Northern blue damselfly *Coenagrion hastulatum*
- Stiletto-fly *Cliorisimia rustic*
- Stone fly *Brachyptera putata*
- Atlantic salmon *Salmo salar*
- Brook lamprey *Lampetra planeri*
- River lamprey *Lampetra fluviatilis*
- Sea lamprey *Petromyzon marinus*
- Daubenton's bat *Myotis daubentonii*
- Otter *Lutra lutra*
- Water vole *Arvicola terrestris*
- Goldeneye *Bucephala clangula*
- Osprey *Pandion haliaetus*



Septic tanks are significant localised sources of pollution in some areas of the Dee catchment (S. Langan)

RELATED ACTION CARDS

34. Tarland burn catchment

35. Loch Davan catchment

36. Loch of Skene catchment

37. Elrick burn catchment