

Loch Leven Special Protection Area and Ramsar site

Advice to planning applicants in
relation to phosphorus and foul
drainage in the catchment



Scottish Natural Heritage
All of nature for all of Scotland



Advice to applicants when considering new projects which are within the catchment of, or could affect Loch Leven Special Protection Area (SPA) and Ramsar site

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1. Introduction

This guidance aims to assist anyone submitting planning applications which are

- within the catchment of Loch Leven Special Protection Area (SPA) and Ramsar site and
- which could affect the water quality of Loch Leven.

It provides advice on the types of appropriate information and safeguards to be provided in support of your planning application so that it can be properly and timeously assessed by Perth & Kinross Council, and includes:

- An explanation of planning authorities' obligations when evaluating planning applications;
- Advice on the nature of developments that may affect Loch Leven; and
- Examples of information which you need to submit with your planning application and application for a foul water discharge licence under The Water Environment (Controlled Activities)(Scotland) Regulations 2011 (CAR) – there is a flow chart on page 5 taking you through the key questions and answers/ solutions.

This guidance relates specifically to water quality of Loch Leven SPA and phosphorus entering the loch's catchment. There may be other qualifying features of the SPA which could be affected by development proposals e.g. disturbance to birds or issues relating to flooding.

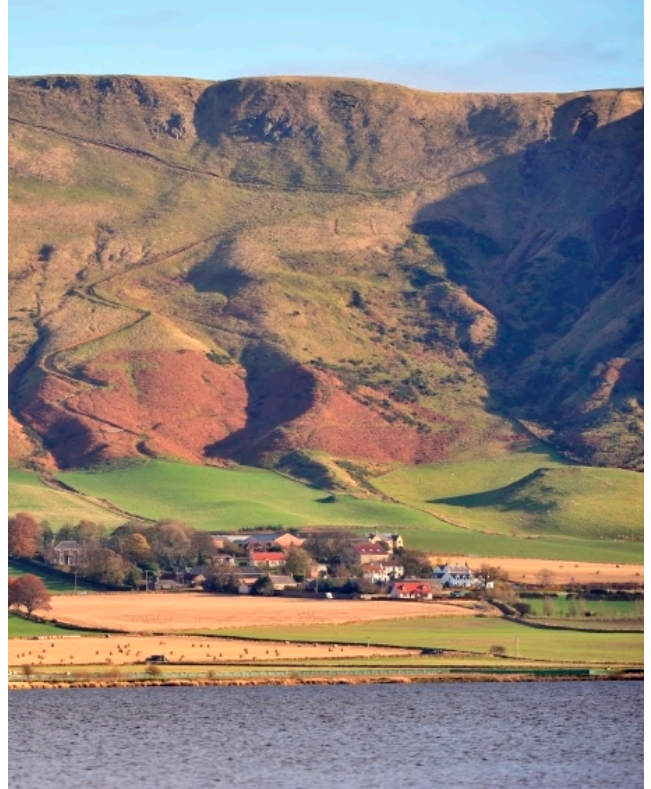
2. Why is Loch Leven so important?

Loch Leven is the largest naturally nutrient rich freshwater loch in lowland Scotland and is internationally important for its wintering and breeding wildfowl. It has the highest wildlife accolade as it is designated as a SPA and is part of the Natura 2000 network – a series of internationally important wildlife sites throughout the European Union. The site is also a Ramsar site designated under the Convention of Wetlands of International Importance.

3. The nutrient problem at Loch Leven

Nutrients such as phosphorus and nitrogen entering the loch catchment from manmade sources have caused problems with water quality for many years. This has resulted in a negative impact on the conservation, economic, and social interests of the loch and local area. Much work has been undertaken over the last 30 years to reduce the input of phosphorus into the loch. Recent monitoring has shown this is leading to an improvement in the ecological quality of the loch. However, this improvement is still vulnerable to set backs so there is a continuing need to reduce both phosphorus and nitrogen inputs to the loch.

The aim is therefore to ensure that there is no increase of phosphorus in the Loch Leven catchment arising from waste water associated with new developments. If there is an increase in phosphorus discharging to the loch, there could be a detrimental effect on water quality, and a knock-on effect for ecology.

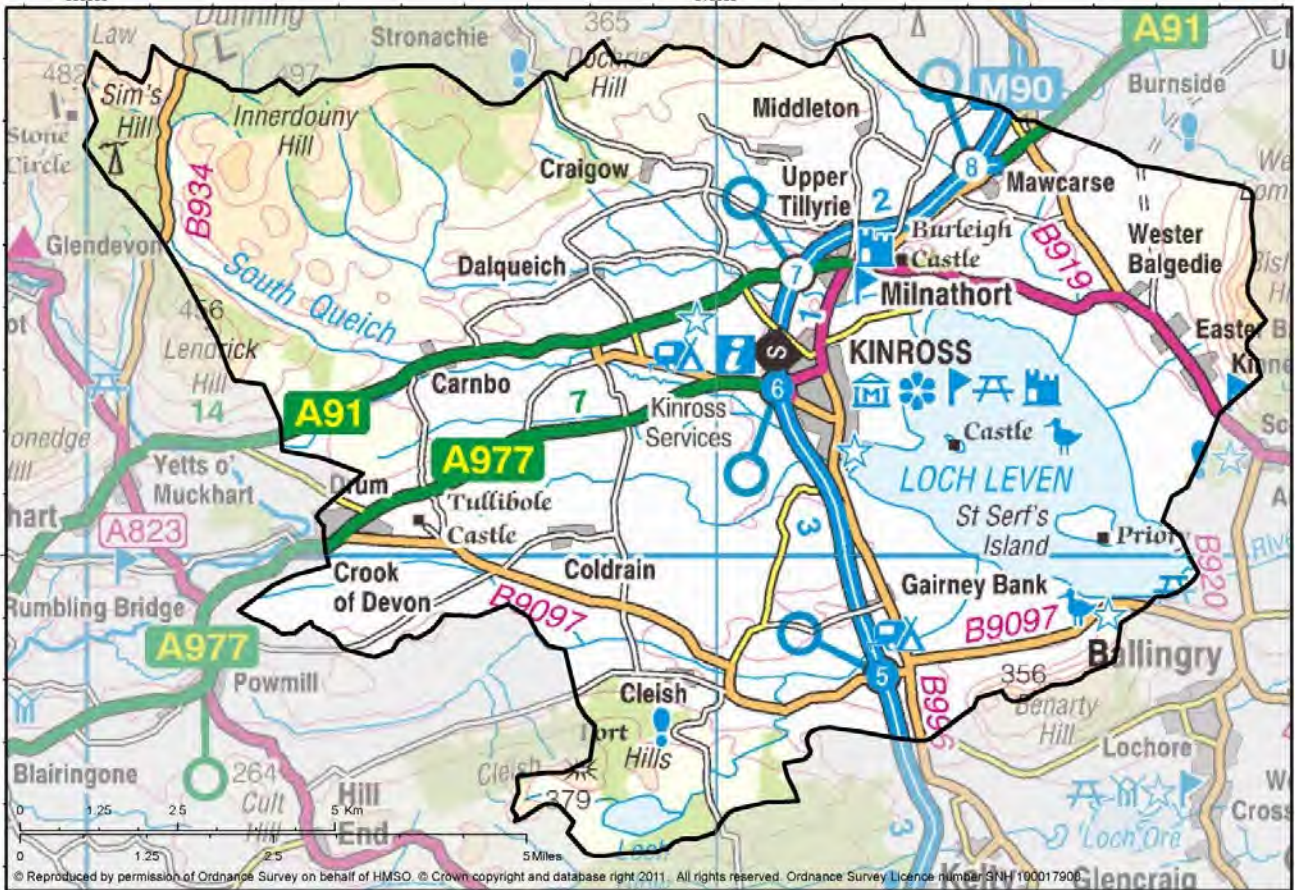


4. Planning authorities' obligations

The European legislation under which sites are selected as SPAs is the Habitats Directive, which sets out obligations on Member States to take appropriate steps to avoid “*the deterioration of natural habitats and the habitats of species as well as disturbance of the species for which the areas have been designated, in so far as such disturbance could be significant.*” These obligations relate to “Competent Authorities” such as Planning Authorities.

Planning Authorities can only agree to development proposals after having ascertained that they will not adversely affect the integrity of the site. If the proposal would affect the site and there are no alternative solutions, it can only be allowed to proceed if there are imperative reasons of overriding public interest.

Perth and Kinross Council apply Policy EP7: Drainage within the Loch Leven Catchment Area as laid out in the Local Development Plan to assist them in their consideration of a development proposal.



5. Will your proposed project affect Loch Leven SPA?

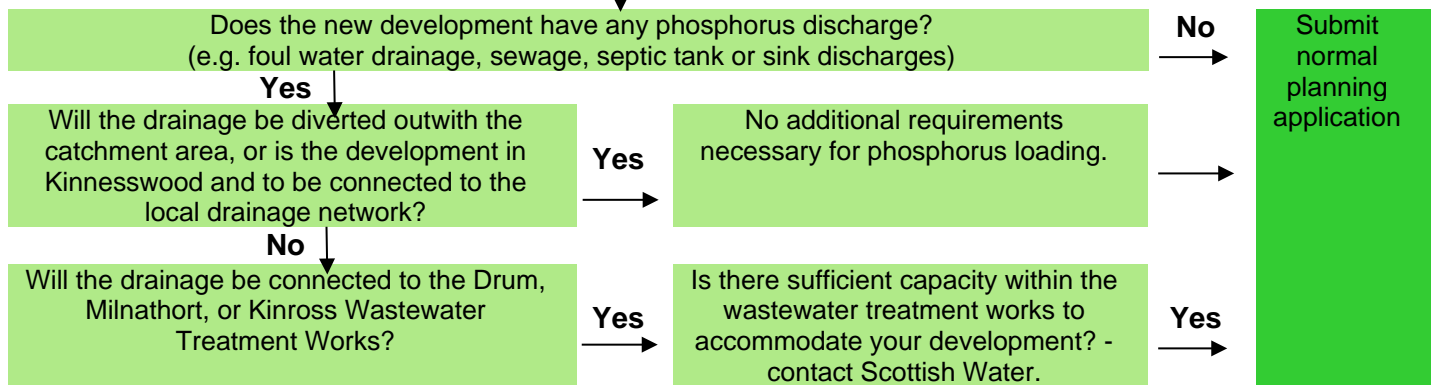
If your proposed development lies in the catchment as shown by the black line on the map, you may be required to provide phosphorus mitigation for your development, as detailed in the sections below.

(NB. The map is a guide – if your development is near the border you may wish to seek confirmation as to whether it is in the Loch Leven catchment.)



6. Submitting a Planning Application for new development

For new developments (including extensions to properties where the potential capacity to house people is being increased), or conversions.



Phosphorus Mitigation Proposals

You will need to put in place mitigation that is capable of removing 125% of phosphorus likely to be generated by the development from the Loch Leven catchment (Policy EP7) and apply to SEPA for a licence to discharge.

See section 7 for a worked example of phosphorus mitigation

Acceptable forms of phosphorus mitigation:

Upgrade the septic tank of an existing property within the catchment area to an active system that reduces phosphorus (secondary/tertiary treatment plant) - this may be with a third party.

Unacceptable forms of phosphorus mitigation:

Change in agricultural practice;
Change in land use;
Using "capacity" from a previous application.

In addition to your Full planning application or AMM (approval of matters specified in conditions)*you will need to provide details of:

- the proposed development;
- an existing property to be upgraded – Which has not already been identified as mitigation for another planning application and;
- phosphorus mitigation calculations – include numbers of potential bedrooms of all properties, and methods of drainage (primary/secondary/tertiary treatment plant).¹ Treatment plant should conform to BS EN 12566:3 and have demonstrated its phosphorus reduction capabilities. You will need to demonstrate that the total phosphorus loading from the existing property can be reduced by at least 125% of the phosphorus loading likely to be generated by the new development (PolicyEP7) – see worked example overleaf.

Any treatment plant should conform to BS EN 12566:3 and have demonstrated its phosphorus reduction capabilities in accordance with this standard. To obtain certification to EN12566:3 plants must undergo rigorous independent testing which results in a documented mean discharge standard. The mean standard in the EN12566:3 certificate is a clear and unambiguous assessment of the performance of the plants, and is used in CAR licences for unsampled licenced sewage discharges (i.e. discharges of less than 200 PE). EN12566:3 is normally used to assess performance against BOD and ammonia, but can also be used to assess performance against total phosphorus.

*N.B The above information is not required for 'In Principle' planning applications.

- Discharge from all the properties will require to be licensed by SEPA who will set discharge limits through licensing. The licensing process has a 4 month determination period from the date of application. (see below).
- The discharge limits set by SEPA must be complied with at all times
- Foul water treatment plants need to be frequently maintained to work properly and discharge within the licensed limits. Appropriate maintenance will be a requirement of the SEPA water use licence.
- Sites which will not connect to the Scottish Water Network which have 50>p.e. should contact SEPA at the earliest opportunity as additional investigatory work will be required prior to a discharge licence application being submitted.
- In cases of great complexity or uncertainty the Precautionary Principle will be adopted.
- The assumption being that where there are real threats of damage to the environment, lack of scientific information should not be used as a justification for postponing measures to prevent such damage occurring.

Footnote

- The latest version of the document " British Water Code of Practice - Flows and Loads" has details of loadings from a variety of sources (available from publications section of the British Water website <http://www.britishwater.co.uk/Publications/codes-of-practise.aspx>).

7. Phosphorus mitigation calculations - worked example

Calculations based on British Water Code of Practice "Flows & Loads - Sizing Criteria, Treatment Capacity for Small Wastewater Treatment Systems"- <http://www.britishwater.co.uk/Publications/codes-of-practise.aspx> (P.E = Person equivalent)

Background	
Average amount of water per person per day	= 150 litres
Primary treatment (septic tank - standard discharge – as a mean)	= 10 mg P/litre
Daily discharge of phosphorus (per person) from primary treatment	= 1,500 mg P
Secondary treatment (package treatment plant – as a mean)	= 5 mg P/litre
Daily discharge of phosphorus (per person) from secondary treatment	= 750 mg P
Proposed Development *	
3-bedroom house	= 5 P.E.
Secondary treatment to be installed	= 5mgP/litre
Daily discharge of phosphorus = 750 mg P x 5 P.E.	= 3,750 mg P / day
Phosphorus Mitigation	
Mitigation requires a reduction of 125% of the amount of phosphorus to be discharged from the new development = 125% x 3,750mg P / day	= 4,688 mg P / day
Mitigation is proposed by upgrading a septic tank for a named existing 5-bedroom property to a secondary treatment plant.	
5-bedroom house	=7 P.E.
Existing discharge = 1,050 litres x 10 mg P/litre	=10,500 mg P / day
Discharge after upgrade to 5mg/l P = 750 mg P x 7 P.E.	=5,250 mg P / day
Mitigation offered is 10,500 – 5,250	=5,250mg P / day
in excess of the requirements	

* Please note that evidence of regular maintenance contracts must be provided as part of a Water Use Licence from SEPA. Mitigation calculations should be based on mean values and not on percentile figures

8. Additional Points for Phosphorus mitigation proposals

Existing properties should not be removed from a larger foul drainage treatment system to provide mitigation for a new development. Also, it is recommended that applicants seek to upgrade the larger system in its entirety, regardless of how much in excess of 125% mitigation value this provides. Also, wherever possible, applicants should seek to use a single treatment system for a proposed multi-property development, rather than separate systems for individual properties.

Any novel proposals where mitigation is not from a single existing property, should be discussed with SEPA at the earliest stage possible, in order to ensure the proposal is acceptable.

For the purposes of mitigation, ascribed values will be used for calculations, where a septic tank is assumed to discharge 10mg/l of phosphorus, and an existing secondary treatment system 5mg/l. New treatment system discharge standards will be based on the system being installed. Alternatives to the ascribed values may be considered where there is adequate historical data which meets approved quality standards. In these cases contact should be made with SEPA at the earliest opportunity. Please note that we do not accept any discharge quality standard below 2mg/l at present.

Mitigation of an existing system can only be linked to a development at full planning stage. While SEPA can be consulted on mitigation proposals at outline planning stage, comments provided will only be given as a guide and must be reviewed and resubmitted with any full planning application.

9. Why 125%?

Bearing in mind the Precautionary Principle and the fact that the measurement of potential phosphorus output is not an exact science, then mitigation measures must seek to exclude from the catchment area in excess of the phosphorus likely to be generated by the proposed development in order to be sure that there is no net increase.



10. SEPA authorisation

SEPA regulates discharges to water and land under The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (CAR). Please note that additional authorisation for development activities adjacent to, and in the vicinity of watercourses may be required under the Controlled Activities Regulations. All CAR Registration level private sewage discharges in the Loch Leven catchment area will be escalated to simple licence level, to allow adequate assessment of the discharge. A higher level of licence protection may also be required for activities that may impact on the loch SPA, such as engineering works in inland waters, water abstraction, impoundment or discharge to land and water. Any such authorisation will also need to first consider the effects on the SPA.

Details on all these activities are available via the following links:

http://www.sepa.org.uk/water/water_publications.aspx

Information on CAR licence requirements:

http://www.sepa.org.uk/customer_information/water.aspx

Activities should also ensure compliance with SEPA's Pollution Prevention Guidelines, available at: http://www.sepa.org.uk/about_us/publications/guidance/ppgs.aspx

11. Once Planning Permission is granted

Before the development can commence you must:

- obtain a CAR licence(s) under the Water Environment (Controlled Activities)(Scotland) Regulations 2011 for the foul water discharge associated with the development.
- submit copies of these to the Planning Authority and
- have a receipt for the above documentation from the Planning Authority.

If the phosphorus mitigation measures are to be delivered at a location separate from the development site then before the development can commence:

- The phosphorus mitigation measures must be installed using a treatment system which delivers the discharge quality standards specified in the mitigation calculations – and approved by Building Standards (if a building warrant has been required) or for watercourse discharges SEPA who are responsible for inspection of the outfall from treatment plants.

Before the completion certificate will be accepted and the new development can be occupied:

- The new drainage infrastructure installation at development site must be approved by Building Standards as part of building warrant process or for watercourse discharges SEPA who are responsible for inspection of the outfall from treatment plants.)

12. Further information required

Although this guidance is specifically for the water quality of Loch Leven SPA and Ramsar site, there may be other natural heritage interests such as protected species affected by development proposals which also need to be considered. Further information is available in the Scottish Planning Policy: <http://www.gov.scot/Publications/2014/06/5823>

Further information may need to be provided on **other habitats and species** in the immediate vicinity in support of your application (e.g. water voles, bats, and otters). Perth & Kinross Council or SNH can advise on further surveys required.

There may also be a requirement for **additional information** depending on the nature of the development.

13. Further details

More information on Loch Leven including its conservation objectives can be found on the SNH website via www.snh.org.uk/snhi/:

SNH, SEPA and Perth and Kinross Council are working closely to protect the interests of Loch Leven SPA and Ramsar site by reducing phosphorus loading on the loch. Perth & Kinross Council are happy to assist you where required in submitting your application, including pre-application discussion.

In addition to any planning consents that may be required, any development which includes an element of drainage will require building warrant approval. This process includes a requirement to submit detailed plans and specifications for the entire drainage system to show compliance with the Building (Scotland) Regulations 2004.

14. Contacts

Perth and Kinross Council

Website: www.pkc.gov.uk

Email: DevelopmentManagement@pkc.gov.uk for planning enquiries

Email: BuildingStandards@pkc.gov.uk for building warrant enquiries

Scottish Natural Heritage

Website: www.snh.gov.uk

Email: Tayside_Grampian@snh.gov.uk

Scottish Environment Protection Agency

Tel: 0800 807060

Website: www.sepa.org.uk

Email: planning.se@sepa.org.uk

Scottish Water

Call Centre tel: 0845 600 8855



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