

# **A Study into the Provision of Sustainable Toilets in Remote Rural Locations**

Submitted to

Forth Valley and Lomond LEADER Local Action Group  
February 2010

## **Section 12.7**

### **CASE STUDY**

**Sunart Oakwoods  
NatSol compost toilet**



**Scottish Natural Heritage**  
**Dualchas Nàdair na h-Alba**  
All of nature for all of Scotland  
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The European Agricultural Fund  
for Rural Development:  
**Europe investing in rural areas**

## 12.7 CASE STUDY - Sunart Oakwoods – NatSol compost toilet

Sunart Oakwoods,  
Salen,  
Ardnamurchan & Morvern

OS reference: NM695673

The study team have not visited Sunart. The information has been sourced from the document cited below and we are grateful to Chris Morgan of Locate Architects and Richard Livett, the builder, for helpful discussions.

[www.locatearchitects.co.uk/salen.htm](http://www.locatearchitects.co.uk/salen.htm)



### Background

Following an approach from the Sunart Oakwoods Initiative, Locate Architects were appointed to design a stand-alone facility located next to the existing amenity building at Sgoil na Coille in the woodland at Salen, near Acharacle in Ardnamurchan. With no services to this remote site, the toilet allows the main building to be used for whole-day events, whereas previously activities had to be more restricted.

The tiny building was completed in April 2007 and was constructed primarily from Larch and Douglas Fir cladding and horizontal board roof. The roof, footings and balustrade details were designed to match the existing amenity building.

The timber was harvested from within a few metres of the site, and used untreated. The all-timber external look is complemented internally with neat linings and finishes. Special efforts were made to create a pleasant interior to allay any initial resistance to the idea.

The building is accessible to all abilities with plenty of natural light and an eye level window when seated to provide a loo with a view!

About 10 events are held in the area each year, with around 50 participants, mainly children.

### Toilet installation

The building features a sheltered area for prams and a retreat from the rain, while the compost toilet itself is a proprietary model by NatSol.



There is no water supply, so hand cleansing is by anti-bacterial gel. Photovoltaic panels feed a battery to provide light when needed.

The internal view shows the toilet pedestal on the right. Being a twin vault, this unit swaps annually with the soak bin to its side. A urinal is provided and the timber flooring is removable for access to the chambers beneath.

SEPA were apparently not happy with the NatSol drainage of urine to a simple leachfield and insisted that it be lined with a membrane at a depth of 600mm.

The leachfield as installed measures 5m x 8m and comprises a polythene sheet, 100 mm of gravel, 100 mm of sand, and is back-filled with soil. The leachfield is located on difficult peaty sloping ground and the slope leads to a garden.

Rain water from the roof is combined with the urine from the toilet and both discharge into the leachfield, the idea being to dilute the urine.

Sunart Oakwoods Initiative is very happy with the NatSol system. The use of the toilet is very low and after 2 years of running, one of the vaults is half full while the pedestal has been moved over to the second vault to allow the first to rest. We understand that there is no maintenance schedule established, wood shavings tend to get spread around, and the fixtures and fittings are beginning to show wear in the damp surroundings.

### **Our comments**

Small systems with low footfall seem to pose little in the way of management problems, other than the need for regular cleaning.

Even for small systems, the concentrated urine and leachate can still lead to pollution of ground water or watercourse and must be treated. Although a lined leachfield can help to protect the groundwater from pollution, the leachfield is more likely to flood and cause anaerobic conditions in the soil, preventing the soil organisms and the leachfield from functioning properly. The overland surface flow could still cause water pollution.

The practice of combining rain water with excreta is no longer permitted. The rain water will quickly flood the leachfield and will result in a large volume of water becoming polluted.

SEPA and EA guidelines state that rainwater and surface water must be kept separate from sewage, urine and excreta. All new buildings and developments require separate management of rainwater and surface water.

We suggest that rainwater be separated and allowed to drain elsewhere on site. This will reduce the volume requiring treatment by the leachfield and the drier conditions will improve its functioning. The treatment capacity of the leachfield can be enhanced through the use of fungi and suitable plants and trees that can help to remove the nutrients and a portion of the volume.

### **Cost**

Approximately £15,000

### **Contact**

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