



GALLOWAY HYDROS ENVIRONMENTAL FACTSHEET



OVERVIEW

Galloway hydro-electric scheme generates “green” energy by harnessing the force of water.

The Galloway Hydros

covers an area of 400 square miles in South Ayrshire and Galloway.

The scheme consists of six stations, eight dams,

plus tunnels, aqueducts and pipelines. Its construction has created rich wetlands that are home to a diverse range of wildlife. The Hydros

strives to minimise the impact of its operations and, over the years, has an excellent record of environmental compliance.

INTRODUCTION

In the mid 1930s, a series of dams were built on the Rivers Deugh, Ken and Dee to store water for the Galloway hydro-electric scheme.

This altered the landscape, creating reservoirs, wetlands and fens with their own special biodiversity interest and covered by numerous natural history designations, such as Sites of Special Scientific Interest (SSSI).

The Galloway Hydros was planned and constructed with great attention to the environment, particularly the protection of Atlantic Salmon in the Rivers Doon, Ken and Dee.

The hydro scheme is celebrating the 75th anniversary of its opening in 2010 – and the focus remains on ensuring high standards of environmental performance to preserve the quality of water, the landscape and its wildlife.

ScottishPower is continuing to invest in ensuring the future compliance of the stations, to ensure their future as generators of clean renewable energy.

This factsheet describes Galloway Hydros’ environmental management system and efforts to conserve the habitats and wildlife on site through a biodiversity action plan.

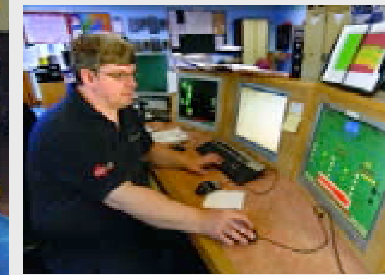
CONTACT US

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■ A routine check of an oil bund (left), Glenlee Control Room (above) and monitoring output and performance at Glenlee



■ Water quality checks

REDUCING OUR ENVIRONMENTAL IMPACT

Hydro power is recognised as being fully renewable and sustainable. Our stations at Galloway produce no direct carbon dioxide (CO₂) emissions or other greenhouse gases.

The only CO₂ produced comes from the electricity consumed in our offices, machinery and emissions from site vehicles.

The Galloway Hydros is located in an environmentally-sensitive areas and operates under a licence issued by the Scottish Environment Protection Agency (SEPA).

We take seriously our responsibility to

maintain the quality of water in our scheme and have an excellent compliance record.

Oil interceptor systems have been fitted at all sites to capture any oil, should a spill ever occur, before it enters the water course.

Further efforts are made to reduce the use of resources, and minimise and recycle waste produced as part of our activities.

Galloway Hydros employs an Environmental Management System certified to the standard ISO 14001 and operates a biodiversity action plan to protect habitats and wildlife.

ENVIRONMENTAL PERFORMANCE HIGHLIGHTS 2009

Galloway Hydros generated 260 GWh of electricity in 2009 – an increase from 234 GWh in 2008.

The scheme operates a rolling environmental plan that aims to continually improve environmental performance. Some key achievements during 2009 include:

- We reduced to zero the number of environmental breaches, incidents and justified community complaints
- We achieved ISO 14001 certification for the Environmental Management System covering Galloway Hydros with no non-conformances found
- The five biggest waste streams from routine operations were established so that future reduction targets can be set
- A database was set up for recording environmental incidents or near-misses, allowing us to identify areas of risk
- We continued to work with SEPA on compensation water flows to prepare for new requirements under the Water Framework Directive and supplied information to the Scotland and Solway Tweed River Basin Management planning process
- The installation of oil interceptors was completed at Galloway sites
- Automatic noise monitoring equipment was installed at Glenlocher barage
- A Countryside Ranger was part funded by the Hydros to protect the environment at Loch Doon and we continued to deliver projects as part of the scheme’s biodiversity action plan.

A HELPING HAND FOR BIODIVERSITY AT THE GALLOWAY HYDROS

QUICK FACT FILE

DESIGNATIONS: Loch Ken is a Ramsar site and Special Protection Area for wildfowl, aquatic plants and insects. Loch Doon is one of seven Sites of Special Scientific Interest (SSSI) on or adjacent to the scheme for its relic population of Arctic Char.

UK BAP SPECIES: Otter, Harvest Mouse, Red Squirrel, Pillwort, Lapwing, Curlew, Willow Tit, Reed Bunting, Skylark, Small Pearl-bordered Fritillary, Atlantic Salmon.



■ The hydros have created many habitats for wildlife (from top) White-fronted Goose, Otter, Small Pearl-bordered Fritillary

The Galloway hydro-electric scheme is situated in an area of considerable conservation and scenic value.

Water levels and the quality of water in rivers and reservoirs are vitally important to the ecology of habitats, which affect insects, fish, birds and water mammals.

Galloway Hydros launched its biodiversity action plan (BAP) in 2005, aiming to preserve and enhance habitats and wildlife at the schemes.

A new five-year plan was published in 2009, setting out a list of ecological enhancement objectives and a timescale for their implementation.

ScottishPower is working with partners, including Galloway Fisheries Trust, Scottish Natural Heritage and the Royal Society for the Protection of Birds, to achieve our objectives.

A key feature of the Hydros' BAP is safeguarding and improving movements of migratory fish, such as Sea Trout and Atlantic Salmon, through the Galloway scheme.

For further details about our areas of co-operation with Galloway Fisheries Trust, please see our information sheet on **Fisheries Management**.

Galloway Hydros co-operates with the RSPB in managing water levels on Loch Ken, as far as operations will

allow, to encourage successful nesting by wading birds and waterfowl. The RSPB leases almost 60 hectares of land from ScottishPower at its Ken-Dee Marshes reserve at Loch Ken.

Under the agreement, which started in 1996, water levels are kept high from March to mid April to encourage early breeding ducks and waders to

nest above the levels of flash floods that can occur in spring. Levels are then lowered from April until late June, exposing the marshy margins of the loch for feeding wading birds.

The RSPB acknowledges that the co-operation of ScottishPower has "greatly enhanced waterfowl breeding success" at Loch Ken.

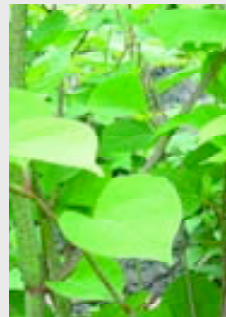
REMOVING INVASIVE SPECIES

Staff at the Hydros are battling to eradicate invasive Japanese Knotweed and Rhododendron from its sites.

The highly-invasive Knotweed can grow up to three metres tall and forms dense clumps that shade out native species and damage roads and other structures.

Hydros staff control the weed (pictured right) annually by applying a commercial herbicide twice during the growing season, in consultation with SEPA.

Rhododendron is being cut back at Earlstoun, Glenlee, Carsfad and Tongland to prevent its spread.



NESTBOX RESEARCH

Galloway Hydros is assisting a research project into the declining population of Willow Tits in the Ken-Dee Valley.

Our donation has provided up to 30 nesting boxes that have been erected in suitable wet woodland habitat at the RSPB's Loch Ken and Kenmure Holme reserves.

Willow Tits are a UK BAP species and red-listed in the conservation report 'The State of the UK's Birds 2007' because of a 77% decline in the UK population from 1994-2007.

RSPB officer George Christie said Galloway remained a stronghold for the species, although the national decline was reflected by reducing numbers even on local reserves.

He said: "The programme aims to expand the population of Willow Tits in the area by providing nestboxes in suitable habitat where we suspect the birds do not breed regularly.

"We are using different nestbox designs – such as woodcrete boxes, timber ones, hexagonal designs and even ones made out of lengths of drainpipe.

"The idea is to determine what works best so we can meet the species' nesting requirements and expand the birds' population."



■ RSPB Officer George Christie erects a Willow Tit nesting box by Loch Ken

Actions adopted in the Hydros' BAP include non-intervention measures to benefit habitats and species, such as leaving dead and fallen trees and reducing the frequency of grass cutting to encourage invertebrates.

Use of herbicide is kept to a minimum to foster the emergence of semi-natural vegetation while all vegetation management takes place outwith the bird breeding season.

The Hydros will work with the RSPB to erect nestboxes for birds, bats and Red Squirrel. Artificial nest sites will also be created at Earlstoun, Carsfad and Glenlee for Sand Martin.

In addition, small ponds are planned at Glenlee to encourage amphibians, aquatic plants and water insects.

In 2008, Galloway staff relocated a colony of 100 Common Newts to a safe new site during essential work on a pipeline at Kendoon Power Station.