Dunecht Workshop II

As part of the Dee Catchment Partnership, representatives from the James Hutton Institute hosted a workshop that brought together a group of local stakeholders to discuss the social and economic effects of improving water quality in the Loch of Skene and the Leuchar Burn, in Aberdeenshire.

The 12 participants included:

- Representatives from the Scottish Environment Protection Agency and Scottish Natural Heritage
- A representative of the Scottish Government's Rural Payments and Inspections Directorate
- A representative of Scottish Water
- A representative of the Royal Society for the Protection of Birds, in addition to a local ornithologist
- Representatives from the Dee Catchment Partnership and Local Biodiversity Action Plan Management Team, who are also scientists within the James Hutton Institute
- Two members of the local Community Council
- Two representatives of local sailing clubs who use the Loch of Skene as a recreational resource
- Two members of the farming community: one a local farmer and one a locally-based retired agricultural lecturer

The main purpose of the meeting was to gather local knowledge and views regarding:

- 1 The potential costs (and who pays) and benefits (and who benefits) of water quality improvements in the Loch of Skene and Leuchar Burn.
- 2 Whether the costs are in proportion to the benefits and how both costs and benefits are distributed within the local community.
- **3** The potential wider benefits beyond the water environment resulting from improving water quality.

This leaflet summarises the views of workshop participants. A full report is available to download from www.theriverdee.org



Workshop participants (Dunecht 14th September 2012)

REFRESH: Adaptive Strategies to Mitigate the Impacts of Climate Change on European Freshwater Ecosystems

The Dunecht workshop is part of the European Union Framework 7 project REFRESH in which the James Hutton Institute is working together with 24 European research partners. The REFRESH Project is helping to design cost-effective management strategies to ensure freshwaters comply with the EU Water Framework and Habitats Directive. Measures that will enable adaptation to future climate change are being investigated.

REFRESH seeks to identify possible measures to improve water quality through collaboration with local stakeholders to ensure that solutions are locally suited. The Whitchurch workshop was a key aspect of this engagement in the UK and is part of the broader strategic research programme of the James Hutton Institute. Similar workshops have been carried out in Scotland, Finland, Norway, Greece and the Czech Republic.



The James Hutton Institute is one of the Scottish Government's main research providers in environmental, crop and food science.

REFRESH The REFRESH Project on Adaptive strategies to Mitigate the Impacts of Climate Change on European Freshwater Ecosystems is a EU funded project from the Seventh Framework Program.



The Dee Catchment Partnership is a voluntary association of agencies, organisations and individuals working together to ensure the long-term, sustainable management of the River Dee catchment.





Social and economic effects of improving water quality in the Loch of Skene and Leuchar burn

- Sharing local knowledge and views (II)
- 2nd Dunecht REFRESH Workshop summary 14th September 2012

Workshop findings

1 Who benefits from water quality improvements and who pays?

Measures for improving water quality in the Loch of Skene and the Leuchar Burn highlighted in a previous workshop were discussed to identify the main costs and cost bearers, as well as the main benefits and beneficiaries of improved water quality.

The measures discussed included:

- Changes in farm practices (reducing fertilizers, fencing livestock from streams, limiting grazing periods, etc.)
- Reduce commercial water run-off (forest and quarry)
- Reduce water run-off from housing development
- Create riparian woodlands and buffer strips
- Improve septic tank management and sewage works
- Remove dams/weirs and create fish passes

Individual farmers, Dunecht Estates and Scottish Water were identified as incurring the greatest costs to improve water quality in this area through those measures. Workshop participants also considered that costs to private households for the maintenance of septic tanks were high. Participants signalled that some of the costs to farmers and the Estates can be recovered through public support. For example, SEPA provides grants for removing fish barriers. Also SRDP grant can be used to plant trees in buffer areas and Scottish Water's grants can be used to include water treatment for private water supply. These costs are then partly transferred to the general tax payer.

Participants believed that improving water quality in the Loch of Skene would bring more recreational opportunities to the local population, for example through uninterrupted sailing periods. Improved water quality could also attract more users to the Loch for open access activities such as canoeing and windsurfing. However, the potential beneficial knock-on effects of the increase of recreational activities on the local economy (for example, in shops and pubs) were thought not be very significant, since the majority of users are local and often bring their own food and other supplies. Increased benefits from recreational fishing, which is controlled by Dunecht Estates, is also not expected by the workshop participants.

Participants thought that there are positive side effects of improving farm practice. Nutrient management and more efficient fertilizer use can reduce costs to farmers. Better water guality in the burns and livestock fencing was also thought to reduce risk of spreading animal diseases. Farmers also saw themselves as beneficiaries of water quality because they and their families live locally.

Better water quality in the area was considered to improve habitats and wildlife health. Some stakeholders expressed concern about the fact that this might also attract more geese, which is seen by some as a problem and source of water pollution as well.

2 Are the costs and benefits of water quality improvements spread evenly across the community?

In general, workshop participants found it difficult to determine whether the costs of improving water quality in this area were higher or lower than the benefits. On the one hand, costs are considered to be more concrete and short term, while the benefits are considered to be more abstract, subjective and occurring over the longer term, and therefore are more difficult to estimate. Also, benefits were thought to more likely occur downstream, while costs tend to happen upstream.

It was not possible from the workshop discussions to come a definitive conclusion as to whether the benefits of improving water quality outweigh the costs. This is mostly due to the difficulty of quantifying the benefits.

Leuchar Burn and Loch of Skene catchment area

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3 Are there other benefits from water quality improvements?

It was recognised that measures to improve water quality can have additional benefits beyond the water environment. For example, workshop participants explained that changes in farm practice can also have a positive impact on crops through increased pollination and pest control.

The implementation of buffer strips and woodlands along water courses to reduce water pollution can have positive impacts on carbon storage, helping to mitigate climate related problems. Buffer strips can also enhance the habitat and allow for movement of wildlife (acting as 'green corridors'). Well managed, they can also help to reduce erosion and soil loss and floods. Buffer strips and riparian woodlands were thought to increase landscape beauty. It was also suggested that they could potentially become a valuable source of biofuel (for example, by riparian planting of willow). Measures to minimise run-off from housing development were thought to also have positive effects in terms of reducing flooding.

It was widely recognized that living in an environment with clean waterways has a general positive effect on human health and well being. Moreover, it was considered that the asset value of agricultural land and property also reflects the environmental quality of the area.

A better environment was thought to also increase community wellbeing, particularly for children who have more areas to play. It was also thought to provide a sense of local pride and engagement, and to promote pro-environmental behaviours. These wider benefits were also believed to have positive effects all the way up the food chain and beyond the local area.



Feedback from workshop participants was positive and it enable the dialogue between different sectors with interest in water quality in the area.