Rivers and Streams HAP

Objectives

1. To maintain and restore good water quality in the freshwater systems of the North York Moors National Park

2. Where appropriate, to restore the natural dynamics of river systems in the National Park where they have been altered through land drainage, abstraction or alterations to the bank or streambed

3. To maintain and restore the full range of riparian species and habitats present in the National Park

Introduction

The major river systems in the North York Moors National Park are the upper reaches of the Derwent in the south, including the River Rye and the Esk catchment in the north. There are also many small becks and rivers draining east into the North Sea and west into the Leven, Swale and Ure.

From January 2008, a River Esk Project Officer was appointed to restore the water quality by working full time with farms to prevent issues such as soil erosion, nutrient run-off and agrichemical runoff. The establishment of the Esk Pearl Mussel and Salmon Recovery Project in January 2008 has focused on work to restore the pearl mussel population, increase populations of salmon and trout and promote good land management within the Esk catchment. The project partners are the North York Moors National Park Authority, Environment Agency, Catchment Sensitive Farming, Natural England and Durham University. The River Esk Officer and other NYMNPA officers are ensuring the rivers and streams HAP objectives are achieved.

Progress (2008-2012)

- A catchment strategy for the Esk, the ‘Esk Catchment Action Plan’ was set up to help maintain the river habitat.
- Support has been given to riparian farms to help them sign up to agri-environment schemes - six farms are now in HLS and one farm in UELS in the Esk catchment.
- Freshwater pearl mussel surveys have been carried out and two leaflets produced - Water friendly farming leaflet and Esk Pearl Mussel & Salmon Recovery Project Leaflet. Approx. 100 farmers met during the Esk project. See Fresh Water Pearl Mussel SAP Review for more details.
- A demonstration farm for best practice river-side conservation management was set up in 2008. Further improvement works have been carried out including improvements to drinking points, gateways, and tracks. The farm entered HLS in 2011 with options to create buffer strips along watercourses, woodland creation and low input grasslands.

- 32 km of fencing work has been carried out to exclude stock, preventing erosion and restoring riparian habitats – exceeding our goal of restoring 10 km.
- Bank stabilisation work has been carried out at six sites to reduce bank erosion and sediment input.
- Tree planting has been carried out at 11 sites to stabilise banks and restore riparian woodland areas.
- Riparian tree management (coppicing and pollarding of alders with *Phytophthora*) was carried out at two sites.
- Incidental records on the River Esk (2008-2013) for Brook Lamprey and Otter were recorded and detailed surveys for fresh water pearl mussels help to increase our understanding of protected species – our goal of surveying 10km was reached for freshwater pearl mussel (see Freshwater Pearl Mussel SAP Review).
- New River Corridor Surveys (RCS) were carried out around Sleights, Great Fryup and Egton to identify areas for further river restoration work.
- The value of river habitats and their nature conservation interest was promoted to farmers, land managers and local communities with 39 events/articles/presentations including; two Radio York interviews, one TV Country Tracks interview, four Salmon in Classroom Projects, Esk Pearl Mussel and Salmon Recovery Project and Water Friendly Farming leaflets, 16 evening talks (wildlife groups, farmers and fishing clubs), farm walks (nine events for farmers), conferences (two talks - river restoration conference and EA Fresh Water Pearl Mussel conference) and training events (two Anglers Monitoring Initiative events) – exceeding our goal of two media articles / guided walks.
- Support was provided for academic research on sediment erosion and water quality monitoring with one PhD study and two MRes studentships (WREN funded) – exceeding our goal of supporting two academic studies.
- Work was carried out to control and restrict the spread of non-native invasive plants along the waterways – reaching our goal of implementing two catchment strategies. See **Controlling non-native invasive plants** case study below.

Case Study

Controlling non-native invasive plants

In the Esk catchment**,** control work was carried out on two invasive plants, Himalayan Balsam and Japanese Knotweed.

Himalayan Balsam is an aggressive coloniser, each plant producing up to 800 seeds, which can be catapulted up to 7 metres from the seedpods. Himalayan Balsam seeds stay viable in the soil for up to 18 months. Himalayan Balsam outcompetes native bankside species creating a monoculture. It is particularly damaging to river banks when it dies back in the autumn as it leaves the bank without any stabilizing vegetation. The exposed bare ground can erode leading to sedimentation getting into the river.

Japanese Knotweed does not produce seeds, instead it spreads vegetatively from fragments of stem or rhizome.

Along the River Esk and its tributaries, Himalayan balsam control work has been carried out along a 12km stretch between Commondale and Houlsyke. Japanese knotweed control work was carried out along a 15km stretch between Lealholm and Sleights.

Work to control the spread of Himalayan balsam along the River Rye and its tributaries has been carried out annually since summer 2008. The NYMNPA has been working with land owners in the upper Rye catchment to control Himalayan Balsam along the River Seph. A 21

km stretch of the River Seph, starting at the top of the catchment down to the confluence, has been targeted by three local contractors working 12 weeks per year. At the end of 2012 there was much less balsam present along the catchment than in previous years. The survey results also show that on some parcels of land no balsam was found at all. The control work is proving effective in reducing the amount of balsam growing in the area with the aim of eradication.

Control work was also conducted along the embankment north of Hawnby village to prevent the balsam spreading onto an adjacent Site of Special Scientific Interest and, due to its proximity to the road, the risk of spread by passing traffic. For the section of embankment tackled for the first time in 2011 and then reseeded with a grass seed mix there was very little regrowth in 2012. It is likely that there was not much of a seedbank in the soil and the grass seed mix used to reseed the bare area of soil created by the control work helped prevent any recolonisation.

Within Duncombe Park, Himalayan balsam control work was carried out in 2012 along the River Rye. Volunteers carried out two and a half days work, two days with NP volunteers and half a day with npower volunteers.

In the upper Derwent catchment one of the worst areas of Himalayan balsam at the start of this HAP was Forge Valley. It was estimated that there were 15-20,000 plants when control work began in 1998. The balsam had been tackled for a number of years by the Scarborough Conservation Volunteers (SCVs), led by Alan Tomlinson. From 2006 – 2008 the SCVs and Tom Normandale from Scarborough Borough Council continued clearing the site each summer for two-three years. The volume of plants reduced considerably over this period, to begin with multiple trailer-loads of bags had to be removed each year. Alan Tomlinson then commenced balsam removal alone, requiring what he describes as "forensic persecution". This often meant him crawling on his belly through dense blackthorn and wading in the river up to chest height. Alan put aside three weeks every year for this, plus subsequent follow up visits into October. Alan’s aim was for Forge Valley to be Himalayan Balsam free by the summer of 2012 – it wasn’t quite free, but due to his incredible dedication the area was down to only approximately 50 plants. When this summary was written no Himalayan Balsam plants had been found in the 2013 season, which is a fantastic achievement and an inspiration to us all. Himalayan balsam found in a field running alongside a ditch feeding into the Derwent is also being controlled with the help of the landowner and Friends of Rainclifee Woods.

There has been a vast improvement of balsam in Forge Valley and continuous management by a number of parties over several years has made an incredible difference, but we will need to ensure efforts are followed up to prevent any outbreaks again.