

WASH TO THE GWASH: THE WELLAND SEA TROUT PROJECT

Progress Update

Sea trout are a migratory form of brown trout *Salmo trutta*. Having spent their juvenile stages in rivers they undergo physiological changes that adapt them to life in saltwater and migrate to the sea to feed and grow before returning to freshwater as adults to spawn. This is known as **the run**. Adults can be long-lived and migrate and spawn multiple times. As well as needing to be able to move freely between rivers, estuaries and the sea, sea trout also require good water quality, flows and freshwater habitat, making a thriving sea trout population an excellent indicator of a healthy river.



The Welland Sea Trout Project, a partnership between the Environment Agency, Welland Rivers Trust, Wild Trout Trust and the Guash Fishing Club, aims to restore the sea trout run to the River Welland and to improve river habitats and biodiversity. Sea trout are the focus of the project, but a range of fish, including eels, and other species are benefitting. The project is prioritising the restoration of the sea trout run between the Wash and the upper reaches of the River Gwash via the Maxey Cut flood relief channel as this is the shortest and least obstructed route to good habitat. Opportunities for enhancing other sections of river are also taken wherever possible.

The Welland Sea Trout Strategy

To restore the sea trout run the project will:

- Remove barriers to fish movement. This will enable the movement of sea trout between the sea and sections of the Welland where there are suitable spawning areas and habitat to support fry, juvenile and adult fish. This will also benefit eels and other freshwater species.
- Create, enhance and restore suitable spawning areas, and habitat to support fry, juvenile and adult fish. The protection and enhancement of trout habitat that may currently be inaccessible to migratory fish is as important as the creation, enhancement and restoration of accessible habitat.
- Tackle issues affecting water quantity and quality.
- Engage with riverside communities and interest groups to encourage a greater interest in and understanding of the issues and opportunities relating to the River Welland and the wider aquatic and wetland environment.
- Ensure compliance with The Eels (England and Wales) Regulations 2009 by addressing the issues outlined in the *Eel Management Plans for the UK: Anglian River Basin District*.



Marsh Road Sluice, Spalding: a major barrier to sea trout passage between the tidal and freshwater Welland.

Progress Update (also see the map)

Fish and Eel Passage

A programme of fish and eel passage improvements has been delivered, with more in the pipeline. This involves the removal or adaptation of barriers, or the provision of bypass channels to allow upstream and downstream migration. The locations of the completed and planned fish pass improvements are shown on the map



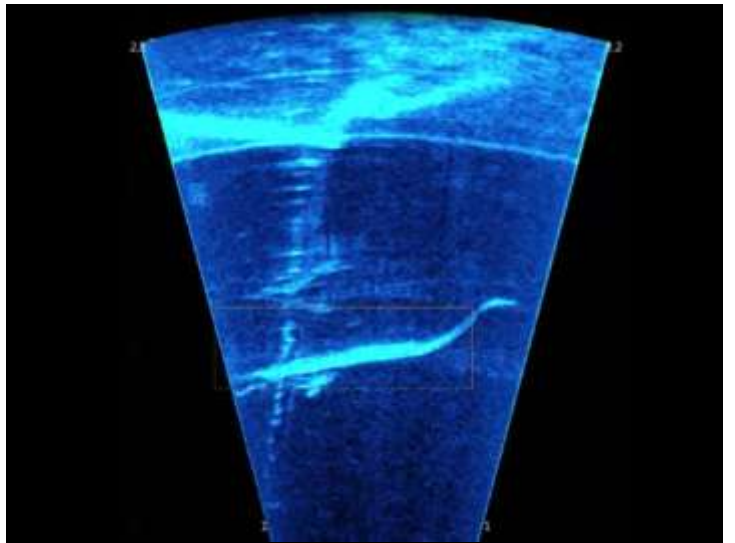
The completed fish and eel pass at Tallington Weir



A notch cut in a sheet-piled weir to improve passage



A row of eel tiles installed at Maxey Road



Video monitoring showing an eel using Tallington fish pass.

Habitat Improvements

The Environment Agency has enhanced gravel riffles on the Welland downstream of Uffington and on the Maxey Cut, and, as well as bypassing Borderville Weir on the River Gwash to improve passage, the Welland Rivers Trust has restored two former meanders upstream of it. Various enhancements have also been carried out by the Guash Fishing Club to create habitat to support all life-stages of trout, including channel narrowing and the addition of in-stream woody habitat.

Fish refuges have been created on the Wide Welland near Crowland and at Four Mile Bar.



Reconnected meander on the Gwash upstream of Borderville Weir



Riffle enhancement on the Welland downstream of Uffington



Channel narrowing on the Gwash at Ingthorpe



Fish refuge on the wide Welland at Four Mile Bar

Water Quality and Quantity

The River Welland frequently experiences drought conditions, most often during the summer and autumn. A broad strategy has now been developed to make best use of the available water during low flow periods, key to which is a drought plan which prioritises flows in the mill streams. The drought plan was successfully implemented for the first time in Spring 2012 and included a comprehensive fish rescue programme which revealed that a small number of migrating sea trout were present in the Maxey Cut.

The Welland Rivers Trust is targeting advice to landowners through its *Working with Farmers* project to ensure that sediment inputs as a result of land management are kept to a minimum.



Fish rescue prior to implementation of the Maxey Cut drought plan



Overgrazing introducing soil in to the river

Engaging with riverside communities

The Welland Rivers Trust has undertaken a sediment and trout spawning survey on the West Deeping and Lolham Mill Streams. Although some trout spawning sites, known as redds, were located, the survey confirmed that siltation is a significant problem and that in-stream enhancement work is required to improve the condition of the riffles for trout spawning.

The enhancement work downstream of Uffington also included the creation of an outdoor classroom area next to the river where students at Copthill School could undertake river survey and monitoring projects.



The outdoor classroom area at Copthill School



Scale sampling a sea trout captured in the Maxey Cut in 2012 prior to release upstream of Tallington Weir

Future Priorities

- Habitat improvements on the main Welland from the confluence with the River Gwash to Tallington Weir, on the Welland mill streams between Deeping Low Locks and the confluence with the Maxey Cut, and on the Gwash upstream of Ryhall.
- Implementing the *Maxey Cut low flow resilience and natural recovery strategy*. An assessment of the flood capacity of the Maxey Cut revealed that there are opportunities for significant habitat enhancement upstream of Nine Bridges without affecting the designed flood capacity of the Maxey Cut. An outline strategy for improvements has now been developed.
- Developing and implementing fish and eel passage solutions at: Fulney Lock and/or Marsh Road Sluice, Spalding where the Welland becomes tidal; and at Newstead Mill/bypass channel and Belmesthorpe Gauging Weir on the River Gwash.
- Continuing ecological monitoring and investigations in to the impacts of changing flows due to drought and regulation of water in the area, ensuring plans to manage these issues are updated and continue to incorporate new learning.
- Tackling diffuse pollution issues, prioritising the reach between Tallington Weir and Hudd's Mill Weir.

Further Information

Katie Murphy
Fisheries and Biodiversity Technical Officer, Environment Agency
Waterside House, Waterside North
Lincoln, LN2 5HA
T. 01552 785990
E. katherine.murphy@environment-agency.gov.uk

Useful Links

Welland Rivers Trust: www.wellandriverstrust.org.uk

Wild Trout Trust: www.wildtrout.org

Guash Fishing Club: www.guashfishingclub.co.uk

Partners:



The Welland Sea Trout Project: Completed Projects and Future Priorities

- ◆ **Completed habitat enhancements**
 1. Ingthorpe: channel narrowing and gravel introduction
 2. Tickencote: introduction of woody habitat
 3. Borderville: reconnection of two meanders
 4. Uffington/Cophill: channel narrowing and gravel introduction
 5. Maxey Cut: riffle enhancement
- ◆ **Priority reaches for habitat enhancement**
 1. Lower Gwash to Tallington
 2. Maxey Cut (through Low flow Resilience Strategy)
 3. Low Locks to the Maxey Cut
- **Priority fish/eel pass locations**
 1. Belmesthorpe Gauging Weir
 2. Newstead Mill / bypass channel
 3. Lolham Bridges
 4. Nine Bridges
 5. Fulney Lock
 6. Marsh Road Sluice

- **Completed fish/eel passes**
 1. Borderville (weir removed)
 2. Tallington technical fish pass
 3. Notch cut in sheet-piled weir
 4. Maxey Road rock ramp and eel tiles
 5. Notch cut in sheet-piled weir
 6. Baffle fish pass repaired

- **Completed fish refuges**
 1. Crowland
 2. Four Mile Bar
- ▼ **Priority for targeted farming advice**
 1. Hudds Mill Weir to Tallington Weir

