Golden Valley Fish and Wildlife Association

RIVER DORE EUROPEAN EEL STOCK ENHANCEMENT PROJECT

Launched: 2012

Author: Ian McCulloch, M.A, Environmental Management; C.Env; MIFM;

Introduction

In 2010 the International Union for the Conservation of Nature (IUCN) placed Anguilla anguilla, the European eel, on its red list of internationally endangered species. The justification for this is as follows:

"..The species has undergone a sharp decline in recruitment, yield and stock, which will continue into the future. The recruitment of glass eels has declined from 1980, and since 2000 is at an historical low at just 1-5% of the pre-1980 levels, showing a 95 to 99% decline. This recent decline in recruitment will translate into a future decline in adult stock, at least for the coming two decades (ICES 2006).

Yield and stock abundance have declined since the 1960s. As the recruitment rate is so low the population is continuing to decline as older eels disappear from the stock. According to the FAO global catch landings (which cannot be directly linked to population due to stocking and harvest effort, though scientific evidence supports this decline) show that in 2005 only 4,855 tonnes were caught, a decline of 76% since a harvest peak in 1968, 37 years earlier (three generations of the species is estimated to be 60 years). Even though the exact cause of the decline in recruitment is not known the species has many threats. The level of harvest of the species according to the International Council for the Exploration of the Seas (2006) is currently unsustainable. A nematode parasite (Anguillicola crassus) from introduced eels from Japan is suspected to impact the ability of the eels to reach the spawning grounds. Dams (for hydropower) are also a threat to the species by blocking migration routes and by causing high mortality rates as downstream migrating eels are killed by turbines. Pollution, loss of wetlands and climate change are also potential threats to the species. Although a reliable population decline in mature individuals is not known, it is inferred that there has been a decline of over 80% in the past three generations (60 years) based on the massive decline in recruitment (95% in 24 years) which is supported by the decline in catch landings of 76% between 1968 and 2005 (37 years). This decline is likely to continue. Full and immediate protection is required and ICES have recommended that a recovery plan be developed for the whole stock on an urgent basis. Action has already been taken at the international level, but the impacts of this will not be detected for many years. In 2007, CITES listed the species in Appendix II (this came into force in March 2009) and will require exporting states to have an export permit which can only be issued if the export will not be detrimental to the survival of the species. Also the European Commission has issued a Regulation requiring all member states to produce eel management plans, amongst other measures. These management plans were required to be in place by July 2009 and have the objective to permit the escapement to the sea of at least 40% of the silver eel biomass [relative to the estimated stock levels in the absence of human influences]."

Golden Valley Fish and Wildlife Association

RIVER DORE EUROPEAN EEL STOCK ENHANCEMENT PROJECT

Local perspective

The River Dore is the Golden Valley's principal river. It is a minor tributary of the River Wye, and although not known now as an important fishery, it has been so once. This is probably from a time when there was more water-logged bog, "feg" and water-meadow in the valley which created a slow release of water throughout the year. Much of the drained farm land in the valley now used for growing corn was until recently old permanent pasture (James, W,2011, pers.com.)

H.C. Darley and I.B. Terrett in The Domesday Geography of Midland England (1954)show how important the river was as a Herefordshire fishery at the time of the Norman conquest: "...In addition to fish ponds, parts of a river could be used to create fisheries. The Domesday survey mentions 14 fisheries in Herefordshire. Seven fisheries were located on the river Wye, three on the Lugg, three on the Dore, and one on the Teme" This information shows the Dore as once the equal second- most important fishery river in Herefordshire, something that few would realise today. There is as yet no detail of the nature of the medieval Dore fisheries, but it is highly likely that they were created to harvest migratory fish, such as salmon and eels, possibly at fishing weirs. It is well-known that the Cistertian order was very forward in creating such fisheries, such as existed once near Tintern Abbey on the River Wye. It is highly likely that smaller structures were created by the monks of Abbey Dore and that migratory fish such as salmon and eels were the target. There is local legend in Peterchurch that a fish with a gold chain round its neck was caught in the Dore, and a wall-hanging of "the fish" in St Peters church indicates that this fish was a salmon. Prior to the Victorian mill weir across the Monnow at Monmouth, passage up and downstream to the sea was freely available.

Little currently seems known about the levels of the Dore eel populations throughout history. It is known that in modern times as recently as the nineteen fifties local men would go eel spearing on the Trenant Brook near Peterchurch (a major tributary of the Dore) and come home with large bags of eels to eat. (Morgan,E, 2012, pers.com). The deep, slow-flowing nature of the river and the high rainfall in the Golden Valley have provided excellent eel habitat through the ages, and the likelihood is that there was much more available flowing and still water prior to the advent of modern arable agriculture and the government-subsidised land drainage that characterised the last twenty years of the twentieth century. This modern agricultural obsession with drainage can be contrasted with the famous 16th century Rowland Vaughan Vowchurch irrigation system which was set-up to annually flood the land with water from Golden Valley streams and render it more fertile. There is little doubt that this would also have had significant advantages to local eel populations, providing them with additional feeding areas. Without an historic benchmark it is difficult here to show the local decline in eel populations but is likely that it follows wider European projections of a 90% decline since the nineteen seventies.

Historic exploitation of Herefordshire eels

Eels have been traditionally caught for food in their adult form prior to, or on their seaward migration. On some Herefordshire rivers such as the Arrow the rich and numerous catches have warranted the expensive construction of large iron eel traps working on sluices and grids. This massive investment, latterly during the Victorian period, was indicative of the huge numbers of eels that once fed in the perfect, slow-flowing streams of Herefordshire. Eels were also traditionally caught for food in their juvenile form, as elvers, in a seasonal springtime activity taking place on the Wye and Severn estuary. “Elvermen” used dip-nets with fine mesh to scoop- up the planktonic elvers in quantities sufficient to eat. However this traditional activity always appeared sustainable given the vast drifts of returning elvers that were encountered.

Modern exploitation and conservation

A relatively recent massive increase in the exploitation of eels has been caused by the advent of commercial catch-for-export elver fishing that has occurred during the last thirty years. This has coincided with a massive crash in eel numbers throughout Europe and may be a crucial factor. Elvers are traded to Europe and the Far East for growing-on in commercial eel farms, and the high prices paid for elvers (up to £500 per kilo) is behind a massive increase in this trade. On a typical large night-tide on the Wye estuary in March the elvers, which swim upstream close to the riverbank, face a barrage of lamps and dip-nets, and a large proportion are captured and exported. Despite the protests of many rod-and-line eel fishermen, who view the industrial trade in juvenile eels as a destruction of their fishery, the UK government have not yet agreed a closure of the elver fishery, preferring first to introduce a slight reduction in the elver fishing season which many regard as insufficient when more dramatic measures are needed such as alternate fishing years, or a complete closure. In England the Environment Agency is currently involved in the creation of an extensive eel management plan, and there have been recent reductions in the season for commercial elver fishing. There is a big opportunity to support this work with further direct local action.

AIMS

1 – To gather as much knowledge as possible on eel fishing and eel populations in the Golden Valley through the ages

2 – To gather as much information as possible on the “current” status of eel populations in the River Dore

3 – To highlight the plight of the European eel population of the Golden Valley and lobby international, governmental and non-governmental organisations to impose stricter eel conservation measures.

4 – To lobby the U.K government for a precautionary closure of the commercial elver fishery on the Severn and Wye estuaries (Directly affecting the Golden Valley).

5 – To work together with other like-minded organisations to help conserve and monitor European eel stocks locally.

6 – Until a closure of the commercial elver fishery is effected, to use available funds to purchase and release into the Golden Valley and surrounding area captive elvers that would otherwise be taken from the River Wye catchment and consequently the River Dore.

7 – To begin a regular annual rod-and-line and fyke net survey of eel populations in Golden Valley rivers, based on catch per unit effort. Over a ten-year period it is hoped that the project will show a dramatic improvement in stocks.
8 – To create more suitable pools and ponds in the Golden Valley, connected to rivers, that will boost habitat for eels.

OBJECTIVES

1 – Gather information on eel fishing via local historians and old farming families and individuals with a long perspective of Golden Valley local knowledge. Conduct historic research.
2- Gather together all available Environment Agency survey data on eel stocks in the Dore, and to conduct eel rod-and-line fishing surveys to monitor eel stocks. Begin to collate eel rod catch returns.
3 – Encourage all people in the valley to report sightings/catches of eels (local advertising and news items, etc)
4 – Link up with and find like-minded organisations to collaborate with and co-ordinate a strong lobby for the closure of the commercial elver fishery on the Severn/Wye estuary. Obtain media coverage and publicity for the campaign. Make contact with the International Union for the Conservation of Nature and seek advice and assistance with the campaign.
5 – Obtain funds with which to purchase elvers from elver fishermen of the Severn/Wye estuary.
6 –Liaise with other organisations with experience of elver stocking in order to obtain advice on best practice and stocking densities. Identify good rearing pools/river stocking locations for elvers.
7 – Obtain “section 30” stocking consents from the Environment Agency for the stocking or elvers.
8 – Purchase elvers from suitable outlets/traders on the River Wye/Severn estuary.
9 – Conduct stocking of elvers in Golden Valley
10 – Obtain full media publicity for (9) and continue to press for reductions in commercial eel and elver fishing.
11 – Review project and continue to monitor Golden Valley adult eel populations through catch per unit effort; record results and make available to the public domain.
12 – Provide an education and awareness presentation for Golden Valley schools.
13 – Repeat the above indefinitely.
14 – Work with local landowners and like-minded groups to help create more lakes/pools and ponds in the Golden Valley to boost available eel habitat.