



Scottish Charity No: SC024426

# Fisheries Management in West Sutherland 2008 – 2011

A summary



The Trust has received a lot of support in the completion of this work.

The majority of funding was provided by the Scottish Government, others include:



Scourie & District Angling Club

Rispond Estate

North & West District Salmon Fishery Board

The Robertson Trust

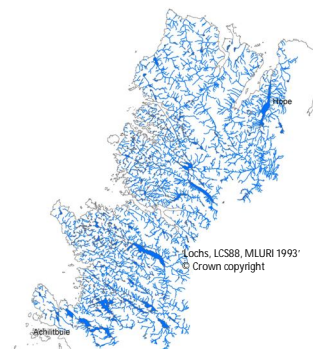
In addition to these named organisations, the Trust is grateful to the many unnamed volunteers who have assisted with the different projects with grace and humour. Without their help the work would be harder and definitely less enjoyable.

This document forms a summary of much of the work undertaken by the Trust between 2008 and 2011. It has been made possible by the grants and donations from those listed above and by each project. In addition, the Trust retains a small core of volunteers who are willing to assist with a range of projects in varying weather and also attracts funding donations from a number of unnamed individuals and organisations.

## The West Sutherland Fisheries Trust

The Trust was established in 1996, and covers all loch and river catchments flowing west and north from the Hope in the north to Achilitibuie in the south. Working closely with landowners and other stakeholders, we provide advice and assistance on all aspects of fisheries management within the area. This advice is underpinned by a research programme aimed at ensuring the best practice is followed.

While retaining a small staff, the Trust has a strong volunteer base which enables some substantial projects to be undertaken. All staff are well trained in many activities and are constantly developing their skills as required. Personal development is an important part of the Trust and as such all are given the opportunity to pursue qualifications of interest.



## The Fisheries Management Plan



Developed in 2008 as part of a national series of plans supported by the Scottish Government, the plan reflects local priorities for fisheries management and provides the basis for management of all fish species within the area. This plan has stimulated a range of different projects and research themes undertaken by the Trust and its many partners, both local and national. It has also allowed the identification of shared priorities with a range of initiatives, e.g. Water Framework Directive and conservation designations. While the period of the current grant was 2008 – 2011, the work has continued beyond this period with assistance of other stakeholders.

The Fisheries Management Plan is a working document and as such will be assessed in 2013 to determine what, if any, actions have been completed, where any problems have emerged and to determine any changes in priorities within the area. At this stage a new Plan will be produced for the next 5 years (2014 – 18). This will also involve

discussion and agreement with our partner organisations and other stakeholders as their involvement is required to ensure effective management of our rivers and lochs.

## Education

The Trust views education as an important aspect of management within the area. In order to produce sustainable management it is vital that the stakeholders have access to the latest information and can gain an understanding of the reasons that decisions have been made. We offer educational opportunities to a range of individuals and organisations, from schools through the public to ghillies and landowners. By teaching the public about native fish and the aquatic ecosystems of Sutherland it is hoped that they will help to protect these habitats and species and educate their children, or parents, to have a respect of the environment. Much of this work is undertaken in conjunction with the Highland Council Ranger Service and the schools network. It is an important action within the Sutherland Biodiversity Action Plan.

Over the past 3 years there have been a range of educational opportunities offered.

### 1. Gillies Seminar

An annual event organised by the Trust, the Ghillies from the area are brought together in an informal venue allowing them to pass on any ideas or issues. In addition, we organise a range of speakers to address the audience on issues of interest. Each year has a different theme, selected by the Ghillies themselves. This event is well attended and received. As it is an informal occasion, they have the opportunity to question the experts and also provide the expert with local knowledge and understanding. This brings a greater understanding of the reasons behind the things they are asked to do and reinforces the importance of the Ghillies actions to fisheries management.

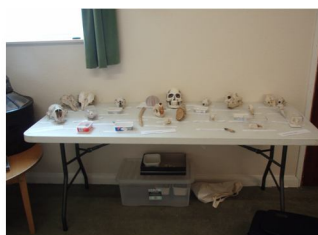


During this period experts from the Scottish Environment Protection Agency (SEPA), Marine Scotland, Tweed Foundation, Ness & Beaulieu Fisheries Trust, Scottish Natural Heritage (SNH), RAFTS, Wester Ross Salmon and the University of the Highlands & Islands have all lent their time to talk to the ghillies on a wide range of topics, both freshwater and marine. In addition to these donations, funding was obtained from the Scottish Government and the North & West District Salmon Fisheries Board as well as the WSFT to allow the events to take place. Over the 3 years the total cost of hosting the event has been £47517 and without the above assistance could not have taken place.



## 2. Public walks

Usually undertaken in conjunction with the HC Ranger Service or community groups, these demonstrations introduce members of the public to the aquatic environment. Over the period of this summary document, this has included two electrofishing and kick sampling demonstrations at the request of the Highland Ranger Service, and an eel walk for the Assynt Field Club. In all cases members of the public were able to participate in the events and developed a greater awareness of the local environment and the various factors that can affect it. In particular attention was drawn to the number of species and organisms present and the importance of maintaining a clean and healthy environment.



A more wide ranging public event was Wet & Wild in Kinlochbervie. Occurring over 3 days, the first day was devoted to the schools and involved a series of events around the school for P6 – S1 pupils. The second and third days were family days and included a range of events, demonstrations, guided walks and activities. Organised by the Kinlochbervie community, leaders were drawn from the WSFT, school, Geopark, Ranger Service, Grosvenor Estate, SEPA, SNH and the John Muir Trust. In addition the 'Green Machine', a wildlife crime unit, also attended. Funding was drawn from the organisations listed above, the Scottish Government and the Sutherland Partnership. A similar event was undertaken in Scourie in 2012, in conjunction with the Scourie & Community Council and the Highland Geopark.

## 3. Schools

There are 7 primary schools and one secondary school within the Trust area. In each case these are small rural schools with, usually, less than 25 pupils. The exceptions to this are Lochinver Primary School and Kinlochbervie High School, although in neither case can numbers be considered high.

Work with the primary schools involves P4 to P7 pupils, and combines the schools into the groups. These groups are based on the associated High Schools. The children are usually taken outside and get involved in sampling and measuring environmental parameters, although some classroom activities also take place. Both freshwater and marine environments have been explored, together with peatlands.



Work with the High School has been less intensive. We assisted with the Rural Skills Course in 2009 and the Laboratory Skills Course in 2010, while 2011 saw our involvement in Fish2Dish, a transition project covering children from P6 – S2. In the latter two our involvement was within the laboratory, teaching scale and otolith reading, fish identification and dissection. Rural Skills was more practical, with the pupils joining the Trust during field sampling. In addition we have provided a work placement for one of the pupils.

The three years of primary school events cost £21844 and funding was provided by the Royal Society Partnership Grant, Crown Estate Commission, the Scottish Government, North & West District Salmon Fishery Board, the Highland Council, The Robertson Trust and WSFT. No funding was obtained for the public demonstrations or the Trusts involvement in the High School, other than that from North & West DSFB and WSFT.

## Marine monitoring

Started in 1997, Loch Laxford and The Polla estuary have been sampled monthly between March and October using a 50 m sweep net. All sea trout captured, or a subset of 50 if large numbers are taken, are measured and weighed and a scale sample taken for ageing. Sea trout are also tagged using a Visible Implant tag and the numbers and stages of sea lice counted. Recapture information provides information on growth rates and marine migrations, whilst age data has provided information on changes in the timing of migratory runs. In



The Managing Interactions Project is a west coast initiative involving RAFTS, Fisheries Trusts, Marine Scotland and the Scottish Government. It aims to continue the work of the TWG and promote sustainable management within the Aquaculture industry and the improvement of interactions between the aquaculture and wild fish industries.

## Fish surveys

## 1. Juvenile surveys



## 2. Smolt assessment

Batman's Head (Batman's Head) September 2006  
Length 54cm Weight 2.47lb

Faintly rounded snout  
Faintly visible  
The valley  
The ridge  
The ridge  
The ridge  
The ridge

Coupled with rod returns, scale reading has been used to determine the characteristics of the different populations. Reliant on angler participation, scale collection has varied between catchment and with time, but continues to produce useful results. In addition, the scale archive from the River Laxford was supplied to the School of Ocean and Earth Sciences, University of Southampton to form part of their project investigating the marine life of Atlantic salmon

from the microchemistry of their scales. Results are still awaited from this project but it is hoped that some useful information will result.

## Biosecurity

A series of Biosecurity Plans were devised throughout Scotland as part of a RAFTS initiative. The West Sutherland Biosecurity Management Plan was produced in 2010, following a widespread consultation with other stakeholders. This is the first Biosecurity Plan ever produced for the area and covers the prevention, monitoring and eradication of non-native plant and animal species. The production of the plan was funded by Scottish Government, SNH, SEPA and the Esmeé Fairbairn Foundation. This plan highlighted the occurrence of non-native species within the area and, in the main, their absence. This latter is the situation to be maintained.



The primary action identified within the Plan was the need for prevention. This is being undertaken through education, at the Ghillies Seminar and a range of promotional events. In addition it is emphasised within the schools projects in order to ensure that the message is spread as early and as widely as possible. Particular emphasis has been placed on the prevention of *Gyrodactylus salaris* and the proper maintenance of gardens and garden ponds to stop the spread of species from these locations.

Following completion of the Plan a Restoration Grant was acquired from SEPA through RAFTS to remove Himalayan Balsam from 2 water courses within the Assynt area and Japanese Knotweed from 2 sites on the Reay Forest estate. While problems have been experienced with the eradication of Japanese Knotweed, the Himalayan Balsam stands have been greatly reduced within the crofts and there is hope that full eradication can be achieved within the 5 years of the project.



The Trust is also participating in the monitoring of mink populations within the area. This is on-going and is part of the Scottish Mink Initiative. It has demonstrated that while mink are present, they are still in low densities. However it is accepted that monitoring and trapping will have to continue into the future in order to maintain this situation.

## Habitat restoration

While the habitat in West Sutherland is, in general, good, there are issues that can be addressed. The Trust views the improvement of the habitat as the most sustainable way of achieving long term improvements in the fish populations. As such we have undertaken a programme of projects to develop individual catchment management plans throughout the area. To date 18 catchments have been surveyed, with 7 completed during this period.



The surveys were undertaken using the SFCC protocol and the data used to produce the plans. These highlight the different habitat availability and any issues relating to fish health. In particular barriers are noted and recommendations provided with respect to riparian management or gravel cleaning. Within Sutherland the main issues highlighted have involved barriers, predominantly poor culvert design, and erosion.

Following on from the development of the Catchment Management Plans, the Trust has been instrumental in the improvement of access into 2 systems within the area, Giesgeil and Badaidh Daraich. The improvement of the fish pass within the Geisgeil Catchment was undertaken in conjunction with Loch Duart Ltd, while Scourie Estate and the Scourie & District Angling Club have been involved in the recovery of a small migratory population within Badaidh Daraich.

Funding for this work has been received from Scottish Government, Crown Estate Commission, Scourie Estate, Loch Duart Ltd, Scourie & District Angling Club and the WSFT.

## Eels

Eels were identified within the Fisheries Management Plan as an important component of the fish population. There are few fish species present within west Sutherland, with eels the only non-salmonid to attract commercial activity. Elver fishing has been active within many catchments for a number of years. With the increasingly endangered status of the eel throughout Europe it was felt that this activity and the status of the eel should be examined. The initial assessment was a





desk study undertaken on behalf of the Trust by Dr Duncan May and funded by the Sutherland Partnership.

Since 2008 there has been 2 projects undertaken on the eel populations of the area. The first, an assessment of the eel population within the Geisgeil system, followed on from the desk study. Geisgeil was a small, easily accessible catchment known to be used by elver fishers, and therefore was suitable to examine the sustainability of this activity. This project looked at the populations of elvers and yellow eels within the catchment using a variety of different methods. Attempts to survey silver eels were unsuccessful. Funding for this project was provided by Scottish Government, SNH and WSFT.

Following on from this project, funding was secured from the Scottish Government to develop a protocol for the monitoring of elvers. Six catchments were monitored, and environmental data recorded at each trap location, with the ultimate aim of producing a methodology that could be used throughout Scotland in catchments of differing sizes. Reports from each of these projects are available on the Trust website, [www.wsft.co.uk](http://www.wsft.co.uk).

### **Focusing Atlantic Salmon Management On Populations**



As part of a Scotland-wide initiative, the FASMOP programme was funded by the Scottish Government. Samples from different sites in 4 catchments throughout the area, the Hope, Polla, Laxford and Inver, were collected and analysed. Results indicated that genetic diversity at locations analysed in West Sutherland appears high in keeping with findings on other salmon systems in Scotland.

Additional funding was then obtained from the Scottish Salmon Producers Organisation and the Tripartite Working Group in order to examine the long term effects of a large fish farm escape on wild salmon populations in a neighbouring river. This occurred in the Loch Eriboll in 1993. At this time the River Polla was extensively sampled and materials taken for genetic analysis, giving information on the original population and the farmed fish. By collecting new samples, it was hoped that it would be possible to determine if this escape has adversely affected the salmon population of the river on a long term basis.

### **Stocking assistance**

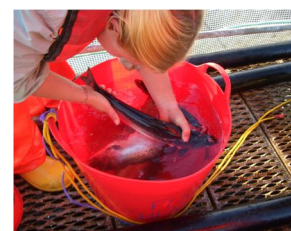
Stocking forms a small part of fisheries management within the west Sutherland area and is undertaken by the estates. The Trust will assist in the collection of broodstock where asked and provides advice on best practice as required. Since 2008 the Trust has assisted the Inver Estate and Reay Forest Estate with broodstock collection and the Osgaig management group to stock eyed ova into the catchment. The Trusts' assistance with hatchery operations within the area is partly funded by the North & West DSFB.

### **Other activities**

As well as the large, well-funded projects detailed within this document, the Trust also has a number of smaller roles at the local level. These involve responding to situations that arise within the area and to provide advice on issues pertinent to local stakeholders. We are also a repository of local skills, knowledge and data that can be and are called upon by national organisations. Despite participation in national programmes, the Trust is fundamentally local-based and these factors remain a core part of the work of the organisation.

Some of the issues that have been addressed since 2008 include:

1. Through RAFTS, SEPA requested electrofishing data from the Trust in order to address issues within the Water Framework Directive. These data were purchased in 2011. In addition to this SEPA request, the Trust was employed by SNH to undertake electrofishing surveys throughout the area in relation to Freshwater Pearl Mussel conservation. Again, this contract came through RAFTS.
2. The Trust is approached on occasion by the different estates to ensure that management plans being proposed are not going to be detrimental to the rivers. In the period from 2008 – 2011 this has included giving advice on a Forestry Plan, the creation of new tracks, a proposed tree nursery and the replacement of bridges. In each case the advice given is free and may involve meetings and site visits.
3. While industrial development is not a major issue in west Sutherland, there has been an increase in the number of proposals for small scale hydro-electric developments over recent years. The Trust will conduct walk-over surveys or electrofishing surveys as required and provide a report of our findings. In this case the work is paid for by the developers.



4. The Trust plays a large role in the liaison with the aquaculture industry within the area. We are heavily involved in the Area Management Agreements, providing administrative support for the meetings and ensuring that all parties are up to date with any proposals. In addition, we provide advice to the DSFB on matters relating to aquaculture and any proposed new developments. The Trust has an excellent working relationship with the different companies and as such can request visits to the sites at any point. This openness gives some confidence in the data provided and is appreciated by the area management groups.
5. With the assistance of a grant from the Scottish Government, samples were collected from the trout populations within the area. Sea trout were sampled as part of the estuary netting and other samples taken from the Laxford catchment during broodstock netting and electrofishing surveys. Genetic analysis was completed by Marine Scotland Science in order to determine any differences between the sea trout populations around the area and the trout within a single catchment. From the broodstock samples it was also possible to look at the relationship between resident and migratory trout within a single tributary. The results have now been published (Marine Scotland Science Report 10/11, Genetic Assessment of Sea Trout Populations within West Sutherland: Report on Microsatellite Analysis) and are available from Marine Scotland Science or on the Trust website.
6. The Trust will, from time to time, receive reports of potentially illegal activities within the lochs and rivers of the area. These can range from pollution incidents through the use of diggers to potential freshwater pearl mussel poaching. In each case the Trust will investigate the matter and report to the relevant authority.



## The Future

The Fisheries Management Plan continues to provide a basis for the work of the Trust. Having been through public consultation, the document has identified the issues of greatest relevance to the local communities as well as items of greatest use to national bodies in the management of the freshwaters and their environs. The current plan is to run until 2013, at which stage it will be reviewed and developed in order to take account of changing priorities. This will also be subject to public consultation.

It is important that the Plan considers existing and future documents and plans, particularly the River Basin Plans and the local biodiversity action plans. It will also look towards current and future grant schemes, particularly within the EU, and the issues of national and international importance. However, this will remain a local plan and as such will address issues of local importance in the first instance.

It is likely that other species will increase in dominance, particularly freshwater pearl mussels for which the Trust is involved in a national project – Pearls in Peril Life+. Biosecurity is also becoming of increasing importance both nationally and internationally and therefore will have a key role within the plan. Both of these issues are important and relevant to the area and any work proposed will have to be geared towards the local area and its requirements.

For more information on the Trust, or to contact us:

West Sutherland Fisheries Trust  
Gardeners Cottage  
Scourie  
IV27 4SX

Tel: 01971 502259

e-mail: [wsft@btconnect.com](mailto:wsft@btconnect.com)  
Website: [www.wsft.co.uk](http://www.wsft.co.uk)  
Twitter: @WSFTrust  
Blog: <http://wsft.blogspot.com/>  
Facebook: [www.facebook.com/westsutherlandfisheriestrust](http://www.facebook.com/westsutherlandfisheriestrust)