Cromarty Fisheries

Fishery Management Plan Progress Report 2012

The Scottish Government

marinescotland

RAFTS

The Cromarty Firth Fisheries Trust was formed in 1999 and is a charity (SCO29221) dedicated to the conservation of wild fish stocks in the Cromarty Firth region. The Trust achieves its aims by supporting research work into native fish species and the habitats in which they live.
The Trust also has a role in raising awareness and advancing education of fishery conservation issues.

In order to achieve these aims the Cromarty Firth Fisheries Trust works in partnership with many organisations in the public, private and voluntary sectors.

Esmée Fairbairn Foundation

Wild Trout Trust

Moray Firth Sea Trout Project

The Scottish Government

marinescotland

Forestry Commission Scotland

SEPA Scottish Environment Protection Agency

SSE

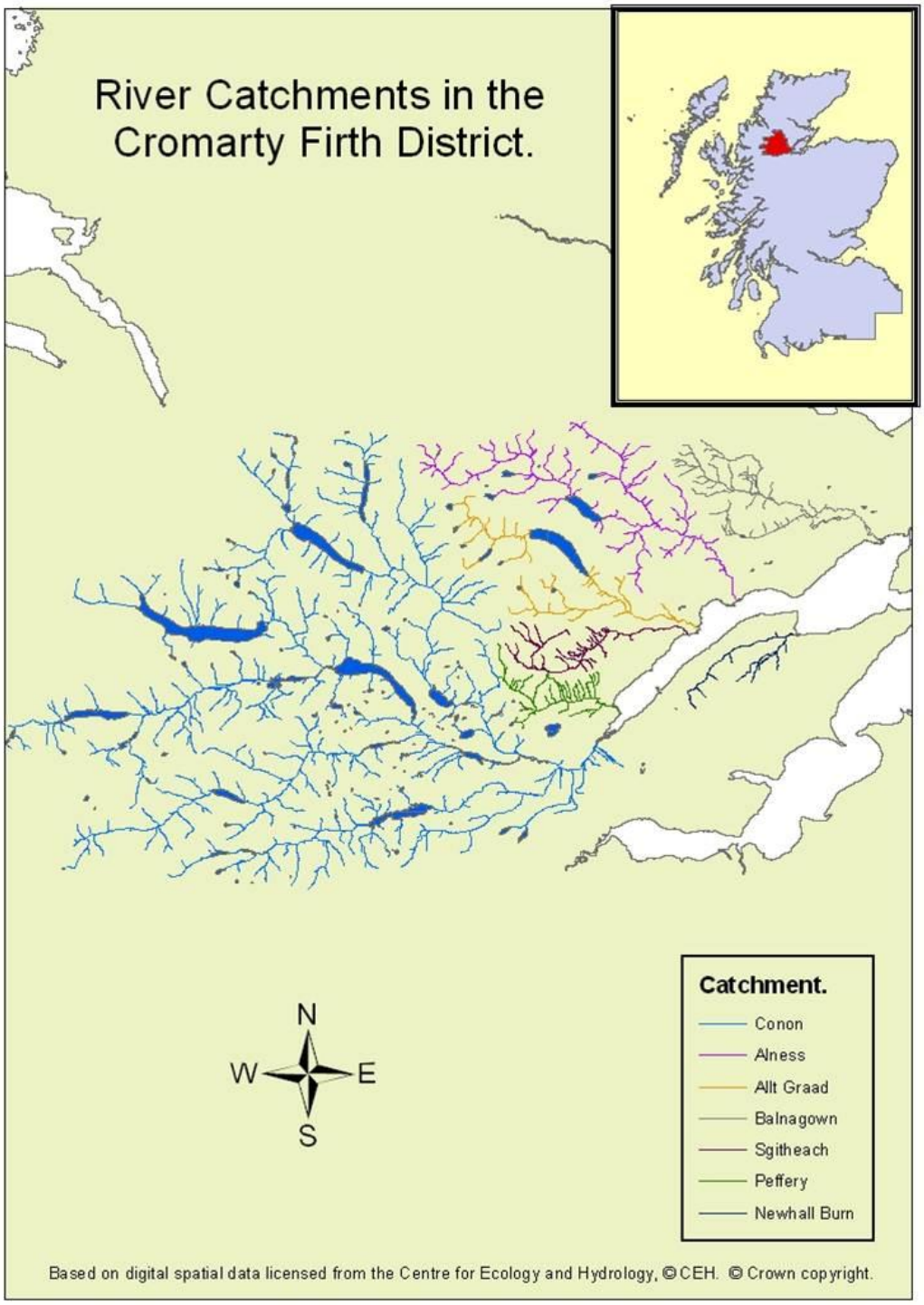
RAFTS

The River Restoration Centre

Introduction

The Cromarty Firth Fisheries Management Plan was produced as part of a national initiative supported by Scottish Government and coordinated by Rivers and Fisheries Trusts Scotland.

The Plan coordinates the activities of the Cromarty Firth District Salmon Fishery Board and the Cromarty Firth Fisheries Trust in order to deliver effective fishery management for all native fish species within the Cromarty Firth region. The extent of the Cromarty Firth region is shown on the map below.



After an initial period of consultation the Cromarty Firth Firth Fishery Management Plan was adopted by both Board and Trust and became operational in 2009.

The writing of the plan gave an opportunity to review and collate the extensive research data and historical information held by the Board and Trust. It forms a definitive and publicly accessible record of fisheries and fishery management in the region, as well as documenting the evidence and rationale supporting management activities within the first phase of implimentation.

The evidence basis for fishery management is a key part of this planning process and the gathering of new evidence and monitoring the impacts of management actions are integral to the plan.

The Fishery Management Plan links to other strategic plans and in particular the Water Framework Directive River Basin Planning Process. Membership of the SEPA North Highland Area Adivisory Group has helped with the coordination of these planning processes and has led to catchment scale management actions.

The Cromarty Firth Biosecurity Plan is also closely linked to this plan and to wider biosecurity and Local Biodiversity Action Plan delivery in the North Highland region.

The Plan sets out a prioritised work programme up to its next review in 2013. It identifies actions which can be funded by current resources and also those which require additional external resources.

All the Cromarty Firth Plans as well as regular reports which include details of progress can be downloaded at www.cromarty.dsfb.org.uk

Salmon netting in the Cromarty Firth in the 1960's

(photo courtesy of Derek Mills)

Plan Implimentation

The implimentation of the plan comprises of 50 project headings which fall into a number of broad categories;

1) Consultation and dissemination
2) Fishery protection and exploitation control
3) Species management
4) Habitat management
5) Research and monitoring
6) Education and community involvement

Progress has been made in all 50 projects within these categories, some of the most important of these projects are outlined below.

1) Consultation and dissemination

A draft version of the Cromarty Fishery Management plan was circulated for comment and useful contributions were incorporated in the final plan. This process also helped to identify linkage to other planning processes and identify partners to help with plan delivery.

The final version of the plan is posted on the Cromarty DSFB website and is available to be downloaded as a pdf at www. cromarty.dsfb.org.uk

Following the production of the Fishery Management Plan a Cromarty Firth Biosecurity Plan was also produced. Sector specific awareness raising packs aimed at key users of the regions rivers including; anglers, canoeists and garden centres, have been produced and distributed.

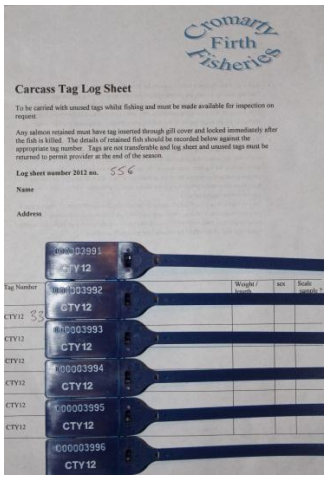
2) Fishery Protection and exploitation control

One of the most essential fishery management activities is to protect fish stocks from illegal exploitation.

This is carried out by the Cromarty Firth Fishery Board using its statutory powers through a team of well trained and warranted Water Bailiffs. This work is essential to maximise survival of salmon and sea trout once they return to home waters. Without this protection a great deal of other management effort would be wasted.

Illegal gill net seized during anti-poaching patrol

The management of legal exploitation is also important to maximise spawning escapement. A conservation policy has been adopted within the Cromarty Firth region which encourages anglers to return a high proportion of the fish they catch. In 2012 a trial carcass tagging scheme for anglers was introduced.



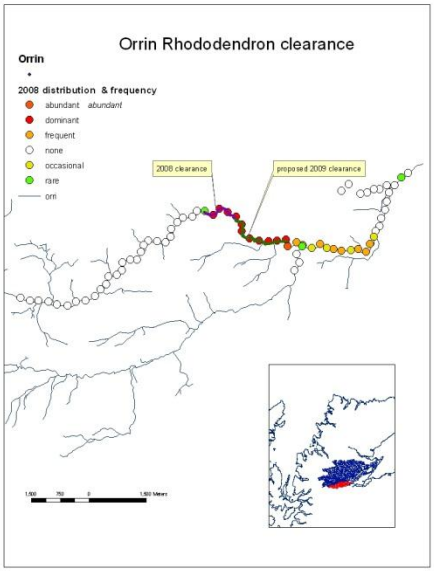
Carcass tags and anglers log book

Carcass tagging scheme

In 2012 anglers in the Cromarty Firth region were issued with carcass tags and a log sheet to be used whenever a salmon was retained. The scheme was operated as a trial with excellent cooperation from local anglers and angling clubs. We have learned from the first year of the trial and with the help of anglers will make some improvements for 2013. The tagging scheme allows some flexibility in local conservation measures whilst setting a 'safety net' to limit exploitation. The response of anglers has resulted in a further increase in the proportion of fish returned this year.

3) Species Management

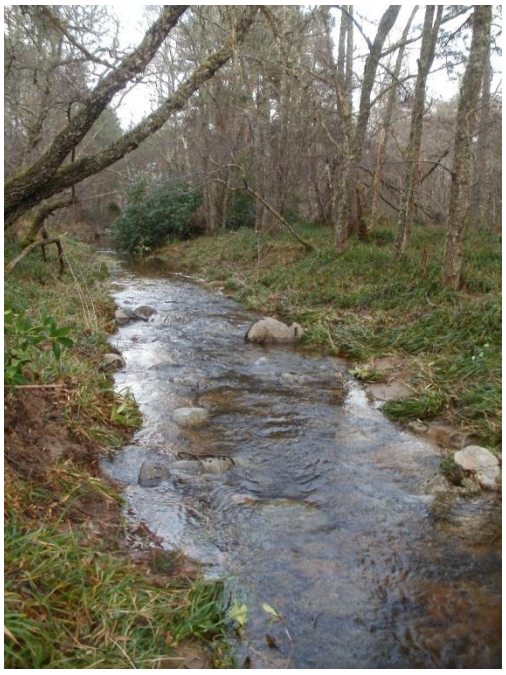
Within the Conon catchment a great deal of salmon management is associated with mitigation for the extensive hydro-electric development which took place in the 1960's. Working closely with Scottish and Southern Energy, trapping and transportation programmes are in operation at dams for both smolts and adult salmon as well as a large hatchery operation.



As part of RAFTS coordinated and SEPA funded projects, works are underway to control Invasive Non Native species across the entire Cromarty region. Initial survey work mapped the distribution and extent of species such as: Himalayan Balsam, Japanese Knotweed, giant hogweed and Rhododendron. A combination of bailiff and volunteer labour has been used to control these species on a strategic catchment scale basis. The effects of these clearance works are monitored by the Trust and this is used to plan the next year's programme.

In the River Orrin catchment, removal of Rhododendron from 6km of river has opened up and rewatered dry side channels. This has created valuable new spawning and nursery habitat.

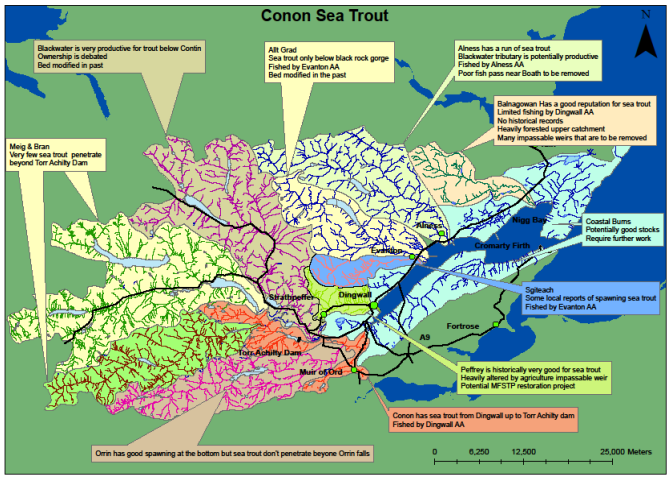
Before

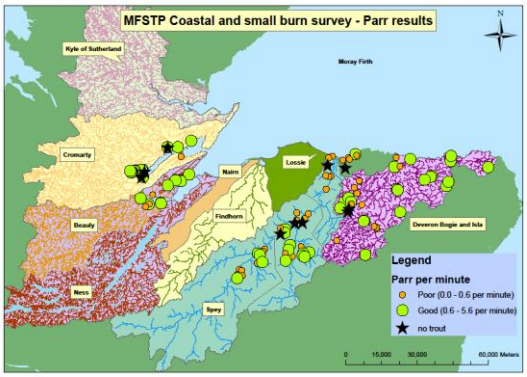


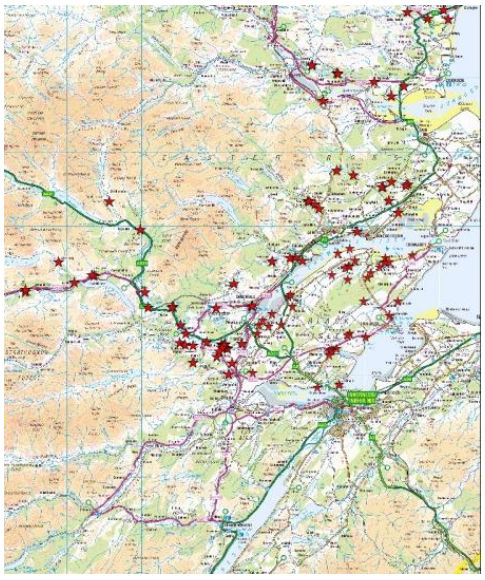
After

Moray Firth Sea Trout Project

The Moray Firth Sea Trout Project was set up by Fishery Boards and Trusts within the Moray Firth region to raise the profile of sea trout conservation. It was recognised that because of the economic importance of salmon sea trout had been neglected in many rivers. A programme of research was established to help address this.
It became clear that coastal burns and lower catchments of large rivers were very important for sea trout and had been particularly heavily impacted by human activity. The Moray Firth Sea Trout Project and Wild Trout Trust were key partners in developing the River Peffery Restoration Project.







Mink monitoring coverage

Scottish Mink Initiative

The Scottish Mink Initiative is coordinated by RAFTS and linked to Aberdeen University. The Trust is one of the partners in the project and delivers its aims in our region.

The Scottish Mink Initiative has established a strategic programme of mink control across the North and East of Scotland. The Trust has built up a network of over 70 local volunteers. The volunteers monitor a network of mink tracking rafts and tunnels each containing a clay tracking pad. If signs of mink are found by volunteers they then report this to the Trust and cage traps will then be deployed to catch the mink.

This project has been well supported by anglers and ghillies as well as members of local environment groups.

4) Habitat management

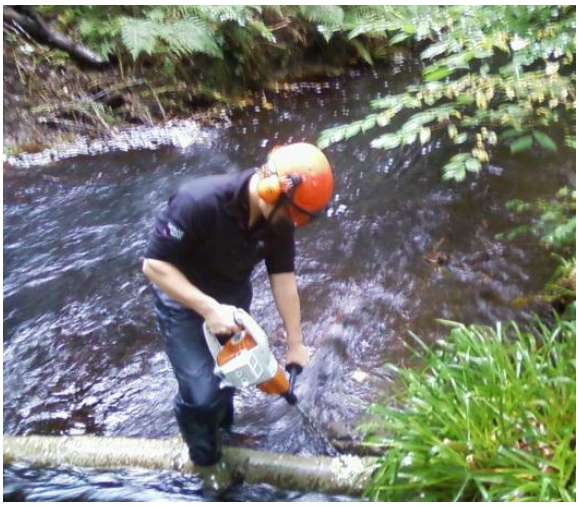
Obstacles to migration

One of the most effective ways to conserve migratory fish stocks is to remove man made obstacles to migration and allow them to make use of the full range of their habitat. On the River Meig the restoration of a fish ladder at Corriefeol has opened up 18 km of river which increases available habitat by 40%. On the River Orrin working with Scottish and Southern Energy the operation of a fish lift at Orrin Dam has been modified so that salmon smolts can pass downstream. The first salmon for more than fifty years are now spawning in the Upper Orrin. This restores access to more than 16km of river and doubles the available habitat in the Orrin catchment.

With funding from the SEPA restoration fund engineering designs have been prepared for obstructions to migration on the Alness and Balnagown. Scottish Water intend to make an obstruction on the Peffery which prevents access to its upper catchment passable in 2013.

Riverside Tree Planting

In many parts of the Cromarty Firth Region native riverside trees and vegetation have been lost due to overgrazing by sheep and deer. These riverside trees are very important to the health of our rivers. During the summer they provide shade and are likely to become increasingly important to protect our rivers from climate change. They also protect banks from excessive erosion and provide nutrients which increase productivity. Dead timber from trees is important in creating cover, habitat variety and retaining nutrients within the river. We are working with the Forestry Commission who have supplied trees for us to plant along riverbanks in their ownership. We are also working with the Woodland Trust to develop riverside planting schemes in two catchments.



River Peffery Restoration Project

This is a catchment scale project coordinated by the Trust and Moray Firth Sea Trout Project. The Peffery was once a very productive sea trout river but has much declined due to a wide range of human activities. The restoration work draws on the resources of several partners from the SEPA Area Advisory Group including; SEPA, SNH, Forestry Commission, Highland Council and Scottish Water. The aim of the project is to restore fish stocks and habitat from the source to the sea, to the best possible condition which can be achieved within the constraints of the rivers surrounding land use. This project has formed the focus of the Dingwall Environment Group from its inception and is helping to reconnect a community with its river.

The Trust carried out extensive survey works of the river and involved the River Restoration Centre and Wild Trout Trust in project planning. Works carried out to date include; blocking forestry hill drainage to slow run off, planting of native trees along banksides, removal of non-native invasive plant species and community clean up days. With funding from the SEPA restoration fund and Wild Trout Trust advice, instream habitat has been restored in a straightened and dredged section of the river. Timber was felled and pinned to the bed of the river to create pools, riffles, meanders and clean spawning gravel. In 2013 Scottish Water plan to make a weir at Strathpeffer passable to sea trout which will restore access to the upper third of the catchment.

5) Research & monitoring

Electro-fishing survey

The Trust carries out a programme of electro-fishing to monitor juvenile fish stocks, using the protocols and database developed by the Scottish Fishery Coordination Centre. Recent surveys have shown the expansion of wild spawning into the newly available habitat of the Upper Meig. Electro-fishing is also used as a research tool for several joint projects with Marine Scotland Science and other national and international academic partners. The large scale hatchery operation on the Conon which mitigates for the impacts of hydro development requires monitoring and also provides a valuable research tool.

As well as carrying out electro-fishing surveys the Trust has also supported netting surveys of lochs to investigate char and trout populations. Volunteer anglers have been asked to record their catches for hill lochs and sea trout surveys. A Scottish Fishery Coordination Centre web based angling diary has been produced to help anglers share fish data from their angling visits with the Trust.

Riverfly survey

With funding from the Heritage Lottery Fund the Trust has set up a Riverfly Anglers Monitoring Initiative. The Riverfly Project trained volunteer anglers and ghillies to sample, identify and record key groups of freshwater invertebrates. With help from SEPA each volunteer was given a site to monitor on their own section of river. The volunteers visit their site once a month and carry out a standard kick sampling procedure. Key invertebrate groups which act as indicators of water quality are identified, counted and recorded. This process generates a score which shows how healthy the invertebrate population is. If the score falls below a 'trigger' level set by SEPA then an investigation will begin to trace the source of the problem. This is a great example of citizen science, the volunteers gain an increased knowledge and appreciation of the life in their rivers and the SEPA water quality monitoring network is extended.

Bran smolt trap

Rotary screw trap

Salmon genetics

With funding from Scottish Government (through RAFTS and the FASMOP project) the Trust collected genetic samples from juvenile salmon populations across the Cromarty Firth region. This research was designed to produce both national and regional maps of salmon populations. The mapping showed distinct populations in different river systems. In the Conon catchment (which has been uniquely dependent on a hatchery programme to mitigate for the effects of hydro development for 50 years) the results were particularly useful. The results showed that fish resulting from the Blackwater hatchery stock made up more than half of the rod catch. It also showed that distinct populations were present in areas not stocked and this supports the Board's policy of restricting stocking so as to maintain wild populations and diversity.

Smolt trapping

Working closely with Marine Scotland Science and Scottish and Southern Energy a long term smolt trapping and tagging programme has been established on the River Bran. All the smolts migrating downstream in the Bran are trapped, transported and released below an impassable barrier. Each year a proportion of these smolts are tagged with an electronic PIT tag. When these tagged fish return as adults their unique tag number is read and recorded at each hydro dam they pass through. This has allowed new areas of salmon research to be explored.

On other rivers a Rotary Screw Trap has been used to trap a proportion of the smolts passing downstream. By carrying our mark and recapture experiments the smolt production of these rivers has been estimated. The amount of trap and counter data collected on the Conon makes it candidate to be used as an Index river.

6) Education & community

The Trust carries out hatchery and river visits with local schools. This is going to be developed further in 2013 through the Moray Firth Trout Initiative and a 'Mayfly in the Classroom' project. The Trust also has a programme of guided visits with the Highland Council Ranger service. These include; a salmon trap open day, hatchery open day, an electro-fishing event and alien species walk.

One of the greatest successes of the first phase of the Cromarty Firth Fishery Management Plan has been the development of links with the voluntary sector. The Conservation Volunteers (formerly British Trust for Conservation Volunteers) have been the main source of labour for invasive species projects. Local volunteer groups such as the Dingwall Environment Group have work alongside Board staff and have helped generate a community involvement and 'ownership' for their local river.

Local anglers and ghillies have volunteered to help with mink monitoring, Riverfly survey, sea trout survey and hill loch project. Our link with The Conservation Volunteers has resulted in the creation of two apprenticeships, one for invasive species and one for fishery management.

Summary and next steps

During 2013 the next phase of the Cromarty Firth Fishery Management Plan will be prepared and will build on the success of the first phase.

We will continue to engage with the Water Framework Directive process through membership of the SEPA North Highland Area Advisory Group, we will also encourage sustainabale river management through the SEPA Flood Management Group.

Delivery of the Cromarty Firth Biosecurity Plan will continue. It is intended that current invasive species and mink projects will be replaced by a EU Life+ funded multi invasives project which is planned to run for 5 years from the end of 2013.

We intend to continue to develop our volunteer network through; The Conservation Volunteers, local environment groups and new projects.

In order to provide high quality evidence to inform management decisions we will continue to work closely with Marine Scotland Science and other academic partners to deliver research projects.

Management priorities will include; maintaining effective fishery protection and conservation, the removal of remaining man made obstacles to migration and more restoration of river habitats and bankside vegetation.

We will maintain our input into national fishery organisations such as the Scottish Fishery Coordination Centre and Institute of Fisheries Management as well as regional groups such as the Moray Firth Trout Initiative.