



WESTER ROSS FISHERIES TRUST

Fisheries Management Plan 2009+ SUMMARY





WRFT Registered Charity No: SCO24787

Wester Ross Fisheries Trust
Harbour Centre, Gairloch, Ross-shire, IV21 2BQ

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Email: admin@wrft.org.uk

1. Member details

Please complete details

Title: Ms Miss Mrs Mr

First name: _____

Surname: _____

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2. Renew my membership

		Please Tick
One year	£20	
Single Life (1 card)	£150	
Joint Life (2 cards)	£200	

Rates are valid until 31/12/2009

3. Payment details

Membership Fees (from section 2)	£
Donation	£
TOTAL DUE	£

4. Method of payment

- a. ☐ I enclose a cheque payable to Wester Ross Fisheries Trust for £
- b. ☐ I would like to pay by Standing Order (please fill in the Standing Order form below – UK bank account holders only)

5. Gift Aid

Use gift aid and you can make your donation worth more. For every pound you give to us, we get an extra 28 pence from the Inland Revenue and it costs you nothing.

I want all donations I've made since 6 April 2000, and all donations I make in the future, to be Gift Aid until I notify you otherwise.

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Please return this completed form to: **Wester Ross Fisheries Trust, Harbour Centre, Gairloch, IV21 2BQ**

Data Protection: The information you provide will be held for processing your membership and for mailing with information about Wester Ross Fisheries Trust. Your details will only be used by Wester Ross Fisheries Trust and will not be made available to any other organisation.

Instruction to your Bank or Building Society to pay Standing Order to:

Bank Name & Address: Bank of Scotland – Gairloch Office

Account Name: Wester Ross Fisheries Trust

Sort Code: 80-06-87

Account No: 06000911

PLEASE PAY THE FOLLOWING

Amount £ In Words

Commencing:

Thereafter: Due Date: Annually On / /

TO BE DEBITED FROM MY ACCOUNT

Bank Name: _____

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Bank/ Building Society Account Number

WRFT Ref. No: (office use only)

Instruction to your Bank or Building Society: Please pay Wester Ross Fisheries Trust Standing Order Mandate from the account detailed in this instruction. I understand that this Instruction may remain with the WRFT and, if so, details will be passed electronically to my Bank/Building Society. A photo copy may also be kept on file with the SGA.

Please cancel all previous standing order and/or direct debit mandates under Wester Ross Fisheries Trust.

Signature(s)

Date / /

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This document provides a summary of the fisheries management plan which can be found in full by visiting the WRFT website, www.wrft.org.uk. We always welcome any comments, feedback, new members, and offers of support or 'hands-on' practical assistance.

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The WRFT has the right to use information it has collected and analysed in order to meet its aims and objectives. Since the WRFT is funded in part by income from the public sector, this information may be passed on to other public or charitable bodies involved in fisheries management. It is not the WRFT's right or intention to use this information for commercial gain.



David Mullaney returning juvenile salmon at an electro-fishing site in the Grudie River, by Loch Maree.

Wester Ross Fisheries Trust Fisheries Management Plan 2009+ Summary

Peter Cunningham, Gairloch, July 2009

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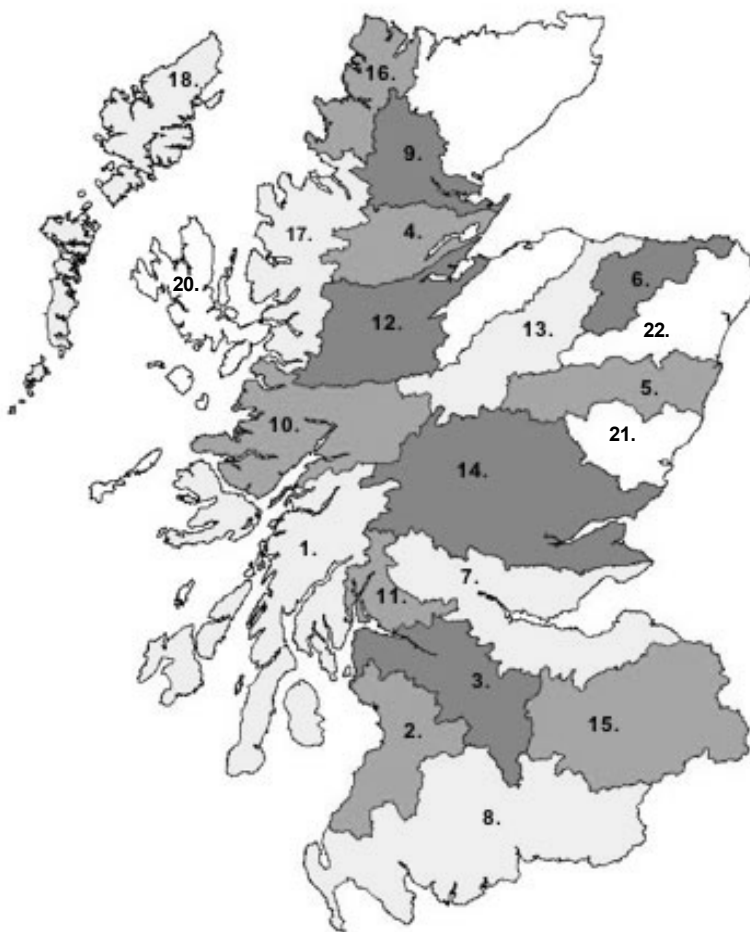
1. Introduction

1.1 Historical background

Until the late 1980s, the rivers and lochs of Wester Ross had highly productive salmon and sea trout fisheries. During the 1990s stocks in the northwest of Scotland declined drastically. The Wester Ross Fisheries Trust (WRFT) was established in 1996 to develop an understanding of the problems and to seek means of restoring the depleted fisheries. The Trust was the result of cooperation between the local salmon fisheries boards together with representatives from the local council, the fish farming industry and angling clubs. Today the Trust works closely with fisheries managers, landowners, Scottish Natural Heritage (SNH), The Highland Council, The Wester Ross Area Salmon Fishery Board (WRASFB), The Scottish Government's Fisheries Research Services (FRS) and many other organisations. The WRFT is one of more than 20 such trusts and foundations in Scotland, and is supported by the umbrella organisation **Rivers and Fisheries Trusts of Scotland (RAFTS)** www.rafts.org.uk.

Rivers and Fisheries Trusts of Scotland (RAFTS)

1. Argyll Fisheries Trust
2. Ayrshire Rivers Trust
3. Clyde River Foundation
4. Cromarty Firth Fisheries Trust
5. River Dee Trust
6. Deveron, Bogie & Isla Rivers Trust
7. Forth Fisheries Foundation
8. Galloway Fisheries Trust
9. Kyle of Sutherland Fisheries Trust
10. Lochaber Fisheries Trust
11. Loch Lomond Fisheries Trust
12. Ness & Beauly Fisheries Trust
13. Spey Research Trust
14. Tay Foundation
15. Tweed Foundation
16. West Sutherland Fisheries Trust
- 17. Wester Ross Fisheries Trust**
18. Outer Hebrides Fisheries Trust
19. Don District Charitable Trust
20. Skye Fisheries Trust
21. The Esk Rivers and Fisheries Trust
22. River Don Trust



The WRFT Fisheries Management Plan '2009+' outlines the actions needed to support and strengthen wild fish populations and to restore some of Scotland's most prolific wild freshwater fisheries. The plan is science-based. We have never had a better understanding of the potential for wild fisheries to sustain high yields. Proposed actions have been developed from the best available information. A holistic approach is adopted: all freshwater fish species are considered, including Arctic Charr (*Salvelinus alpinus*), European Eel (*Anguilla anguilla*) and lampreys (*Lampetra* spp. and *Petromyzon marinus*). However, the plan focuses on those species which are of greatest importance to local fisheries and other wildlife: the Atlantic Salmon (*Salmo salar*) and the 'sea trout' or sea-going Brown Trout (*Salmo trutta*).

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1.2 The WRFT area

The rivers of Wester Ross drain some of the most spectacularly rugged mountainous terrain within the British Isles. Ancient, base-poor metamorphic and sedimentary rocks of low solubility underlie the catchment areas of all the major river systems. These rocks are overlain by glacial deposits carved from the underlying rock, and peat. Mineral soils are thin, eroded or poorly developed over much of the area, especially the higher ground. Most streams drain catchment areas of low fertility. Headwater streams descend steeply, plunging over waterfalls or rapids, before entering lower gradient stretches. River levels are highly variable, rising and falling in response to rainfall. The largest freshwater loch is Loch Maree. Several smaller systems also have lochs that are accessible to salmon or sea trout.

The WRFT area encompasses many small river systems of which at least 30, from the River Kanaird in the north to the River Barrisdale (Knoydart) in the south, have supported juvenile Atlantic salmon. There are also 400 lochs with an area of 0.5ha or greater, many of which support Brown Trout and/or Arctic Charr. Until the 1990s, the Loch Maree sea trout fishery was the largest rod fishery in the area; there has been no recovery. The largest salmon fisheries, which have partially recovered; are currently those of the following river systems: Ewe, Carron, Gruinard and Little Gruinard.

Levels of biological productivity, like those of 'rainforest' areas elsewhere in the world, are limited by nutrient availability. The productivity of streams and lochs is heavily influenced by land and biota management practices. Much of the land has been heavily grazed by cattle, sheep and red deer over hundreds of years; in some areas native woodlands are being restored.

Wild fish populations are of 'keystone' importance to the ecological health of Wester Ross. Salmon and sea trout transfer marine nutrients and energy to otherwise barren areas. Only a couple of hundred salmon generations ago there were bears, wolves, lynx and elk in Scotland. Elsewhere these animals are known to feed on salmon or on biota enriched by marine nutrients derived from spawning runs. In the same way, the breeding success of extant animals listed in EU directives as being of 'special conservation importance', including Black-throated Diver, White-tailed Eagle, Otter and Freshwater Pearl Mussel, relates to the health of wild fish populations and to the quality of the habitats in which fish live.



Pictish stone

This stone which can be seen at the Gairloch Heritage Museum was found at Strath nearby in 1948 and testifies to the existence of a settlement in the area sometime between 400 and 600 AD. The stone has a particularly good example of the Pictish "fish" symbol [clearly a salmon] which may have had a Christian significance. Above the fish is an eagle of which only the feet and tail can be seen.

(The male salmon in the [WRFT Loch Maree poster](#) was depicted by Robin Ade in the manner of the fish in the stone.)

From historic records and anecdotal reports, we can speculate on the productivity of the 'salmon systems' in Wester Ross at their peak. Within living memory there were many more adult fish than there are now. Wild fish populations were of vital importance to coastal communities. As elsewhere across much of the world, wild fisheries around Wester Ross have been in decline. Levels of employment in fisheries have fallen. Human activities have not only changed the landscape, trophic pathways have been disrupted. The demise of salmon and sea trout populations represents one more breaking linkage in an increasingly fragmented and dysfunctional life-support system. We disregard wild fish populations at our peril.

Can former levels of productivity be restored?

Sea trout and the seas around Wester Ross

White-tailed (sea) eagle

Trawling: Rising fuel prices provide additional incentives for the further development of alternative, more selective, fishing methods.

Gannet

Sea birds: The 'catastrophic and unprecedented breeding failure' around the West of Scotland in 2005 has been attributed to a shortage of sandeels (RSPB).

Seals: Populations of both harbour and grey seals are near recorded highs. There are few natural predators in local waters (rare Orca sightings). Formerly culled by salmon netmen.

Otter: Widespread and abundant around the coastline. Feeds on small fishes and crabs. Diet is unlikely to include healthy sea trout in the sea.

Phytoplankton: Production depends upon sunlight and dissolved nutrient concentrations, and reaches a peak in early summer.

Zooplankton: Changes in the relative abundance of important *Calanus* species may be related to global climatic change.

Herring and sprat: Herring stocks around the west of Scotland were lower in 2005 than in 2004, with particularly few fish in the Minch (ICES).

Minke whale and porpoise: Target sandeels in the early summer, then sprat and herring from mid-summer onwards. Whales were less common in 2005 than in 2004.

Small gadoids: Pollack, Saithe, Whiting, etc.

Jellyfish: Dense aggregations of moon jellyfish formed in local sea lochs during summer 2005. Jellyfish may out-compete juvenile fin-fish for zooplankton.

Sandeels: of vital importance for sea birds, marine mammals and many fish species. ICES advise that the current status of West Coast sandeels is 'unknown'.

Pollack: Large pollack may be significant predators of small sea trout. Gadoids (including Pollack) are important food for seals.

Cod, Haddock and Whiting: Taken as bicatch by *nephrops* trawlers. Cod and whiting stocks are near historic low levels; haddock at sustainable levels.

Common shrimp: Emerges from sand to feed at night. An important food for many fish species.

Nephrops: Live in burrows in deeper water. Fishermen in Loch Torridon catch only larger *nephrops* by using creels with 'hatches' that allow smaller *nephrops* to escape (MSC 'Sustainable Fishery').

Sea trout: Kelts, over-wintered finnock and smolts may be particularly vulnerable when water temperatures are still cold in spring, especially if health is compromised (e.g. by sea lice infection).

Common prawn: Other small crustaceans are also of importance as food for sea trout.

2. The purpose and objectives of the Trust

2.1 The Core Objectives

The overall **Purpose** of the Trust is to ***maximise and sustain the productivity of wild salmonid fisheries in the rivers and lochs of Wester Ross.***

This purpose will be achieved through the delivery of 4 core outputs:

- **Objective 1** Conservation of wild salmon populations.
- **Objective 2** Restoration of sea trout production in the River Ewe – Loch Maree system.
- **Objective 3** Restoration of salmon production in areas where stocks have been lost.
- **Objective 4** Restoration of Sea Trout production in other areas beyond the River Ewe – Loch Maree system where there is the potential to support larger populations.

Work towards these objectives will be underpinned by, and depend on, a comprehensive programme to engage the public, as well as government and non-government agencies, in the activities of the Trust. **Outreach to people** – the engagement and participation of diverse stakeholders in delivery of the Trust's Purpose is therefore an **over-arching core activity** of the WRFT programme.

2.2 Key supporting activities

Realisation of the core objectives cannot be achieved without consideration of both the natural environment in which the fisheries exist, and the human populations that shape and manage that environment. The Trust will, wherever possible, work with other organisations and individuals to improve understanding of the **wider environmental issues** that impinge upon the health of Wester Ross aquatic ecosystems. In particular the Trust will provide support to:

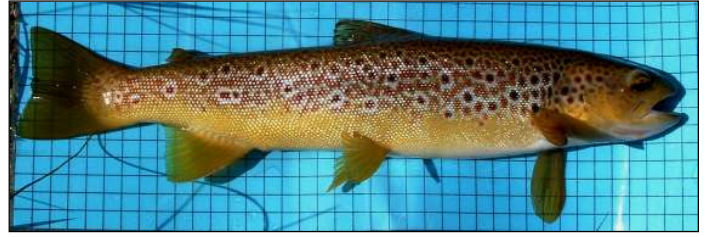
- Development of sustainable wild trout fisheries
- Assessment of Arctic Charr populations
- Monitoring the status of non-salmonid fish species
- Planning to mitigate the impact of alien species (aquatic and terrestrial where relevant)
- Understanding the health of marine ecosystems

Achievement of the WRFT Purpose will, in fact, contribute to a wider goal of ***enhancing and sustaining the productivity and biodiversity of freshwater ecosystems for present and future generations.*** This goal will, however, rely on the collaboration of a range of policy makers and implementing agencies both within and outside the fisheries sector.



Some plants and animals which are not native to the area threaten wild fish populations and other wildlife. (left) *Rhododendron ponticum* is spreading within many river catchment areas with adverse consequences to native plants. (middle) The Eurasian Minnow [seen here with parasitic tapeworm] has recently colonised several lochs where juvenile trout may be displaced from shallow margins. (right) Wester Ross is a stronghold for the native Water Vole. However, Water Vole populations may be threatened by the spread of non-native American Mink (photo credit Aberdeen University).

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(above) Most trout are slow growing. However, some reach respectable sizes.

(left) One of many Brown Trout lochs in the hills above Gairloch.



(above) Visiting scientists collecting samples during an 'Arctic Charr discovery week'.

(left) Male Arctic Charr taken in a survey fyke net at spawning time.



Measuring eels (left), taken in the Tournai downstream trap in September, and (above) from an electro-fishing sample.

(below) Lamprey larvae 'ammocoete' from the silty margins of the Glenmore River near Glenelg.



2.3 Constraints to the achievement of Trust objectives

Given the complexity of the life cycles of salmon and sea trout, it is not surprising that the problems to be addressed in supporting stock recovery and conservation are themselves multi-faceted and complex. Understanding these problems is essential to achievement of the core objectives of WRFT, although inevitably, some factors are beyond the direct scope of action of the Trust. This is particularly true of the constraints that occur during the period salmon and sea trout spend in the marine environment, and of the issues attributed to global climate change. Key constraints include:

Marine factors

- Decline in local inshore fisheries, and resultant loss of food for salmonids
- Sea lice infestation, notably of sea trout
- Predation by seals (impact and scale poorly understood)

Freshwater habitat issues

- Nutrient deficiency of lochs and rivers
- Low densities and growth rates of juvenile salmon in some systems
- Degraded riparian habitats due to high grazing pressure by deer, sheep and cattle
- Inadequate and vulnerable (e.g. redd wash-out) spawning habitat
- Lack of holding pools for adult salmon
- Physical obstruction to passage
- Poor survival of adult fish

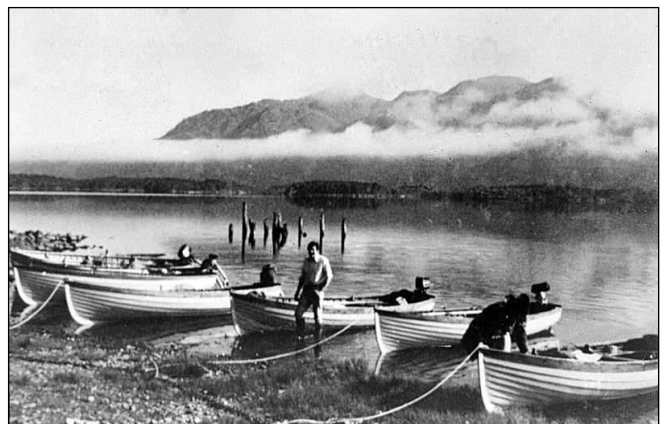
Genetic vulnerability

- Escape of farmed fish and impact on wild salmon gene pools
- Inappropriate stocking of trout and the impact on sea trout populations

These factors guide the specific direction and actions of the WFRT in an overall climate of concern about the actual or likely impacts of land and water management practices on the productivity and biodiversity of ecosystems. (For more exhaustive assessment of constraints see Part 4 of the Management Plan).



(below) Fishing boats at the Loch Maree Hotel in the 1980s. A solution to recurring sea lice epizootics is prerequisite to the recovery of the Loch Maree sea trout fishery.



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Soils, ecosystem fertility & salmon smolt production in Wester Ross

1. Much of **Wester Ross** is underlain by hard, insoluble Lewisian gneiss, Torridonian sandstone or Moine granulite, yielding very **little nutrients**.

2. **Soil fertility** is therefore dependent upon the retention and cycling of nutrients, particularly phosphate, through the **ecosystem**.

14. Increasingly **heavy rain** leaches nutrients from soils and washes away ash from fires. Spates erode away the richest riparian soils notably where alder trees have died back.

13. **Heather burning** is carried out to convert woody matter to ash, thereby releasing nutrients to promote the growth of grasses and other leafy matter for grazing deer or livestock.

5. Historically there were **bears and wolves**. Wolves eat deer, ingesting bone and recycling phosphates.

7. Look for **wee green knolls** in the peatlands where birds and mammals have enriched the soil: note the increased plant growth and biodiversity.

3. Unlike many rivers in the east of Scotland, there is **little human habitation** within the catchments of local rivers so little added nutrient from human sources.

4. **In the past** there were more **people** living in river catchment areas. Without modern sanitation, they **contributed to nutrient recycling**.

6. **Peat** has formed where sphagnum moss smothers the ground, acidifying the soil and preventing aerobic decomposition.

8. Similar green patches are found along river banks where otters defecate. In the autumn, these **otter 'spraint sites'** may contain salmon bones.

10. Given sufficient phosphate (e.g. bone meal in mammal faeces), **Alder trees** grow in symbiosis with symbiotic nitrogen-fixing bacteria, further enriching riparian soil fertility.

11. Most plants develop **mycorrhiza networks** with symbiotic fungi which deliver phosphate to plant roots in exchange for carbohydrate.

15. Growth of **periphyton** is faster where the streambed is stable and stream fertility is naturally high.

17. **Salmon parr** growth rates are highest where the food supply is richest. Over-winter survival and smolt production may depend upon the supply of mayfly and caddisfly larvae.

16. Flat-headed 'Heptageniid' **mayfly larvae** scrape periphyton from the streambed. Other mayfly and **caddisfly larvae** gather or filter organic detritus including leaf and periphyton fragments.

12. **Earthworms** help to recycle and retain organic matter and increase the porosity of riparian soils. In some areas invasive **New Zealand flatworms** have reduced earthworm populations, displacing **moles** with adverse consequences for soils.

9. **Adult salmon** deliver nutrients of marine origin to headwater streams especially if their carcasses are scavenged by other animals.

18. **Well-nourished smolts** are better prepared for life at sea than emaciated smolts.

3. Activities under the Fisheries Management Plan

CORE AND OVER-ARCHING OBJECTIVES

3.1 Conservation of and restoration of wild salmon populations

The key problem to be addressed in conservation is the identification and protection of the genetic characteristics harboured within wild, locally adapted, populations. This is particularly important where such populations are small and vulnerable, and where genetic introgression from escaped farmed fish poses a threat to future production.

The key problems to be addressed in restoration are the loss of juveniles from some river systems and the low densities and growth rates of juveniles in other systems. The envisaged activities are much the same as those for conservation but with a wider geographic remit and greater emphasis on habitat improvement, restoration and support for restocking programmes.

Four key types of research or management activity will contribute towards this objective: surveys of juvenile populations, genetic screening, habitat restoration, and guidance for stock restoration programmes. These are all underpinned by a range of umbrella activities such as fisheries management meetings, training, education, and support to fisheries policing/development initiatives led by other organisations. During 2009/2010 the Trust will be engaged in:

- **Providing information and support for fisheries management** (throughout year)

This will include reports from juvenile fish surveys to be prepared during winter months, habitat restoration projects (focussing in 2009-2010 on the River Ewe-Loch Maree catchment area), reports based on an assessment of catch records (April), assistance with stock enhancement programmes (October - November). Meetings will be held at times agreed by all involved with management at which progress towards specific management targets will be reviewed.

(right) Dr Steve Kett and Peter Cunningham electro-fishing. Juvenile fish surveys using electro-fishing equipment are a core activity. (photo by John Macpherson).

(below) Juvenile trout [top] and salmon parr [bottom] have been found in 33 river systems within the WRFT area.



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- **Juvenile fish surveys** (summer and early autumn 2009)

Electro-fishing surveys will remain a core part of the WRFT fieldwork programme. Each major river will be visited at least once every 2 years. Surveys will normally be focussed on establishing the distribution and relative abundance of juvenile salmon, though trout, eels and lampreys will also receive attention where appropriate. As in previous years, visits will be timed where possible to provide opportunities for those involved with river management to participate and learn first hand. River visits also provide an opportunity to review habitat issues, stocking proposals, and any other matters of concern. In 2009, 12 river systems will be surveyed.

- **Tournaig trap project** (throughout year)

This project has already documented the re-colonisation of a small river system by straying wild salmon. Through operation of fish traps, an annual electro-fishing survey, and a genetic sampling programme, we will learn how the 'new' salmon population and sea trout populations develop over future years. Data relating to freshwater production and marine survival from the trap project informs local fisheries managers and the Loch Ewe Area Management Agreement (AMA). There are no plans to artificially stock this system: our aim is to monitor 'natural' populations.

- **Carrying capacity & nutrient restoration trial** (summer 2009)

Discussions are ongoing as to how WRFT may be able to provide support for a carrying capacity project and nutrient restoration trials, in partnership with the Cromarty Firth Fisheries Trust and Fisheries Research Services.

- **Genetic screening of fish populations** (March 2009)

To provide a clearer understanding of salmon diversity within the WRFT area, DNA samples of salmon collected in 2008 will be analysed at FRS Freshwater laboratory in Pitlochry. Some of the samples will also contribute to the SALGEN project that seeks to be able to identify salmon populations in Scotland according to their genetic profile.



(left) transferring a grilse from the upstream trap at Tournaig. (right) Ben Rushbrooke and David Mullaney taking genetic samples from a grilse at Tournaig. Wild salmon recolonised this little river system in 2004.

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Land management practices affect productivity. In the upper Gruinard river catchment (left), fertility may have declined after centuries of heavy grazing pressure by cattle, sheep and deer. In the River Carron (right), forestry practices in years gone by may have exacerbated stream instability.



The Bruachaig salmon restoration project (left) aims to restore a self-sustaining salmon population through stocking progeny of salmon caught below the falls. Each year, juvenile salmon of native origin are stocked into this river in the headwaters of the River Ewe – Loch Maree system. This is one of many opportunities where enthusiastic volunteers are able to help.

Elsewhere there are opportunities for restoring and improving habitats for fish production. Riparian alder trees (below) help to strengthen river banks; their roots provide cover for juvenile trout and salmon.



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3.2 Restoration of sea trout fisheries

These core objectives involve the restoration of the Loch Maree sea trout fishery and the enhancement of production in a wide range of other systems in the Trust area where stocks have also been depleted. Because of the importance of the Loch Maree sea trout population to the area as a whole, restoring the productivity of this fishery is of highest priority and remains the biggest challenge for the Trust.

Key activities include electro-fishing and netting surveys, work to remove physical obstructions to fish passage, habitat restoration projects and local stock enhancement programmes. The collaborative monitoring of sea lice at selected sites, and using information gained from monitoring to improve management of sea lice in the marine environment is a Trust priority. A long-term solution to recurring sea lice epizootics is prerequisite to any sustained recovery. In 2009/2010 the Trust will engage in:

- **Sea lice monitoring and management** (March to September; Sea lice review workshop April 2009)

WRFT will continue to sample wild fish for sea lice within the area, through a programme of sweep netting. The Tripartite Working Group (TWG) funds sweep netting programme. Results will be analysed to provide guidance for future monitoring and to inform all stakeholders. Efforts to increase catch efficiency will continue. Sea lice data may be collected more widely to establish a clear understanding of sea lice distribution and abundance on wild fish within the area. WRFT will continue to work with Area Management Groups to implement the actions needed to protect wild fish. WRFT will also seek to work with all parties in other areas to foster a clearer understanding of sea lice problems and of the actions that are needed to solve them.

- **Development of habitat restoration projects** (January – February 09)

During the FMP consultation period, 'habitat restoration' was strongly supported. To progress a suite of projects, both funding and stakeholder support and agreement will be required. A workshop took place early in 2009 in collaboration with the Farming and Wildlife Advisory Group (FWAG) to explore options for Scottish Rural Development Programme (SRDP) support for habitat restoration. In April 2009, WRFT received the go ahead from fisheries proprietors in the River Ewe – Loch Maree system to develop a suite of habitat restoration projects and funding opportunities are being explored.

- **Remove obstructions to fish passage** (preferably in spring to early summer)

The timetable for the removal of obstructions will largely depend on the support of other agencies and stakeholders particularly, The Highland Council. WRFT can provide guidance and support to aid the process.



(left) This road culvert near Second Coast is impassable to fish ascending the river. Working with The Highland Council, the Trust has already taken action to improve fish passage through another road culvert in the River Kerry system (right). Further actions are planned.

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3.3 Outreach to people – awareness, education and participation

Successful fisheries management is as much about winning ‘hearts and minds’ as solving technical issues or resolving conflicts of interest. Implementation of fisheries management actions requires a high degree of understanding and support from all stakeholders at community, public sector and private sector levels. The Trust will continue to emphasise education and training, increasing awareness and stakeholder participation throughout its programmes. In 2009/2010 the Trust will support:

- **Salmon in the classroom project** (February - June)

This project, to raise awareness of salmon and their conservation and management needs, will be carried out at 4 or 5 primary schools in early 2009 and again in 2010, with funding from SNH and the Scottish Government.

- **Lochan life** (summer 2009)

This secondary schools project provides students with an opportunity to learn about the ecology of small stillwaters within Wester Ross, and how plants and animals could be affected by hypothetical human activities or developments.

- **Attendance at local events** (late spring to early autumn)

To raise awareness WRFT will also support the following (as in previous years): Balmacara Family Day (May), Ullapool Children’s angling competition (May), Gairloch Gathering (July), Strathcarron Country day (August), WRFT Loch Maree Family Day (October). The WRFT biologist scheduled talks for Assynt Field Club and South Wester Ross Field club; other talks may be provided to interested groups.

- **Updating website and Annual Review** (throughout year, and April respectively)

The annual review is prepared in April each year, for publication in May. News items are added to the WRFT website as events arise and activities progress. A Newsletter will also be prepared, especially for those who do not have access to the WRFT website.



An expeditions set off in search of juvenile fish and other wildlife at the annual Loch Maree Family day in October.

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KEY SUPPORTING ACTIVITIES

3.4 Support to the development of wild trout fisheries

Wild trout fishing was considered in some detail in the Wester Ross Wild Trout Project 2007. In 2009/2010 The Trust will continue to support local angling clubs and trout fishery managers. Activities include an anglers log book scheme, further genetic work (as for core objective 2), and provision of guidance and information.

3.5 Assessment of Arctic Charr populations

The key requirement is to assess the size and health of the Arctic charr resource, through netting and hydro-acoustic study. The conservation status of any of the 20+ arctic charr populations in Wester Ross remains poorly known and further studies are required to assess the health of the fishery prior to any promotion of charr as an angling species. A charr conservation and management workshop was held at the Loch Maree hotel during the FMP consultation period (on the 27th November 2008) where requirements for charr were discussed. In 2009/2010 the Trust will provide field support to researchers from lead organisations as and when required.

3.6 Monitoring the status of non-salmonid fish species

Key actions for 2009/2010 include the collation of eel records from electro-fishing surveys, and monitoring of lamprey sites (every two years).

3.7 Planning to mitigate the impact of alien species

With support from the Scottish Government, a biosecurity plan will be prepared by the end of 2009. This planning process will consider the current, and likely future impact of alien species introduced to Wester Ross, and will seek strategies to mitigate impact where necessary. Likely biosecurity issues of relevance to the Trust include transfer of fish, fish diseases and parasites into the area, and the spread of non-native plants and animals within the area to the detriment of wild fish populations.

3.8 Contributing to understanding the health of inshore marine ecosystems

The health of the marine environment is vital to both salmon and sea trout. In May 2009 the Trust organised a marine seminar to explore some of the issues likely to impact upon salmonid production. Following this, opportunities for projects and actions to learn more about inshore fish populations and habitats of importance to salmon and sea trout are being explored in collaboration with other stakeholders. A 'herring rediscovery project', in collaboration with Wester Ross Environment Network (WREN) & Two Lochs Radio, will document the Traditional Ecological Knowledge of fishermen through a series of structured interviews.

A summary of the Trust activities for 2009/2010 is given as Table 1, page 17.

4. Programme monitoring and review

Given the wide-ranging programme of planned activities, the Trust recognises the importance of rigorously monitoring progress towards the proposed core objectives, and is developing a suite of milestones to facilitate this process. These milestones will be more fully developed in 2009 as the activities and projects that have been agreed are implemented. The final outcome of this process will be a management tool that will permit objective assessment, and will indicate the need for any shift of approach or emphasis.

It is hoped that regular monitoring will also assist in the difficult process of attribution. In dynamic natural systems it is often extremely difficult to separate the impact of an intervention (e.g. habitat improvement) from natural fluctuations in productivity.

The management plan presents a framework for action. Experience demonstrates that unforeseen events and opportunities are likely to be a major driving force for future actions. The Trust's work programme needs to maintain flexibility. However, it is important that any new opportunities are set in context within the 'action framework' to maintain progress towards the long-term goal. This plan is for 2009 onwards, and the need for a full revision of the plan will depend upon progress towards the long-term Purpose.

5. Acknowledgements

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WRFT Fisheries Management Plan 2009+

TABLE 1 WRFT WORK PROGRAMME FOR 2009 – 2010 BY ACTIVITY CATEGORY

DIRECT SUPPORT TO WILD SALMONID FISHERIES	STATUS	OUTREACH TO PEOPLE	STATUS
Surveys & monitoring		Advisory services	
River surveys (electro-fishing) Population assessments • Tournaig trap (operation) • River Ewe RST (support to operation) • River Carron RST (data sharing and support)	On-going • On going • Inception • On going	River specific management group meetings Guidance and support to stocking initiatives FMP summary publication	On going On going June 09
Stock conservation and restoration		Education	
Genetic studies – Salmon	In place	Salmon in the classroom	On going
Genetic studies – Trout	Awaiting Middx Univ.	Lochan life (secondary schools)	Inception
Bruachaig restocking	On-going	Primary School Poolewe - river habitat trip	Summer 09
Addressing constraints to salmonid production		Awareness and participation	
Sea lice monitoring • Sweep netting • Rod and line survey • Fyke net (Dundonnell)	On going, but programme to be refined	Loch Maree family day	On going annual event in October each year
Invasive species – development of Biosecurity Plan	Inception	Support to WREN Biodiversity Yearbook (providing the fresh water components)	One off .
Invasive species – Mink monitoring	On going (minor)	Sea Lice meeting	Completed
Nutrient deficiency - support to FRS	Seeking funds	Marine seminar	Completed
Habitat improvement River Ewe – Loch Maree	Seeking funds	Still water sampling workshop/challenge	Completed
Non-native fish monitoring	On going	Ad hoc media interviews and promotion	On going
Slattadale habitat restoration	On going	Traditional ecological knowledge, herring stocks	Bid submitted

