River Findhorn Fisheries
Management Plan 2010 - 2015

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Spey Research Trust Report 02/09

Prepared for

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and

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River Findhorn Fishery Management Plan 2010 – 2015.

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1. Scope of the Plan

This Fishery Management Plan seeks to facilitate the proper management of all fish species in the Findhorn District Salmon Fishery Board (FDSFB / Board) district. It provides a framework within which the FDSFB and the Findhorn, Nairn and Lossie Fisheries Trust (FNLFT / Trust) can identify target areas for research and apply specific funding.

Inherent in the drive towards a scientific approach to the management of the Findhorn's fish species on a catchment wide basis is the integrated nature of the research and management. There is a limited knowledge base available for the Findhorn and much of the applied research proposed in this plan seeks to increase the data available for fish populations within the catchment. Where data does exist (Redgewell and Laughton, 2008) the Plan seeks to build on existing monitoring routines allowing management decisions to be improved further.

Currently the Findhorn has no nature conservation status for any of its fish species. This plan seeks to encourage close liaison with other management bodies such as SEPA, SNH and local councils to promote more awareness and effective management of the River Findhorn's fish stocks.

1.1 Wider Perspective: Water Framework Directive and A Strategic Framework for Scottish Freshwater Fisheries

The fish and their habitats are affected by many factors and so an integrated catchment management approach is desirable for their effective management. The implementation

of the Water Framework Directive (WFD) has led to the development of River Basin Management Plans (RBMP). This is led by the Scottish Environment Protection Agency (SEPA) and these river basin management plans (RBMPs) ensure that public sector bodies, businesses and individuals work together to protect the water environment and address significant impacts by co-ordinating all aspects of water management for the next 6 years. The first River Basin Management Plan was published on 22nd December 2009 http://www.sepa.org.uk/water/river_basin_planning.aspx and provides the most up to date picture of the current status of the catchment in terms of the WFD. The actions proposed in this Fishery Management plan can also make a contribution to improving water bodies to good status or preventing deterioration. In particular good datasets are required to underpin the classification process, for example, data from juvenile surveys may prove to be very useful for this process in the future. The Findhorn lies within the North Highland Area Advisory Group (AAG) and the RBMP for this area should be consulted regularly. More details can be found at: http://www.sepa.org.uk/water/river_basin_planning/area_advisory_groups/north_highland.aspx

In addition the following key document is also important in the development of this Plan - A Strategic Framework for Scottish Freshwater Fisheries (Scottish Government 2008) http://www.scotland.gov.uk/Publications/2008/06/26110733/15.

2. Findhorn Catchment

The River Findhorn has a catchment area of over 1,300km^2 and a stream network length of about 1,500km, of which the main river comprises 90km. The catchment is split between two Local Authority administrations, which are the Highland and Moray Councils (Figure 1).

The Findhorn Fishery District (Figure 2) includes the River Findhorn and its tributaries plus 35km of coastline in the Moray Firth, from Burghead to the east of the Findhorn estuary to The Bar in the west. The District extends 3 nautical miles out to sea (Figure 2). The Muckle, Mosset, Kinloss and Burgie Burns are also included within the District.

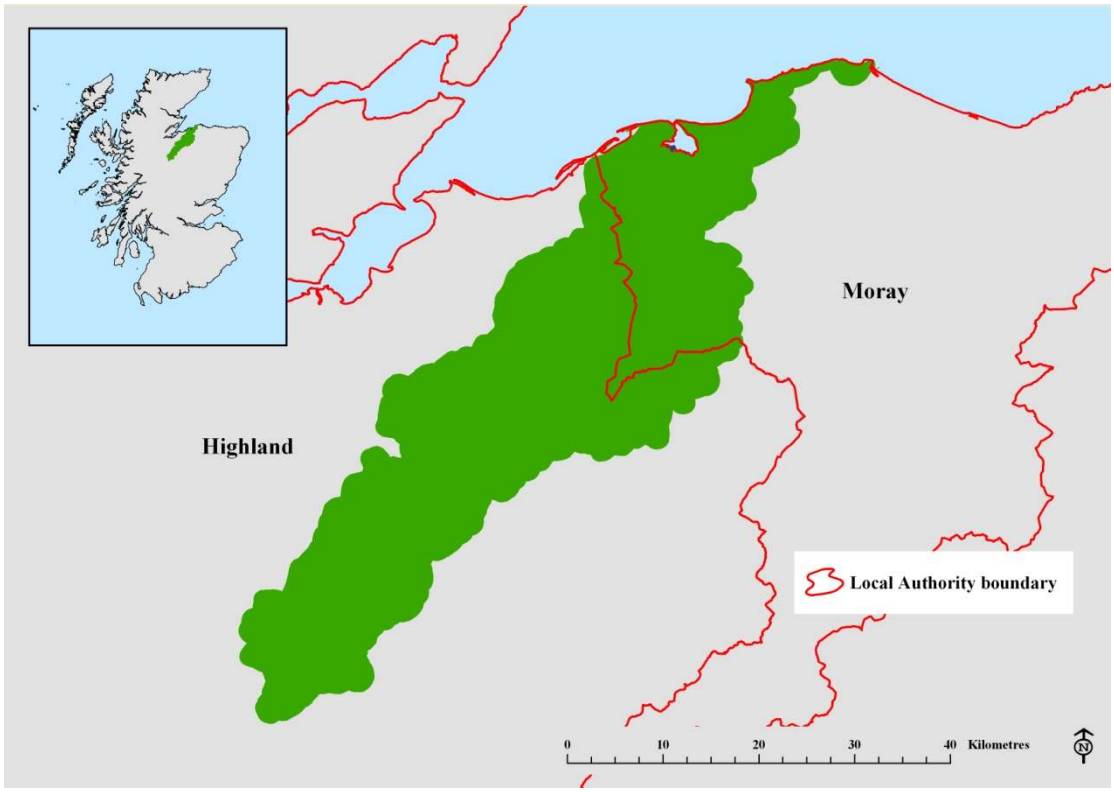

Figure 1: Findhorn catchment Local Authority boundaries.

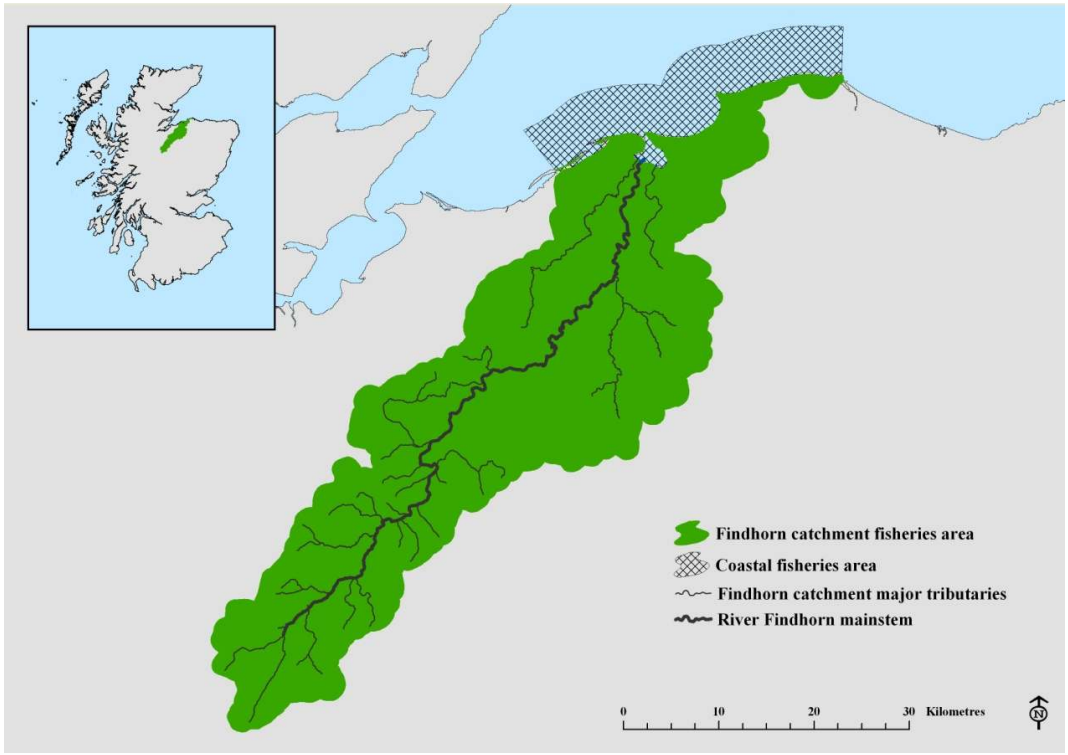

Figure 2: Findhorn main stem and major tributaries

The source of the River Findhorn lies in the heart of the Monadhliath Mountains. Much of the Findhorn catchment's is dominated by Palaeozoic metamorphic crystalline rocks and granitic intrusions, while the Moray Firth coastal plain has been cut in conglomerate and sandstones of the Old Red Sandstone series solid geology (Figure 3). Glaciation and sequences of vertical movements in base level produced a distinctive combination of incised valleys and remnant plateau surfaces. Most of the lower valleys are filled with outwash terraces. The coastal plain contains raised beach shingle bar formations.

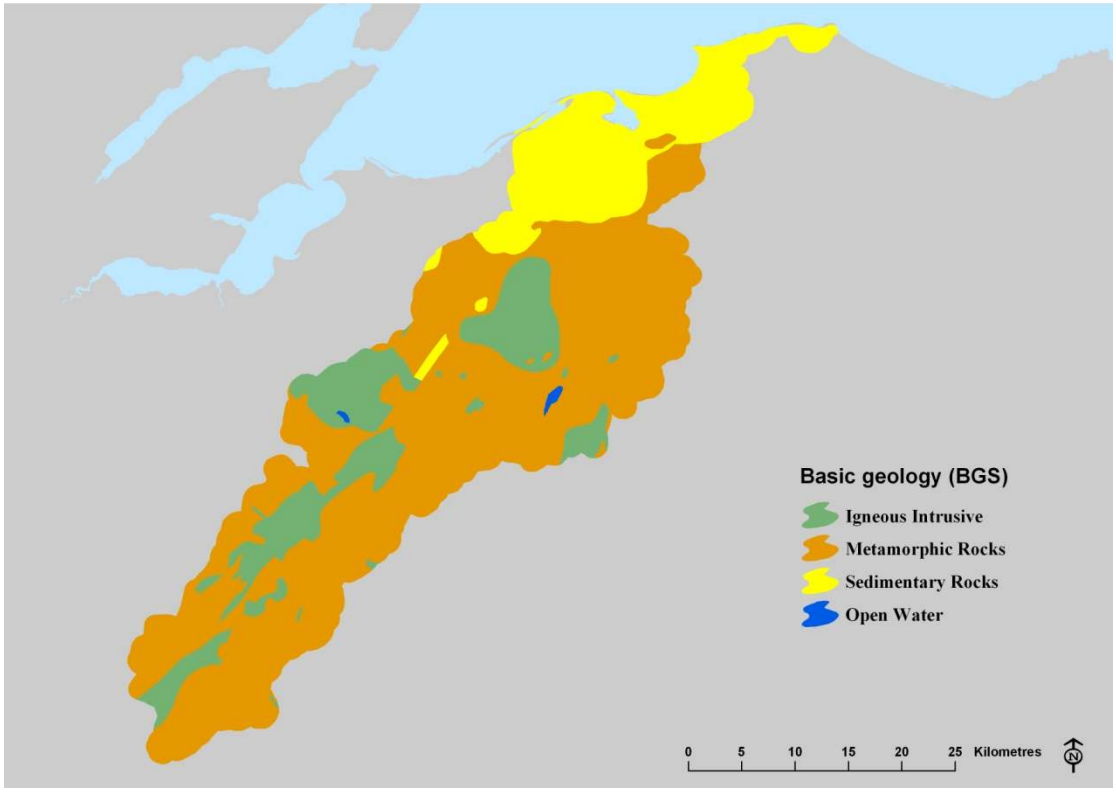

Figure 3: Findhorn catchment basic geology

The land in the upper catchment is used mainly for sporting purposes and is primarily managed for deer and grouse, with some limited sheep farming. There are commercial forestry plantations in areas of the lower ground. In common with the upper catchments of many Highland river systems the riparian tree cover is rather sparse, in poor condition, or absent. In some cases the riparian zone may have been without trees for several centuries while in others the woodland has deteriorated more recently. In the middle and

lower reaches sporting estates give way to forestry with occasional livestock or crop farming.

The highest rainfall occurs in the more mountainous areas and conversely, the coastal plain of the Moray Firth produces the lowest figures. There are notable differences in the rainfall patterns of the lower and upper catchments. Precipitation in the upper catchment falls mainly between the months of August and February, whereas the peak precipitation months for the lower catchment are July and August.

Although the Findhorn has a relatively modest drainage area and long term mean flow of $13.8m^3s^{-1}$, the steep gradient combined with the narrow canyon-like structure along the middle reaches means the River Findhorn is ideally configured to maximize flood runoff. The river is renowned locally for its ability to rise quickly which has surprised many visiting anglers over the years leading to a number of close calls and rescues! The 'Muckle Spate' on August 4th 1829 was the most extreme historic flood recorded in Scotland, with a regional footprint that extended from Inverness (in the north) to Montrose (on the east coast). The 16th August 1970 flood of $2,406m^3s^{-1}$ on the lower Findhorn is the highest gauged flow ever recorded in the UK. Water flow and rainfall are routinely measured by SEPA however, no good long term data is available for river temperatures. River temperature, particularly at Pooley, Darnaway will play a part in fish migration with salmon having difficulty ascending this steep section of the river until water temperatures rise. This will inevitably play a part in the migration of spring salmon ascending the river.

The Findhorn catchment area can be classed as a low population density area. The major area of habitation is the coastal plain where there is one major town, two minor towns and a number of small villages. Forres, which is situated on the coastal plain close to Findhorn Bay, is the largest town within the catchment with a population of less than 15,000 people. Findhorn (pop. c.800) and Kinloss (pop. c.1000) are the only other sizeable towns. Most of the other land in both the upper and lower Findhorn catchments is held by private landowners.

3. Fish and Fisheries Management in the Findhorn Catchment

3.1 Fish species occurring in the Findhorn catchment

i. Native species

Atlantic salmon (*Salmo salar*); Brown/sea trout (*Salmo trutta*); Arctic Charr (*Salvelinus alpinus*); European Eel (*Anguilla anguilla*); Three-spined stickleback (*Gasterosteus aculeatus*); River lamprey (*Lampetra fluviatilis*); Brook lamprey (*Lampetra planeri*); Sea lamprey (*Petromyzon marinus*); Flounder *(Platichthys flesus)*.

ii. Non-native species (Historical Introductions)

Rainbow trout (*Oncorhynchus mykiss*); Northern pike (*Esox lucius*); Minnow (*Phoxinus phoxinus*).

Thus the Findhorn is similar to many Highland rivers supporting only a limited range of fish species and the preservation of this limited fish fauna should be a key management target rather than attempting to broaden the species list through introductions of non-natives.

3.2 Fisheries Management in the Findhorn

Fisheries management within the River Findhorn catchment is the responsibility of the Findhorn District Salmon Fishery Board (FDSFB). The FDSFB was established under the 1860s Salmon Fisheries legislation as subsequently amended and stated in the Salmon Act 1986 and the Salmon Conservation (Scotland) Act 2001. This legislation has recently been streamlined into the Salmon and Freshwater Fisheries (Consolidation) (Scotland) Act 2003. It is empowered under the legislation to take such acts as considered expedient for the protection, enhancement and conservation of Atlantic salmon and sea trout stocks and fisheries.

Statutory responsibilities of the FDFSB are to:

1. provide fisheries protection (salmon and sea-trout)
2. set salmon rod fishery season (currently 11th February – 30th September)
3. set sea trout rod fishery season (currently 15th March – 30th September)
4. set weekly rod fishery close times (midnight Saturday – midnight Sunday)
5. police the purchase and sale of illegally-caught or unseasonable fish
6. ensure fish passage over obstructions to migration
7. protect juvenile fish and spawning redds
8. regulate the movement and introduction of adults, juveniles and ova

The Findhorn, is split into a variety of fishing beats, 24 in total along the mainstem from the mouth to upstream of Tomatin with arguably the best fishing is in the lower 40km. The majority of the angling is operated by private estates and also two angling associations on the lower Findhorn, the Forres Angling Association operate in the 10km from Findhorn Bay upstream to Mundole while the Findhorn Angling Association operates fishing in Findhorn Bay. Angling is also available on the Muckle Burn, primarily for sea trout, and occasionally a fish can be caught on the Mosset.

Commercial salmon netting, including net and coble and fixed engine netting, was operated within the Findhorn District for well over one hundred years before ceasing in 1989 and 1993 respectively.

There are some loch based fisheries available within the Findhorn catchment and details are presented in Table 1. Currently there is one ‘put and take’ fishery at Achagour.

The Findhorn Fishery Board is a member of the Association of Salmon Fisheries Board and the Scottish Fisheries Co-ordination Centre (SFCC).

The Findhorn, Nairn and Lossie Fisheries Trust (FNLFT) is an independent charity whose objectives are:

- To conserve and restore all species of native freshwater fish and improve their habitats,
- To advance the education and understanding of the river environment and river catchment management.

The Trust has a broad remit and works in close coordination with the District Salmon Fisheries Boards for the Rivers Findhorn, Nairn and Lossie. The Trust also works closely with the angling associations, local councils, SEPA, SNH and other organisations. Both the Board and the Forres Angling Association are also represented on the board of the Findhorn, Nairn and Lossie Fisheries Trust (FNLFT), which is also a member or the Rivers and Fisheries Trusts, Scotland (RAFTS)

4. Fisheries Research in the Findhorn Catchment

4.1 Salmon and Trout Populations and Distribution

The Spey Research Trust (SRT) has conducted a range of fisheries surveys and research primarily to support the management decisions of the Findhorn Fishery Board since 1997. Some additional data is also available from other sources and a full outline can be found in Redgewell and Laughton (2008). Juvenile surveys have been carried out to SFCC methodology and in summary the Findhorn and tributaries have indicated that salmon are distributed throughout the catchment. Juvenile salmon densities vary throughout the river and tributaries such as the Mazeran, Kyllachy, Dorback and Divie producing higher densities compared to upper tributaries such as the Cro, Eskin and Elrick. These are at the extreme upper end of the catchment and also appear to have limited spawning opportunities for adults. Maintaining a juvenile survey program will provide a valuable barometer on the distribution and densities of salmon stocks within the river. Adding additional sampling in the mainstem would also improve the dataset further.

Trout are also present but distribution is more limited. Key areas for trout are the Dorback and Divie catchments. There are also some smaller burns such as the Muckle which harbour reasonable populations. However, some additional surveys more specifically designed to examine trout populations would improve the current dataset.

Currently no data on salmon or trout smolt output from the Findhorn or its tributaries exist. Smolt output data is arguably the best measure of the strength of a population

however it is difficult to gain this data without substantial investment in fish traps and staff to run them.

Adult salmon and sea trout catch data is available from 1952 onward from Marine Scotland Science. Data is available from the rod and line fishery, the net and coble fishery and the coastal fixed engine fishery. The latter two fisheries ceased operation in 1989 and 1993 respectively. Yearly catch data for the three fisheries is provided in Appendix 1. In general salmon and grilse catches by rod and line have increased. The net and coble catch was clearly in decline in its latter years but the data indicates that high catches had been obtained in the past notably, 8237 salmon in 1954 and 12201 grilse in 1974. This indicates that high numbers of salmon and grilse were returning from sea to the Findhorn. Data on smolt to adult survival for the Findhorn is not available but data from the North Esk (see Appendix 2) indicates that during the 1960s and 1970s marine survival often 20% or greater leading too much better adult return rates. Smolt survival in recent years has dropped to below 5% meaning many fewer salmon and grilse are returning. The catch data from the for the fixed engine fishery (Appendix 1) is also included but is likely to be sampling fish destined for several other river rather than the Findhorn alone . However it is included for reference.

Data from before 1952 may also exist in older catch books and there should also be historical catch records for the nets. It is important to source this data if possible and digitise it. If sufficient historical data can be obtained longer term trends in the rivers stocks may be determined.

Atlantic salmon is the key species within the river and data from fish catches (Appendix 1). The adult population is predominantly summer salmon (multi-sea-winter fish) and grilse (one-sea-winter fish) although there is still a remnant spring running salmon population. The late 1990s saw a considerable change in the approach of anglers to their sport with catch and release beginning to take root. The Findhorn Board have embraced this change and implemented a conservation policy which included catch and release at its heart. As a result release rates for salmon have risen to nearly 70%. A key management target is to ensure that the remnant spring population is preserved and that existing runs of later salmon and grilse continue. Encouraging catch and release policies can help achieve this. Radio tracking studies from the Spey and Dee (indicate that spring

salmon are more likely to originate from upper tributaries and it is likely that this will also be true for the Findhorn. Thus careful management of stocks in the upper Findhorn is recommended to protect the remaining spring component.

Data from the net and coble fishery (Appendix 1) indicates that quite substantial numbers of sea trout could be captured during the 1950s and 1960s from Findhorn Bay. However, this sharply declined from the 1970s until the closure of the net and coble fishery in 1989. In contrast the rod catch has remained relatively stable on the Findhorn although catches indicate that only a limited number of sea trout ascend the river. Juvenile surveys indicate that the distribution of trout within the Findhorn is limited mainly to the Dorback, Divie and smaller burns in the lower catchment.

Catches of sea trout in the have generally declined in Moray Firth rivers and this has worried anglers, ghillies, and proprietors alike. It is likely that Findhorn Bay is an important area for sea trout and finnock and so more data on this important aspect of the sea trout lifecycle is required. The Moray Firth Sea Trout project http://www.mfstp.co.uk/ has been started to address the problem of sea trout decline and the Board supports the initiative.

4.2 Salmon Hatchery and Stocking Practice

The Findhorn have run a small salmon hatchery on the Lethen Estate for a number of years and a second hatchery at Dalmigarry was also added in the late 1990s. Combined capacity is around 400,000 eggs. Target stocking areas are identified from the juvenile surveys and as far as is possible broodstock is being collected from areas close to the target stocking area during late Autumn. However, in some of the upper tributaries where few adult salmon are available stock from further downstream has been used. The eggs are raised in the hatchery until around April the following year and the fry are then fed for a short time before release, generally in May.

Following release of the hatchery reared salmon fry monitoring using electro-fishing has also taken place and some encouraging improvements in the stocks of the upper tributaries such as the Cro and Elrick have been determined. However, additional work

to determine what is limiting the salmon stocks in these areas should also be undertaken.

There is a need to review the hatchery policy on the Findhorn given that there has been new legislation regarding the introductions and transfers of fish (Aquaculture and Fisheries Act 2003). This seeks to tighten up on fish introductions and transfers and although salmon hatcheries and stocking are not extensively covered in this legislation the ASFB-RAFTS have produced more robust guidelines for salmon stocking. Additional reports such as “Hatchery Work in Support of Salmon Fisheries” (Youngson 2007) and Salmon and Sea Trout to Stock or Not” (Fisheries Research Services 2003) along with other literature has also provided additional guidance. So using these sources combined a revised policy for salmon stocking must be developed and if possible develop monitoring of adult and salmon smolt numbers arising from hatchery activities.

4.3 Population Structure

Recent genetic analysis of salmon populations in other rivers has indicated that river stocks may be structured on fine scale into multiple distinct breeding populations. For example, salmon breeding above and below waterfalls or other natural features may often be heritably different in ways that affect their behaviour, survival and reproductive success. This can be true of neighbouring tributary populations and key to allowing each to cope with particular environmental conditions than the other. Therefore intermixing of the populations may not be desirable. In large rivers many different populations can potentially exist and an understanding of this population structure is essential for the development of effective stock conservation and management programmes.

This partnership project established in 2009, Focusing Atlantic Salmon Management on Populations (FASMOP) between RAFTS, Marine Scotland (MS) and individual District Salmon Fishery Boards (DSFB) and Fisheries Trusts seeks to combine the financial, management and staff resources of Fisheries Trusts and DSFBs with the scientific and technical genetic analysis expertise and facilities of MS. This project will collect and analyse a databank of tissue samples from river catchments across the length and breadth of Scotland.

The work will inform local management but will also contribute to the work on the genetic character of Scottish salmon stocks as part of the pan European NASCO sponsored and EU funded SALSEA-MERGE project. Funding from this project will cover some of the costs of genetically screening local stocks. The main funding support for genetic screening will come from Scottish Government funding provided to support local fisheries management activities and from monies raised locally by trusts and boards. This programme of sampling and analysis is currently funded until April 2011. Further information on the FASMOP project see: http://www.rafts.org.uk/projects/geneticsproject.asp and the SALSEA-MERGE see: http://www.nasco.int/sas/salsea.htm.

To determine the structure of the salmon populations in each river tissue samples from the juvenile fish are required from throughout the catchment. During the 2008 Findhorn juvenile survey, tissue samples were collected from each survey site. However, additional samples may be required from other areas of the river to fully examine the structure of the Findhorn's salmon population. Thus a review of the collected samples and development of a plan for collecting the additional samples is required. A number of the samples will be analysed to provide basic population data on the Findhorn when compared to other rivers through the SALSE-MERGE project. However, further funding is required to initiate further analysis of the tissue samples to determine the sub-populations within the Findhorn.

4.4 Lochs

Data for the fish populations within the lochs of the Findhorn catchment is patchy. Table 1 was compiled from discussions with proprietors and anglers and provides an insight into what is currently present. Loch Moy is interesting in that Arctic Charr are confirmed as present there (*pers com, Peter Maitland, Fish Conservation Centre*) and there are also *ad hoc* reports of pike being present. Neither species have been reported as occurring elsewhere in the catchment. Lochan Tutach is another interesting waterbody with suggestions that some coarse fish had been stocked there and into the nearby lochans. No detailed survey has been completed to confirm this. Rainbow trout were stocked into Loch Tutach a few years ago. The loch has no outflow so threats of escape are low. Rainbow trout are regularly stocked into Blairs Loch by Moray Council to

support the fishery and although a few brown trout are still caught they now appear to be rare in the loch. In addition Rainbow trout were stocked into Loch Mhic Leoid but this practice was stopped around 2002. Today only brown trout are stocked into the loch.

Photo 1 "Tiger" trout caught on the Lethen beat during June 2007.

Occasionally an unusual fish appears. Photo 1 illustrates a "Tiger" trout caught on the Lethen beat during June 2007. This is a hybrid between a Rainbow Trout and Brook Charr. Its origin remains unknown.

It is clear that additional information on the fish fauna within the lochs is required. In particular data for those that are fished regularly would assist and help guide future management.

Stocking of brown trout and rainbow trout also needs to be assessed and better documented. Introductions of brown trout and rainbows have the potential to disrupt existing native stocks, introduce unwanted disease and/or parasites and also other non-native species such as American signal crayfish can be accidently introduced. Section 35 of the Aquaculture and Fisheries (Scotland) act 2007, which inserts a new section 33A into the Salmon and Freshwater Fisheries (Consolidation) (Scotland) Act 2003,

makes it an offence for any person to intentionally introduce any live fish or spawn of any fish into inland waters, or possess such with intention of introduction without previous written agreement of the appropriate authority. For salmon and sea trout the appropriate authority is the District Salmon Fishery Board but for other fish species it is Marine Scotland Science. There is the potential that fish could be introduced to the catchment without consultation with the Fishery Board. To improve this, the Board should request Marine Scotland Science to consult with them on any fish stocking activities in the catchment.

Loch	OS	Species present	Access to Salmon/ Sea Trout	Stocked /Species	Fishery Notes
Loch Moy	277500, 834500	Brown Trout, Pike, Arctic Charr	Yes	No	Occasionally fished
Lochindorb	297000, 836000	Brown Trout	Yes	No	Regularly fished
Loch an t-Sidein	297400, 832100	Brown Trout	Yes	No	Unknown
Loch Ille Mhor	393500, 393500	Brown Trout	No	Yes Brown Trout from Lochindorb	Occasionally Fished
Lochan Tutach and Lochans	298500, 840500	Brown Trout	No	Yes Rainbow Trout	Occasionally Fished
Loch Mhic Leoid	300900, 834800	Brown Trout	No	Yes Brown Trout	Regularly Fished
Loch Kirkady	296200, 841800	Unknown	No	Unknown	Unknown
Loch Dallas	309200, 847500	Brown Trout	No	No	Occasionally Fished
Loch Noir	309400, 545300	Brown Trout	No	No	Occasionally Fished
Loch Belivat	395300, 847000	Brown Trout	No	Yes Brown Trout	Regularly Fished
Blairs Loch	302300, 855600	Brown Trout Rainbow Trout	No	Yes Rainbow Trout	Regularly Fished
Sanquhar Pond	304100, 858100	Brown Trout	Yes	No	Regularly Fished

Table 1: Location and fishery information for a selection of larger lochs in the Findhorn catchment.

4.5 Other Fish Populations

Data on eels and lampreys has been collected through juvenile surveys but to date there is little data regarding the presence of other fish species present within the catchment. Minnows have been captured during electro-fishing surveys notably near Lochindorb, and their presence has probably been the result of trout anglers discarding bait while using the “drop minnow” technique. No formal management structure is in place to collect data on these species and so effective management remains a considerable challenge. Surveys to establish the current status of the fish population would aid this considerably.

4.6 Habitat Management

4.6.1 Obstructions to Fish Passage

Baseline habitat surveys have been completed on several tributaries of the Findhorn using SFCC methodology. In general surveys indicated few restrictions to fish access within the catchment. Natural waterfalls and a small number of man-made obstructions were documented and these have been mapped. Two man-made obstructions were identified which would be problematic for fish passage, gabion weirs on the Allt na Frith near Tomatin (279500, 829900) and a raised concrete ford at Dallasbraughty (303400, 846200) on the Berry Burn. The Mosset Burn also contains several weirs along its length (near Mosset Tavern 303400, 859050 and 303400, 858900; Sanquhar Loch 304000, 858000; Dallas Dhu Distillery 304000, 855950). The weirs at the Mosset Tavern are both passable while the one at Sanquhar Loch has a fish pass fitted, the Dallas Dhu offtake weir is impassable.

The obstructions on the Allt na Frith and Berry Burn would be well worth addressing to assist fish passage and financial assistance may be possible through the SEPA Restoration Fund for example. Further surveys of other burns in the catchment may also identify more obstructions. In addition developing and improving liaison with the local Councils and any other road builders (Forestry Commission, landowners etc) would be useful. Poorly built road culverts can lead to obstructions being created for fish passage. This can easily be avoided at the planning stage and usually saves money by avoiding

expensive modifications in the future. It is recommended that the Findhorn Board build a strong working relationship with these parties and advise on good practice for culvert and bridge construction. The development or adoption of a river works code of practice such as the "Spey Riverworks Code" should also be considered see, http://www.snh.org.uk/pdfs/strategy/sr-cpr.pdf.

4.6.2 Riparian Vegetation

In general instream habitat was found to be typical of a highland stream offering range of varied substrates and flow conditions suitable for juvenile salmonids. The surveys did indicate that the vegetation in the riparian zone around the burns was often limited particularly in the upper tributaries. This can be due to several factors not least over grazing by sheep or deer. Further assessment and development of remedial strategies should be considered.

4.6.3 Land Management

The Findhorn is affected by a variety of land use activities within the catchment. Forestry, agriculture and upland land management activities can impinge upon the water quality and quantity of the catchment. For the most part these activities are controlled through a wealth of guidelines and regulations. Furthermore recently the Scottish Government has implemented a new approach to development planning. Rather than a "case by case" approach, they are aiming to have the development plan guide to where development should, or should not, happen. As part of this new approach SNH is less likely to comment on planning casework which is out with designated sites (which would apply to most of the Findhorn), or which is not subject to Environmental Impact Assessment (EIA). Thus it is crucially important that The Board maintain close liaison with Local Authorities regarding "Development Plans" and bodies such as SNH, SEPA, the Forestry Commission, National Farmers Union, and also local proprietors to raise awareness of the requirements for maintaining healthy fish populations and prevent damaging practices.

4.6.4 Distilleries

Four distilleries, Tomatin, Ben Romach, Glenburgie and Dallas Dhu are present within the catchment. The latter is no longer operational but remains open to the public as a visitor centre. However, Tomatin, Ben Romach and Glenburgie are operational and require large volumes of water for their operations in particular for cooling water to condense the distillate. The warm water produced after cooling the distillate is discharged to nearby burns the Allt na Frith, Mosset and Burgie, respectively. This can affect the growth of fish downstream of the distillery and may affect the overall production of the burn. Under the Water Frame Work Directive regulations are being developed to control the abstraction and discharge of water for example the abstracted water must be returned to the burn of origin. In addition EC Directive (78/659/EEC) indicates that industries discharging warm water "thermal pollutants" into a watercourse should not raise the ambient temperature by more than 1.5^{o}C and temperatures of the receiving water body must not be raised to higher than 21.5^{o}C in general and no greater than 10^{o}C during the salmonid breeding season. However, this is currently under review and new guidelines will be issued shortly. All three distilleries are currently being monitored regarding their temperature uplift by the Spey Foundation as part of the SEPA Fish and Fisheries Advisory Group and Malt Distillers monitoring programme. Results will be available in due course. In general monitoring of distillery activities is conducted by SEPA and the FDSFB and the FNLFT should maintain close liaison regarding these activities.

4.6.5 Wind Farms and Flood Alleviation schemes

There are two new proposed developments which may affect the fish populations and their habitats within the Findhorn. These are wind farm developments and flood alleviation schemes.

Wind farm developments have the potential to impact on hydrology, hydrochemistry and sediment transport by altering runoff processes and so developments of this kind may be detrimental to juvenile fish numbers within the tributaries. In addition river crossings can be problematic for fish passage if not carefully considered and an appropriate design implemented. To ensure fish and fishery interests are protected the Board should

discuss the wind farm plan at the earliest stage possible and seek to develop an appropriate monitoring and mitigation plan. Development of close liaison with the wind farm developers should ensure that the effects of a single development are minimal on the river and its fish stocks. However, given that numerous wind farms are proposed for the Findhorn catchment there is a need to address the cumulative effects of these developments.

A major flood alleviation scheme is already under construction on the Mosset Burn and in general fish passage and habitat has been addressed within the scheme. A large scheme is proposed for the Findhorn to protect the lower lying areas around Forres. Initial indications are that this scheme will require substantial river engineering. This could affect salmonid populations at all life stages and the associated rod fishery particularly in the lower Forres Angling Association area. There is a clear requirement to develop a close liaison with the Flood Alleviation scheme developers to ensure fish and fishery interests are maintained.

4.7 Invasive Non Native Species

A major challenge is to maintain the distribution and status of the current fish fauna, and protect the genetic integrity of native fish populations. The protection of fish biodiversity at the inter and intraspecfic level is a key deliverable of this Fisheries Management Plan. Development of a "Biosecurity Plan" to identify and control fish fauna is also desirable and further details of how to achieve this through a RAFTS project is available from http://www.rafts.org.uk/projects/biosecurityplanningproject.asp.

4.7.1 North American Signal Crayfish

The most serious immediate threat is from the North American signal crayfish, which are established in the neighbouring River Nairn. The removal of this destructive animal is unlikely and the most effective control is to ensure it doesn't enter the catchment. All possible efforts to raise awareness of the crayfish and its potential routes into the Findhorn catchment must be pursued. Control methods such as disinfecting fishing kit when moving from one catchment to the other should also be implemented. In addition

methods for the control and/or eradication of the species from the Nairn should be discussed with the Nairn Fishery Board and others and if possible implemented.

4.7.2 Gyrodactylus salaris

Gyrodactylus salaris (GS) is a highly contagious monogenean ectoparasite of salmon. It originates from the Baltic where it co-exists with salmon populations. However, when it has been transferred to rivers out with the Baltic it has had devastating effects on the salmon populations leading to the complete loss of salmon in many Norwegian rivers. GS is still absent from UK rivers and every effort must be made to ensure the parasite does not establish here. Raising awareness of the threats posed by this parasite and implementing preventative measures are critical to safeguarding the Findhorn in the future. Further details on GS and control measures can be found at, http://www.scotland.gov.uk/Topics/marine/Fisheries/Fish-Shellfish/workinggroups/gswg and the Home and Dry campaign http://www.infoscotland.com/gsbug/

4.7.3 Mink

American mink *(Mustela vison)* is present in the Findhorn catchment and on Mosset and Muckle Burns. Mink spread by migration and kill water fowl, small mammals and juvenile salmon and trout. Mink are closely linked to the decline of water voles. A mink eradication project is now underway in the Cairngorms area and this is already showing signs of success. Exploring ways of extending this approach to the Findhorn catchment is recommended.

4.7.4 Non Native Plant Species

An additional challenge for riparian management is the increasing abundance of non-native plants such as Giant Hogweed, Japanese Knotweed and Himalayan Balsam. While the plants do not directly affect fish populations they do choke out the native riparian vegetation. This may in turn reduce the range of leaf matter and invertebrates entering the river and so affect the food supplies for juvenile fish. All three are now well established in the lower reaches of the Findhorn and although there is some limited control in place an accurate map of their distribution leading to an organised and

concerted effort to eradicate the plants is required. There are potential sources of funding to achieve this through SEPA restoration scheme. However, given the density of hogweed infestation, eradication will be costly. An initial step to deal with non native plants and fish introductions is to develop a “Biosecurity Plan”. This concentrates on reviewing the current level of non native species within the catchment and developing practical strategies for their control and removal. It also develops methodology for preventing new unwanted species entering the catchment. Given that many of the problems are also present on neighbouring rivers a Moray Firth based approach may be worth considering. Further information on how to achieve this through a RAFTS project can be found at http://www.rafts.org.uk/projects/biosecurityplanningproject.asp and further information on non native species is available from http://www.nonnativespecies.org.

4.8 Predation

Fish provide a valuable food source for many other animals in the catchment including avian predators such as heron, sawbill ducks, cormorants and osprey, mammals such as otters, seals, dolphins and porpoises. Many of these animals are now afforded protection having been over persecuted in the past. However, there are concerns that species such as goosander, merganser, cormorant and seals may be affecting salmon and trout populations and that controls measures may be required to reduce predation levels.

4.8.1 Avian Predators

Predation on fish by sawbill ducks (goosander and merganser) and cormorants is an issue that concerns many fishery owners and anglers. The smolts provide a valuable food source for sawbills and cormorants. These birds are afforded protection under wildlife legislation and indiscriminate culling is not permissible. A license to control them can be gained through application to Scottish Government Landscapes and Habitats Division. Any application must be supported by good quality data and the applicant must provide evidence that the birds are providing “serious damage” to the fishery.

Although some counts are conducted, the impact of predatory birds on fish stocks has not been quantified within the Findhorn catchment so more information is needed to

develop a sensible management approach to the problem. In essence better bird count data is required along with better data on their dietary habits. There is a developing Moray Firth approach to managing sawbill ducks and cormorants and participation in this process is recommended.

4.8.2 Seals

Both common and grey seals predate on salmon and trout within the Findhorn coastal fishery area. Indeed Findhorn Bay and the nearby coast is a well known area for viewing large numbers of seals throughout the year. The Moray Firth Seal Management Plan was implemented in 2005 with the aim of protecting salmon and sea trout stocks while also maintaining the conservation status of the Dornoch Firth SAC for common seals. The scheme introduced the approach of managing seals and salmon over a large geographical area, the training of nominated marksmen to an agreed standard, and the accurate reporting of all seals shot. The Plan allowed for specific quotas of seals to be culled within river reaches. The Moray Firth Seal Management Plan continued throughout 2008 and it seems likely that this type of approach will be favoured in the future. However, similar to sawbills there is a need for improving data on the presence of seals within and around the Findhorn through initiation of a structured counting scheme. Further information regarding their dietary intake from the Findhorn area would also be welcome.

4.9 Fish Disease

No major outbreak of fish disease resulting in significant losses of fish has occurred in recent years but it has happened in the past. Little direct action can be taken to treat the disease outbreaks however, removal of infected fish where possible could prevent further spread. In general outbreaks of fish diseases pose little or no threat to human health. However, red vent syndrome (RVS) which is caused by accumulations of the Anasikis parasite near the salmons vent is transferable to humans through eating raw fish such as sushi. Further information is available from
http://www.marlab.ac.uk/FRS.Web/Uploads/Documents/Red%20vent%20Scotweb.pdf
http://www.food.gov.uk/multimedia/pdfs/guidsalmonanisakis.pdf.

4.10 Sea Survival

In recent years the low abundance of salmon and grilse appears to be related to poor survival at sea (Appendix 2). For some monitored stocks such as the North Esk, marine mortality for salmon smolts is currently twice as high as in the 1970s. Many factors may affect marine mortality of salmon including environmental changes, diseases and parasites, predation, competition, availability of food, exploitation (including by-catch in pelagic fisheries targeting other species) and factors operating in fresh water which subsequently influence survival in the sea. However, there is a lack of understanding of the marine phase of the salmon's life-cycle due, in part, to the expense of conducting research at sea. This is largely out with local control although the FDSFB and FNLFT should where possible support larger national and international initiatives aimed at improving the understanding marine phase of the salmon and sea trout.

4.11 Fisheries Protection

The Findhorn District Fishery Board currently provide protection of Atlantic salmon and sea trout fisheries from illegal fishing (poaching) through employing a trained bailiff. Poaching still occurs within the catchment and maintaining a bailiff presence is essential to keeping such activities in check. To be fully effective close liaison with neighbouring Fishery Board and local Wildlife Crime Officers within police is also recommended

Illegal fishing for other fish, such as brown trout, may also occur but there is currently no information on this. Indications are that it is likely to be a minor occurrence if it is present at all. It should also be noted that it is now illegal to fish for eels since the introduction of the Freshwater Fish Conservation (Prohibition of Fishing for Eels) (Scotland) Regulations 2008.

4.12 Education and Publicity

To date the FDSFB has not pursued an active education role. Many other Boards and Trusts in Scotland see this as an essential element of the management and promotion of the river. It is important that all those who might have an effect upon the river or may have access to the river, understand about fish and fisheries management. Furthermore,

initiatives such as “Salmon Go To School” have taken a very positive role in promoting awareness of the importance of the salmon resource to the local primary schools and coupled with options such as river visits, fly-tying and fishing days provide local children with a chance to experience the ecology of the river and try the delights of angling. However, to fully promote these tasks requires staff and funding. The establishment of the FNLFT will enable closer working with local anglers and Angling Associations in order to develop these initiatives.

The FDSFB produce annual reports and operate a web site www.riverfindhorn.org.uk. The FNLFT has a page on this website and also produce regular newsletters.

4.13 Establishing Priorities

The Fisheries Management Plan 2010-2015 is intended to provide a framework within which the Findhorn District Salmon Fishery Board (FDSFB) and the Findhorn, Nairn and Lossie Fisheries Trust (FNLFT) can identify target areas for research projects and apply specific funding. In any plan it is useful to priorities target areas and this has been attempted here using the following criteria (Table 2). However, this is only a guide and a flexible approach should to dealing with issues as they arise and developing projects should be maintained.

Table 2: Findhorn fishery management plan priority list.

Priority	Key Issues
1	Fish Access, Migration, Distribution and Population Structure Predation Control, Disease Prevention , Poaching Control, Water Quality and pollution
2	Information Gathering, Habitat Management, Fish Stocking Invasive Non-Natives, Education and Publicity
3	Assisting External/National Projects

The Plan also identifies whether the whether the Board or the Trust should lead on a particular aspect in column 6. Although many items will require a flexible and/or combined approach the led organisation is the upper one in column 6.

5. The Fisheries Management Plan 2010-2015.

1. The Environment

Factor	Summary of Issue(s)	Management Aims and Strategy	Action Proposed	Priority	Lead (Board/Trust)
1.1 Marine Environment	Currently marine survival for both salmon and sea trout is low leading to poor adult return rates.	FDSFB has supported mixed stock netting buy-outs and marine research programmes operated through Atlantic Salmon Trust and other organisations.	Where possible and of benefit to the Findhorn consider support for mixed stock netting fishery buy outs. Maintain liaison with AST, FRS, and NASCO regarding marine research programmes.	3 3	Board Trust Board Trust
1.2 Freshwater Environment	Discharges from distilleries, sewage treatment works, and other sources may affect the river and its fish populations.	Seek to minimise any reduction in water quality or quantity within the Findhorn catchment To ensure that future developments and have a minimal negative impact on the river flow and water quality and meet the requirements of the Water Framework Directive (WFD).	Develop close contacts with local Authorities, SEPA, SNH, and Distillers to ensure the requirements for fish populations are fully recognised and protected. Collaborate and contribute to the North Highland Area Advisory Group (AAG) and River Basin Management Plan (RBMP) process. Provide expert advice on the requirements of fish with respect to water quantity and quality.	1 1 1	Trust Board Board Trust Trust Board

Factor	Summary of Issue(s)	Management Aims and Strategy	Action Proposed	Priority	Lead (Board/Trust)
1.3 Land Use	Physical riverworks such as bank repairs, bridge and culvert construction or repair, drainage channels can all affect fish populations. The Findhorn has remained largely free from large scale developments. However, recent wind farm proposals have raised concerns regarding run-off. Forestry and agriculture practices can potentially affect the quality and quantity of water entering the Findhorn. A significant flood alleviation scheme is planned for the lower Findhorn.	To ensure that future developments have a minimal negative impact on the riverine and riparian habitat. To strengthen links with SNH, SEPA and Local Authorities and ensure that future developments have a minimal negative impact on the river flow, water quality and fish populations. To improve understanding of how riverworks impact on fish and fish habitats.	Develop close liaison with Local Authorities to ensure that the "Development Plans" take into account any impacts which might affect the river or fish populations Develop close liaison with and provide expert advice to SEPA, SNH and other bodies regarding developments which may affect the river and fish populations Collaborate and contribute to the North Highland Area Advisory Group (AAG) and River Basin Management Plan (RBMP) process. Provide best practice advice to organisations involved in engineering works. Consider adopting or developing a "Code of Good Practice" for riverworks. Develop monitoring plans with developers.	1 1 1 1 1	Trust Board Trust Board Trust Board Trust Board Trust Board

2. Adult Salmon and Trout Stocks

Factor	Summary of Issue(s)	Management Aims and Strategy	Action Proposed	Priority	Lead (Board/Trust)
2.1 Adult Salmon and Trout Escapement, Exploitation And Conservation.	Encourage and promote sustainable angling for salmon and trout in the Findhorn catchment.	Continue to raise awareness of the importance of salmon and trout fisheries and highlight the need for stringent conservation practices.	Review conservation policies regularly and ensure catch and release reaches a target of 70%.	1	Board Trust
			Continue and improve monitoring programmes for adult salmonids using catch data.	2	Board Trust
	Maintaining sufficient numbers of adults escape to maximise egg deposition.	Regularly review and if necessary implement conservation policies for salmon and trout.	Explore potential for installation of adult fish counters.	3	Trust
			Establish project to identify the sub-population structure of the salmon and trout using genetic marker techniques.	1	Board Trust
	Poor data on exploitation rates for salmon and particularly trout.	Maximise the numbers of adult salmon and trout reaching spawning areas and increase egg deposition.	Develop project on exploitation rates of salmon and trout.	3	Trust Board
	.	Improve data on exploitation rates for adult salmon and trout	Develop survey programme to determine spawning distribution of adult salmonids within the Findhorn.	1	Trust Board
		Improve data on adult salmonid spawning distribution in the Findhorn catchment			

3. Juvenile Salmon and Trout Stocks

Factor	Summary of Issue(s)	Management Aims and Strategy	Action Proposed	Priority	Lead (Board/Trust)
3.1 Juvenile Salmon and Trout distribution and abundance	Data on juvenile salmon and trout distribution is required. Data on juvenile salmon and trout abundance is required.	Survey Findhorn and tributaries to determine yearly distribution and abundance of juvenile salmon and trout. Identify problem areas and target for enhancement.	Conduct electro-fishing surveys to provide distribution data for juvenile salmon and trout. Establish core EF survey sites to provide abundance data and repeat these yearly. Continue assessment of long term EF datasets. Identify areas where juvenile salmon are absent.	1 1 1 1	Board Trust Board Trust Board Trust Board Trust
3.2 Salmon and Trout Smolt Production	No data is available for smolt production.	To provide better measure of the salmon and trout output from the River Findhorn	Explore funding possibilities for establishing a smolt trap(s) on the Findhorn catchment.	2	Board Trust

4. Protection of Salmon and Trout Stocks

Factor	Summary of Issue(s)	Management Aims and Strategy	Action Proposed	Priority	Lead (Board/Trust)
4.1 Predation of salmon and trout by sawbill ducks, cormorants, seals, mink and other animals is often perceived as a problem by anglers and fishery owners.	Determine the effects of bird and seal predation on salmon and sea trout stocks and develop acceptable control methods. Mink predation on juvenile salmonids is reducing smolt output.	Work within the Moray Firth predator management framework, to develop sustainable strategies for managing the impact of predators upon salmonids.	Improve sawbill duck, cormorant and seal counts. Active participation in the development of Moray Firth Predator Management Program. Active participation in the Moray Firth Seal Management Programme. Active participation in a mink eradication project. Develop alternative data sources on predation such as fish damage photos etc.	1 1 1 1 1	Trust Board Trust Board Trust Board Trust Board Trust Board

Factor	Summary of Issue(s)	Management Aims and Strategy	Action Proposed	Priority	Lead (Board/Trust)
4.2 Invasive Non Native species .	Apart from minnows and isolated stocking with Rainbow Trout the Findhorn appears relatively free from introductions of non-native fish. North American signal crayfish are present in the River Nairn and could be transferred to the Findhorn Riparian non-native plant species are becoming more abundant and leading loss of native vegetation particularly in the lower catchment.	Removal of non native fish and plants from the Findhorn catchment. Prevention of non-native fish species and North American signal crayfish being introduced to the catchment Prevention of further non-native plant species entering the catchment.	Educate anglers on the threat of North American signal crayfish and implement measures to prevent the introduction of this species. Encourage anglers to report any sightings of alien fish species and retain any non-native fish captures. Develop Biosecurity Plan, using RAFTS protocol, to prevent the further introductions of non-native plants or animals to the Findhorn catchment. Map non native plant species distributions and liaise with relevant partner organisations such as Highland Biodiversity Group to develop control and/or eradication plans for Giant hogweed, Japanese knotweed, Himalayan Balsam.	1 3 1 2	Board Trust Board Trust Board Trust Board Trust

Factor	Summary of Issue(s)	Management Aims and Strategy	Action Proposed	Priority	Lead (Board/Trust)
4.3 Gyrodactylus salaris.	The threat of GS introduction is ever present and strategies need to be put in place to prevent its accidental introduction into the system.	To prevent the arrival of GS within the Findhorn catchment.	Raise awareness of the GS threat and inform anglers and fisheries of the methods for preventing GS infection within Scottish waters. Educate and advise anglers and fishery staff through newsletters and distribution of Code of Practice. Encourage stronger controls on anglers including the disinfection of tackle, clothing, etc when they visit Findhorn fishing locations.	1 1 1	Board Trust Board Trust Board Trust
4.4 Fish Disease Outbreaks	Outbreaks of fish disease can occur from time to time. Red vent syndrome (RVS) can be a risk to human health.	Improve awareness of fish diseases among proprietors, ghillies and anglers. Improve awareness of the risks associated with RVS to humans.	Source and distribute relevant literature on fish diseases including RVS to proprietors, ghillies and anglers. Report any sightings of diseased fish to the Fisheries Office	1 2	Board Trust Board Trust

Factor	Summary of Issue(s)	Management Aims and Strategy	Action Proposed	Priority	Lead (Board/Trust)
4.5 Illegal Fishing (Poaching)	Illegal fishing for salmon and sea trout is still in the Findhorn district. Anglers do occasionally fish the Findhorn without permission or appropriate fishing permit. Illegal fishing for other species including trout and eels may occur in the catchment.	To reduce and if possible eliminate illegal fishing for salmon and sea trout.	Maintain well trained bailiff(s) Maintain close links with other Fishery Boards. Maintain close liaison with the Police, particularly Wildlife Crime officers. Where sufficient evidence is collected, pursue convictions of captured poachers. Assess whether illegal fishing for other species occurs.	1 1 1 1 1	Board Board Board Board Board

5. Enhancement of Salmon and Trout Stocks

Factor	Summary of Issue(s)	Management Aims and Strategy	Action Proposed	Priority	Lead (Board/Trust)
5.1 Habitat Management and Enhancement	Maintaining good fish habitat within the Findhorn is critical however, loss of salmonid habitat has occurred due to poor land management practices. Some baseline habitat surveys have been completed for the Findhorn but better data is required for spawning distribution, parr habitat etc. Habitat improvement schemes have ameliorated problems in certain areas, but there is scope for further improvements.	To maintain the high quality habitat that is present in most areas of the Findhorn catchment Identify river reaches where fish habitat is degraded and implement improvements. Improved the numbers of juvenile salmonids across the age classes and smolt output. Ensure that habitat management is beneficial to all native fish species. Initiate habitat improvement projects in partnership with proprietors, farmers and external organisations.	Conduct a suitable habitat survey of Findhorn tributaries to identify key fish features and identify areas requiring remedial action. Assess all man-made obstacles and using SNIFFER fish porosity protocol. Source funding and develop a plan to remove or improve fish access through the obstacles. Identify instream habitats which require improving and draw up plans for habitat improvement projects. Identify which remedial works require a Controlled Activities Regulation (CAR) licence and complete appropriate application prior to remedial works commencing. Ensure that habitat enhancement projects are not detrimental to other native fish species and where possible enhance their habitat. Encourage best practice, e.g. exclusion zones to prevent access to instream and riparian areas by grazing animals.	2 2 2 2 2 2	Trust Board Trust Board Trust Board Trust Board Trust Board Trust Board

Factor	Summary of Issue(s)	Management Aims and Strategy	Action Proposed	Priority	Lead (Board/Trust)
5.2 Salmon enhancement through Hatchery Stocking	Supplementing natural production by using hatchery reared salmon. Salmon populations are likely to be structured and hatchery enhancement may affect the genetic integrity of stocks. Surveys indicate positive benefits in some areas with juveniles surviving well, benefits unclear in others. No data to show benefit or otherwise to the rod fishery.	To refine hatchery stocking activities on the River Findhorn.	Use data from genetics project to determine Findhorn salmon sub-population structure, and relevant literature on stocking to develop a stocking policy. Develop map of Findhorn identifying areas where salmon stocking may be appropriate. Maintain good records of stocking events and locations. Monitoring of the hatchery stock after release into tributaries. Consider methods of assessing the benefit of hatchery enhancement to the rod fishery.	2 2 2 2 2	Board Trust Board Trust Board Trust Board Trust Board Trust

Factor	Summary of Issue(s)	Management Aims and Strategy	Action Proposed	Priority	Lead (Board/Trust)
5.3 Stocking of other fish species, (including Brown Trout and Rainbow Trout)	Brown trout and Rainbow Trout are stocked regularly into a number of lochs within the Findhorn catchment Brown trout are not always of Findhorn origin. Non native fish species may be stocking into the Findhorn catchment.	To review other fish stocking activities and ensure they are not detrimental to the Findhorn.	Request Marine Scotland Science to consult with the Findhorn Fishery Board and FNL Fishery Trust on all future proposed fish stocking activities. Establish the numbers and the locations of stocked brown trout and rainbow trout. Seek ways of stopping the use of brown trout stock from out with the Findhorn since these may introduce disease/parasites/non-native species and threaten genetic integrity of existing stocks. Ensure that if Rainbow Trout are used to promote fisheries that they are sourced from disease/parasite and N. Am. Signal Crayfish free sources.	1 2 3 3	Board Trust Trust Trust Trust

6. Management of Other Fish Species

Factor	Summary of Issue(s)	Management Aims and Strategy	Action Proposed	Priority	Lead (Board/Trust)
6.1 Other Native Fish Species	Lack of data on other fish species within the catchment	To improve data on other native fish species and develop more robust management.	Promote further surveys of native fish species. Promote projects to examine the ecology and importance of native fish species.	3 3	Trust Trust

7. Education and Publicity

Factor	Summary of Issue(s)	Management Aims and Strategy	Action Proposed	Priority	Lead (Board/Trust)
7.1 To educate and publicise fisheries management on the Findhorn.	Declining interest in younger people regarding fishing and countryside management. General lack of understanding fisheries management across a wide cross section of the community.	To publicise fisheries research and management on the River Findhorn. To provide educational opportunities for various age classes of students to study and understand aspects of fisheries management.	Promote the fisheries research and management amongst all those who have access to the river. Promote the fisheries research and management on the Findhorn through regular publications such as annual reports and web site. Consider developing fisheries education projects with local schools.	2 2 2	Trust Board Trust Board Trust Board
7.2 To contribute to wider National Fisheries Management	Need to improve fisheries management within Scotland.	Seek to improve fisheries management across Scotland through contributing to National management organisations.	Maintain membership and continue to contribute to National Fishery organizations such as RAFTS, SFCC, ASFB and others. Continue to maintain strong links with MSS, SNH and SEPA. In particular continue to contribute to Area Advisory Groups and development of River Basin Management Plans. Continue to develop links with Local Authorities and other relevant Agencies.	2 2 2	Trust Board Trust Board Trust Board

6. Duration and Review

The lifespan of this plan is six years, commencing 1st January 2010 and ending 31st December 2015. During this time the plan will be regularly reviewed yearly by the Findhorn District Salmon Fishery Board and the Findhorn, Nairn and Lossie Fisheries Trust. Regular updates will be presented through the FDSFB Annual Reports.

7. Consultation

Draft versions of the Findhorn Fisheries Management Plan were circulated to the following organisations and the author is grateful for their useful comments, Scottish Natural Heritage, Scottish Environment Protection Agency, Highland Council, Highland Biodiversity Partnership and Marine Scotland. A draft copy was also circulated to Moray Council but no comments were received.

Members of the Findhorn District Salmon Fishery Board and Seymour Monro (Findhorn, Nairn and Lossie Fisheries Trust) also provided helpful comments.

8. Acknowledgements

The development of this Plan was supported by funding from Scottish Government through the Rivers and Fisheries Trusts Scotland. I am also grateful to Callum Sinclair (RAFTS) for his support, encouragement and patience during the production of the plan.

9. References

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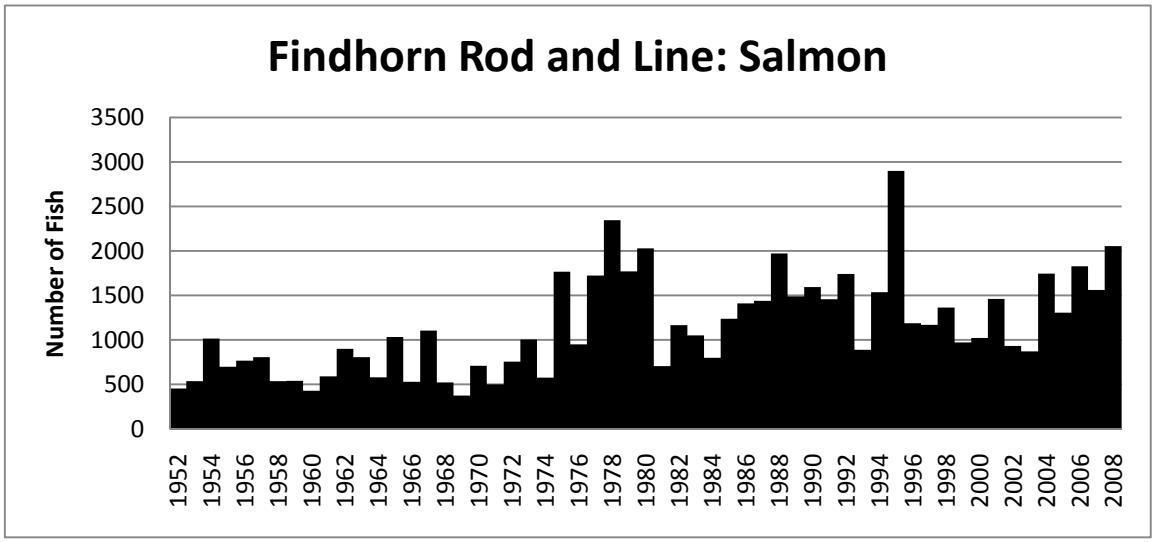
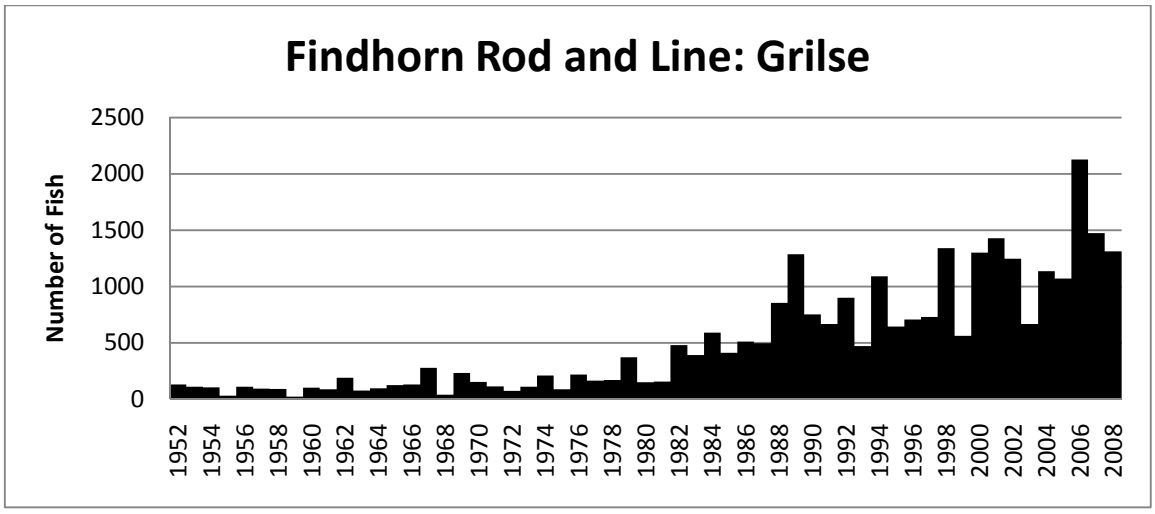
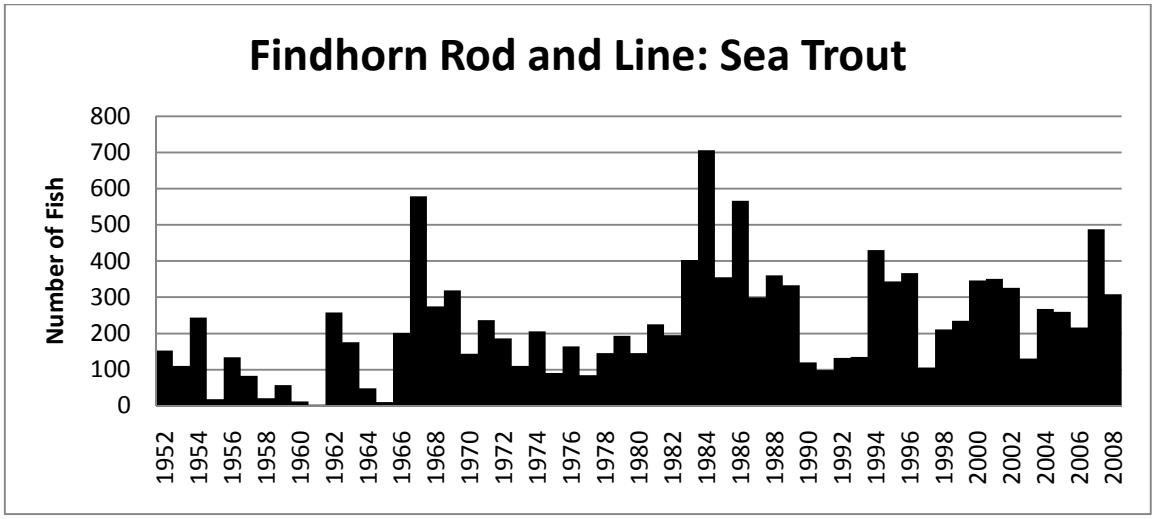
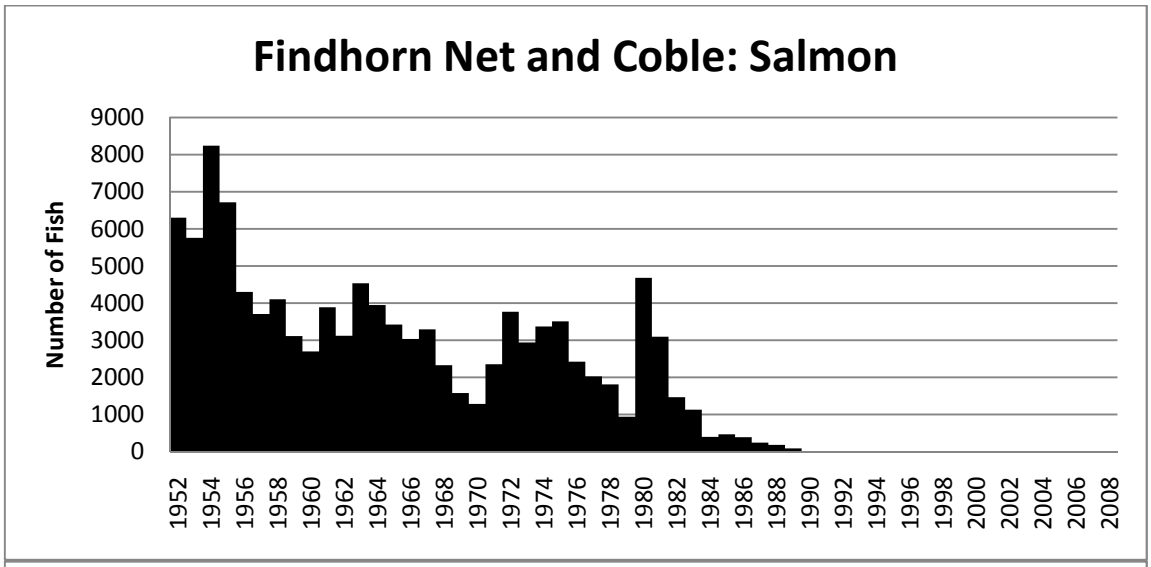
Appendix 1: Catch Data for the River Findhorn 1952 to 2008.

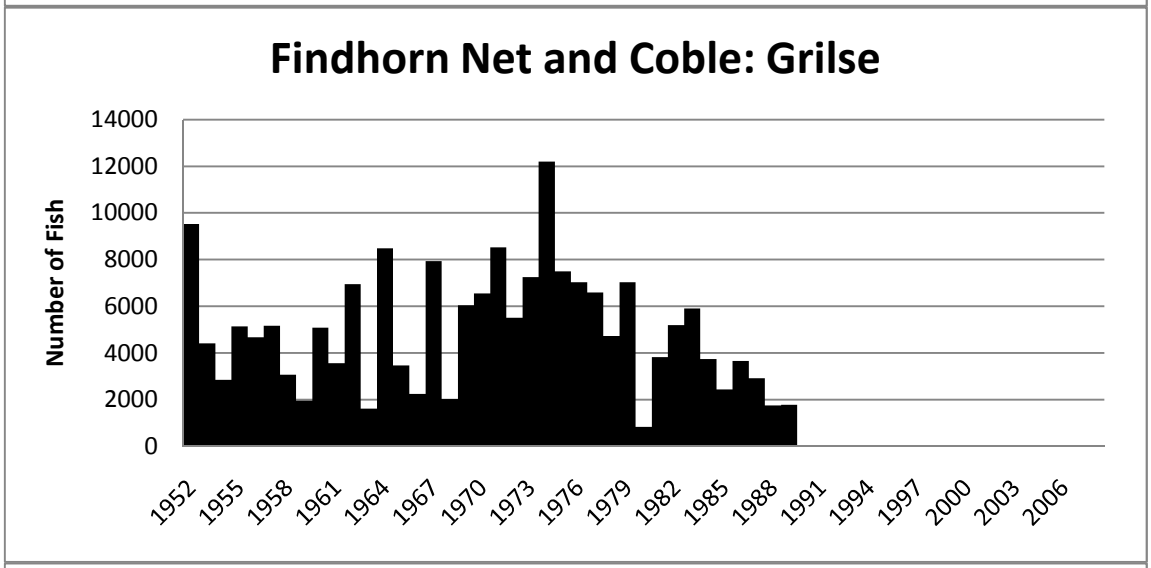


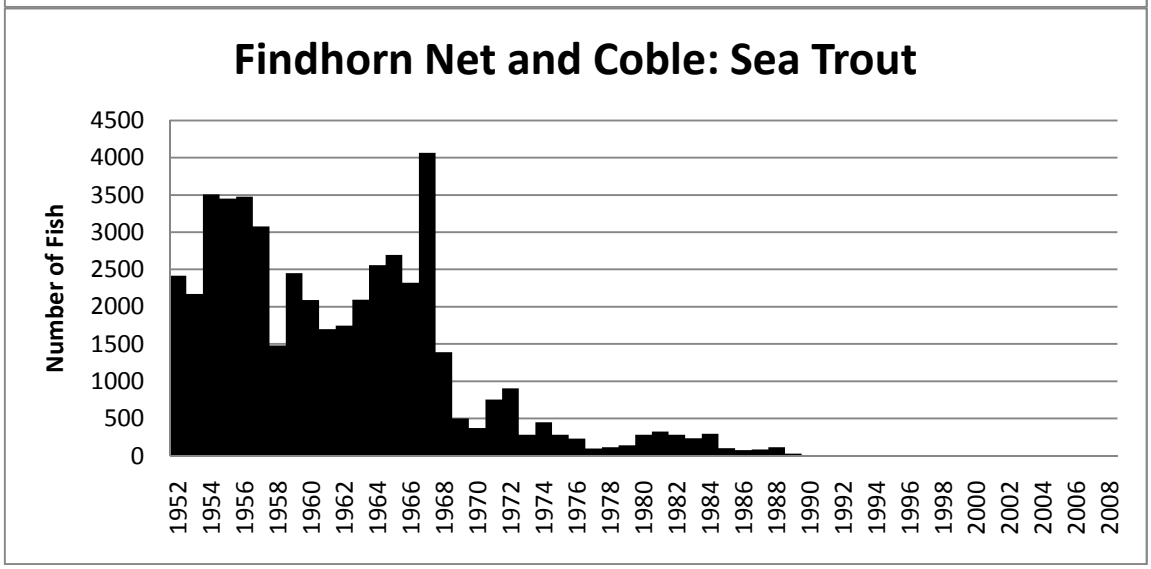


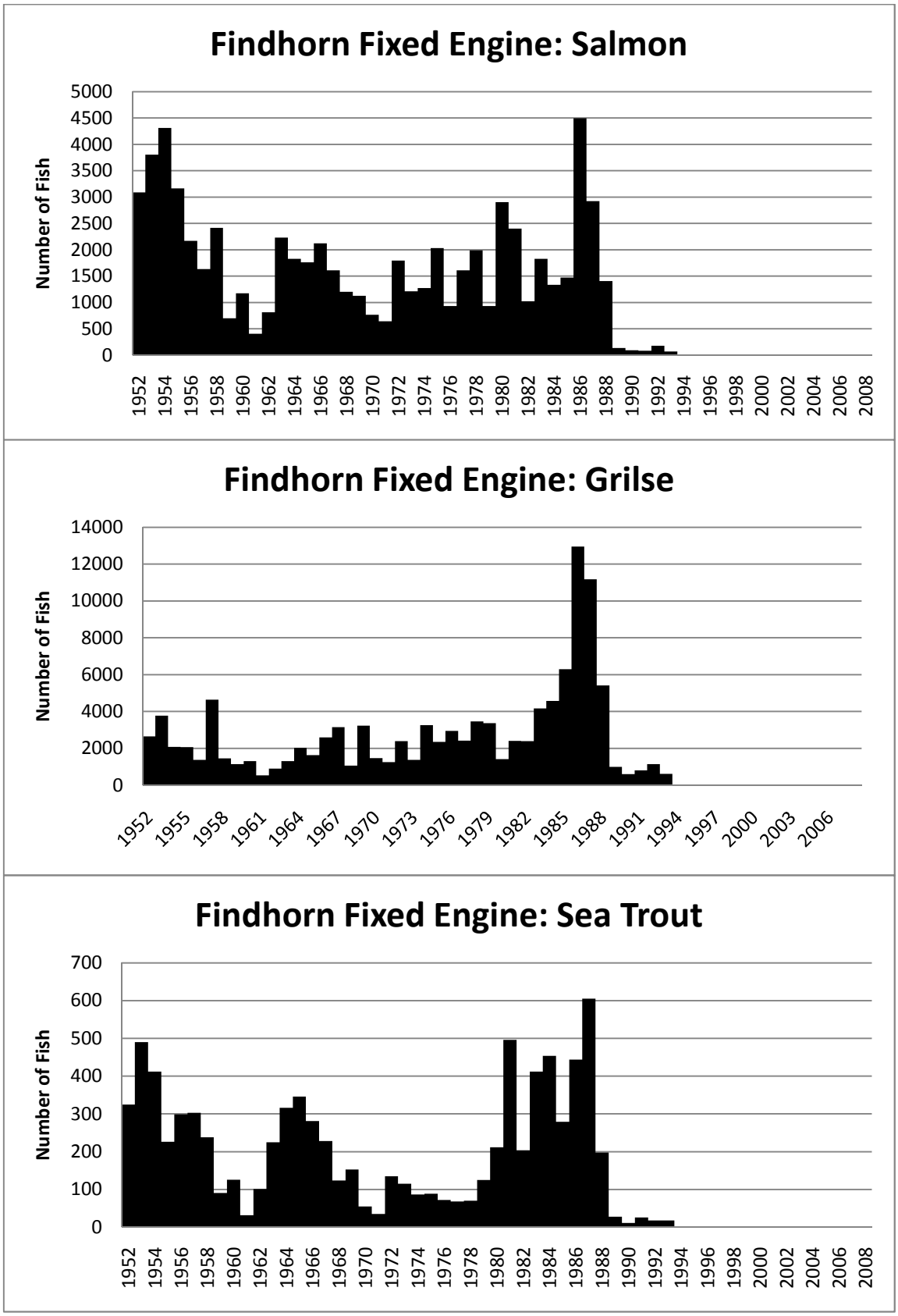


 Data from 2004 onwards include retained and released fish.









Appendix 2: North Esk Marine Survival Rates for Salmon Smolts to Adults.