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National Trout & Grayling Fisheries Strategy



**ENVIRONMENT
AGENCY**

The Environment Agency is the leading public body protecting and improving the environment in England and Wales.

It's our job to make sure that air, land and water are looked after by everyone in today's society, so that tomorrow's generations inherit a cleaner, healthier world.

Our work includes tackling flooding and pollution incidents, reducing industry's impacts on the environment, cleaning up rivers, coastal waters and contaminated land, and improving wildlife habitats.

We also maintain, improve and develop fisheries.

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Summary

The strategy is founded on the Agency's duty to maintain, improve and develop fisheries within the overall aim of contributing to sustainable development. It takes account of the Salmon & Freshwater Fisheries Review recommendations and Governments' responses to them.

Consultation and collaboration with relevant local and national interests is crucial to both the development and successful implementation of the strategy. The Local Fisheries Action Plan approach, currently being developed, is expected to be instrumental to its delivery.

Enhancing the social and economic benefits from trout and grayling fisheries will be achieved primarily by promoting angling and strategically developing angling opportunities. Particular consideration will be given to the need for social inclusion and environmental awareness.

An improved social and economic balance is sought between rod and net fisheries in their exploitation of sea trout, as well as salmon; the outcome depending on local circumstances.

Where practical, conservation targets will be developed for wild stocks against which their status can be assessed.



Policies are included to help ensure the conservation of wild stocks of trout and grayling. These relate to three main areas:

- exploitation;
- stocking;
- habitat.

Information on best practice for various aspects of fisheries management will be prepared and made available.

The success of the strategy will be assessed by a range of measures relating to the desired social, economic and ecological outcomes.



▲ 20lb+ Sea Trout taken in the Agency's fish trap on the Welsh Dee

1. The aim of the strategy

The aim of the strategy is to conserve and improve wild stocks of trout, sea trout, char and grayling, while enhancing the environment for all types of fisheries for these species in England and Wales. It also aims to enhance the social and economic benefits derived from these fisheries.

2. The need for a strategy

The Environment Agency has a duty under the Environment Act 1995 to ‘maintain, improve and develop salmon, trout, freshwater fish and eel fisheries’, within the overall aim of contributing towards sustainable development.

To that end, we have already developed national strategies for salmon, coarse fish and eel fisheries. The development of a trout and grayling strategy was delayed until the Salmon & Freshwater Fisheries Review had reported so that both its recommendations¹ and the Governments’ responses² could be taken into account.

Each year, about one million anglers buy an Environment Agency rod licence. Of these, some 43 per cent fish for trout³. The value of trout fishing rights in both still and running waters exceeds £500 million, about five times the value of salmon fisheries⁴. Socio-economic considerations are, therefore, very important when considering trout fishery management.

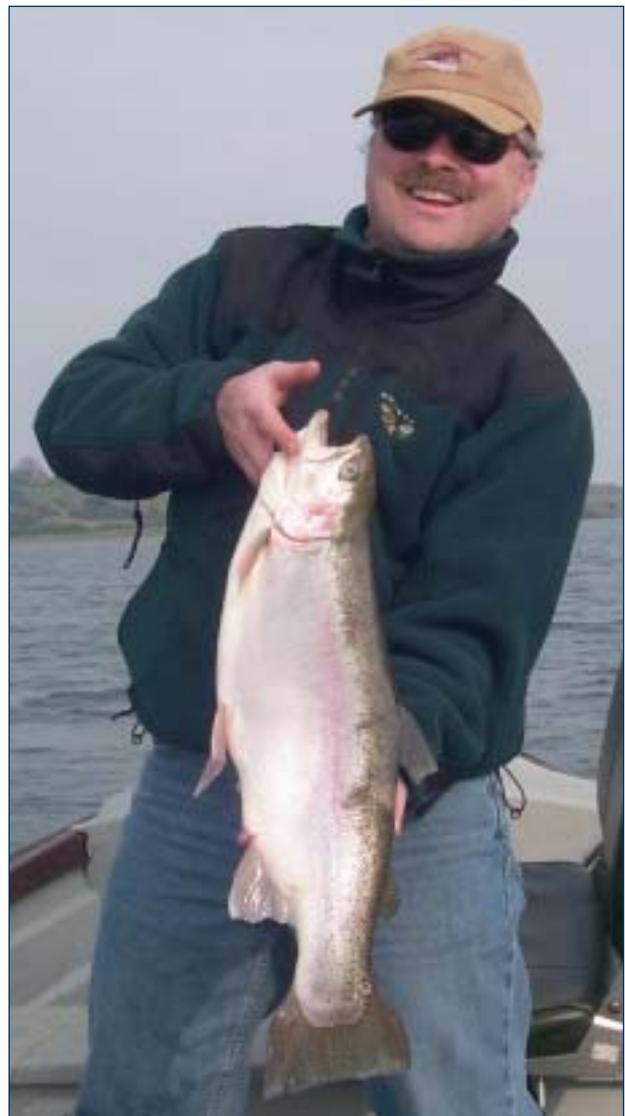
Licences for salmon and sea trout angling comprise about 3 per cent of total rod-licence sales. Nonetheless, sea trout, together with salmon, support valuable fisheries in many rural areas, often attracting substantial tourist expenditure. The relative importance of sea trout has increased in recent years with the decline in salmon stocks.

Licensed netmen also take significant numbers of sea trout, mainly in North East England. The total sales value of these is around £200,000 per year. Sea trout are also the mainstay of smaller but culturally significant net fisheries, notably the coracle fisheries in Wales.

Although less common than trout, grayling are gaining in popularity with British anglers; membership of the Grayling Society has recently been increasing by 10 to 15 per cent annually⁵. They also attract continental anglers. Grayling fishing, unlike trout fishing, is usually for wild fish. Apart from being worth conserving in their own right, grayling can be a locally important economic resource, especially as their presence offers the opportunity of angling during the close season for other game fish.

Native arctic char populations have a high

conservation value, being restricted to a limited number of still waters in North Wales and the Lake District. Nonetheless, they support fisheries, some using traditional trolling techniques.



▲ A buzzer caught 9lb+ Rainbow Trout from Rutland Water

The Agency covers England and Wales, parts of the Scottish border, and coastal waters out to six miles. Trout are widely distributed throughout, whether naturally or through stocking, in a wide range of rural and urban waters including streams, rivers, lakes, reservoirs and tidal waters. Brown trout and sea trout are the same species, which shows a wide diversity of life-cycle patterns, physical appearance and behavioural characteristics.

Some of this variation is known to have a genetic basis and may reflect adaptation to environment. Indeed, of all the vertebrates studied to date, the brown or sea trout, *Salmo trutta*, shows the greatest degree of local genetic structuring⁶. We will take steps to conserve this biodiversity for its aesthetic, scientific and potential economic value, and also to maintain the evolutionary potential of the species at a time when environmental change is increasingly evident.

The viability of trout and grayling populations and fisheries may be affected by a range of factors including habitat quality, exploitation, stocking and predation.

So this national strategy has been developed to enable social and economic benefits to be realised, while protecting and enhancing the natural resource.

The strategy covers angling and other forms of fishing in all waters for all species of trout (including char) and grayling.

It recognises the Government's guiding principles for sustainable development including the precautionary principle⁸ and our own Environmental Vision⁹.

Sustainable development:

'development which meets the needs of the present without compromising the ability of future generations to meet their own needs.' The Brundtland Report 1987

Photograph courtesy of Westcountry Rivers Trust



▲ Fishing for wild brown trout in Devon



▲ Grayling are becoming more popular with British anglers

3. Economic and social development

'... enhance the social value of fishing as a widely available and healthy form of recreation.'

'... enhance the contribution salmon and freshwater fisheries make to the economy, particularly in remote rural areas with low levels of income;'

Recommendation 3: Salmon & Freshwater Fisheries Review

3.1 Enhancing social value

Trout anglers need not be wealthy. On fisheries that are not operated to generate a profit, and which do not require heavy stocking, trout fishing can be inexpensive for local people. Such fisheries tend to be run by angling clubs or public bodies and can be important recreational facilities, especially for those with low incomes or with limited access to transport. On many fisheries, concessionary rates on permits are offered to junior, senior or disabled anglers and, on some, specific stretches are set aside near centres of population for such anglers.

Policy 1:

- We will offer concessionary rates on Agency rod licences to junior, senior and appropriate categories of disabled angler.
- We will work with others to help provide low cost opportunities for fishing near centres of population both in urban and rural areas particularly for use by such anglers, and generally to increase the availability of trout and grayling fishing.

The benefits of angling as a healthy and environmentally educative form of recreation apply to all ages and sections of the population. Anglers are concerned with more than just catching fish, and the quality of the aquatic environment is important to their enjoyment of a day's fishing. Indeed, anglers are often the first to raise concerns about issues such as pollution, over-abstraction or physical damage to the aquatic environment. As part of environmental protection, society as a whole will therefore benefit from the promotion of angling for trout and grayling.



Policy 2:

- We will work with others to promote angling for trout and grayling within the context of environmental protection and integration with other forms of recreation.

3.2 Enhancing economic benefits

Fishing rights for trout, sea trout and grayling constitute a significant capital asset for the owners of these rights - whether clubs, businesses or individuals - and for the country as a whole.

By helping to promote angling, we will increase the general demand for angling opportunities, and thereby help maintain and enhance the overall economic value of fishing rights.

The economic value of an individual fishery will depend largely on the type of fishing offered and its location. While management of individual fisheries, especially stocked fisheries, is largely in the hands of the owners or lessees, the Agency may be able to make information available that can assist fisheries managers, and so enhance the value of fisheries.

Options for fisheries management are to an extent constrained by legislation, whether statutory or Agency byelaws. Such legislation needs to take account of changing circumstances. One example is the minimum statutory close season for brown trout in still water fisheries. Many such fisheries are entirely dependent on stocking, in some cases with sterile, triploid trout. The close season for brown trout could be dispensed with on such waters to give managers the opportunity of extending angling opportunities, and enhancing the value of their fisheries.

Policy 3:

- We will support a change in the law so that the statutory close season for brown trout can, at the owner's discretion, be dispensed with on enclosed still water fisheries with no natural recruitment.

Anglers spend money on permission to fish, fishing tackle, travel, food, drink, accommodation and other items, contributing to employment and incomes.

Expenditure in 1999 by licence holders in England and Wales on game angling was estimated to be around £300 million a year³. Although this included expenditure on salmon angling, a large proportion would have been spent on fishing for trout, sea trout and grayling.

Anglers' expenditure can contribute significantly to the local economy in rural areas, where the higher-quality fisheries are often found. There is potential for enhancing such expenditure by improving and marketing opportunities for angling.

Policy 4:

- We will work with others to identify, develop and market angling opportunities that will contribute to the local economy, especially through tourism in rural areas.

Anglers' tastes vary and a range of angling opportunities is required to meet demand. Many find fisheries stocked with rainbow trout attractive, especially if the trout are large and numerous. However, others prefer to catch the native species, brown trout. Even those whose regular angling is on stocked fisheries may appreciate the opportunity to fish for wild fish on occasion. A recent survey for the Agency indicates a preference among trout anglers for wild rather than stocked fish¹⁰. Information on the types of fishery anglers prefer and choose will aid fisheries managers and the strategic development of fisheries.

Policy 5:

- We will regularly assess anglers' preferences for different types of trout and grayling fishing in different areas of the country, and the types of fishing most frequently undertaken.

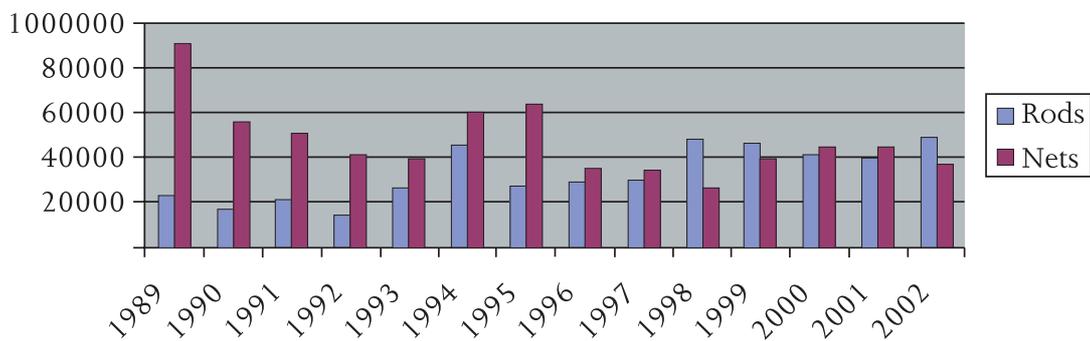
3.3 Allocating sea trout catch between net and rod fisheries

In many parts of the country, sea trout are exploited with salmon by net fisheries in tidal waters as well as by angling in rivers. Although there are comparatively few netsmen, net fisheries may be significant locally, contributing to employment and cultural interest.

Rod and net fisheries may compete for the same resource, that is, sea trout and salmon. Provided enough fish are allowed to spawn to protect the status of the stocks of both species, it does not matter biologically how the fish are caught. However, the social and economic benefits may differ markedly with the allocation of the catch between net and rod fisheries.

The balance of catch between rod and net fisheries has been changing nationally, reflecting the declining economic value of the net catch, as well as the need for measures to protect both salmon and sea trout stocks. The rod catch of sea trout in 2002 was one of the highest on record.

Declared sea trout catches in England & Wales



Netting effort has diminished and a further decline in the national sea trout net catch is expected with the phase-out of mixed stock salmon fisheries, especially since the phase-out of the North East coast drift net fishery is being accelerated through a buy-out. Government is providing £1,250,000, with more than £2 million being raised by private interests. The Agency assisted in brokering the arrangement.

Our objective for allocating the catch of sea trout between rod and net fisheries is similar to that for salmon. The Review indicated that management principles recommended for salmon fisheries should generally apply to sea trout fisheries.

Policy 6:

- Our aim is to optimise the economic and social value of sustainable exploitation of fish stocks. Where rod fishing interests are willing to compensate netsmen to stop netting, we will assist both parties to reach a mutually acceptable agreement.



Current legislation limits our ability to reallocate the catch solely for social and economic reasons, but we support Recommendation 114 of the Review in relation to sea trout as well as salmon fisheries:

Recommendation 114: 'A power should be introduced to restrict salmon net licence numbers by byelaw for economic and social reasons. No netsman solely or mainly dependent on fishing for his livelihood should be deprived of his licence without his consent under the provision. Any netsman deprived of their licences under this provision should be entitled to compensation. If agreement cannot be reached on the level of compensation, this should be determined by an independent arbitrator.'

Policy 7:

- If the recommended power is introduced, we will assess each net fishery individually. Assuming that there is no conservation issue, net fisheries will continue to be supported unless there is a clear socio-economic benefit from doing otherwise.

4. Conservation of the wild stocks

'... to ensure the conservation and maintain the diversity of freshwater fish, salmon, sea trout and eels and to conserve their aquatic environment; ...'

Recommendation 3: Salmon & Freshwater Fisheries Review

The conservation of wild stocks is vital to the success of those fisheries that exploit them now and in the future. This is true for all grayling and sea trout fisheries, for many brown trout fisheries and even some rainbow trout fisheries (for example, the Derbyshire Wye). However, most trout fisheries rely partly or, in many cases, entirely on stocking to maintain catches.

Even in stocked waters, any significant wild trout population, and the habitat required to support it, still need protection for the following reasons:

- the wild stock can contribute to anglers' catches, enhancing the value of fisheries⁴;
- wild trout are part of the native fauna with intrinsic conservation value;
- the contribution that management for angling can make to the quality of natural habitats and the wide variety of species that depend upon them.

The quality of fishing for stocked fish also depends, though to a lesser extent, on habitat quality.

To ensure the conservation of wild trout and grayling stocks, measures are needed to protect their:

- habitats;
- abundance;
- population structure;
- genetic diversity.

As well as our fisheries duties, we also have specific conservation duties, including one to promote the conservation of flora and fauna dependent on an aquatic environment. We must also further the 'conservation of fauna and flora of special interest', which includes specific local populations of arctic char and other fish. Some social and economic benefits will be generated just from conserving fish and the aquatic environment, in addition to the benefits generated from fisheries. Stocks that are genetically distinct or evolutionarily important will generally have the greatest conservation value, particularly if they are not derived from introductions.

Electro-fishing to monitor the abundance of juvenile trout ►

4.1 Setting conservation targets for wild fish

Fish abundance depends on the carrying capacity of the habitat, the size of the spawning stock and subsequent survival. The carrying capacity of the habitat depends upon habitat quality and there is often scope to improve this, making room for more fish. Salmon stocks are managed using conservation limits for the number of spawners but, for a variety of reasons, it is not currently practical to calculate such limits for trout and grayling in the same way. A key reason is that there are rarely measures of the abundance of adult fish, other than for sea trout, that could be used to estimate the size of the spawning stock. Furthermore, where trout are stocked it may be difficult to differentiate wild from stocked fish.

Nonetheless, it may be possible to develop targets using other measures, notably:

- juvenile abundance of trout from electric fishing surveys in nursery areas;
- adult abundance and population structure for sea trout from anglers' catch returns, catch returns from netmen, traps and fish counters;
- adult abundance and population structure for wild trout and grayling from angler log-book schemes from appropriate fisheries;
- adult abundance for char stocks from catches and hydro-acoustic surveys.

Such targets will take into account the quality of the available habitat.



The Precautionary Approach: *‘Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation’.*

Rio Declaration 1992

Policy 8:

- We will work to develop conservation targets for the abundance and structure of wild trout and grayling stocks against which the status of these stocks can be assessed. Once set, failure to comply with conservation targets will trigger management action, including investigation of the likely causes.

Developing targets for the genetic diversity of wild trout and grayling stocks is currently impractical. Protection will therefore be achieved by taking a precautionary approach, especially with regard to stocking.

4.2 Protecting and improving wild stocks

The quality of a wild fish stock will depend on a range of factors. Three key factors that we regulate in part are:

- exploitation;
- stocking;
- habitat quality.

4.2.1 Exploitation

Policy 9:

- We will review the size limits, set by Agency byelaws, for non-migratory trout, char and grayling so that these limits will exceed the length at which fish mature.
- Only where it is apparent that wild stocks are depleted and that over-exploitation may be contributing, will we consider imposing additional mandatory restrictions.

4.2.1.1 Legal exploitation

For wild non-migratory trout and grayling stocks that currently have no general assessment of angler catch or adult abundance, a precautionary approach can be taken to reduce the risk of over-exploitation.

Many anglers recognise that they can help to improve the quality of their fishing by reducing the number of fish they kill. Catch-and-release is widely, and increasingly, practised voluntarily by anglers. In 2000, half of the sea trout caught by anglers were released, compared with 29 per cent in 1993. No equivalent figures are available for trout and grayling, but a similar trend is believed to apply to these species.



An Agency survey of licence holders indicates that of those who fished mostly for wild trout, 78% always or usually practised catch-and-release.¹⁰

Policy 10:

- To improve the quality of fishing for wild trout and grayling, and to reduce the risk of excessive exploitation, we will encourage anglers to release a greater proportion of their catch of wild fish. We will provide readily accessible advice to anglers on ways to improve fish survival after release, and to fishery owners on the benefits of ‘slot’ limits.

Most trout fisheries with wild stocks still rely to some extent on stocking with farmed strains. Farmed trout differ, both genetically and behaviourally, from their wild counterparts. Many experts believe that it is best if farmed trout do not interbreed with a wild stock. There may, therefore, be no need for farmed, stock fish to be released if caught. Indeed, if it were possible to recognise them, it might well be desirable to take stocked fish while releasing wild fish. In this way, recognisable stocked trout could buffer adult wild trout from over-exploitation, while simultaneously allowing an economically viable fishery to continue.

The historical practice of grayling removal to improve trout fishing is scientifically unfounded. Indeed, it is likely to result in an increased abundance of small, earlier maturing grayling, which may detract from the quality of trout fishing⁵.

Policy 11:

- We will discourage the practice of removing grayling to improve trout fishing by providing relevant fishery owners with information about the effects of removing a large proportion of a grayling population.
- We will not undertake any large-scale removal of grayling, except when the fish removed are required to re-establish a grayling fishery elsewhere.



Sea trout stocks must be protected from over-exploitation, whether by rods or nets. Sea trout are migrating to the sea at a younger age, and many are returning to freshwater as whitling after less than a year at sea. This may be due to climate change, but it may also indicate a reduction in the abundance of young trout. Therefore further restrictions on the exploitation of sea trout may be needed to increase spawning escapement¹⁸.

The Salmon & Freshwater Fisheries Review recommended a ban on the sale of rod-caught salmon, and by inference of sea trout as well, to make

it more difficult to dispose of illegally caught fish, as well as to limit exploitation.

Policy 12:

- Where netting or angling is believed to be preventing stocks of sea trout achieving conservation targets, measures will be introduced to restrict catches so that stocks can recover, taking into account costs and benefits.
- We will review the size limits, set by Agency byelaws, to safeguard the migration of smolts and survival of whitling (small sea trout).
- We will support the introduction of a ban on the sale of rod-caught sea trout.

Where migratory salmonids from a mixture of river stocks are netted, this could lead to an inability to manage stocks from individual rivers. For this reason, the Government in England supported the Review's recommendation to continue the Agency's existing phase-out of mixed-stock salmon net fisheries, except where stocks from a small number of rivers are exploited. Where there has been no immediate stock-conservation problem, closures have been phased to avoid hardship to current netsmen.

Most, if not all, mixed-stock sea trout fisheries are already being phased out because they are also mixed-stock salmon fisheries.

Policy 13:

- In line with the views of the Salmon & Freshwater Fisheries Review we will continue to phase out mixed stock net fisheries for sea trout except where stocks from a small number of rivers are exploited, in which case catches will be regulated to protect the weakest stock.

4.2.1.2 Illegal exploitation

Trout, especially sea trout, are frequently the target of poaching, whether by net, snare, spear, set-line, poison, hands or other prohibited methods of catching fish. Rod and line can also be used illegally. If unchecked, illegal exploitation can present a serious threat to stocks. Enforcement is expensive, and in some parts of the country a significant proportion of our budget is spent on controlling illegal exploitation. Anglers, fishery owners and the police also play an important role, whether directly through prosecutions under the Theft Act 1968, or by passing information on to us.

Policy 14:

- We will work with others to control illegal exploitation as effectively as possible, giving priority to the protection of wild stocks.

4.2.2 Stocking and introductions

Stocking with trout is crucial to the success of many trout fisheries. Nonetheless, in some circumstances there is a risk of damage to wild stocks, which might occur in several ways including:

- competition or predation by stock fish;
- stimulating an influx of predators;
- stimulating fishing effort and hence excessive exploitation of wild stocks;
- introduction of disease;
- change in the genetic composition of wild stocks through interbreeding.



Substantial genetic changes in wild populations resulting from stocking have been demonstrated using new scientific techniques, for example on the River Dove⁷. The extent to which such changes will affect the long-term viability of wild populations is more difficult to determine, but the risk is there.

The Moran Committee, representing angling interests across England and Wales, expressed concern about the potential impacts of stocking in its observations to the Review Group:

'Wild brown trout populations ... are ... at risk, not only through displacement by stocked fish, but also by interbreeding with stocked fish...'

Other than in fish farms, stocking requires the Agency's (Section 30) consent. It is desirable that in granting consent such risks are minimised, taking into account the costs and benefits.

We have recently developed general policies on fish stocking, especially with non-native fish, reflecting the recommendations of the Salmon & Freshwater Fisheries Legislative Review. Key aspects of the policies that affect stocking with trout and grayling are indicated below.

Policy 15:

In considering whether or not to consent a stocking, we will adopt the guiding principles that:

- fish introductions should not be allowed to jeopardise the well-being of naturally established ecosystems; and
- there should be no overall detriment to the fisheries (stock, habitat, performance) of the donor water or the receiving water, or to the viability of the fish involved in transfer and introduction.

In the past, substantial numbers of large trout have been stocked into waters that are nursery areas for wild trout or salmon. The policy indicates that in future such stockings will be avoided where there is a significant risk of an impact on wild stocks. The location of such river stretches will be identified with local consultation.

Even outside nursery areas, it may be appropriate to restrict the number, size of fish and provenance of fish stocked so as to reduce the risk of any negative impact on wild stocks, either directly or indirectly.

Policy 16:

- We will work with others to identify limits on the number and size of trout which could be stocked into different types of water without undue risk of a deleterious impact on wild stocks.

▼ *Wild brown trout are at risk*



Policy 17: Brown trout and sea trout

Where a proposed stocking of *Salmo trutta* differs from current practice, it will not be consented if it presents an additional risk of genetic damage that could either:

- reduce the viability of any wild population; or
- change the characteristics of those wild populations that are considered to be distinct or evolutionarily important.

(policies 27, 28 & 29 provide more detail of how this will be achieved)

Policy 18: Non-native species

- We will not grant consent to introduce any non-native species, other than rainbow trout, into rivers, streams and other unenclosed waters.
- We will grant consent to stock into enclosed stillwaters outside the floodplain provided that all appropriate legal, environmental and disease conditions have been met.

Although a non-native species, the rainbow trout has been widely stocked for many years and is the mainstay of most still-water fisheries; it has also been stocked into many rivers. Nonetheless, few self-supporting populations have become established. It is therefore treated differently from other non-native species.

Policy 19: Rainbow trout into rivers, streams and other unenclosed waters

- Subject to other constraints, we will permit introductions where there is a history of stocking to sustain a fishery or where the introduction of non-breeding rainbow trout can be clearly demonstrated to be a preferred environmental option.
- In all other cases, we will not consent the introduction of rainbow trout into rivers, streams or other unenclosed waters.

Rainbow trout are readily distinguishable from brown and sea trout. Consequently, their use for stocking can enable wild trout to be managed separately from stocked fish.

Concern has been expressed from various parts of the country about the number of rainbow trout

escaping from fish farms. Escapees could impact on stocks of resident fish and may be a nuisance to angling, especially if the escapees are small.

Policy 20: Escapes from fish farms

- We will seek better ways of identifying the source of escapees.
- Where we have relevant evidence we will assist in legal action taken against those responsible for escapes.
- We will work with others to monitor the scale of the problem.
- We will seek stronger legislation, and if needed additional resources, to reduce escapes from fish farms.

Stocking with grayling is comparatively rare, but has been undertaken in the past to generate new fisheries or in mitigation for pollution incidents. The Legislative Review recommended that the species should not be spread beyond its natural range. In general, our policy reflects this.

Policy 21: Grayling

We will only permit stocking into rivers, streams or other unenclosed waters in catchments where the grayling is already present, except possibly:

- to re-establish a previous population (even if introduced); or
- for rivers recovering from long-term gross pollution where wider consideration will be given to the species stocked and the type of fisheries that might be developed.

Stocked grayling must have a suitable, generally local, provenance.



4.2.3 Habitat

Trout fisheries, whether for wild or stocked fish, depend on the physical, chemical and biological quality of the habitat, including good water quality, flows, cover and invertebrate life¹³. For wild trout, the need for good habitat may extend throughout much, if not all, of a catchment. Many spawn in small streams, with juveniles using these and larger tributaries as nursery areas before migrating to the main river, a lake or the sea, where they grow to maturity. Grayling stocks also depend on habitat quality, though their needs differ slightly from those of trout⁵. Wild trout and grayling populations are, therefore, useful indicators of the quality and integrity of the aquatic environment.

As part of its work to protect the aquatic environment, the Agency regulates or monitors some, but not all, facets of fish habitat, including:

- point discharges to rivers and lakes;
- chemical water quality in larger streams and rivers;
- invertebrate community structure in larger streams and rivers;
- abstractions greater than 20m³/d from surface or ground waters;
- physical works on main rivers and their banks, and obstructions on all waters.

However, the quality of trout and grayling habitat also depends on the work of many others. If habitats are to be protected and improved, a joint effort will be needed by many, including Government, farmers, landowners, local authorities, water companies and, of course, national and local angling interests and conservation bodies, as well as the Environment Agency. In many parts of the country, there are already local schemes for improving habitat involving river trusts and associations, wildlife trusts, the Game Conservancy, the Wild Trout Trust and the Grayling Society. In some cases, effective habitat protection and improvement may require changes in the law not only in England and Wales, but also within the European Union.



Current concerns include:

- pesticides including sheep dip (below left);
- increasing sediment loads;
- degradation of spawning and nursery areas;
- over abstraction;
- channelisation;
- nutrient enrichment;
- acidification;
- poor weed growth;
- over-grazing of weeds by swans;
- impacts of climate change;
- predation, especially by birds;
- gravel extraction;
- *Phytophthora* disease of alders;
- invasive alien weeds; and
- obstructions to migration



▲ Silt running off fields may choke spawning gravels.



▲ Habitat degradation caused by livestock can be prevented by fencing.

◀ Sheep dipping



▲ Extreme over-abstraction.

Policy 22:

We will work with others to monitor, protect and improve the physical, chemical and biological quality of trout, char and grayling habitat, including work with Government to ensure that impacts on fisheries are fully considered in the development of new policies and grant schemes relating to land use.



▲ Improved habitat by fencing

4.2.3.1 Predation

Predation on fish, particularly by birds and especially by cormorants, is an issue that concerns many fishery owners and anglers. Fish-eating birds can cause serious damage to certain fisheries, though this can be difficult to demonstrate, particularly on rivers.

A range of measures can be employed to reduce the impact of predation by cormorants, though their effect will vary from one site to another. One measure, shooting to kill, is permitted only as part of a pre-determined programme of scaring and must be licensed by the Defra or, in Wales, the National Assembly. The Salmon & Freshwater Fisheries Review made a range of recommendations on bird predation, which we support.

Policy 23: Bird predation

- Where there is clear evidence of serious damage to fisheries, we support the control of bird predation on a case by case basis, including where necessary, shooting to kill within the legislation.
- We will support the changes in the legislation recommended by the Salmon and Freshwater Fisheries Review.
- We will advise fisheries interests on management measures to control predation.
- We will support further research into more effective ways of preventing serious damage to fisheries.

4.2.3.2 Obstructions

On many rivers, access to spawning and nursery areas is obstructed, limiting recruitment to the fisheries downstream. Where natural obstructions are impassable, the trout populations upstream will be genetically isolated, and may have developed unusual characteristics.



▲ Weirs obstruct migration to the spawning ground.

Policy 24: Obstructions

- We will work with others to improve natural recruitment to trout fisheries by removing, or making passable, obstructions to migration, taking into account the costs and benefits. Such obstructions might be man-made or, if natural, not wholly restricting passage.
- Where natural obstructions are considered impassable, we will take a precautionary approach to the protection of stocks which may be genetically distinct and not remove the obstructions or ease fish passage past them.
- For any new structures, where the Agency's consent is required, these must be designed to enable fish migration.

4.2.3.3 Fly life and weed growth

While environmental quality will directly affect the fish, whether wild or stocked, it may also affect the quality of trout and grayling angling less directly. For example, dry fly fishing is considered by many anglers to be synonymous with river trout fishing. Yet the quality of dry fly fishing depends not only on the abundance of trout, but also on abundant hatches of a wide range of insect species throughout the angling season. Lose the insects and the quality of fishing declines, whether on chalk streams or rain-fed rivers. On chalk streams in particular, a healthy growth of *Ranunculus* is needed to provide habitat for the aquatic stages of such insect species and for the fish themselves.



Policy 25:

On appropriate fisheries, we will work with fisheries interests to identify key insect and plant species associated with fishing throughout the season, and where practical, adapt existing monitoring programmes to assess their abundance.



4.2.3.4 Landscape

Apart from the capacity to support fish and other aquatic life, the appearance of a fishery can be a significant factor in attracting anglers and others who use the water. The landscape value is an important consideration when work is undertaken on or near a fishery, for example in relation to flood-defence works and habitat-restoration projects.

Policy 26:

We will work with others to monitor, protect and improve the appearance of fisheries, consistent with our duties in relation to flood defence, conservation, recreation and other functions.



▲ *Litter may not affect the fish, but it does detract from the pleasure of fishing*

5. Putting it into practice

5.1 Principles

A full implementation plan will be developed to cover a five-year period from endorsement of the strategy. The plan will generally rest on four principles:

- national development and dissemination of best practice and procedures;
- communication and application of best practice and procedures through local consultation and collaboration;
- local and national reporting;
- national review and revision of practice and procedures.

For example, development of appropriate conservation targets for wild trout, sea trout and grayling stocks, and guidance for assessing compliance will be led by the National Salmon & Trout Fisheries Centre. The assessments will be carried out locally with results collated by the Centre and published nationally. Management action required to protect individual stocks will be taken in consultation with local fisheries and, where appropriate, conservation interests.

5.2 Classification of trout fisheries

5.2.1 Native trout waters

To help conserve wild stocks and also to enhance the economic benefit derived from them, trout waters will initially be divided into:

- **'native trout'**: waters that have significant natural production of trout (*Salmo trutta*), whether migratory or non-migratory, or from which there is ready access to other waters with such production;
- **other**: waters that do not have such production or access.

The designations of 'native trout' waters will initially be by our Area staff, but will be subject to subsequent local consultation. Consent to stock these waters will be subject to certain constraints to limit the risk of damaging the viability of the wild population.

Policy 27:

In general, we will continue to consent stocking into **'native trout'** waters if:

- consistent with practice over the last five years (the objective is to avoid increasing stocking levels of fertile, farm strain trout); or
- stock fish are triploid females; or
- stock fish are derived from local, naturally produced, broodstock under a suitable rearing regime.

In all waters stocking will still need to be consistent with policy 15, particularly with regard to the number, size and species of trout stocked (see policies 16, 18 & 19).



For stocking in 'native trout' fisheries, it may be appropriate to use the offspring of local wild brown trout. Alternatively sterile, triploids might be used.

All-female triploid rainbow trout have been used by many fisheries for some years. Commercial production of triploid brown trout, though more recent, is now well established in parts of England and Wales. If such fish were more widely available, and could be shown to perform satisfactorily in all types of water, they would provide a practical way of avoiding the risk of damaging wild trout populations that comes from continued stocking with fertile trout, line bred in fish farms. However, any future change in policy should review the costs and benefits involved in changing current stocking practice.

Female triploid trout^{11,12} look similar to ordinary trout, but do not develop characteristics linked to sexual maturity;

- are infertile;
- do not develop eggs or colour up during the spawning season;
- exhibit no spawning behaviour;
- may show better growth rates than ordinary trout because they are not putting their energy into egg production;
- survive better over winter than ordinary trout of mixed sexes;
- maintain their condition and flesh pigmentation over winter; and
- provide similar returns to the rod as ordinary stocked trout; and
- may fight more spectacularly than ordinary trout



Abbots Barton Fishery: *'Triploid browns were stocked exclusively this season and their quality and overall performance was unquestionable.'*

Test & Itchen Assn. Annual Report 2001

Advice from both producers and users of female triploid brown trout is generally favourable¹¹ in southern England where many fisheries already choose to stock them, including some on the Test, Itchen and the Kennet. However, wider experience of all-female triploids is needed, especially in other parts of the country.

Policy 28:

Further research will be commissioned into:

- triploids: production; performance; interaction with wild fish;
- stocking with ordinary farm-reared trout including performance & interaction with wild fish; and
- improved assessment of the risks to wild trout via genetic changes resulting from stocking fertile trout of farmed strains.

Where possible and appropriate the research will seek to involve fish-farming and angling interests.

In 2006, following completion of the research, policy will be reviewed to assess whether further constraints should be placed from 2007 on stocking fertile, farm strain trout in waters with significant natural trout production. The review will include further consultation with fisheries interests.

5.2.2 Wild Fisheries Protection Zones

In some fisheries, wild stocks will be given greater protection as Wild Fisheries Protection Zones. These will only be designated after local consultation with fisheries and conservation interests. There will be a simple and cheap appeals mechanism for the classification.

Policy 29:

The only exceptions to Policy 27 will be fisheries within **'Wild Fisheries Protection Zones'** where stocking will not be consented for one or more of the following reasons:

- local fisheries interests wish to avoid their 'wild' fisheries being contaminated with stock fish;
- the wild trout are considered to be genetically 'distinct or evolutionarily important';
- the zone contains important nursery or spawning areas for trout and/or salmon, at unacceptable risk from predation/competition by stock fish.

The classification and associated constraints on stocking will help to achieve a number of desirable outcomes:

- fisheries' managers wishing to attract anglers to wild fishing could ask for their fisheries to be designated as Wild Fisheries Protection Zones;
- preventing an increased risk of genetic damage to wild stocks;

- increased protection of key nursery areas for wild stocks of trout and salmon;
- anglers will be able to identify whether they are fishing in waters containing wild trout or whether they may be stocked.

5.3 Local consultation and the role of Fisheries Action Plans

Local consultation through Fisheries Action Plans is fundamental to delivering the strategy. These plans will be Area and, in some cases, catchment-based. They will cover all types of fishery including salmon, trout, other freshwater fish and eels in rivers, canals and still waters. The process for producing Fisheries Action Plans is currently being developed. Pilot plans for a small number of catchments have already been produced, including for the Dove in the Midlands and the Rother in Sussex.

To help deliver the National Trout and Grayling Fisheries Strategy locally, and in consultation with local fisheries’ interests, the Fisheries Action Plans will:

- review which waters should be defined as ‘native trout’ waters;
- define Wild Fisheries Protection Zones;
- assess local angling opportunities to identify where improvements in trout and grayling fisheries will generate the greatest socio-economic benefits;
- assess the potential for collaboration between the Agency and others, particularly fishery owners and lessees, to improve angling opportunities and enhance the conservation of wild stocks through habitat-improvement projects;
- identify appropriate sources of finance.

They will also take account of the Agency’s national strategies for salmon, coarse fisheries and eel management.

Among other inputs, the plans will ideally require an analysis of the angling opportunities for different types of trout and grayling fishing, as well as coarse, salmon and sea fishing, in relation to where people live and for different sectors of the population (adults, juniors, disabled).

Policy 30:
We will develop ways of analysing the angling opportunities available to different sectors of the population in individual districts to help develop a diverse range of angling opportunities in each area.

5.4 Advice to fishery owners

The Agency is often asked for, and provides, advice to fishery owners and angling clubs on matters related to fishery management, including:

- avoiding serious damage due to predation;
- stocking;
- improving physical habitat;
- disease;
- controlling illegal fishing;
- water-quality problems;
- conservation issues;
- local demand for different types of fishing.



Such advice will be both improved and made more widely available, resulting in a consequent benefit for trout populations, the quality of angling opportunities, the social and economic value of fisheries and the wider environment.

Policy 31:
We will identify the main issues of concern to managers of still water and river fisheries; and best practice to address each of these.

We will make advice based on best practice more widely available.

5.5 Research and development

The Agency and its predecessors have commissioned work to support the improved management of trout and grayling fisheries. Examples include:

- restoring riverine trout habitats¹³;
- genetics of Welsh brown trout¹⁴;
- a survey of rod licence holders¹⁰;
- review of grayling ecology⁵;
- an economic evaluation of trout fisheries^{3,4};
- developing management advice for trout and grayling fisheries¹⁵;
- an inventory of trout fisheries¹⁶;
- assessing the problem of fish-eating birds¹⁷;
- sea trout stock descriptions¹⁸.

Specific targets and mechanisms for assessing and reporting the individual measures of success will be developed during implementation of the Strategy.

Policy 32:

To ensure that sound science underpins the implementation of the strategy, we will identify and prioritise the research and development needed. We will commission work to meet these needs, in line with available resources, and where appropriate in collaboration with others.



6. Measures of Success

Outcome	Measures
1. Thriving populations of wild trout and grayling.	Compliance with conservation targets.
2. Genetic diversity of wild populations protected.	Compliance with stocking policy.
3. Good and improved trout and grayling habitat.	To be developed for water quality, flows and physical and biological habitat.
4. Improved opportunities for trout, sea trout and grayling angling for different sectors of the population.	Distance to the nearest available site offering a given type of fishing. To be developed for sites with facilities for disabled anglers.
5. Increased participation, overall and for disadvantaged sectors of the population.	No. of trout/coarse licences sold in different categories (Full/Junior/Disabled/Senior). Proportion of licence holders fishing for (i) trout; (ii) sea trout; and (iii) grayling. No of days spent fishing at different types of trout and grayling fishery.
6. Increased tourist expenditure associated with trout and grayling angling.	No. of trout and grayling fishing trips involving an overnight stay.
7. Increased environmental awareness.	Preference for fishing for wild fish. Proportion of anglers practising voluntary catch-and-release.
8. Satisfaction with Agency's Fisheries service.	Standards to be defined for licence holders and fishery owners seeking advice.
9. Protection of salmonid nursery areas from potential impacts of stocking.	Designation of key areas as 'Wild Fisheries Protection Zones'.

Glossary

Trout	'Any fish of the salmon family commonly known as trout, including migratory trout (sea trout) and char' (Section 41, Salmon & Freshwater Fisheries Act 1975): except where qualified.
Sea trout	Trout that migrate to and from the sea, generally of the native species <i>Salmo trutta</i> .
Non-migratory trout	Trout that do not migrate to and from the sea.
Brown trout	Non-migratory trout of the native species <i>Salmo trutta</i> .
Rainbow trout	A North American species <i>Onchorhynchus mykiss</i> .
Brook trout	A North American species of char <i>Salvelinus fontinalis</i> .
Enclosed waters	Waters from which the risk of fish movement is minimised by permanent natural or artificial barriers; and not liable to flooding.
Grayling	A native species of freshwater fish <i>Thymallus thymallus</i> .
Wild fish	Fish derived from natural reproduction, as opposed to being stocked.
Defra	Department for Environment, Food and Rural Affairs.

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