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**Management of Freshwater
Fisheries on Bordering
Rivers**

Examples of international fishery
regulations on bordering freshwaters



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REPORT

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Abstract The report gives examples of international co-operative regulations in bordering rivers and lakes in Scandinavia and other parts of Western Europe. It also gives a brief introduction to Norwegian legislations of freshwater fisheries and fish management.

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Preface

This report is a delivery from the Norwegian partners of the international project “Management of Freshwater Fisheries on Bordering Rivers”, and it gives some examples on fish and fishery regulations in bordering freshwater commissions in Scandinavia and Western Europe.

The project is financed by the Norwegian Ministry of Foreign Affairs. The client is the Croatian Ministry of Agriculture, Forestry and Water Management, Directorate of Fisheries. The overall project leader is Dr. Ivan Katavic (Croatian Directorate of Fisheries). M.Sc Tor-Jahn Herstad from Akvaplan-niva AS, is the Norwegian project coordinator. The scientific part of the project is lead by professor Milorad Mrakovcic, University of Zagreb. Other partners in the project are administrative bodies and scientific institutions (Universities) in Norway, Croatia, Serbia & Montenegro and Bosnia Herzegovina.

One of the aims of the project is to assess the status of the fish population at different sites in the bordering rivers Sava and Danube, and propose actions where necessary. The authors of this report, M. Sc Dag Berge, NIVA and Ph. D Geir A. P. Dahl-Hansen, Akvaplan-niva, are participating in the scientific project programme.

This report gives a brief summary of transboundary river co-operation outlined in river commissions in Scandinavia and Western Europe. In general information about international fish management in European transboundary waters has been difficult to obtain. This is due to several factors like lack of co-operation between countries (each of the bordering countries follow their own rules), problems to get the information, the information is not available on the internet, and if available the information is in local language only. Some of the well-functioning systems for fishery and fish management co-operation in European bordering waters are in Lake Geneva and River Doubs (border between Switzerland and France), as well as in Tana and Torne rivers (Scandinavian border rivers). We have therefore described these co-operations in more detail. The report also gives a brief introduction to Norwegian policy for environmental protection and legislations in freshwater fish management.

Tromsø/Oslo, 2005-09-01

Geir Dahl-Hansen and Dag Berge

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1. Introduction

In Europe lakes and rivers often form the borders between countries. The sharing of the water body often creates conflicts of interest which are solved in different ways through collaborative agreements between the countries. Among them are the questions about professional and recreational freshwater fisheries and fish management in bordering waters. The river Danube for example, covers 11 different countries (18 if all tributaries are included). This makes water and fishery management very complex. In Northern Scandinavia the transboundary waters cover four countries and the border regions are fairly homogenous with respect to culture and daily life of the people in the small communities. The rivers form the borders and are at the same time very important for their daily life. According to the Water Framework Directive (WFD), rivers running through more than one member state must be designated to international river basin districts.

Around the world there are more than 260 international river basins (71 in Europe), and many of these form borders between countries. For about two-thirds of the transboundary river basins there are cooperative agreements developed and implemented by river or river basin commissions. A good review on structures and practices for cooperation and management of transboundary waters is given in the Mantra East-report by Gooch et al. 2002. (The Mantra East project was an EU-research project that dealt with the different problems concerning management of transboundary water bodies, for example differences in water-use, the lack of a common information system, problems in upstream versus downstream river sections, differences in legal platforms, etc.

The diversity of existing river and lake commissions is great, and the range of experience in the co-operative planning and management of shared water resources is wide, from fully integrated programmes to those with special focus on certain elements such as water supply, water quality, power generation, flood control. An increasing number of commissions have environmental concerns and sustainable development issues as one of the main objectives.

To exchange practical experiences and to identify measures that could promote and support future work for river and lake commissions, a forum for selected representatives of international commissions (The Round Table) was designed (DSE 1998). The recommendations of the forum, The Round Table, represent useful reference documents for participation in international water resources management activities and provide a solid foundation for building close cooperation with different transboundary commissions.

Cooperation on transboundary water management is often based on voluntary agreements between the neighbouring states, but may include international and intra-national water authorities and commissions. The platform of these agreements varies greatly, from ad hoc arrangements, memoranda of understanding, to formal international treaties and agreements. However, when established, these agreements and transboundary commissions function fairly well.

2. Transboundary cooperation on fish management

Agreements and cooperation on transboundary waters most often address issues such as pollution prevention, waste water reduction, re-use and recycling, water and land use that can affect water quality, watershed management, environmental demand for water, water regulation (use and constructions that may have effects on water flow and water levels). Some also incorporate control of alien species. Despite the fact that these issues directly or indirectly, affect the fish communities in various ways and therefore are important in the management of fish populations, few transboundary agreements and cooperation have management of fish populations and development of sustainable fisheries as one of the main goals. In general, improved fish populations are considered as positive side-effects of other measures to manage and improve transboundary waterways.

In several bordering waters commercial and recreational fisheries seem to have low importance. Bilateral agreements and management of freshwater fish and fisheries are therefore given low priority.

Gathering information on international management of bordering waters and the relevant legislation and agreements was not as simple as one could expect. Considerable problems were faced and often the intentions of bordering countries were higher than the results in the field. One of the problems was related to language. All legislation and agreements between two countries are written in the respective languages, but not in English. In most cases not even an English summary is available. National legislations that cover the territorial coastal areas are in most cases only in one language (partly not even in the language of the neighbouring countries). Another fact of importance is the unavailability in many cases of information on the internet (exception is Switzerland and some of its bordering countries). Easy access to information through the internet is vital for well organised management. Access to information should be unlimited and free of charge, which is not always the case.

Switzerland and its bordering countries can be mentioned as very positive examples with respect to public information and accessibility. This is a prerequisite for strict and detailed management and leads in the end to better environmental conditions and sustainability of fisheries. Some examples of well functioning agreements on fish management and fishery regulation coordinated by transboundary water commissions, are the agreements of Lake Untersee (Switzerland – Germany), Lake Geneva and the River Doubs (Switzerland and France). Therefore the regulations of Lake Geneva and River Doubs have been described in detail in the present report. In the northernmost part of Europe, the transboundary waters between Norway – Finland and Sweden – Finland are regulated by well functioning agreements and border commissions. These are also some of the few examples where detailed information about the regulations has been available. Therefore the two Scandinavian examples of transboundary cooperation have been described in more detail.

The available information about transboundary co-operation of fish management and fisheries West European waters is summarised in table 1.

Table 1. Some examples of transboundary regulations of fisheries in European bordering waters.

	Alp Rhine	Lake Obersee	Lake Untersee	High Rhine	Upper Rhine	High Oder	Oder	Oderhaff, lower Oder	Neisse
Location	From the confluence of the source rivers at Reichenau (Switzerland) to Lake Constance	Main Basin Lake Constance	Western part of Lake Constance. Transition between Lake Constance and Upper Rhine	Rhine between Lake Constance and Basel	Basel to Bingen	From the source to Brandenburg	Are Mecklenburg / Brandenburg	From Mecklenburg to the sea	
Frontier countries	Switzerland – Liechtenstein Switzerland – Austria	Austria – Switzerland – Germany	Switzerland – Germany	Germany – Switzerland	Germany – Switzerland Germany – France	(Germany –) Poland	Germany – Poland		
Time regulation of fishing; who is responsible	No info		"Fischereiverordnung für den Untersee", international, integrated and based in national legislation, very detailed	National responsibility* Germany: the federal states Switzerland: The cantons (counties)	National responsibility* Germany: federal state responsibility France: The counties	National responsibility* Poland: The Ministry of Agriculture			
Regulation of fishing equipment; responsible	No info		"Fischereiverordnung für den Untersee", recreational fishermen can only use rods, fishing from the shore or from boat (without engine) – 2000 recreational fishermen on 70 km ² area	National responsibility* Germany: the federal states Switzerland: The cantons (counties)	National responsibility* Germany: the federal states France: The counties	National responsibility* Germany: the federal states Poland: The Ministry of Agriculture			
To who the catches are reported	No info		The catch must be reported weekly to the local fishery authorities (catch per day is listed), monthly national statistics, yearly collection of all data for international statistics	Fishery authorities in each county/federal state	Fishery authorities in each county/federal state				
Regulation of size groups; responsible	No info		"Fischereiverordnung für den Untersee"	National responsibility* Germany: the federal states Switzerland: The cantons (counties)	National responsibility* Germany: the federal states France: The counties	National responsibility* Germany: Federal state responsibility Poland: The Ministry of Agriculture			
Regulation of quotas; responsible	No info		Quotas do not have big importance. They are changed spontaneously when some species occur at high or low densities	National responsibility* Germany: The federal states Switzerland: The cantons (counties)	National responsibility* Germany: The federal states France: The counties	National responsibility* Germany: Federal state responsibility Poland: The Ministry of Agriculture			
Population monitoring; responsible	No info		National responsibility* Germany: Federal state responsibility Switzerland: The counties	National responsibility* Germany: The federal states France: The counties	National responsibility* Germany: the federal states France: The counties	National responsibility* Germany: the federal states Poland: The Ministry of Agriculture			

* Where there is national responsibility, it is most likely that the rules/regulations are different in the two neighbouring countries).

Table 1. Continued.....

	Alp Rhine	Lake Obersee	Lake Untersee	High Rhine	Upper Rhine	High Oder	Oder	Oderhaff, lower Oder	Neisse
International management unit	No info		No, but "Fischereiverordnung für den Untersee" is binding international regulation – the present regulation since 1977	No ICPR – International Commission for the Protection of the Rhine, only advisory role	National responsibility* Germany: each federal state Poland: The Ministry of Agriculture				
The importance of recreational fishing	No info		Of low importance since equipment restrictions was established	Of low importance	Important only in some few areas, the ship traffics is normally to high to carry out recreational fishing	Of great importance in Poland. Polish sportfishing unions have bought or hired all the fishing rights			
Who is allowed to participate in recreational fishing	No info		Everybody that have passed a fishing test, foreign tourists can get dispensation, but not those coming from the neighbouring country	Germany: Everybody that has passed an fishing exam, exception for foreign tourists France: everybody	Germany: Everybody that has passed an fishing exam, exception for foreign tourists Poland: everybody				
The importance of commercial fishing	No info		Of great importance in both countries	Low importance		Of no importance			
International fishery commission	No info		No, not considered as necessary	No, but ICPR has meetings at minister level.	No, but ICPR has meetings at minister level	No, but conversations for foundation is initiated			
Controlling authority	No info		Both countries have the authority to carry out control on the entire bordering area, irrespective of nationality, borders etc.	Each country on their own territory	Each country on their own territory	Each country on their own territory			
Is test fishing needed?	No info	Germany: yes Switzerland: yes Austria: ?	Germany: yes Switzerland: yes	Germany: yes Switzerland: yes	Germany: yes Switzerland: yes France: no	Germany: yes Poland: no			
Conflicts	No info		Cormorant. Different rules for hunting and several new protected areas for birds in Germany contribute to the conflict.			In Poland it is illegal to put back spinycheek crayfish (<i>Orconectes limosus</i>) and the crayfish <i>Pacifastacus leniusculus</i> . Both species are introduced. In Germany not considered as a conflict, but it is uncertain if Poland looks upon this as a conflict.			

2.1 Transboundary co-operation; Case study Switzerland

Switzerland has borders to France, Austria, Germany, Italy and the Principality of Liechtenstein. Their water resources count for 6 % of the European freshwater resources, and some of the major waters (lakes and rivers) are bordering waters between Switzerland and one or several of the above mentioned countries.

Switzerland has a part of several major European river systems, Rhine, Rhône, Po, Etsch and Inn; transporting water from Switzerland to the North Sea, the Mediterranean Sea and the Black Sea. The main bordering waters are Lake Geneva, Lake Bodensee (with Lake Obersee, Lake Untersee and Seerhine), River Doubs, Langensee, Luganersee and Tresa (Figure 1).



Figure 1. Map of Switzerland and the bordering countries. The numbers show the locations of the bordering waters (1 = Lake Geneva, 2 = River Doubs, 3 = Langensee – Lago Maggiore, 4 = Luganer See, 5 = River Tresa, 6 = Lake Constance – Bodensee)

As fisheries and freshwater resources are regulated following legislation of different autonomous states, conflicts are arising and the need for specific international regulations and agreements is obvious.

There are developed regulations for following waters:

- Lake Geneva (Switzerland – France)
- River Doubs (Switzerland – France)
- Langensee, Luganer See and Tresa (Switzerland – Italy)
- Lake Constance (Switzerland – Austria – Germany – Principality of Liechtenstein – France)

Transboundary commissions regulating fisheries in bordering water between Switzerland and their neighbouring countries are shown in Attachment 5.2., whereas the regulations for Lake Geneva and River Doubs are dealt with in the next section.

2.1.1 Lake Geneva and River Doubs

A contract for regulation of fisheries was signed for Lake Geneva in 1980 (commencement 1982) and for River Doubs in 1991 (commencement 1993) by Switzerland and France. Detailed executive regulations are given as a supplement to the contracts.

(The original law SR 0.923.21 and the executive regulations SR 0.923.211 for Lake Geneva can be read at: <http://www.admin.ch/ch/d/sr/i9/0.923.21.de.pdf> and <http://www.admin.ch/ch/d/sr/i9/0.923.211.de.pdf> (in German).

The original law SR 0.923.22 and the executive regulations SR 0.923.221 for River Doubs can be read at: <http://www.admin.ch/ch/d/sr/i9/0.923.22.de.pdf> and <http://www.admin.ch/ch/d/sr/i9/0.923.221.de.pdf> (in German).

In the international contracts the following main issues are regulated:

- | | |
|--|--|
| 1. Geographical scope | 9. Communication in case of emergency |
| 2. Purpose of the international contract | 10. Written communication between public authorities |
| 3. Executive regulations | 11. Research |
| 4. Fisheries legislation | 12. Arbitrating body |
| 5. Habitat protection | 13. Revision of contracts |
| 6. Advising commission | 14. Contract period |
| 7. Controlling institutions | |
| 8. Prosecution | |

Purpose

The purpose of the international contracts between Switzerland and France is to harmonize the national regulations for fisheries of the contracting countries and to protect fish life and habitats.

The executive regulation

The executive regulation covers all technical and financial aspects of fisheries and stock management and defines fishing quota, which guarantee sustainability and balance between the fish species.

There are regulations on:

- Protected areas for fishes and biotopes.
- Stocking methods and number of stocked fishes (including catch of larvae)
- Number of licenses including criteria for issuing of licenses
- Fishing methods
- Minimum sizes of fish
- Closed season
- The regulations have to guarantee fish recruitment and prevent unnecessary damage of fishes.

The executive regulations are described more in detail later in this section.

Fisheries legislation

Fishing without license is not permitted, and loss of license applies for both countries. Commercial fishing in territorial waters (not coastal waters) can be allowed by the contracting parties. Licensed recreational fishing is allowed on both sides of the border for people registered in the area. There is potential financial compensation for one of the parties using less resources than the other.

Habitat protection

Fish habitats, especially habitats used for reproduction and recruitment, have to be under special protection. Any measures have to be taken to avoid impacts on fish and their food resources during work in coastal areas and lake and river bottom or any operations changing water level or water quality.

Commissions

There are two consultative commissions on fishing and protection of the aquatic environment in Lake Geneva and River Doubs. Each country is represented in the commission by a maximum of four persons. The objective of the commissions is to harmonize the legal provisions between the two states governing fishing, and ensure the effective protection of fish and their habitat. The area(s) of activity are:

- Monitor the implementation and application of the agreement.
- Ensure an exchange of information between the states.
- Prepare and present proposals aimed at amending the application.

Regulations:

- Prepare and present proposals for the management plan.

- Facilitate contacts between the authorities responsible for implementing the planned provisions of the directives in the agreement and its application regulations.
- Endeavour to resolve problems resulting from the implementation of the agreement and its application regulations.
- Additionally for River Doubs: Fix every year the amount and the methods of calculating water rates.

The commissions establish working groups and call for expert advice if necessary. They meet at least once a year (alternating on French and Swiss territory) and whenever one of the parties asks for a meeting. The competent federal department/office is Federal Department of the Environment, Transport, Energy and Communications (Etec) / Swiss Agency for the Environment, Forests and Landscape (SAEFL)¹.

Controlling institutions

The responsible institutions of both countries nominate authorities controlling fisheries and fish stocks. The other country has to be informed which authorities are controlling. Persons monitoring the lake/river are not allowed to control outside territorial waters, except the case of an obvious violation of the contract. They are allowed to protocol, but not to use force in any way or to confiscate. If this is necessary, the authorities of the other country have to be called. Controlling units have to be identifiable for the other country. They are allowed to use uniform and service guns when entering territory of the other country, but they are allowed to shoot only in self-defence. Controlling authorities can require investigation, confiscations and prosecution of cases by the other state.

Communication in case of emergency

In case of emergency both states have to meet and agree immediately on measures to prevent damage to fish and the environment.

Fish stocking

The authorities of both countries agree on numbers and organize fish stocking and farming of fish fry and larvae for stocking purpose.

Research

Both countries are obligated to support applied research on hydrobiology and fisheries, especially fish diseases and their defence.

Written communication between public authorities

Authorities communicate directly and are obligated to make the following information known to the other party:

- List of names of the persons responsible for monitoring and controlling
- Exact borders of the protected areas
- Catch and stocking statistics
- Allowed deviation from the executive regulation
- Programs and results of scientific studies
- List of fishermen which are not allowed to fish anymore

¹Contact address / secretariat: SAEFL / Water Protection and Fisheries Division, Postfach, 3003 Bern

Arbitrating body

Conflicts that cannot be solved by negotiations will be submitted to an arbitrating body.

Executive regulations

Since the executive regulations are very detailed and specific for each bordering waters the regulations of Lake Geneva are taken as an example for how the international management can be standardized.

Executive regulations for fisheries in Lake Geneva

Main issues regulated in the international executive regulations:

Fisheries legislation

Definition of the different types of licenses

Requirements for licenses

Number of licenses

Fishing rights on the other territory

Geographical borders and definitions

Definition of borders between the lake, its tributaries and its outflow

Definition of the lake zones

Types of fisheries

Fishing gear Nets

Traps

Fish hooks

Nets

Traps

Lines

Fishing rod

Forbidden fishing gear and fishing methods

Forbidden gear and methods

Forbidden devices

Fish chasing

Standards for use of equipment

accredited for professional fishery

Definition of net size

Definition of mesh size of nets and bow nets

Large trawl

Small trawl

Large drifting net

Trout nets

Bottom nets

Small nets

Mirror net

Goby net

Connection of nets

Traps and bow nets for fish

Bow nets for crabs

Fishing hooks (drifting and laying lines)

Marking of commercial fishing gear

Standards for use of commercial and recreational fishery

Trolling

Other rod gear

Bait fish bottles

Dip net

Sink net

Crab net

Protection of fish and crabs

Minimum sizes

Closed season

Maximum size of catch

Bait

Protected regions and areas

River mouths

Breeding areas for char

Other limitations

Fishing periods for professional fishery

Fishing periods for recreational fishery

Additional limitations

Catch statistics and stocking

Professional fishery

Recreational fishery

Aquaculture of stocking fish

Final clauses

Exceptions

Limitations for perch fishery

Transport of living crabs

Regulations in both countries

The following brief summary provides the most important issues of the executive regulations.

Fisheries legislation

Number of licenses

The maximum number of licenses is 107 for Switzerland and 70 for France. One professional fishing license counts for three recreational fishing licenses.

Fishing rights on the other territory

In territorial waters of the other country it is only allowed to use the large drifting net. Deployment of the net has to be in the common zone (which is defined in the regulations), but it is allowed to take the nets on board within the other country's territorial waters.

Geographical borders and definitions

Definition of the lake zones

Definition of the littoral zone, the slope zone and the deep water zone.

Types of fisheries

Passive fishery: fishing is limited to deployment and heave of fishing gear.

Active fishery: fishing gear is operated under fishing.

Chasing fishery: active chasing of fish in direction of the net.

Fishing gear

Definition of drifting, semi drifting, bottom and towed gear.

Nets

Definition of the different net types as single net, mirror net, trawl net, goby net, sink net, dip net.

Traps

Definition of bow nets for fish and crabs, bait fish bottle and crab net

Lines

Definition of different types of lines

Fishing rod

Definition of drifting hook, sink hook, towed hook etc.

Forbidden fishing gear and fishing methods

Forbidden gear and methods

All explosives, intoxicating or toxic substances, all fire weapons, all types of harpoons and springes, all chemical, optical and acoustical attractants and all gear for dive fishing are forbidden.

Forbidden devices

Boats used for small and large trawls are not allowed to use radio direction finders to locate fishes.

Fish chasing

Forbidden as a whole.

Standards for use of equipment accredited for professional fishery

Large trawl

Size: maximum 120 m long and 40 m high, size of the net bag is maximum 25 m. Minimum mesh size of the net bag is 35 mm, for the armes 40 mm. Use of the large trawl net is forbidden on Saturday after 12.00 a.m. and on Sunday during the closed season for salmonids. From the beginning of the salmonid fishing season until 31.01

in the areas defined as breeding areas for char. From 15.04 until 30.06 closer than 100 m from shore and in water depths less than 30 m.

Trout nets

Trout net is an ankered drifting net which is deployed right under the water surface. The maximum length is 100 m and maximum height 3 m, minimum mesh size has to be 48 mm. Maximum three nets are allowed. They are only allowed for use after the season for salmonids is ended. The nets have to be deployed after 16.00 and taken in before 9.00 the next day.

Small nets

One type of small nets has a mesh size between 28,5 and 32 mm. Fishermen using these nets are not allowed to have defined fish species together with the net on board (this will be seen as violation of the fishing regulations as these species are not allowed to be caught with small mesh sizes).

Bow nets for fish

Mesh size, volume, position, season and number of bow nets per fisher (6 bow nets) are defined.

Fishing lines (drifting and laying lines)

The maximum length of the lines is 50 m, number of hooks is maximum 25 and the opening of the hook has to be at least 10 mm. Lines have to be in right angle to the shore, during closed season for salmonids the use is forbidden and the number of lines is limited to four per fisherman.

Marking of commercial fishing gear

All fishing gear has to be marked with an identification of the licensed fisherman and the type of marking is defined for each equipment type

Standards for use of commercial and recreational fishery

Trolling

Maximum length of the line is 200 m and it shouldn't be more than 50 m sideways from the boat axis. Lines can have a maximum number of 20 single, double or triple hooks. They are forbidden to use during the closed season for salmonids.

Dip net

Diameter maximum 1 m. Only one dip net can be used.

Protection of fish and crabs

Minimum sizes

Minimum sizes: *Salmo trutta* – 35 cm, *Salvelinus alpinus* – 27 cm, *Thymallus thymallus* – 30 cm, *Coregonus sp.* – 30 cm, *Esox lucius* – 45 cm, *Perca fluviatilis* – 15 cm.

Because of control measures head and tail of the fishes are not allowed to be cut off before the fish is taken home or to the fishing cabin. All perches caught with a fishing rod have to be taken home, independent of their size.

Closed season

List of the closed season for the above mentioned species.

Maximum size of catch

8 trouts per day and 250 per year, 10 chars per day and 250 per year, 80 perches per day, 5 pikes per day

Protected regions and areas

Reed belts are protected in any region and at any time.

Definition of the geographical position of the protected areas at river mouths in France and Switzerland.

Switzerland: For one type of protected area fishing with nets, bow nets, towed lines, drifting and laying lines is forbidden all year round, for the other type of area fishing with the mentioned gear is forbidden during closed season for salmonids. France: Definition of areas where fishing is forbidden completely.

Other limitations

Professional fishery is allowed all year round from 3 a.m. until 10 p.m.

Recreational fishing is allowed from half an hour before sunrise until half an hour after sunset.

Catch statistics and stocking

Professional fishery

Weight and number of fishes have to be recorded daily on a special form for each species caught. The form with the statistical information has to be delivered within 5 days after the end of the month.

Recreational fishery

Applies for towed gear. Species, number and weight have to be registered in a control booklet. This booklet has to be delivered when renewing the license and latest at the 30th of April the following year.

Aquaculture of stocking fish

Stocking fish has to be cultured from both states. The yearly quota is 50 millions whitefish, 1,2 millions char and 0,5 millions trout.

2.1.2 General Comments

The borders between Switzerland and its neighbouring countries are traditionally strongly controlled. Bordering waters are not excluded, but border control and use of resources in border areas have been turned into a common issue with mutual agreements.

In the middle of the waters, a broad bordering zone was established and within this zone, officials from both countries are allowed to control and to take action in case of violation of prevailing international laws and regulations.

The zone reaches on both sides of the border line over a total of 10 to 15 % of the waters width. In this zone no national regulations are effective.

Beyond the common zone, officials are allowed to take action in the other state's territorial waters in case of obvious violation of prevailing international laws and regulations.

Each nation has the right to implement national regulations for the territorial waters as a supplement to the international regulations.

The international regulations are not static, but are under continuous focus and improvement. Additionally, none of the agreements is permanent, which means they are only valid for a defined period of time. For the national states this was one of the preconditions to be able to sign the agreement.

2.2 Transboundary cooperation; examples from northern Scandinavia



Figure 2. The three main border watercourses in Scandinavia.

In the northernmost part of Scandinavia, there are several international main river basins. Three of those are shared between Norway and Finland, and one is shared with Russia. Finland has three main international river basins in the north, one shared with Sweden, one with Russia and one shared with Norway and Russia jointly. Sweden has one shared with Finland. From a fish management point of view, the rivers Torne and Tana are the most important bordering rivers. Tana is one of the most important rivers in Europe for natural production of Atlantic salmon, and Torne river is the most important spawning river for wild salmon in the Baltic sea. Torne River also has whitefish fisheries that are important for the local households.

The administrative arrangements are challenging, as Finland's and Norway's neighbours have different status with regard to the European Union. For example, the Torne River basin involves two EU Member States, Finland and Sweden. The Tana river and Neiden river basins require collaboration between Finland and Norway which is an EEA country. The Water Framework Directive (WFD) incorporates all the principle that the EU members must consider in their cooperation on bordering rivers and lakes. WFD is made to prevent quality reduction of aquatic ecosystems. Indirectly the directive helps to safeguard fish populations in transboundary waters. As an EEA country Norway must also implement the Directive.

2.1.1 The Finnish-Swedish Transboundary Rivers Commission (FSTRC)

Finland has bordering rivers to Sweden, Norway and Russia. The water and fishery management of the border section are well regulated by bilateral agreements.

The agreement between Finland and Sweden regulates all activities related to the Torne River; the border river between the two countries. The agreement is one of the few of its kind in the world. It is a very good example on how management and preservation of a border waterway and the surrounding area between two countries can be solved. The agreement, which was established in 1971 and made as a constitutional law in both Sweden and Finland, was made to regulate constructions inside the frontier waters, water regulation, fishing and pollution.



Figure 3. The Torne river system.

The agreement has 9 sections describing:

- general rules
- about the border commission
- special rules about water regulations
- fishery
- protection against water pollution
- liability for damages
- course of action
- supervision and areas of responsibility

The FSTRC is responsible for managing the waters covered by the agreement for the benefit of both countries while effectively promoting the interests of the local area. At present (2005), the commission has both judicial and administrative authority over all use or development of these waters, including any construction-related issues, regulation of water flow and fisheries, and pollution prevention. The agreement states that nature conservation is particularly important, giving emphasis to the preservation of fish stocks and the prevention of water pollution. The prevention of pollution is governed by national legislation on public health, nature conservation, and water quality, as well as by the municipal laws of both nations. FSTRC's authority is thus quite broad. For example, it will not permit either solid or liquid wastes to be discharged if they might cause detrimental silting or a decline in water quality, damage fish stocks, reduce aesthetics, impair public health, or otherwise injure private or public interests.

In the transboundary water cooperation the common local cultural traditions of both countries have been respected. The right to make decisions in questions regarding the watercourse has been given to a transboundary commission.

The FSTRC, which is the executive and the permit granting authority, has jurisdiction over Torne River and its tributaries, the area along the river and the borderland lakes. The commission supersedes the judicial and regulatory authorities of both countries. The commission has six members, three from each country, of which one member of each delegation must be well versed in law and possess judicial experience, another must be a technician, and the third must be well acquainted with the conditions in the border region. The commission may also employ outside experts for special investigations.

The commission is responsible for managing the waters covered by the agreement and grant permits for salmon fishing, but in contrast to the Finnish-Norwegian Border River Commission, which has an advisory role, the FSTRC is a permit-granting authority. One of the important functions of the transboundary committee is granting permits for pollution, for which it has the authority to set the conditions that must be met. The decisions can not be interceded by the two governments. Both the commission and its experts have broad powers to enter and examine premises. When the conditions of a permit have been violated, local courts can fine or imprison the guilty parties.

The committee has been relatively efficient in meeting its responsibilities, principally because only two countries are involved. Their environmental regulations have largely been harmonized, and the commission has strong regulatory and enforcement tools. However, the structure and mandate of the Commission is about to change to the model of the Norwegian-Finnish Commission. In the future the Commission will have an informative and advisory role. The judicial and administrative authority will be the different governmental authorities in each country, e.g. in Sweden the question about fish regulation will be decided by the National Board of Fisheries (Fiskeriverket). These fundamental changes are due to fact that the decisions made by the Committee, was final, which caused a lot of irritation and protests, particularly among the fishermen. Furthermore, the environmental laws of the two countries are harmonized, which makes a coordinating commission unnecessary. The structure of the commission is also somewhat contrary to the EU's with respect to environmental protection and salmon fisheries.



Figure 4. Professional fishery for whitefish in Torne river.

The common fishery regulations for the two countries have 7 main sections describing:

1. Geographical delimitation of the agreement
2. Geographical delimitation within the river
3. Sections closed for fishing
4. Equipment limitations for professional fishing: areas for fishing, forbidden areas, illegal equipment
5. Permanent equipment (for professional fishing):
6. Sharing of fishing at certain places in the river
7. Overall rules for fishing license

There are catch and size limits for salmon only.



Figure 5. Permanent equipment for professional catch of whitefish in Torne river.

2.1. 2 The Finnish-Norwegian Transboundary Water Commission and fish management in border rivers

The national border between Finland and Norway forms the northernmost border of the European Union. It runs 715 km, crossing extensive watersheds, the largest of which are the catchments of the Tana, Neiden and Pasvik rivers.

The management of the resources in the border areas of the two countries is regulated by an 11 chapter agreement made by the governments of Norway and Finland in 1980. It is a treaty with rules on cooperation to obtain an equal use of the border rivers, to prevent flood- and environmental accidents, to coordinate programmes, plans and measurements to reach goals agreed about the water quality and sustainable use of the water in the watercourse of the border rivers and other fishing and water issues.

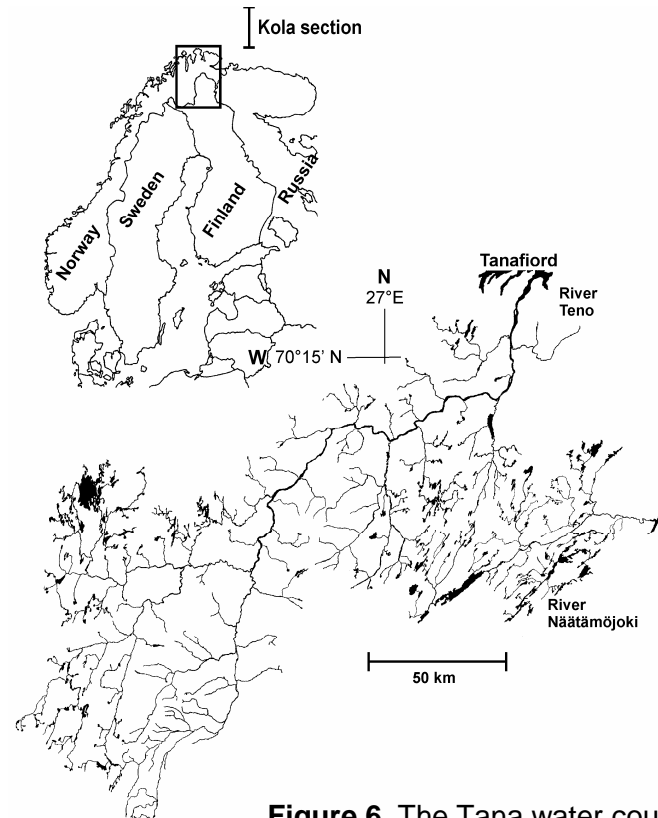


Figure 6. The Tana water course.

In 1981 the Finnish-Norwegian Transboundary Water Commission, which acts as a body for cooperation and communication between the two states, was established. Its recommendations represent an important tool in the management of the Norwegian-Finnish transboundary watercourses. The purpose of the Commission is to preserve the border waterways and their natural conditions and safeguards the environmental interests of both states and the residents of the border region, e.g. the Commission has prepared multiple-use plans for all three of the largest "common" catchment areas. The present agreement between the two countries implements the requirements of the EU Water Framework Directive.

The Finnish-Norwegian Transboundary Water Commission has an advisory role, viz.

- it submits proposals and motions and issues statements on matters related to the water management.
- it conducts preparatory work, for example, environmental monitoring, activities influencing the catchment area.
- it is also a need for hearing experts (recommendations) before decisions can be made in the commission.
- it supervises and monitors the condition and quality of the transboundary waters.
- it monitors construction along the waterways and other activities affecting the state of the transboundary waters.



Figure 7. Tana river (Photo: I. Hermanrud)

The commission has three representatives from Finland and three from Norway, appointed by their respective governments. Two of the three representatives for each country are experienced in the field of water administration and familiar with the conditions in the respective border region. One or more corresponding deputy members are appointed for each member. Each government also appoints one of its representatives on the Commission to act as chair for a one-year term. Since 1990, both chairs have been representatives of the local authorities. There is a secretariat for the commission in each country, the Lapland Regional Environment Centre in Finland, and the County Governor of Finnmark in Norway. The commission meets at least once a year.

According to the County Governor and administrative persons in the local communities in Norway, the experience with the Transboundary Commission since the foundation in 1981, its organisation, work and co-operation is entirely positive. Throughout the years one important lesson has been learned; it is very important to include the interests of the local population in the transboundary water agreements. This is a particularly significant concern in the region of river Tana, because the area covered by the agreement is the home area of the only indigenous people in the EU, the Saami. When implementing the proposals of the Commission, ownership of the local population and the decision-making ministries is essential. Transboundary water commissions can promote a variety of cooperation between neighbouring countries.

To protect and preserve the fish populations of the bordering rivers, the fishery is regulated by a separate mutual consent between Finland and Norway. The Lapland Regional Environment Centre in Finland and the County Governor of Finnmark in Norway are responsible for the application of the regulations, which have a period of validity of three years.

The agreement has 15 sections describing:

- the purpose of the agreement
- duration and maintenance of the regulations for fishing licence, equipment, disinfection of fishing equipments, fishing areas and preservation regulations
- quotas and statistics
- fish population studies
- pollution
- aquaculture, fish stockings
- disagreements
- coming into force

The fishery regulations that are common for the two countries have 6 main sections. The main sections and the paragraphs are:

1. General rules: *area of application, fishing licences.*
2. Equipment (professional and recreational fishing): *equipment allowed.*
3. Close time: *annual, weekly, release of fish.*
4. Equipment for recreational fishing: *areas for fishing, forbidden areas, fishing from boat, illegal equipment.*
5. Permanent equipment (for professional fishing): *number of equipments, mesh size, regulation for the different types of equipment used, free areas and distance between equipments, impediments and fish scares, protected/forbidden areas, equipment marks/registration signs, take-up of facilities for permanent equipment after end of season.*
6. Other provisions: *decisions that can be taken by the local police authorities, decisions that can be taken by the secretariats in each country, pollution, aquaculture, stockings, disinfection of equipment, fish population studies, penalties, coming into force.*



Figure 8. Salmon fishing in Tana river.

3. Norwegian policy for environmental protection and legislations in freshwater fish management

The Government's Environmental Policy and the State of the Environment

Report no. 8 to the National Assembly "Stortinget" (1999-2000)

In autumn 1999, the Government submitted Report No. 8 (1999–2000) to the Parliament ("the Storting") on the Government's environmental policy and the state of the environment in Norway. This was the first time an overall review of the state of the environment in Norway and a description of the main thrust of the Government's environmental policy was presented to the Storting.

The purpose of the report was to describe trends in environmental conditions and the most important elements of the Government's environmental policy. It analyses the relationships between environmental conditions and trends, environmental pressures and important socio-economic trends. It also describes the most important environmental trends the Government expects in the future.

For Norway's environmental policy to be successful, Norway needs to involve the whole population. This means that the general public must have information. Access to information is a basic democratic right, and this report is an important means of providing it. It is therefore designed to give central decision-makers, business and industry, NGOs (non-governmental organisations) and the general public relevant information on the state of the environment and environmental policy. It is meant as a democratic tool that will give the Norwegian public an insight into the progress made in various areas of environmental protection, and the problems we are facing.

The report also describes important driving forces that influence environmental developments, efforts to achieve national targets, integration of environmental considerations into different sectors, monitoring, international cooperation on environmental issues and important results achieved in recent years. The Government has divided its environmental policy into eight priority areas, and the targets the Government has set for each of these are described. In this report the Government has chosen to focus particularly on the policy for waste management and recycling and on the management of Norway's wild salmon stocks.

Environmental targets for Norway

Strategic objective:

The environment shall be managed in a way that maintains the diversity of habitats and landscape types and ensures that there are viable populations of naturally-occurring species: this will ensure that biological diversity can continue to evolve.

National targets:

A representative selection of Norwegian habitats shall be protected for future generations.

- Major disturbance such as infrastructure development shall be avoided in endangered habitats, and in vulnerable habitats important ecological functions shall be maintained.
- The cultural landscape shall be managed in such a way that biological diversity, the historical and aesthetic values of the landscape and its accessibility are maintained.
- Harvesting and other use of living resources shall not cause species or populations to become extinct or endangered.
- The introduction of alien species through human activity shall not damage or limit ecosystem functions.

Populations of endangered species shall be maintained or restored to viable levels.

Conservation in Norway - who does what?

Who works with conservation in Norway?

Who is responsible for carrying out environmental measures?

Whom can you contact to get involved in this work yourself?

Local authorities

Many people are involved in conservation work in Norway, in both the public and private sectors. In the local authority (municipality), there is probably² one individual with principal responsibility for environmental issues. He/she will be responsible for pulling together the various environmental strands in local government administration, and should be the first point of contact if there is anything people want to know about protecting the environment in different areas.

The local authority is responsible for planning in the municipality, for which the Planning and Building Act is an important tool. However, the environmental authorities have numerous other laws, regulations and guidelines to apply to the local planning process.

Children and young people also have the right to be heard in environmental planning issues. In each municipality there should be a "children's" representative" responsible for following-up the interests of children and young people.

Regional (county) councils

The county councils are responsible for regional planning, which means that they deal with an area that covers more than one local authority. All the county councils have a planning and environment department. Their work focuses on countywide planning and on helping the local authorities with the planning process.

² It is not mandatory any more, and many municipalities have of economical constraints cut the job "environmental responsible" from their staffing.

The county council's environment department coordinates major environmental projects in the county. Relevant fields include waste treatment, water use, biological diversity and outdoor recreation, in addition to information and advisory/consciousness-raising activities.

The county planning process is a management tool with a regional scope, facilitating coordination between administrative bodies at national and local levels. The state (the government and the Ministry of Environment) sets the framework for regional policy, and stresses the need for a coordinated land-use policy, where land use is understood in the context of traffic control, sound environmental measures and safety in society and the home.

The national environmental agencies

The county is, however, more than the county council. National government also has its representative in the county, the regional commissioner. All regional commissioners have an environment department, which works with issues of conservation, outdoor recreation, pollution, wild game, freshwater fish and management of watercourses.

The Directorate for Nature Management (<http://www.naturforvaltning.no>) is the professional authority instructing the regional commissioners' environment departments. The directorate has wide-ranging powers of supervision over the natural environment. Its work includes safeguarding biological diversity and protecting rights of Common Law. The directorate is responsible for nature conservation, outdoor recreation, game and freshwater fish, and is advisor to the Ministry of Environment on associated management and administrative matters. The Directorate for Nature Management is based in Trondheim.

The Norwegian Polar Institute (<http://www.npolar.no>) is the central national institution for mapping and for practical and scientific research in the polar regions, and takes part in international fora. It is an independent research institution, while also acting as main advisor to the government on polar issues, and assists the Directorate for Nature Management, Directorate for Cultural Heritage, Norwegian Pollution Control Authority, and the Sysselmann (Governor) of Svalbard (Spitsbergen). The institute is based in Tromsø.

The Directorate for Cultural Heritage (<http://www.riksantikvaren.no>) is responsible for the management of the cultural heritage, and for regional cultural heritage activities undertaken by the county councils, the regional museums, the Governor of Svalbard and the Sami Heritage Council.

The Directorate for Cultural Heritage also seeks to ensure that the local authorities take all necessary precautions when dealing with cultural sites and monuments and cultural environments as important elements and resources in their areas. The directorate acts as advisor to the Ministry of Environment in the management of the cultural heritage. It is based in Oslo.

The Norwegian Pollution Control Authority (<http://www.sft.no>) monitors and reports on environmental developments and works for improved environmental quality through regulation and control measures. The authority is advisor to the Ministry of

Environment on pollution issues, and is responsible for providing instruction and guidance to the environment departments of the district commissioners. One of the greatest challenges facing the agency is to ensure that all sectors in the society are involved in meeting environmental policy targets. The Norwegian Pollution Control Authority has its main office in Oslo.

The Norwegian Mapping Authority (<http://www.statkart.no>) provides nationwide geographical information and services to private and public sector clients. The authority is involved in research and development in mapping technology, and cooperates with industry and with other cartographic specialists, often on export ventures. The authority issues tide tables, coastal charts and other publications relevant to maritime safety. The mapping authority is also a directorate under the Ministry of Environment.

The Ministry of Environment (<http://www.miljo.no>) has primary public responsibility for conservation and the natural environment in Norway. The Minister of Environment directs the work of interpreting changes in the law and other parliamentary and government decisions. The ministry is a fairly young government department, established in 1972 with the aim of finding the best possible balance between exploiting resources for economic growth and protecting natural resources for public health and well-being. The ministry has the responsibility for the implementation of the WFD.

Since 1972, these targets have changed: the economic growth motive is no longer so dominant, and policies are now more likely to be aimed at cutting growth in consumption, especially energy consumption. New legislation also reflects changes in social attitudes to pollution issues. Waste is no longer waste, but a resource to be used again. Preserving biological diversity has also become an important issue, and new and expanded plans have been drawn up for national parks, to be implemented by 2008, as well as for protecting forests.

Voluntary organizations (also known as non-governmental organizations, or NGOs) play a very important role as innovators in environmental work. They act as consultative bodies and channels of communication between the public and the authorities. NGOs also take the initiative in setting new issues on the agenda, and contribute in their own right to concrete environmental projects. More recently they have also played an important role as observers in international forums. Under the Environmental Web you will find a rundown of the major environmental NGOs with links to their sites.

Biological diversity in lakes and rivers

Salmonids

In Norway there are three species of anadromous salmonids; salmon, sea trout and Arctic char. Salmon and sea trout are found throughout the country, whereas anadromous Arctic char occurs only in watercourses in the three northernmost counties.

Salmonids in 1288 watercourses

As of 1 January 1999, 1288 watercourses in Norway were recorded as having stocks of salmonids. There were 667 watercourses containing stocks of salmon,

1238 containing sea trout, and 122 watercourses containing Arctic char. Since then, salmon have disappeared from 49 watercourses, and 25 stocks have been lost due to acid rain. Sea trout stocks have disappeared from 29 watercourses, and stocks of Arctic char from 4 watercourses.

Several stocks are extinct or threatened

Acidification and the parasite *Gyrodactylus salaris* are the factors that have had the most negative impact on salmonid stocks. Other factors constituting a threat to Norwegian salmonids are hydropower and other developments, fish diseases and pollution from agriculture or other sources. Farmed fish that escape and mix with stocks of wild salmon spread diseases and impoverish the gene pool.

Acidification

Acid precipitation releases aluminum from the soil, and this element is toxic to fish. This may weaken or kill the fish, depending on the quantity and form of aluminum and how long the fish are exposed to it. Acidification has caused the extinction of salmon stocks in 18 watercourses. In another 10 watercourses stocks are threatened, and in 26 watercourses the stocks are vulnerable as a result of acidification.

The parasite *Gyrodactylus salaris*

Infection by *Gyrodactylus salaris* has had serious consequences for salmon stocks in 44 watercourses. As of 2003, 22 watercourses were declared to be healthy after rotenone treatment. In several of these watercourses the parasite has reappeared after rotenone treatment.

Hydropower development

One third of all Norwegian watercourses have been used for hydropower development, including several with important stocks of salmonids.

Escape of farmed salmon

Some diseases are spread to the rivers by fish escaping from fish farms. Furunculosis has had particularly serious effects in recent years, but bacterial kidney disease (BKD) and infectious pancreatic necrosis (IPN) have also caused problems. Furunculosis was first introduced to Norway in 1964 with rainbow trout imported from Denmark. The disease has since been discovered in fish imported from Scotland. Farmed fish have spread the disease to numerous rivers.

Responses to protect salmonids

Gene banks for wild salmon

To preserve genetic material from threatened salmon stocks, the Directorate for Nature Management began to collect milt, or sperm, in 1986. The sperm is preserved in a frozen state in liquid nitrogen. Stocks are selected on the basis of criteria such as the threats they are exposed to and any distinctive features they show. The gene bank now includes a "live gene bank" in addition to the sperm bank. This consists of special facilities that rear brood fish from salmon stocks that are exposed to various threats, especially *Gyrodactylus salaris* and acid rain. Offspring from each broodfish stock will be released into the rivers from which they originated. This work, carried out under the auspices of the gene bank for wild salmon, is an effort by the authori-

ties to counteract some of the impoverishment of biological diversity taking place today.

Liming in acid watercourses

To combat acidification and subsequent fish mortality we need a combination of international agreements to reduce pollution and national measures like liming. The main goal of liming is to preserve or regain biological diversity in areas damaged by acidification. Another objective is to improve conditions for sports fishing in districts affected by acidification.

Liming can be carried out either to prevent damage from acidification or to restore lakes and rivers that are already seriously affected by acid precipitation.

Water pollution

Eutrophication and acid rain affect water quality

Norway has abundant supplies of clean fresh water. Nevertheless, many lakes and rivers are affected by pollution. Eutrophication of freshwater bodies is mainly a problem at local level in some densely-populated and agricultural areas. Acid rain is still responsible for poor water quality in rivers and lakes, especially in Southern Norway, where many fish stocks have been depleted or completely lost. With regard to hazardous chemicals, the accumulation of mercury in fresh-water fish gives particular cause for concern.

Phosphorus in lakes

Conditions are poor in 700-900 lakes

Freshwater resources where eutrophication is a problem tends to be in the area around the Oslo fjord, in the low-lands of Eastern Norway, in the southern part of west Norway, along the Trondheim fjord in mid Norway and some areas of Nordland county. Each of these areas is either densely populated or subject to intensive agriculture activity.

The main cause of eutrophication in Norwegian lakes is assumed to be agricultural run-off. Based on studies it is estimated that conditions in 700-900 lakes warrant the classification "bad" or "very bad". Even though this is only 2.5 per cent of all Norwegian lakes, it has to be considered a significant local environmental problem.

Recent studies show that added inputs of nitrogen through acid rain have increased the growth of plants and algae in Norwegian mountain lakes.

Alien freshwater species

Life in many Norwegian lakes and rivers has been greatly influenced by alien species. Great damage has been caused both by species that are new in Norway and by species that occur naturally here, but that have been moved or spread to new areas. (Only species introduced from other countries are included in the table below.) The minnow and the northern pike are examples of native species that are being spread deliberately or accidentally and that have caused significant changes to the original life in lakes and rivers. Some of the introduced species are pathogenic organisms that cause great harm. They include the fungal parasite *Aphanomyces astaci*, which causes a lethal disease in crayfish, and the salmon parasite

Gyrodactylus salaris, which has wiped out the salmon population in a number of rivers.

Alien fish species that have become established in Norway

English name	Scientific name	Origin	Arrived year/period
	<i>Fam. Cyprinidae</i>		
Carp	<i>Cyprinus carpio</i>	Asia	
Goldfish	<i>Carassius auratus</i>	Europe and Asia	
Tench	<i>Tinca tinca</i>	Europe and Asia	
Moderlieschen *)	<i>Leucaspius delineatus</i>	Europe and Asia	
Gudgeon	<i>Gobio gobio</i>	Europe	1980's
	<i>Fam. Ictaluridae</i>		
Catfish (Dwarf bullhead)	<i>Ictalurus nebulosus</i>	North America	1890
	<i>Fam. Salmonidae</i>		
Rainbow trout	<i>Oncorhynchus mykiss</i>	North America	
Canadian char (Lake trout)	<i>Salvelinus namaycush</i>	North America	
Brook char	<i>Salvelinus fontinalis</i>	North America	

Source: Foundation for Nature Research and Cultural Heritage Research

Examples of alien, pathogenic organisms that have become established in freshwater

Vernacular name	Scientific name	Origin	Arrived
Crayfish pest (fungus)	<i>Aphanomyces astaci</i>	North America	1971
Gyrodactylus (parasite)	<i>Gyrodactylus salaris</i>	Unknown	1975
Furunculosis (bacterium)	<i>Aeromonas salmonicida</i> ssp. <i>salmonicida</i>	Unknown	1964

Source: Foundation for Nature Research and Cultural Heritage Research

Outdoor recreation

Norwegians see outdoor recreation as an important part of their cultural legacy, which has developed from both rural traditions of harvesting from nature and an urban culture of excursions to the countryside.

Everyone in Norway has a wide-ranging right of access to the countryside, originally a traditional right, but now set out in the legislation. However, it is important to remember that this right is based on respect for the countryside and that visitors must always show consideration for farmers and landowners, other users and the environment. Many people claim that quality of their lives and their health improves when they have opportunities for outdoor recreation on everyday basis and during holidays. People who use the countryside also learn to respect the natural world and understand the importance of nature conservation. This means that environmentally-

friendly outdoor activities are an important element of efforts to achieve sustainable development.

The authorities wish to ensure that everyone in Norway has opportunities for outdoor recreation both in the countryside, as well as in towns and built-up areas.

Outdoor recreational fishing

Sports' fishing is a popular activity, and an important part of Norwegian outdoor recreation traditions. About half of the adult population goes fishing at least once a year. Opportunities to fish locally are important for people's welfare, and can also bring in substantial revenues for local communities and others who hold fishing rights. The environmental authorities use substantial resources to ensure that fish stocks remain viable and that the general public has wide access to fishing in lakes and rivers. From the age of 16 you have to pay a fishing fee to fish for anadromous salmonids in rivers and lakes. 78 400 people paid this fishing fee in 2003.

The sea is open to everyone

Sport fishing is free in the sea, and is an important part of the right of free access. As a general rule, you do not need the landowner's permission to use a rod and hand line or fixed gear. However, the landowner has exclusive rights to fishing for anadromous salmonids (salmon, sea trout and Arctic char) with fixed gear on his own property and adjacent areas. Norway has a comprehensive set of rules governing fishing in marine water, for example on the types of gear that may be used, marking of gear and fishing seasons. However, there are relatively few restrictions on fishing with a rod and hand line.

Management of inland fisheries in Norway

Fishing rights in fresh water belongs to landowner

In rivers and lakes; sport fishing is not included in the right of free access: the fishing rights belong to the landowner. You may only fish if you have permission from the landowner through for instance a fishing licence. In addition to paying the landowner, anybody who wishes to fish for anadromous salmonids (i.e. salmon, sea trout and Arctic char) in freshwater must pay the fishing fee to the state. Children under 16 years of age need not pay the state fishing fee and may fish without a fishing licence between 1 January and 20 August. In watercourses where fishing licences are issued and there are no anadromous salmonids, they are entitled to a licence free of charge.

Opportunities for fishing with a rod and hand line are fairly good. In 10 per cent of the country's municipalities, all freshwater is open to sports fishermen who buy fishing licences, and in 67 per cent of the municipalities, this applies to 50 per cent or more of the total area. Nevertheless, the authorities aim to improve the opportunities for sports fishing even more.

500 000 fishing licences a year

Every year about 500 000 fishing licences are sold in Norway. In 1995, the value of these sales was estimated at about NOK 40 million. The total economic value of freshwater sports fishing is about 10 to 20 times the direct income from fishing licences, making it a very important activity in rural districts.

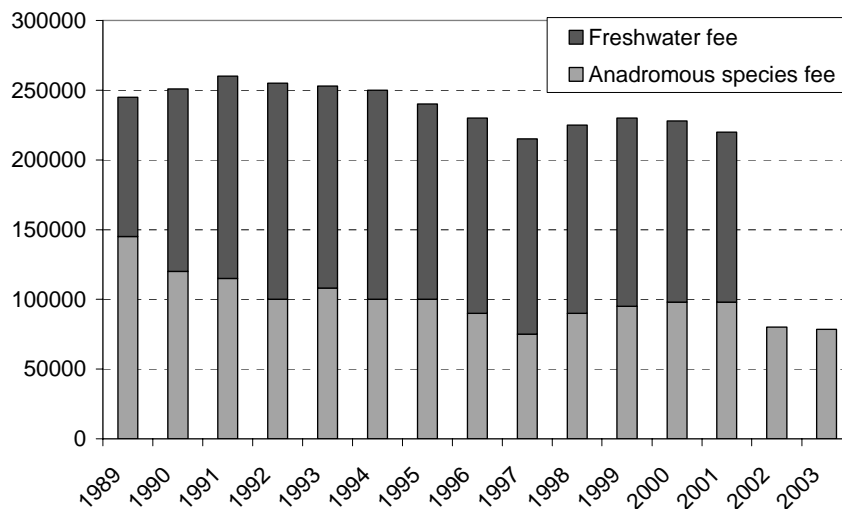


Figure 9. No. of people who paid the fishing fee 1989-2003

From 1989 the fishing fee was differentiated into various subgroups. From 2002 the fee is only required when fishing for anadromous salmonids.

Local authorities must ensure opportunities for fishing

The local authorities (municipalities) are required by law to ensure satisfactory and rational management of fish stocks. Where appropriate, they should establish joint management regimes, for example by drawing up management plans. Before any extensive organisation of watercourses is carried out, important areas for sports fishing should be set aside in the part of the municipal master plan dealing with land use.

The management of inland fisheries takes place locally in cooperation with land owners, municipalities and the users. Central administration (the Directorate for Nature Management) takes care of national and regional fishing interests in close cooperation with organizations. Furthermore, they stimulate and coordinate local effort through skilled guidance and economic support.

Norway has a liaison committee for inland fisheries (Samarbeidsrådet for innlandsfisk). This organisation was established in 1996 by the Directorate for Nature Management. The organisation is an organ of dialogue between public administration, volunteer organisations and private organisations. The task for the liaison committee for inland fisheries is to give advice to the Directorate for Nature Management, carry out information work, and be active in solving task that promote the management of inland fisheries. Some of the organisations represented are: the Directorate for Nature Management, The Norwegian Association of Hunters and Anglers (NJFF), The Norwegian Forest Owners' Federation, Norwegian Water Resources and Energy Directorate (NVE), The Norwegian Association of Local and Regional Authorities (KS) and the County Governors. In Norway there has been an increased focus on inland fisheries over the last 20 years. The main goal for inland fisheries in Norway is that management shall mainly be carried out locally.

Legislation

The frame legislation for inland fisheries in Norway is given by the Ministry of Environment. There are, however, several government offices that are responsible for all the laws that could influence the inland fisheries.

The major law for salmonid fish species and inland fisheries is the “Act on salmonid fish species and inland fisheries” from 15th of May 1992. The purpose of the Act is described in Section 1.

Section 1. Objective of the Act

“The objective of the Act is to ensure that natural stocks of anadromous salmonids, freshwater fish and their habitats, as well as other fresh-water organisms, are managed in such a way as to maintain natural diversity and productivity. Within this framework, the Act shall provide a basis for the improvement of stocks with a view to raising yields for the benefit of holders of fishing rights and sports fishermen”.

The law applies for anadromous salmonids and all freshwater species on the Norwegian mainland.

In Norway anadromous salmonids are in an exceptional position and are managed by the Ministry of Environment and the chairman of the county council. There are several laws that are made specifically for anadromous salmonids. The frame law for all other freshwater fish species is the “law on salmonid fish species and inland fisheries” from 15th of May 1992. However the landowners have the possibility to make specific rules for a separate area within the frame of laws.

General administration for watercourses

The fisheries administration consists of:

- The Ministry of Environment
- The Directorate for Nature Management
- The County Governors
- The municipalities
- Landowners

The Ministry of Environment can regulate the inland fisheries if there is a national interest (rare species, special stocks, etc).

The County Governors are responsible for:

- Management of watercourses with regional importance.
- Anadromous salmonids and time frame, protected areas, fishing techniques (type of equipment), etc.
- Fish cultivation, cultivation assessment, cultivations hatcheries and interference in watercourses
- Liming

Children (<16 years) can fish for free (no state licence) but have to pay the local fishing licence in watercourses with anadromous fish.

Watercourses with anadromous fish species:

- Anadromous salmonids have a special role in the fisheries administration in Norway. The fisheries are regulated by the Act relating to salmonids and fresh-water fish etc. Provisions are given by the “King” (Kongen i statsråd), by the Directorate for Nature Management or by the County Governors.
- If anadromous species are present in the freshwater system: – the watercourse and fishery for other species are administrated by laws for anadromous fish species.
- Yearly fee to the Government for fishing in anadromous watercourses.

Watercourses without anadromous fish species

- Landowner’s rights. Local rules within the frame of the Act.
- The local rules depend on the condition of the watercourse.
- Special rules for different areas (gill net fishing, sport fishing equipment, fishing season etc.)
- No fee to the Government, only local licence.

List of acts related to inland fisheries and salmonids

Act No. 16 of 28 June 1957 concerning open-air recreation (The open air recreation act)

Act No. 63 of 19 June 1970 relating to nature conservation (The nature conservation act)

Act No. 79 of 11 June 1976 relating to the control of products and Consumer services (The product control act)

Act No.82 of 10 June 1977 relating to motor traffic on uncultivated land and in watercourses

Act No. 50 of 9 June 1978 concerning the cultural heritage (The cultural heritage act)

Act No. 6 of 13 March 1981 concerning protection against pollution and concerning waste (The pollution control act)

Act No. 38 of 29 May 1981 relating to wildlife and wildlife habitats (The wildlife act)

Act No. 77 of 14 June 1985 The planning and building act

Act No. 47 of May 1992 relating to salmonids and fresh-water fish etc.

Act No. 38 of 2 April 1993 relating to the production and use of genetically modified organisms (The gene technology act)

Act No. 79 of 15 June 2001 relating to the protection of the environment in Svalbard (Svalbard environmental protection act)

Act No. 31 of 5 May 2003 relating to environmental information (Environmental information act)

Act No.99 of 17 December 2004 relating to greenhouse gas emission allowance trading and the duty to surrender emission allowances (greenhouse gas emission trading act)

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Personal communication, persons and institutions

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5. Attachment

5.1. Norwegian legislation for freshwater fisheries

Act No. 47 of 15 May 1992 relating to salmonids and fresh-water fish etc.

Chapter I. Objective, scope and definitions

Section 1. Objective of the Act

The objective of the Act is to ensure that natural stocks of anadromous salmonids, fresh-water fish and their habitats, as well as other fresh-water organisms, are managed in such a way as to maintain natural diversity and productivity. Within this framework, the Act shall provide a basis for the improvement of stocks with a view to raising yields for the benefit of holders of fishing rights and sports fishermen.

Section 2. Scope of the Act

The Act applies to anadromous salmonids and fresh-water fish on the Norwegian mainland. The Act also applies to anadromous salmonids in Norwegian internal waters, Norwegian territorial waters and the Norwegian Economic Zone of the Norwegian mainland. The first paragraph, litra b and c, and the second and third paragraphs of section 1 of the Act of 3 June 1983 relating to sea-water fisheries apply correspondingly.

The Act applies to fishing for marine species to the extent that this is clear from the provisions.

The King may determine that the Act shall apply to the land territory, internal waters and territorial waters of Svalbard. This Act applies subject to any restrictions deriving from international law or agreements with foreign states. If so required by agreements with foreign states or international conventions, the King may issue regulations notwithstanding the provisions set out in this Act or issued pursuant thereto.

Section 3. The authority to extend the substantive scope of the Act

The King may by means of regulations determine that the Act shall also apply to fresh-water organisms (plants and animals) other than anadromous salmonids and fresh-water fish.

Section 4. The principle of general protection.

Anadromous salmonids are protected unless otherwise determined in provisions set out in or issued pursuant to this Act. The same applies to other fish in watercourses or parts of watercourses containing anadromous salmonids, cf section 34, second paragraph.

Section 5. Definitions

For the purposes of this Act, the following definitions apply:

a. "anadromous salmonids": salmonid fish which migrate between the sea and fresh water and which are dependent on fresh water for reproduction, as well as eggs and fry of such fish.

Escaped or released farmed salmonids which may migrate between the sea and fresh water are considered to be anadromous salmonids when they are living in a free state in the sea or a watercourse, subject to the restrictions set out in section 9 of Act No. 68 of 14 June 1985 relating to farming of fish, shellfish, etc.

b. "fresh-water fish": all fish other than anadromous salmonids found in watercourses, as well as eggs and fry of such fish, including eels.

Any provisions of this Act that apply to fresh-water fish also apply to crayfish where appropriate.

c. "watercourses": lakes, pools, rivers, tributaries, streams and canals.

d. "free fishing": fishing which according to common law or other special legal authority is not considered to form part of the landowner's fishing rights.

Chapter II. The fisheries administration Section 6. The fisheries administration

The fisheries administration pursuant to this Act consists of:

- a. The Ministry
- b. The Directorate for Nature Management
- c. The county governors
- d. The municipalities.

The King may issue further regulations regarding the establishment of special bodies for the management of anadromous salmonids.

The Ministry will issue further regulations regarding the activities and procedures of the fisheries administration.

The Ministry may lay down regulations and make individual decisions concerning such import.

Chapter III. Protection and improvement of fish stocks and biotopes

Section 7. Regulation of watercourse development and other activities

Due consideration for fisheries interests and fish habitats shall be incorporated into general planning activities in municipalities and *counties pursuant to* the Planning and Building Act.

In areas that are of particular importance for fish resources, the King may prohibit construction works, building and other activities or use of the water resources if this is

necessary to preserve or improve fish habitats. Such decisions will be implemented according to the administrative procedures set out in section 18 of Act No. 63 of 19 June 1976 relating to Nature Conservation. The Ministry may in advance lay down a temporary prohibition until the matter is settled.

The Ministry may issue provisions requiring the approval of physical measures such as weirs and fishing pools.

The Ministry may require that measures, construction work or other activities started in contravention of the provisions in this section be stopped and that the watercourse be restored to its original state. In the event of failure to comply with the order within the time limit stipulated, the Ministry may arrange for the work to be done at the expense of the party concerned. The costs involved may be recovered by distraint.

The second and third paragraphs above do not apply to cases dealt with pursuant to the Act relating to Water Resources or the Act relating to Regulation of Watercourses.

Section 8. Prohibition of import

It is prohibited to import live anadromous salmonids, freshwater fish, eggs or fry of such fish, or animal species eaten by such fish without permission from the Ministry.

The Ministry may lay down regulations and make individual decisions concerning such import.

Section 9. Stocking measures

It is prohibited to release anadromous salmonids, fresh-water fish and live eggs or fry of such species in watercourses, fords or the sea, or to release other organisms in watercourses, without permission from the Ministry.

Permission may be granted by means of regulations for particular species and areas or by individual decision on application.

Section 10. Stock enhancement

It is prohibited to initiate stock enhancement measures for anadromous salmonids or fresh-water fish without permission from the Ministry.

Permission for stock enhancement measures may be granted by means of regulations for specific types of activities or areas or by individual decision on application.

The Ministry may issue regulations relating to the establishment and operation of facilities for the enhancement of stocks of anadromous salmonids and fresh-water fish, with the exception of facilities for commercial sea-ranching.

Section 11. Special regulations during a fishing season

Even if fishing is permitted in accordance with provisions set out in or issued pursuant to this Act, the Ministry may, in order to ensure the rational exploitation of a stock or to safeguard a stock, issue regulations concerning fishing intensity and the total permitted catch from a watercourse, or stipulate other appropriate measures for the duration of the fishing season.

The Ministry may with immediate effect extend or stop fishing operations if water flow or other special conditions so require.

Section 12. Measures for dealing with acute crises

If anadromous salmonids or fresh-water fish are threatened by acute pollution or other acute environmental disturbance, the Ministry may initiate any measures considered necessary to counteract, limit or prevent damage, including stopping fishing operations, catching fish to produce broodstock, etc.

In connection with the implementation of measures pursuant to this section, it may be decided that the use of or damage to the property of a third party is permissible in return for compensation, provided that the effect achieved is substantially greater than the damage or inconvenience caused. Regardless of fault, the costs incurred by the public authorities, including damages paid, may be claimed from the party responsible for the pollution or environmental disturbance.

This section does not apply to fish disease or to other matters relating to fish that are governed by other legislation.

Section 13. Exemptions for measures intended to protect or enhance fish stocks

The Ministry may, without regard for individual landowners or holders of fishing rights, or for provisions set out in or issued pursuant to this Act, grant permission to catch broodstock or juvenile fish or to carry out scientific investigations, practical trials, or stock enhancement measures. Landowners and those entitled to fish shall be notified before such catches or activities start.

Section 14. Screens

The Ministry may order the provision of screens at water intakes and outlets and determine how these shall be constructed and adapted to allow the passage of fish and to prevent fish from entering the installation or being injured.

If an order pursuant to the first paragraph is not complied with, the Ministry may have the necessary work done at the expense and risk of the party responsible. The costs involved may be recovered by distraint.

Section 15. Fish ladders, fish flumes, etc.

It is prohibited to catch fish in fish ladders, fish flumes or similar devices, to increase or reduce water flow or to prevent or attempt to prevent fish from entering or passing through such devices. This prohibition also applies to a stretch of the watercourse from 50 m above to 50 m below fish ladders, fish flumes and similar devices. The Ministry may stipulate a different protection zone where necessary. The above limits shall be clearly marked. The costs involved will be met by the public treasury. The Ministry will issue further regulations concerning such marking. The maintenance and removal of such devices are governed by the provisions of sections 115 and 116 of the Act of 15 March 1940 relating to Water Resources.

Chapter IV, Provisions concerning fishing rights

Section 16. The right of the landowner to fish for anadromous salmonids

Subject to any restrictions deriving from provisions set out in or issued pursuant to legislation, custom, immemorial usage or other legal authority, the following provisions apply:

- a. In a watercourse, the landowner has the exclusive right to fish for anadromous salmonids.
- b. In the sea, the landowner has the exclusive right to fish for anadromous salmonids using fixed gear within the boundaries of his property.
- c. In the sea, the owner of the closest adjacent property has the exclusive right to fish for anadromous salmonids using bag nets, stationary lift nets, bend nets, stake nets or similar gear. His exclusive rights also include the right to set guide nets, mooring equipment for fishing gear etc. These rights apply to the extent considered reasonable, taking into account local circumstances such as the topography of the sea floor and the distance from the landowner's property to the fishing site in question, or the customary exercising of fishing rights.

The exclusive rights of the owner of the closest adjacent property also apply to islands, islets and skerries that do not lie below sea level at normal high tide.

At the mouth of a river where there is a run of anadromous salmonids, the owner of the closest adjacent property has the exclusive right to fish for such species using a seine net to a distance of 250 m from the river mouth.

In a fjord or sound, such exclusive rights will in no case apply further out than one quarter of the width of the fjord or sound at normal low tide in midsummer, measured as far as possible at right-angles to the axis of the fjord or sound at any point.

Section 17. The right of the landowner to fish for freshwater fish

Subject to any restrictions deriving from provisions set out in or issued pursuant to legislation, custom, immemorial usage or other legal authority, the landowner has the exclusive right to fish for fresh-water fish in watercourses as has been put into practice since time immemorial within the boundaries of his property.

Section 18. Fishing by children

In a watercourse where the holder of fishing rights issues fishing licenses, persons under the age of 16 are entitled to a fishing license free of charge permitting them to catch freshwater fish using a rod and hand line between 1 January and 20 August, both dates inclusive. In other watercourses, persons under the age of 16 are entitled to catch fresh-water fish using a rod and hand line without the permission of the holder of fishing rights in the same period as specified in the first paragraph,

The provisions of the first and second paragraphs above do not apply to watercourses or parts of watercourses containing anadromous salmonids. The said provisions are also subordinate to regulations issued *pursuant to section 34*.

In cases where fishing pursuant to this section will be injurious to stock enhancement measures, or where fishing by children will seriously inconvenience holders of fishing rights, the Ministry may regulate the way fishing is carried out. The Ministry may lay down guidelines for this. The provisions of this section do not apply to crayfish.

Section 19. Separation of fishing rights

Fishing rights pertaining to real property may not be separated from the right of ownership for longer than 10 years at a time, except in cases where fishing rights accompany the rights of user relating to the property.

The provision in the first paragraph above does not preclude an agreement between several landowners which stipulates that all or part of the fishery shall be run jointly for more than 10 years. Moreover, the provisions do not apply to land consolidation cases. When government property in Finnmark county is sold, the fishing rights may be withheld for the benefit of the public. With the approval of the Ministry, an agreement may be made to let out fishing rights for the benefit of the public for a period exceeding 10 years.

If rights of user relating to *real property* are transferred, the user will be entitled to fishing rights pertaining to the property unless otherwise agreed.

If small parcels of land, such as plots with or without buildings, gardens, etc. are separated with appurtenant rights of ownership extending into the sea or a watercourse, it may be agreed that no fishing rights accompany them. If the parcel of land is not accorded rights of ownership extending into the sea or a watercourse, no fishing rights will appertain unless otherwise agreed.

Section 20. "Free fishing"

If fishing in a watercourse is "free", see section 5, litra d, the Ministry will issue provisions for the management of the fishery.

Section 21, Fishing on local common land

The provisions of chapter 8 of Act No. 59 of 19 June 1991 relating to local common land apply to fishing on local common land.

Section 22. Fishing on government property

On government property not regulated by Act No. 31 of 31 June 1975, any person who is permanently resident in Norway and has been resident for the past year is permitted to fish with a rod and hand line, provided that he buys a fishing license. Fishing using fixed gear in the sea is only permitted as indicated. Fishing by nomadic Sami is governed by section 14 of Act No. 14 of 9 June 1978 relating to reindeer husbandry.

The Ministry may lay down further regulations concerning fishing on government property other than state common land, including regulations giving priority to persons permanently resident in the municipality, stipulating lower license fees for residents, and concerning fishing by persons not resident in Norway. Fishing in watercourses on government property in Finnmark is "free" for all persons permanently resident in the county. The Ministry may lay down separate regulations concerning fishing on government property in Finnmark. The first and fourth paragraphs above do not apply to fishing in those parts of the Alta, Tana and Neiden rivers which hold a salmon stock, nor in watercourses where fishing with a rod and hand line is leased out.

Section 23. Fishing on municipal property

The municipalities shall utilize fishing rights for anadromous salmonids and other fresh-water fish on their property in accordance with the objective of the Act, and provide the best possible opportunities for fishing for the public, for instance by selling fishing licences. The income from such sales shall be used for stock enhancement measures and for administration of the fishery. The municipalities may entrust the administration of the fishery to an organization whose object, or one of whose objects, is the promotion of fishing.

Section 24, Special rights in Finnmark county

This Act entails no amendments in the special regulations that apply to the fishing rights of the local population in Finnmark pursuant to the Royal Decree of 27 May 1775 relating to land consolidation in Finnmark etc. and to the Act of 23 June 1888 relating to fishing rights in the Tana watercourse in Finnmark county.

Chapter V. Organization and management of watercourses. Management Mans. Order to sell fishing licenses.

Section 25. Organization and management of watercourses. Management plans.

In order to ensure satisfactory, rational management of fish stocks, the fisheries administration shall endeavour to establish joint management regimes. If so required for the exploitation of fish resources, the holders of fishing rights have a duty to cooperate in joint management of fish stocks. The holders of fishing rights will organize such work themselves, if necessary with assistance from the fisheries administration. If no agreement is reached, a majority of the holders of fishing rights may with binding effect decide that the fish resources shall be jointly managed. The majority is calculated on the basis of each person's share of the fishery. The Ministry will issue further provisions concerning the notification and implementation of such decisions. If necessary, the Ministry may order holders of fishing rights to cooperate in joint management of fish stocks. Where appropriate, a management plan shall be drawn up for a watercourse or fishing ground. The plan should include a survey of fish stocks in the area in question and proposals for stock enhancement and exploitation. It should also include proposals for the proportions and sizes of fishing rights in the watercourse, the organization of fisheries interests, the letting of fishing rights or sale of fishing licenses, the permitted catch of fish, rules for the use of various types of fishing gear, minimum sizes, close seasons and financial aspects. The management plan will be drawn up by the holders of fishing rights, if necessary with assistance from the fisheries administration. The provisions concerning majority decisions in the second paragraph apply accordingly. If necessary, the Ministry may draw up a management plan. The expenses and income deriving from measures pursuant to the above provisions shall be apportioned according to the shares of individual holders in the fishing rights. The Ministry may issue further provisions regarding such apportionment. In connection with the implementation of the management plan, a system of use may be required pursuant to the Land Consolidation Act. Such a system determines, inter alia, how income and expenses are to be apportioned. The Ministry may require a system of use to be drawn up pursuant to section 2, litra c, of the Land Consolidation

Act if none of the parties requires this or if the result of a settlement on amicable terms is not satisfactory.

Section 26. Watercourses where public funds are granted for stock enhancement measures

If the public authorities or the fishing fund provide funding for stock enhancement measures, the conditions for such funding may include a requirement that the fishery or a proportion of the fishery shall be managed for the benefit of the public. The Ministry may draw up guidelines concerning conditions for grants towards stock enhancement measures.

Section 27. Order to sell fishing licenses

The fisheries administration shall, by means of voluntary arrangements, provide the public with the best possible opportunities for fishing. In watercourses where the public do not have reasonable access to the fishery, or where the holders of fishing rights do not make use of fish production, the Ministry may, if other conditions make this reasonable, order the provision of better access to fishing by the letting of fishing rights or sale of fishing licenses. In such cases, the use made of the fishery by holders of fishing rights shall be taken into account. The order shall be given for a limited period of time and may apply for up to 10 years at a time. The price of participation in the fishery shall be set at the level that is usual in similar fisheries. The order may be implemented by means of a coercive fine. The question whether, according to general legal principles, the holders of fishing rights have a claim to compensation for losses resulting from decisions pursuant to this section, will be decided by judicial assessment unless otherwise agreed. An application for an assessment must be made within one year after the decision is announced. The Ministry may extend the time limit. The provisions of sections 153-158 of the Courts of Justice Act apply to the extent appropriate. The Act of 23 October 1959 relating to the expropriation of real property does not apply.

The King may issue regulations prohibiting the subletting of fishing rights.

Section 28. Orders regarding stock enhancement measures

The fisheries administration shall ensure that appropriate measures for the protection and enhancement of fish stocks are organized and implemented satisfactorily for each watercourse.

If a fish stock is not managed satisfactorily, and it is not possible to achieve a settlement on amicable terms, the Ministry may order the holders of fishing rights to carry out measures to protect or enhance fish stocks according to a specific management plan.

In the event of failure to comply with an order, the Ministry may entrust the management of the watercourse to the local fishery management body for a period of up to 10 years. Its return to the holders of fishing rights is free of charge.

The question whether, according to general legal principles, the holders of fishing rights have a claim to compensation for financial losses resulting from decisions pursuant to this section, will be decided by judicial assessment unless otherwise agreed. An application for an assessment must be made within one year after the decision is announced. The Ministry may extend the time limit. The provisions of sections 153-158 of the Courts of Justice Act apply to the extent appropriate.

The Act of 23 October 1959 relating to the expropriation of real property does not apply to orders or decisions made pursuant to this section.

Chapter VI. Fishing fund. Fishing fee. Financing

Section 29. Fishing fund

To finance stock enhancement measures, a fishing fund shall be established. The fishing fund will comprise the revenues mentioned in sections 30 and 47 of this Act. The fund will be administered by the Ministry within the framework the King determines for its administration and the use of its assets.

Section 30. Fishing fee

Any person who has reached the age of 16 and who wishes to fish for anadromous salmonids or other freshwater fish shall pay a fee to the fishing fund. Norwegian and Swedish nomadic Sami are exempt from the requirement to pay the fee for fishing to which they are entitled pursuant to the reindeer husbandry legislation. In order for a person to be permitted to fish, a fee must be paid to the fishing fund, but such payment does not entitle the person to fish in any particular area. The Ministry will determine the size of the fee, and the period for which payment applies. The Ministry may issue further regulations concerning payment and control of such payment.

Chapter VII. Administrative and judicial decisions

Section 31. Disputes concerning boundaries, etc.

A landowner who holds fishing rights or the user of fishing rights in a lake or watercourse, the local fishery management body, the county governor, the chief of police or the Directorate of Nature Management may apply for the Ministry to determine:

- a. the position of the midstream line of a river or stream, cf. section 35, second paragraph,
- b. whether a stretch of river is to be regarded as a waterfall,
- c. the width of a watercourse at mean summer water level or the width of a fjord or sound at normal low tide in midsummer,
- d. the boundary between a river or stream and a lake or pool or the boundary between a river or stream and the sea,
- e. whether a watercourse or parts of a watercourse shall be considered to contain anadromous salmonids.

If necessary, the Ministry may make decisions on the abovementioned matters without an application from one of the parties listed in the first paragraph. Decisions made by the Ministry pursuant to the first paragraph may not be appealed pursuant to Chapter VI of the Public Administration Act of 10 February

1967. The parties may, within three months of the Ministry's decision, request that the matter be decided by judicial assessment.

A new decision by the Ministry may be requested if it can be shown that conditions in the watercourse or the adjoining stretch of sea have changed substantially or if it is at least 10 years since the matter was last decided. The provisions of the third paragraph apply accordingly.

Section 32. Dispute between neighbouring properties regarding fishing

If fishing gear designed to catch anadromous salmonids is placed on a property in such a way that it impedes or prevents fishing using such gear from the neighbouring property, either of the parties may request that the Land Consolidation Court determine the extent of the rights of each property, and how fishing shall be carried out so that the properties are able to make maximum use of their rights.

Chapter VIII. Fishing, open seasons, methods, use of gear, etc.

Section 33. Opening of fishing for anadromous salmonids, further provisions on the use of fishing gear, open seasons, etc.

In accordance with the *objective* of the Act, the King may permit fishing for anadromous salmonids. Such permission may be given for a specified period of time and apply to particular areas, types of fishing gear, fishing methods, species or catch volumes.

The Ministry may issue supplementary provisions. Different provisions may be laid down for each area and watercourse.

Section 34. Regulations for catches of fresh-water fish

In order to ensure the satisfactory management of fresh-water fish in watercourses, the Ministry may issue fishing regulations which apply to one or several municipalities or parts of these, including regulations on the closure of the fishery for up to five years, on definitions of fishing gear and on the closure of watercourses as necessary for eel fishing.

In watercourses containing anadromous salmonids, the provisions laid down with regard to anadromous salmonids also apply to fresh-water fish. *The* Ministry may lay down separate regulations for fresh-water fish if this will provide for more rational exploitation of fresh-water fish and will not cause significant damage to the stock of anadromous salmonids.

Section 35. Free channel, midstream line

It is prohibited to close watercourses completely to the free passage of fish. In a river, arm of a river or stream there shall be a free channel corresponding to at least one-eighth of the breadth of the watercourse on each side of the midstream line, measured at mean summer water level. In cases where fishing gear is set out from each bank at intervals of less than 100 m along the watercourse, the free channel shall instead correspond to at least one-sixth of the width.

The midstream line is in the middle of the deepest water if this position can be demonstrated. In other cases, the midstream line is in the middle of the watercourse or *where its* position has been determined pursuant to section 31, litra a. As far as possible, the position shall be determined so that roughly equal amounts of fish will pass on each side of it at the time when the quantity of fish in the locality is at a maximum.

The Ministry may prescribe a wider or narrower free channel.

Section 36. Fishing in the free channel, obstruction

It is prohibited to place fishing gear in such a way that the gear either alone or together with guide nets, stones or other natural barriers to the free passage of fish reaches into the free channel. Fishing using a rod and hand line, otter, drift net, seine that is hauled in immediately after setting or a dip net that is lifted immediately after it is lowered into the water is excepted from this provision.

It is prohibited to drop stones or other objects that may hinder the free passage of fish into the free channel. It is also prohibited to make the bed of the river upstream or downstream of the entrance to fishing gear deeper than the free channel. If the free channel has been filled up or the watercourse deepened in contravention of this provision, it is prohibited to fish at the site in question until the free channel or watercourse has been restored to the same state as before the unlawful action took place.

The Ministry may order the restoration of a free channel that has been altered in contravention of the provisions of the second paragraph. The provisions of section 7, fourth paragraph, apply correspondingly.

If the river bed has been filled in or deepened through no one's fault, the holders of fishing rights cannot object to measures initiated by the Norwegian Water Resources and Energy Administration (NVE) at the request of the Ministry to clear the free channel or fill up the deepened channel according to a plan drawn up by the NVE. In such cases, the costs are covered by the state.

Section 37. Prohibited measures and fishing and killing methods

Measures of any kind with no other purpose than to frighten fish or prevent their free passage are prohibited.

Both in the sea and in watercourses it is prohibited to use the following to catch, kill or injure fish:

1. substances with a toxic, paralysing or suffocating effect.
2. explosives.
3. firearms, except to catch pike.
4. electric current
5. artificial changes of water flow
6. fish spears or similar equipment with a point or hook which is not intended to be swallowed by the fish. It is nevertheless permitted to use such equipment to assist in landing fish that have been caught using other, legal equipment
7. artificial light, except to catch eels and crayfish

The Ministry may prohibit other fishing and killing methods. The Ministry may in individual cases grant dispensation from the provisions of the second and third paragraphs.

Section 38. Special provisions relating to licenses

The King may decide that a license shall be required for specified fishing methods for anadromous salmonids. The King may by regulations lay down further provisions relating to the granting of licenses and conditions that may apply to individual licenses.

Section 39. Fishing and traffic near fixed fishing gear

It is prohibited to fish or anchor lock seines less than 200 m from the entrance of fixed gear set to catch anadromous salmonids, or otherwise at a distance of less than 50 m. The prohibition also applies to fishing for other species than anadromous salmonids.

Nevertheless, this prohibition does not preclude fishing for eels, seining for herring, sprat, capelin, mackerel, cod or seithe, or fishing on the fisherman's own property. Nor does the prohibition preclude fishing with a rod and hand line at a distance of more than 50 m from fixed gear.

The Ministry may issue regulations concerning traffic near fixed gear set to catch anadromous salmonids.

The Ministry may issue regulations prescribing minimum distances between gear set to catch anadromous salmonids.

Section 40. Regulation of all fishing

The Ministry may prohibit or issue *rules relating to all* fishing, including fishing for marine species, at the mouths of watercourses, in salt-water currents, in sounds and between rivers and lakes *containing* anadromous salmonids. The area regulated shall not exceed two km from the river mouth unless special reasons make this necessary. The area regulated shall be clearly marked at the expense of the public treasury.

Section 41. Lowering of fishing gear

To prevent catches of anadromous salmonids which are prohibited pursuant to this Act or regulations issued pursuant thereto, the King may lay down regulations relating to the lowering of fishing gear intended to catch species other than anadromous salmonids if such gear is also suitable for catching anadromous salmonids.

Chapter IX. Control and inspection. Registration. Duty to report.

Section 42. Control and inspection.

The Ministry shall ensure compliance with the provisions laid down in this Act or pursuant thereto and ensure that the necessary inspection routines are established. In the course of their duties, members of the Ministry's inspection service shall be given unimpeded access to boats or vessels and areas where there are fishing activities. During such activities, boats and vessels may be stopped for investigation. The person responsible for fishing activities shall give the Ministry any necessary assistance and information. The inspection service may if necessary request assistance from the police in carrying out its duties.

The Ministry may issue regulations relating to inspection pursuant to the first paragraph above, and relating to instructions for inspectors. Outside state common land, the fisheries administration may appoint inspectors. The inspectors should be given police authority pursuant to section 15 of Act No. 3 of 13. March 1936 relating to the Police.

Section 43. Registration

Any person who fishes for anadromous salmonids in a lake or watercourse using other gear than a rod, hand line, trolling line or otter has a duty to register his fishing gear before starting to fish. If fishing in the area is leased out, both the owner and the lessee are responsible for ensuring that fishing gear is registered. The Ministry will issue further regulations concerning the registration and marking of fishing gear. The Ministry may extend the duty to register fishing gear to include fishing for other fresh-water species.

Section 44. Duty to report catch data

Any person who in the course of a year has caught anadromous salmonids shall provide a written catch report for use in official statistics.

Any person who rents fishing rights or buys a fishing license for a watercourse must send a catch report to the owner of the fishing rights.

The owner of the fishing rights has a duty to provide a catch report within a specified time limit. Registration of fishing gear pursuant to section 43 may be refused if no catch report has been provided.

The Ministry will issue further provisions concerning catch reports, time limits and the address to which reports are to be sent.

The Ministry may decide that this paragraph shall also apply to fresh-water fish.

Section 45. Catch reports from traders

Any person who sells, processes or uses anadromous salmonids or fresh-water fish for commercial purposes is required to report the weight and value of each fish species separately, as well as the name and address of the seller, for use in official statistics. The Ministry will issue further provisions concerning catch reports and the address to which reports are to be sent.

Chapter X. Liability for damages

Section 46. Absolute liability

Any person who causes damage to fishing gear or devices which are lawfully set to catch fish or to enhance the fish stock is obliged regardless of fault to pay compensation for the damage, including any catch lost and losses resulting from the interruption in fishing. The obligation to pay compensation pursuant to the first paragraph may be reduced or dropped if the person who caused the damage can establish that he was not at fault.

Chapter XI. Confiscation. Prohibition of sale. Penal measures

Section 47. Return to the water and confiscation

Anadromous salmonids taken with gear which is unlawful for catches of such fish, or outside the lawful fishing season for such species, shall immediately be returned to the water.

Anadromous salmonids which are caught unlawfully and landed, or the value of such fish, shall accrue to the fishing fund. The Ministry shall as far as possible ensure that proper use is made of the catch or its value.

The value of unlawfully caught fish may be recovered by distraint.

The Ministry may issue further provisions relating to return of fish to the water and confiscation, including provisions relating to unlawfully caught fresh-water fish.

Section 48. Prohibition of sale

It is prohibited to accept or sell fish which have been caught in contravention of provisions set out in this Act or issued pursuant thereto.

Section 49. Penal measures

Any person who willfully or negligently contravenes or is accessory to contravention of any provisions set out in this Act or issued pursuant thereto, or maintained by the Act or conditions laid down pursuant to the Act, is liable to a fine or imprisonment for up to one year unless the matter is subject to a more severe penal provision. Under particularly aggravating circumstances, imprisonment for up to two years may be imposed.

Any person who claims to fish for salt-water or fresh-water fish and who should have understood that, given the type of fishing gear and its effect and the proportions of anadromous salmonids and salt- or fresh-water fish at the fishing site in question, there was a reasonable likelihood of catching anadromous salmonids, is considered to have acted negligently. Contravention is to be regarded as a misdemeanour.

An attempt is subject to the same penalty as a completed offence.

Chapter XII. Entry into force

Section 50. Entry into force

1. This act will enter into force on the date prescribed by the King.

5.2. Transboundary commissions regulating fisheries in bordering water between Switzerland and their neighbouring countries

Competent federal department/office: Federal Department of the Environment, Transport, Energy and Communications (DETEC) / Federal Office of the Environment, Forests and Landscape (OFEFP)

Contact address / secretariat :
OFEFP / Water Protection and Fisheries Division
Post box
3003 Bern
Tel.: 031 / 322 93 32
Fax: 031 / 323 03 71

States: Switzerland, France

1) Franco-Swiss Consultative Commission on Fishing in Lake Geneva

Date of establishment: 1982

Establishing act: Agreement between the Federal Council of the Swiss Confederation and the Republic of France on fishing in Lake Geneva, 1980

Objectives: Harmonize the legal provisions between the two States governing fishing, and ensure the effective protection of fish and their habitat.

Area(s) of activity:

- Monitor the application of the Agreement
- Ensure an exchange of information between the States
- Prepare and present proposals aimed at amending the Application Regulations; prepare and present proposals for the management plan
- Facilitate contacts between the authorities responsible for implementing the planned provisions of the directives in the Agreement and its Application Regulations

- Endeavour to resolve problems resulting from the implementation of the Agreement and its Application Regulations.

2) Mixed Franco-Swiss Commission on fishing and the protection of the aquatic environment in the stretches of the River Doubs which form the frontier between the two States

Date of establishment: 1993

Establishing act: Agreement between the Federal Council of the Swiss Confederation and the Government of the Republic of France on the protection of the aquatic environment in the stretches of the River Doubs which form the frontier between the two States, 1991

Objectives: Regulate questions concerning fishing and the protection of the aquatic environment in the stretches of the River Doubs which form the frontier

Area(s) of activity:

- Monitor the implementation of the Agreement and the Application Regulations
- Ensure an exchange of information between the Parties
- Fix every year the amount and the methods of calculating water rates
- Prepare and submit to the two contracting Parties proposals aimed at amending the Application Regulations
- Facilitate contacts between the authorities responsible for implementing the Agreement and its Application Regulations.

States: Germany, Switzerland

1) German-Swiss Commission on Fishing in Lake Constance

Date of establishment: 1893

Establishing act: Convention declaring uniform provisions concerning fishing in Lake Constance, 1893

Parties: The Federal Council of the Swiss Confederation and the Governments of Austria-Hungary, of Baden, of Bavaria, of Liechtenstein and of Wurttemberg

Objective(s): Preserve and increase the diversity of fish species in Lake Constance

2) German-Swiss Commission on fishing in Lower Lake Constance and the lake-end of the River Rhine

Date of establishment: 1979

Establishing act: Agreement on fishing in Lower Lake Constance and the lake-end of the River Rhine, 1977

Parties: Swiss Confederation and the Federal State of Baden Wurttemberg

Objective(s): Regulate fishing in Lower Lake Constance and the lake-end of the River Rhine

Area(s) of activity: Advise the competent authorities and the Constance Prefecture on all technical questions concerning fishing

3) German-Swiss Commission on Fishing in the Rhine reservoir near the Rheinau hydro-electric power station

Date of establishment: 1959

Constituting act: Convention on fishing in the Rhine reservoir near the Rheinau hydro-electric power station, 1957

Parties: Switzerland, Federal State of Baden Wurttemberg

Objective(s): To preserve and enhance through joint management the piscicultural value of the Rhine reservoir near the Rheinau hydro-electric power station

Areas) of activity:

- Define the authorised bodies;
- Restrict fishing
- Delimit no-fishing zones
- Issue permits to release foreign fish species
- Take measures to develop the facilities
- Organise a fish count
- Organise surveillance
- Keep accounts and allocate the costs arising from the joint development activities.

States: Switzerland, Italy**1) Swiss-Italian Commission on Fishing in Swiss-Italian waters****Date de establishment:** 1989**Constituting act:** Convention on Fishing in Swiss-Italian waters, 1986**States parties:** Swiss Confederation, Republic of Italy**Objective(s):**

- Support the development of groups directly or indirectly involved in commercial fishing;
- Permit the sport of fishing to develop harmoniously as a leisure activity;
- Co-operate in the protection and improvement of the aquatic environment.

Area(s) of activity:

- Develop and submit proposals aimed at making possible amendments to the current Convention;
- Decide on differences in the interpretation and application of the Convention;
- Draft internal regulations;
- Fix a budget for common expenditure and for the final financial statement.