

Legal Protection Schemes for Free-Flowing Rivers in Europe

*Overview report prepared for
The Nature Conservancy*



Published *December 2019*

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Executive Summary

The research for this report was guided by the aim of compiling a catalogue of rivers in Europe that enjoy a permanent legal comparable to a designation as Wild and Scenic River under the US Wild and Scenic Rivers Act from 1968. There has been no prior study comparatively addressing the question of strict legal protection of free-flowing rivers in Europe.

Results & Observations

Currently, there is no EU legislation which provides strict protection for the free-flowing character of rivers. The protection schemes which exist in Europe, to date, are found within national legislation. Legal protection for rivers that specifically aim at protecting their free-flowing character can be observed in Slovenia, Finland, Sweden, and Spain.

At EU legislative level, the combined legal basis and mechanisms of the WFD and the Nature Directives (including Natura 2000 areas) render the designation of free-flowing rivers as protected in theory a possibility, if implemented for the purpose. Importantly however, in reality this is rarely the case, and the legal provisions do not fully rule out dam construction and hydropower development.

The reporting obligations required by the Directives, and subsequent data available on Europe's water bodies, do in turn provide a solid basis for envisioning such a strategy for strict river protection Europe-wide.

As to why river protection has been tackled by national legislation, in the case of Slovenia (1976), Finland (1987) and Sweden (1999), it is noteworthy that the establishing of protection schemes in legislation were created in reaction to controversial hydropower development. Norway (2001) follows a planning approach, seeking to balance hydropower development and maintaining natural river courses. Spain, since a few years, designates river-sites as 'Natural River Reserves', which were introduced in Spanish Water Law (2005). For an overview of national legislation and its defined purpose, please see the table on the following page (*Table 1*).

Current & Future Developments

Current developments are seeing the proposal elaboration of permanent legal protection in Portugal (using Spain's approach as a blueprint). Non-legal efforts can be observed in France (the labelling of wild rivers, river basin level hydropower planning approaches). In Macedonia, environmental organisation advocates call for legal protection schemes ("Green zones for blue rivers" - initiative), and in Albania-Greece, a Wild River National Park is proposed to protect the Vjosa river from dams (as part of the campaign "Save the Blue Heart of Europe").

Outlook

This study concludes that while there is observed success in strict protection of free-flowing rivers from hydropower and dam developments, these approaches date back to different decades and contexts. They appear rather disconnected, if not overlooked outside their countries, and did not yet spark ideas for a more coherent approach. With hundreds of hydropower projects being planned across Europe in the near future, the question of more strict and coherent river protection is of great importance. The mentioned examples show that efforts are plausible, within scope at a national

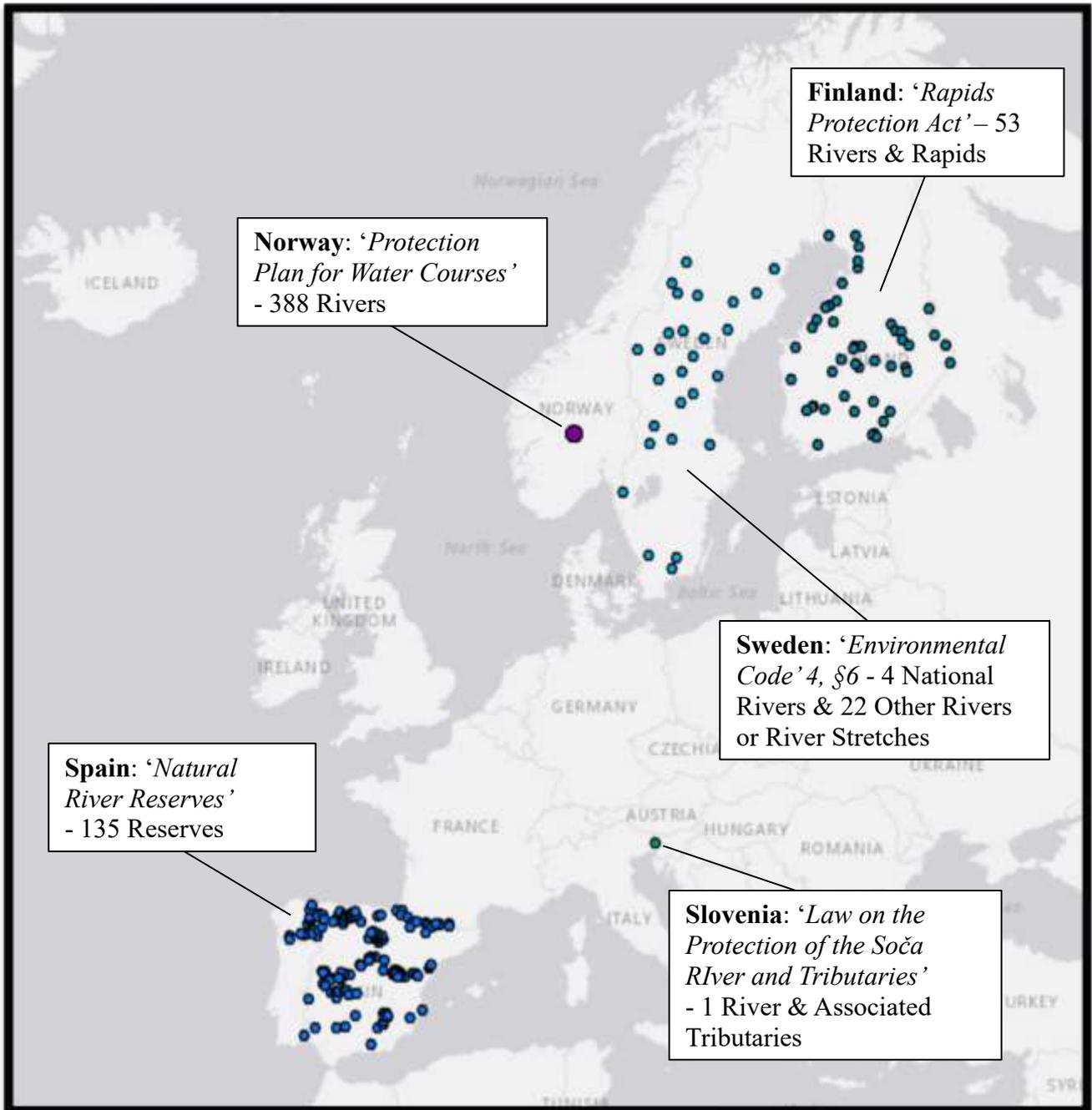
legislative level, and can achieve remarkable successes for the conservation and restoration of natural river landscapes. As a whole, European countries have the ability to protect, and can do better in protecting, the last wild rivers.

Legal protection for rivers that specifically aim at protecting their free-flowing character can be found in the following European countries:

Table 1: Overview of River Protection Legislation in Europe and Year of Entry into Force

Country (EU/EEA)	As of (Year)	Name of Legislation	Legislation in Detail	Degree of Protection
Slovenia	1976	Slovenian Law on the Protection of the Soča and Tributaries ('Zakon o določitvi zavarovanega območja za reko Sočo s pritoki')	The law is specifically designed to protect the Soča (from its source to the Indričja rivers) and tributaries	Prohibition of hydropower and other projects that would affect the hydrological regime of the river or the water quality, including a wide array of other objectives
Finland	1987	The Rapids Protection Act ('Koskiensuojelulaki' (35/1987))	Designation of 53 rivers/river stretches as protected (together with two other single-river based-Acts: 1 prior addition in 1983, and 1 subsequent in 1991)	Prohibits the construction of hydropower plants: no permits can be issued for new hydropower developments. Respective water rights were bought by the state
Sweden	1999	Swedish Environmental Code ('Miljöbalken', Chapter 4, §6)	Designation of 4 ' National Rivers ' ('Nationalälvarna') and 22 other river stretches as protected	Hydroelectric power plants and water regulation, or water transfer, for power purposes shall not be carried out
Norway	2001	Protection Plan for Water Courses (statutory through the 'Water Resources Act' – a total of four protection plans from 1973 and 1993, with supplements 2005 and 2009)	A provision for a total of 388 rivers or river stretches where protection aims are to be given "preponderant weight"	Allows authorities to deny the licencing of a hydropower project on the designated rivers or river stretches
Spain	2015	Natural River Reserve ('Reservas Naturales Fluviales' – introduced in the Spanish Water Law 'Ley de Aguas' – with a basis in 2005)	First list of 53 reserves designated in 2015, followed by 82 in 2017 – to protect rivers in their natural state, and rivers with no to little human impact to date	Rivers parallelly designated as Natura 2000 sites, to complement hydraulic/water-related aspects (especially over-abstraction) and is binding in licensing processes of water authorities

Figure 1: Map of Protected Water Courses & Features in Europe (**Disclaimer:** for illustrative purposes the placement accuracy of indicators within the figure are tied to either the water course or it's watershed)



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Overview report prepared for The Nature Conservancy

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1 Background, scope and key findings

The purpose of this study is to generate a list of legally protected free-flowing rivers in Europe, provide information on how the existing legal protection schemes function, and give an overview of the history and effectiveness of these river protection schemes. The identified rivers should cover both EU and non-EU countries as this product will complement TNC's ongoing work in the Western Balkans. The report is accompanied by a compilation of GIS shapefiles of protected rivers.

The research for this report was guided by the aim of compiling a catalogue of rivers in Europe that enjoy a permanent legal comparable to a designation as Wild and Scenic River under the US Wild and Scenic Rivers Act from 1968. Quite surprisingly, such a compilation or comparative study does not seem to exist so far. All schemes that are included here found are national (in the case of Slovenia a law of the Socialist Republic of Slovenia within Yugoslavia). There is no EU legislation that would provide as strict a protection of the free-flowing character of rivers.

National legislation protecting free-flowing rivers – Slovenia, Finland, Sweden, Norway and Spain

Legal protection for rivers that specifically aim at protecting their free-flowing character is found in Slovenia, Finland and Sweden as well as Spain. The Law on the Protection of the Soča river 1976, which permanently protects the upper Soča and tributaries from hydropower development, might be regarded as the first legal protection scheme for free-flowing rivers in Europe.

It is important to note that, in the case of the Soča as well as in Finland (1987) and Sweden (1999), the legal protection schemes were established in reaction to highly controversial hydropower development policies in the second half of the 20th century. Dams and hydro-electric power plants had already destroyed most of the free-flowing rivers along with their wild salmon stocks and rich cultural heritage, including indigenous Sami culture. Further projects threatened to destroy even the last wild rivers along with wild salmon stocks as well as rich cultural and indigenous Sami heritage in Lapland, and even the most beautiful rivers in these countries.

Norway provides a seemingly somewhat less strict river protection scheme. The Protection Plan for Water Courses, which has become statutory through the Water Resources Act in 2001, is part of an approach to balance massive river development for hydropower with protecting a set of currently 388 river or river stretches from such development.

In Spain, the legal protection scheme of river reserves (Reservas Naturales Fluviales) was established in 2015, when a first list of 53 such reserves was created. In Portugal, a proposal for permanent legal protection of rivers is currently being elaborated. The Portuguese concept is based on the Spanish example of river reserves, taking into account the transboundary character of most rivers on the Iberian Peninsula, and reflecting the need for a coherent approach to river protection.

EU legislation

In theory, the Water Framework Directive with its „non-deterioration obligation“ along with the provisions of the Nature Directives and the designation of rivers as protected areas within the Natura 2000 network could be implemented in such a way as to strictly protect rivers. Within the Natura 2000 network especially, it is safe to assume that the protection of rivers and streams in general is the „better environmental option“ in comparison to the generation of hydro-electric power (cf. WFD exemption procedure under Art. 4.7). In reality however, the provisions of the WFD and the Nature Directives do not fully prohibit dam construction or hydropower development, neither does the designation as national park or UNESCO heritage site.

The controversial struggle over a „guidance document“ on hydropower and Natura 2000 that was issued by the EU Commission in 2018 illustrates that there is an enormous pressure on rivers and streams. The document was harshly criticized by a large coalition of environmental organizations. There is a fear it will effectively counteract the protection of river landscapes in the EU’s Natura 2000 network.

Other approaches to permanent legal protection of rivers

It is beyond the scope of this study to examine how other forms of designation might be classified as legal river protection schemes of a lesser degree. It seems quite likely that certain legal requirements, e.g. for the protection of endangered species, in combination with specific objectives for the designations of protected areas, might effectively prohibit dam construction and hydropower development.

The case of Macedonia’s Mavrovo National Park illustrates how the designation as a National Park in itself is apparently not sufficient to prevent damaging dam projects. However, it might in connection with other legal instruments (e.g. Bern Convention) be part of a solution in which certain rivers are permanently protected.

As also presented in the outlook chapter, there are high quality data on rivers and protected areas available today, in particular data that have been compiled in the course of monitoring programmes according to the Water Framework and Nature Directives, that provide an excellent base for building such cases, as well as envisioning an overarching strategy for Europe’s rivers.

Planning approaches

Planning instruments such as river basin management plans are also not included in this study with the exception of the Norwegian Protection Plan for Water Courses. Secondly, the approach to define so-called „no-go zones for hydropower“ that is proposed in the Eco-Masterplan for Balkan Rivers (produced by the campaign „Save the Blue Heart of Europe“) is included in such a way as they are the conceptual basis and context for the initiative to create permanent legal protection for rivers in Macedonia.

Certification of Wild Rivers

The French approach of labelling wild rivers based on an ambitious set of criteria deserves to be mentioned in the context of this report. France has over the last decades seen remarkable successes in protecting free-flowing rivers and restoring them through dam removal, most notably on the Loire and Allier rivers. While France is the largest hydropower producer in the EU, French river basin management planning at the same time is going in direction where certain rivers are excluded from hydropower development and dams and other obstacles are removed to restore river dynamics and free flow. The Wild Rivers Foundation / Fondation Rivières Sauvages created a Wild Rivers label and is currently exploring how to apply the certification scheme to rivers in other countries in the Alps region. As this is not connected to the creation of legal protection schemes for permanent protection of rivers, it is not included as a case study in this report.

Wild River National Parks

In line with the scope of the report, the Tara River in Montenegro is not included in the list of legally protected rivers. The magnificent Tara canyon, which is considered the longest and deepest canyon in Europe, was in large part included in the Durmitor National Park with a special protection regime in 1980 and was spared from dam developments over decades. But in contrast to the Soča (a sister river so to say in the struggle against dam projects in Yugoslavia in the 1970s), it was a governmental decision not to dam it,

however, there was never a law passed that specifically grants permanent legal protection against hydropower development.

A new perspective on the role of national parks in river protection is brought in by the idea of creating Europe's first Wild River National Park on the Vjosa river in Greece and Albania. Like in the case of Macedonia, this initiative is rooted in the conceptual and advocacy work of the campaign „Save the Blue Heart of Europe“. While a specific legal proposal for a Vjosa Wild River National Park has yet to be elaborated, it is clearly the aim of this concept to establish permanent legal protection of the Vjosa as a wild river, i.e. dynamic and free-flowing.

2 Approach and questionnaire

The research for this overview report consisted of a review of relevant reports and internet resources as well as interviews with experts from environmental organizations working on river protection in the respective countries.

Given the scope of the research, it proved highly effective to interview experts and receive not only information on the legal protection schemes, but also some insight into the historic context of the development of the schemes as well as their effectiveness and future.

A questionnaire was developed to structure the interviews. In the report, the findings on Finland and Sweden are presented following the same sequence of questions.

Questionnaire on legal river protection schemes

1. When did the legal river protection scheme come into force?
2. How did it occur, and which factors and circumstances influenced the decision to establish the river protection scheme?
3. Is the free-flowing character of the river strictly protected, and in which way are other river properties included in the protection scheme (e.g. adjacent lands and floodplains, tributaries and headwaters, water quantity)?
4. How does the protection scheme function from a legal/governance standpoint, and which authorities are in charge of safeguarding compliance?
5. Has the legal river protection scheme been effective, has it been challenged, and were there exemptions?
6. Has the scheme been evolving (e.g. rivers added)?
7. Is there a connection to other water and/or biodiversity policy instruments (such as programs for improving river continuity and fish passage)?

For evolving initiatives:

1. What is the scope of the river protection scheme?
2. What are the drivers behind the initiative?
3. Who is pushing the initiative from the side of civil society?

3 Overview of existing legal river protection schemes in Europe

3.1 Slovenia – Law on the protection of the Soča river from 1976

The legal protection scheme for the Soča came into force in 1976 as Law on the Protection of the Soča river and tributaries (Zakon o določitvi zavarovanega območja za reko Sočo s pritoki). According to this law „the protected area covers riverbeds and water and riverbank lands between the source and the confluence with the Idrijca river“ (Art. 2). This law can be regarded as the first legal scheme for the protection of a free-flowing river in Europe. At the time, Slovenia was a part of Yugoslavia. The Law on the Protection of the Soča river and tributaries constitutes a comprehensive approach to protect the Soča river ecosystem in a very broad way, including physical, chemical and biological characteristics.

The Law on the Protection of the Soča river and tributaries was specifically designed to prohibit hydropower projects on the Soča: There were concrete plans for hydropower projects on the upper stretch of the Soča river in the 1970s. At Kobarid, a 120m dam was proposed. At Trnovo ob Soči, another hydropower plant was proposed. In addition, there was a plan to divert water from the Boca spring and waterfall to an artificial lake behind a 40m dam. The Bovec basin would have disappeared and turned into a reservoir. There were also plans to dam the Učja, the third headwater of the Soča river.

In reaction to these hydropower development plans, an opposition rose and connected with critical voices against other dam projects in Yugoslavia, e.g. on the Tara river in Montenegro. Eventually, the Socialist Republic of Slovenia passed a specific law on the protection of the Soča river and its tributaries in order to avoid any dam and hydropower projects on this outstanding river.

In 1990, based on the Law of Natural and Cultural Heritage from 1981, the local government of the municipality of Tolmin proclaimed a decree that designated several cultural and historical monuments and natural features. By this decree, the Soča with its tributaries between the source and the confluence with the Tolminka river (including this one) became a natural monument. It is classified as a natural monument of national importance. This decree represents the most strict protection of the Soča and its tributaries. The Soča and several tributaries are also part of the Natura 2000 network.

The Government of the Republic of Slovenia, mayors and municipal administrations of Bovec, Kobarid and Tolmin are in charge of guaranteeing compliance with the protection scheme for the Soča.

The legal protection scheme has been effective. No dams were built in the protected river stretches. However, pressure to develop hydropower on the Soča and its tributaries remains high. There are still surreptitious pushes for the construction of hydroelectric power plants. The hydropower company SENG, Soške elektrarne Nova Gorica, still keeps two potential dam sites on the upper Soča as well as one on the Učja on their long-term project list. But it appears that public opinion is very strongly in favour of the protection of the river.

3.2 Finland – River protection under the Rapids Protection Act from 1987

In Finland, the Rapids Protection Act is the central piece of legislation for the permanent protection of free-flowing rivers. It came into force in 1987. There are three Acts altogether that make up the Finnish river protection scheme:

- The Rapids Protection Act / Koskiensuojelulaki (35/1987) came into force 1.2.1987 (7 §), designating 53 rivers / river stretches as protected.
- Laki Ounasjoen erityissuojelusta (703/1983) came into force 1.9.1983 (4 §), designating one river, Ounasjoki
- Laki Kyrönjoen erityissuojelusta (1139/1991) came into force 1.9.1991 (6 §), designating one river, Kyrönjoki

The Act on the Protection of Rapids (35/1987), along with the other two laws, protects selected river stretches by prohibiting the construction of power stations in them:

For the construction of new hydropower plants, no permit required under the Water Act shall be granted concerning the following rivers or rivers stretches: [...]

In this way, the protection scheme protects the free-flowing character and explicitly excludes any hydropower development in the designated rivers. No other river properties are regarded.

After the Second World War, Finland experienced massive and controversial hydropower development. In the 1960s, 1970s and 1980s, a series of environmental conflicts about hydropower erupted (the so-called rapid wars). Besides nature conservation activists, other important players in these rapid wars were local people, many recreational as well as professional fishermen, artists (like the Finnish poet Reino Rinne who engaged in the Kuusamo hydropower wars) etc.

The breakthrough for protecting the remaining wild river stretches was a Committee memorandum in 1982. This Memorandum of the Committee on the protection of rapids (in Finnish: "Koskien suojelutoimikunnan mietintö, Komiteamietintö 1982:72") led first to the Ounasjoki protection Act in 1983, and later to the main Rapids Protection Act (Koskiensuojelulaki) in 1987. The members in the Committee represented the Finnish Association for Nature Conservation (SLL), Natur och Miljö, the environmental administration, Sami people and anglers. The Committee agreed on a site list in their memorandum. The site list in the Rapids Protection Act is based on their opinion. Finland's first Environmental Minister Mr Matti Ahde (Socialdemocrat) played a key for the success of the proposal, while a previously assigned working group hadn't been able to agree on anything.

The mechanism behind the Finnish rapids protection legislation consists of two elements: According to the law, it is impossible to obtain a licence as required by the Water Act for a hydropower facility in the rivers designated. The law also provided compensation payments to the owners of the respective water rights. The payments were based on the economic benefit forgone, calculated by the land register office, and given out as a single payment. There were several court cases where the calculations for individual payments were challenged, but in most cases the courts upheld the ordinances. By 2004, seventeen years after the Rapids Protection Act came into force, all compensation payments were completed. The list of protected rivers was not amended after the third rapids protection law was passed 1991. The former president of the Finnish Association for Nature Conservation, Esko Joutsamo, stressed that „nobody from our side wanted to open the Act later - because if some sites could have been added, some others could have been removed!“

The provisions of the Rapids Protection Act have proven very effective. Not a single hydropower facility was built in the designated rivers. Essentially, building a dam in the rivers that are designated, would require to

change the law. There have been many attempts to open part of the Iijoki river in order to build the Kollaja dam and reservoir, but even the conservative Government (Sipilä) did not succeed with such efforts. The general opinion is that there can't be such a political coalition that would open the laws on Finland's river protection schemes.

The protection scheme of the respective river stretches is not directly linked to any other legally binding management objective. However, the effects of river protection can be taken into account in the context of river basin management under the WFD and the strategy for the restoration of fishways etc.

It is worth noting that, outside the scope of the Rapids Protection Act, there have been several cases in Finland where hydropower projects in rivers protected under Natura 2000 were defeated, most recently on the Kemijoki river in April 2019.

Excerpt from the Executive English Summary of the Finnish Ministry of Environment Report on Compensation Payments under the Rapids Protection Act (SY 772):

The Act on the Protection of Rapids as well as the Acts on Special Protection of the Rivers Ounasjoki and Kyrönjoki ban granting of a permit aimed at in the Water Act for construction of a new hydropower plant on the sites mentioned in these Acts. According to the Acts, the State is obliged to pay full compensation of the natural nominal effect of the hydropower to the owners or to those who had the right to utilize this hydropower. The State is moreover ruled to compensate such necessary spending for the planning and other special actions aimed at the mobilization of hydropower that was to be paid by the time the Protection Acts came into force. Ownership and other circumstances in the protection sites remain as they were.

The first compensation process came pending in 1987 and the last compensations were paid in the beginning of 2004. The total number of compensation processes was around 270. Decisions were made on the prerequisites and amount of compensation in almost 1300 separate cases.

Compensation was ordered for the heads of about 700 potential hydropower plant sites. About 600 sites or parts of river systems were estimated to be unfavourable for hydropower construction because of insignificant amount of water or small head, and no compensation was ordered for them in the processes. Altogether about 400 million marks (67 million €) of State funds allocated for the protection of rapids was used for the implementation of these Acts.

During the processes, parties had different views on matters like paying of interest for the compensations, the outlines of some protection areas, paying of compensation for sites with minor hydropower, and the value of the hydropower. How the Water Act should be interpreted in the future construction application processes concerning hydropower plants, or other structures needed for them, in the range of these Protection Acts is considered to be problematic. Moreover, concerning the Iijoki and Kyrönjoki rivers the State was sued by certain hydropower companies for alleged breach of contract as consequence of the enactment of the protection. In these litigations, compensation was claimed for such kind of losses that the Protection Acts did not cover.

3.3 Sweden – River protection under the Swedish Environmental Code from 1999

In Sweden, 26 rivers are strictly protected under the Environmental Code since 1999. The Swedish protected rivers include the four national rivers Torneälven, Kalixälven, Piteälven and Vindelälven as well as 22 other rivers or river stretches. Permanent legal protection of these rivers is based on the Swedish Environmental Code „Miljöbalken“ (Chapter 4, §6). The term national rivers („Nationalälvarna“) is not a legal definition, all rivers listed enjoy the same protection. National rivers were introduced as a term in 1992 with a rather symbolic value.

The purpose of the river protection scheme under the Swedish Environmental Code / Miljöbalken 4.6 is specifically to ensure that these rivers are not developed for hydropower, and that no water is diverted for this purpose:

Hydroelectric power plants and water regulation or water transfer for power purposes shall not be carried out.

These provisions in all cases also include source streams and tributaries.

Surprisingly, many of the protected rivers under this scheme are already affected by dams.

As for the national rivers, the Torneälven and its Swedish tributaries is the only river with no dam and no hydro-electric facility. However, there is the possibility for development of some smaller-scale hydropower facilities on the Finnish side. On Piteälv, a large-scale dam on the mouth was relicensed. Vindelälven is a tributary to Umeälven where in fact Sweden's largest hydropower plant is located.

It is fair to say that Sweden is a hydropower country. The beginning of hydropower development dates back to the 19th century, and a very large share of the existing facilities were built in the beginning of the 20th century, mainly smaller hydropower plants.

The controversial massive development of hydropower in Sweden in the second half of the 20th century was, next to nuclear power, one of the main issues that the growing environmental movement raised. Sweden's hydropower sector grew immensely, and many struggles to defend rivers were lost. The river protection schemes of the Swedish Environmental Code came about after the dispute over hydropower development on the Dalälven.

As environmental civil society organization devoted to river protection, Älvräddarna Samorganisation (River Savers Federation) summarizes the situation of wild rivers in Sweden as follows: „80% of the rivers are developed, and there are at least 11.000 dams. Waterfalls and rapids have become rare. Every power station and all dams are a potential obstacle for fish migration.“

Älvräddarna point out that an extremely small share of hydropower plants are currently environmentally adjusted: Barely 100 power plants are in a condition that is in line with current environmental laws, i.e. relicensed or rebuild under Miljöbalken. About 30% of the power plants lack any licence whatsoever.

„Today, there are only 16 wild salmon rivers left in Sweden that support self-sustaining populations, compared to at least 28 before the development of rivers for hydropower. In those rivers with hydropower and wild salmon, reproduction rates are low. Most of the largest salmon rivers have been fully developed, and there is no natural salmon population left. This is true e.g. for Luleälven, Skellefteälven, Umeälven, Ångermanälven, Ljusnan and others¹.“

There are some 2,100 hydropower stations in Sweden, 1,900 of which are considered small hydro, and 210 large hydropower (>10MW). These large facilities produce 94% of the electricity that is generated from

¹ <https://alvraddarna.se/fakta/om-vattenkraft/>

hydropower in Sweden. In comparison, 1030 very small facilities (<125W) produce less than 0.5% of electricity. There are 1,570 dams in place for regulating water flows related to hydropower.

„Existing hydropower is an excellent energy source with low CO2 emissions, but it is also one of the largest sources of environmental impact on our waters. We can easily meet the goals of the Renewable Energies Directive, but we have an enormous need for action when it comes to the Water Framework Directive and Nature Directives².“

Relicensing and applications for new hydropower projects are handled by environmental courts (there are five environmental courts in Sweden). Several concerned parties have a right to speak at the hearings. River Savers / Älvräddarna and Recreational Fishermen / Sportfiskarna are among the concerned parties, and aim to participate in all such hearings, as well as the Swedish Association for Nature Conservation / Naturskyddsföreningen and WWF Sweden.

Älvräddarna / River Savers as organisation names the strict implementation of the Swedish river protection scheme as one of their most important goals, and is following all cases of relicensing or applications for new hydropower projects in these rivers in court. Älvräddarna conclude that the legal protection scheme has worked rather fine since the law was adopted by the Swedish parliament in 1999. Certainly, hydropower companies aim to challenge or undermine the protection scheme through applications for new or refurbished hydropower plants in the protected rivers. However, only one or two such applications were approved by the environmental court in Sweden, and in that case it was a small-scale facility that had been in place since the beginning of the 1900 century.

No rivers were added to the Swedish list of protected rivers after 1999. Nearly all of the protected rivers are also designated as Natura 2000 sites.

An amendment of the Swedish Environmental Code that came into force in 2019 now requires the re-evaluation and re-licencing of all existing hydropower facilities in Sweden within a period of twenty year (2020-2040). Until now, most small hydropower plants still underlie the same legal provisions as 1918. Älvräddarna and partners advocate a prioritization, making the rivers protected under the Swedish Environmental Code 4.6 priority rivers to be regarded in the first decade (until 2013). A new funding scheme for environmental upgrading or alternatively the dismantling of small hydropower facilities was recently introduced to accompany the new legal requirements.

² http://www.vattenmyndigheterna.se/SiteCollectionDocuments/sv/bottenviken/moten-och-seminarier/vattenr%C3%A5dsdagar_2012/havochvatten-johan-klings.pdf

3.4 Norway – River Protection under the Water Resources Act from 2001

Norway's Protection Plan for Water Courses, which has become statutory through the Water Resources Act in 2001, may be regarded as legal river protection scheme, but possibly in a less strict sense. It includes for a total of 388 rivers or river stretches a provision where protection aims are to be given „preponderant weight“, allowing authorities to deny the licencing of a hydropower project:

Once central public authorities have instituted preparation of a master plan for the use or protection of river systems for a larger area, the water authorities may without further consideration delay or reject an application for a licence that pertains to a river system included in the scope of the plan. - Section 22

When the water authorities issue decisions applying to a protected river system pursuant to this Act, the interest of its conservation value shall be given preponderant weight. The water authorities may reject an application for a licence without further consideration. - Section 35(8)

The Norwegian approach aims to balance the country's massive river development for hydropower with protecting a set of rivers from such development. While the Master Plan for Water Resources aims at bringing groups of hydropower projects forward for licencing, the Protection Plan for Watercourses designates rivers for protection. Norway's parliament (Storting) adopted four protection plans between 1973 and 1993, with supplements in 2005 and 2009. Collectively, these plans are referred to as the Protection Plan for Watercourses.

A total of 388 river systems or parts of river systems with a hydropower potential of 49.5 TWh/year are protected against hydropower development and other types of encroachment that could destroy the protection values. This equals roughly 20% of the total hydropower potential. A locality may be a whole river basin system, a part of a river basin system, or an area including many small river basins.

The Water Resources Act made the protection of these river systems statutory. The Water Resources and Energy Directorate has the overall responsibility for managing protected river systems³.

The origins of Norway's rivers protection scheme date back to the 1960s. A report by the Norwegian Directorate for Nature Management gives a summary of its history:

„River basins are fundamental elements in the Norwegian natural landscape, and are among the most important areas for recreation and outdoor life, economic activities, settlements and transport. In Norway the hydropower sector is economically the most important sector related to the watercourses. For many years the development of rivers for power purposes was made on a case-by-case basis without a co-ordinated plan for the whole country. In view of increasing conflicts with other user interests it became essential to consider the exploitation of the remaining watercourses in a larger perspective. These considerations led to the preparation of a Master Plan for Water Resources, originally presented to the Norwegian Parliament in 1985, a Watercourse Protection Plan, and revised licensing procedures. The Master Plan for Water Resources has been updated in 1988 and in 1993. The work is headed by the Ministry of the Environment (MOE), in collaboration with the Ministry of Petroleum and Energy (OED), the Norwegian Water Resources and Energy Directorate (NVE), the Directorate for Nature Management (DN), and other relevant institutions.

The scope of the Master Plan is to present a priority grouping of hydropower projects to be brought forward for licensing. The priority grouping is the final result of evaluating development costs versus conflicts with other interests. In order to investigate the professional basis for the Master Plan a total of 16 user interests

³ <https://www.internationalrivers.org/resources/norway-protection-plan-for-watercourses-and-master-plan-for-hydropower-development-16833>

were defined: Hydropower, nature conservation, outdoor recreation, wildlife, water supply, protection against pollution, cultural monuments and cultural environments, agriculture and forestry, reindeer husbandry, prevention of flooding, prevention of erosion, transport, formation of ice and water temperature, climate, mapping and data, and the regional economy.

For every project considered in the Master Plan, these interests are evaluated and included in a report on each river basin. The Watercourse Protection Plan was produced in close co-operation between the energy and water authorities and the environmental authorities. The plan is administered by OED and NVE in co-operation with MOE and DN. This national conservation plan is based on an evaluation, started in 1968, of different conservation values and other interests related to the watercourses, like cultural heritage, fish, wildlife, outdoor recreation, pollution control, agriculture, forestry and husbandry, in a collaboration between NVE, MOE/DN and the Ministry of Agriculture. The work was supervised by a committee, and the conclusions were presented in four reports; the first in 1970 and the last in 1991. The reports were prepared including a broad hearing process.

The most recent plan was accepted by Parliament in 1993. [...] The government has decided to start a new process leading to more watercourses to be protected, as well as a revision of the Master Plan.

The Nature Conservation Act, the Cultural Heritage Act and the Act relating to Salmonids and Freshwater Fish represent other important protective measures within water resource management. The Nature Conservation Act aims e.g. at protecting the most valuable ecosystems, and distinguishes between the following protection categories: National parks, nature reserves, protected landscape areas, natural monuments, biotope protection and species protection⁴.

⁴ <https://www.regjeringen.no/globalassets/upload/kilde/md/bro/2002/0002/ddd/pdfv/159960-t-1411.pdf>

3.5 Spain – River Protection Reserves / Reservas Naturales Fluviales from 2005

In Spain, the legal protection scheme of river reserves (Reservas Naturales Fluviales) was introduced into the Spanish Water Law (Ley de Aguas) in 2005. The first list of 53 such reserves was designated in 2015 by the Council of Ministers, followed by another 82 in 2017. The designation of river reserves is a mandatory measure in the elaboration of river basin management plans.

Las reservas naturales fluviales, con la finalidad de preservar, sin alteraciones, aquellos tramos de ríos con escasa o nula intervención humana. Estas reservas se circunscribirán estrictamente a los bienes de dominio público hidráulico. – Art. 42.1(c)

Main legal milestones include:

Law 10/2001, on the National Water Plan, introduced the general protection figure of "water reserves for environmental reasons". The Natural River Reserves is a specific type of protection figure belonging to the former.

- In 2005, a modification to the Water Law was introduced, by which all River Basin Management Plans must necessarily designate Natural River Reserves.
- The Water Planning Regulation, which passed in 2007, further developed the figure of Natural River Reserves, establishing their objectives, competent authorities, criteria for their designation, etc.
- The first group of Natural River Reserves (53) were legally designated in 2015, by means of an Agreement of the Ministers Council.
- In 2017, a second group of Natural River Reserves were designated, so the total number of Natural River Reserves reached 135 that year. These reserves were designated in the river basins depending on the State. However, some river basins belong only to one Autonomous Community and in such cases the competent authority is not the State, but the Autonomous Community. In 2018, one of these basins (Balearic Islands) declared 9 Natural River Reserves.

The aim of the Spanish protection scheme of Natural River Reserves is to ensure that river stretches showing no or very low human alterations have their high natural status, from the point of view of water flows and hydro-morphological characteristics of the river and river boundaries, maintained. In practice this implies the prevention of new abstraction activity and hydraulic projects affecting said natural status of the designated reserve.

There is a direct link of the establishment of river reserves with formal requirements of river basin management plans under the WFD. One of the conditions for the designation as river reserve is the good or very good ecological status in accordance with the WFD. A designation as Natural River Reserve can only be applied to rivers with no human alterations (or very few human alterations), including very good natural conditions and free-flowing character. The designation ensures that this free-flowing character and other natural conditions will be maintained.

While there is not specification in the law regarding the free-flowing character or other specific characteristics, the protection regime provides that no new water concession can be established (except in case of emergency for urban water supply), and that no activities shall be allowed that might affect the hydro-morphological conditions and other natural properties of the river, which would include the free-flowing character.

The creation of the figure of Natural River Reserves had been on the agenda of green groups for some time. A proposal by *Ecologistas en Acción* finally met with success in 2005, and the river protection scheme was introduced in the Spanish Water Law. Since 2005, green groups maintained pressure to further develop the protection scheme and to designate Natural River Reserves. 10 years later, the first Natural River Reserves were designated.

It is a protection scheme that is applied, strictly, to the Water Public Domain: the river channel, river boundaries (5 meters each side) and water flows. The Water Public Domain is a national competence. Outside of it, the competences belong to the Autonomous Communities, and the Water Offices (national competences) cannot designate protected areas outside the Water Public Domain. This points to the need of a close coordination between the State and the Autonomous Communities, regarding Natural River Reserves. Such coordination is actually lacking.

The relatively recent designation of Natural River Reserves is expected to prevent harmful projects, at least hydraulic projects promoted by the same Administration, the Water Offices of the corresponding River Basin. These are in charge of its safeguarding compliance. However, as management plans for the designated rivers stretches are still missing, governance of these protected sites is lacking an important building block. This issue is pending, and success will depend on whether a good coordination scheme between the State and the Autonomous Communities can be established, because the protection of the river itself, along with 5 meters to either side, clearly is not enough.

In connection with the fact that most of Natural River Reserves are part of Natura 2000 sites, where uses were already quite limited. In fact, one of the pre-conditions to declare a river stretch as Natural River Reserve is the absence of significant water abstractions, dams and other alterations. In other words, the absence of significant uses. In this sense, it is an initiative which has not found too much opposition from the economic sectors. It can also be considered as an initiative to protect the last river stretches with natural status. Hence, Natural River Reserves are located only in the first kilometres of the river, in the headwaters, and many of them are quite small.

Continued efforts are devoted to enlarge the Natural River Reserves network. The coming years will be key in understanding whether Natural River Reserves are effectively protected from any new abstraction or any new hydraulic project. As of now, there is no management experience to be assessed.

Green groups, particularly *Ecologistas en Acción*, are pushing for the enlargement of the system of Natural River Reserves, along with other entities, such as the New Water Culture Foundation. A recent project of University of Barcelona carried out a research project to develop a systematic methodology to identify, prioritise and select new river stretches to be designated as Natural River Reserves. This project (Reservial project) produced a series of documents and a software, freely available, which public administrations, entities of the civil society and any interested party, can use to identify and select the best river stretches to be designated as Natural River Reserves.

While in fact most of the Natural River Reserves are included in a Natura-2000 site, there is no immediate connection to biodiversity instruments. Competent authorities in biodiversity belong to the Autonomous Communities, while the competent authorities in water belong to the State. To avoid a competences conflict,

Natural River Reserves refer only to water, hydro-morphology, but not to biodiversity. This a gap and points towards the need for closer coordination.

4 Overview of evolving river protection schemes in Europe

4.1 Portugal

In Portugal, a proposal for permanent legal protection of rivers is currently being elaborated. The Portuguese concept is based on the Spanish example of river reserves, taking into account the transboundary character of most rivers on the Iberian Peninsula, and reflecting the need for a coherent approach to river protection.

4.2 Macedonia

In Macedonia, the initiative „green zones for blue rivers“ (Зелени зони за сини реки – Macedonian / **Zona të gjelbra për lumenj blu – Albanian**) is calling for legal protection of rivers in a free-flowing condition, including better management of the river, floodplains, and upstream areas.

The environmental civil society organisation Front 21/42, as a partner in the campaign „Save the Blue Heart of Europe“, is advocating the establishment of such a legal river protection scheme. The goal of the initiative is to establish legally binding protection for the rivers in the „no-go zones“ for hydropower that are identified in the Eco-Masterplan for the Balkan Rivers. The initiative links this also to environmental requirements for Macedonia’s Energy Development Strategy.

5 Outlook

Europe's last wild rivers and dynamic rivers landscapes deserve better protection. As the intermediate assessment of the implementation of the Water Framework Directive and Natura 2000 clearly shows: The EU's existing environmental and nature conservation legislation does offer a number of good and potentially effective mechanisms to protect rivers, in particular the WFD's non-deterioration obligation and the requirement to reach good ecological status. Quite obviously however, implementation of these provisions in the EU member states has up to the present moment been insufficient, and in many cases not been able to prevent further degradation, damage and destruction of rivers and their natural properties. Freshwater biodiversity is in dramatic decline.

In addition, the EU Member States have yet to more purposefully and strategically apply existing planning tools for the benefit of river landscapes and their ecological restoration. This is particularly true for barrier or obstacle removal related to river continuity restoration, and the urgent need for restoration of rivers in a regional context with strategic conservation aims. Europe is risking losing outstanding natural heritage, and lose opportunities to regain natural river landscapes.

After a relatively calm period, the global boom of hydropower and dam projects is taking hold in Europe. Hundreds of new dams are being planned. A recent report by WWF, EuroNatur, RiverWatch and Geota illustrates the magnitude of this pressure: It identifies more than 8.500 hydropower plants that are planned to be built across Europe.⁵ EU member states and accession countries are affected alike. This push for development threatens the last wild rivers not only in the Balkans and South East Europe, but also in Portugal, Austria, Romania and other countries.

Another major threat for Europe's free-flowing rivers and dynamic river landscapes are large-scale river engineering projects for inland waterways that include a number of dams and sluices e.g. on the Oder and Danube rivers. The highly controversial E40 Waterway would have dramatic effects on two of Europe's last remaining jewels of its free flowing natural rivers: The Bug River in Poland and the Pripyat floodplains in Belarus.

The countries in the EU can do better in protecting the last wild rivers and restoring river continuity. As various examples in this report show, strict and permanent legal protection of rivers is feasible: Slovenia (since 1976) Finland (since 1987), Sweden (since 1999) and Spain (since 2015) guarantee strict legal protection for numerous rivers.

In the US, a growing network of „Wild and Scenic Rivers“ was established in 1968 as strictly protected. These examples show that such efforts are plausible and can achieve remarkable successes for the conservation and restoration of natural river landscapes. The Wild and Scenic Rivers Network in the US in particular might serve as a model, also with regard to promoting and communicating the aims of river conservation and building partnership across various groups and stakeholders. Its forward-looking aim to protect rivers and keep them wild and scenic could be a source of inspiration – similar to the National Park idea that still inspires a worldwide movement.

The discussion on adapting the Wild and Scenic idea to Europe began in 2015, when first ideas were discussed at a river management seminar in Berlin and the Balkan Rivers Days in Belgrade. A milestone in sharing confidence in the power of the idea, and an important building block in shaping this joint effort was the US study tour on Wild and Scenic Rivers hosted by TNC, WWF-Adria and American Rivers in the fall of 2018.

Whereas the Water Framework Directive provides the basis and means to improve water quality and prevent further deterioration of Europe's waterbodies, as we have seen, four EU Member States as well as Norway

⁵https://www.euronatur.org/fileadmin/docs/projekte/Balkan_Rivers_Blaues_Herz_Europa/Hydropower_report_2019_w.pdf

implement additional legal measures to protect rivers from hydromorphological alterations and degradation. It is important to note, most of these measures date from before the WFD came into force in 2000. However, post 2000, with the example of Spain, and with recent developments on the topic in Portugal and other Member States, the idea of establishing legal protection for free-flowing rivers is far from foreign. With the latest example of a river protection scheme being initiated locally in South East Europe, in this case the river Zeta in Montenegro December 2019 ⁶, there is beyond doubt movement in this area.

At the same time, these initiatives in various countries address the topic on a national level only, and therefore in a rather disconnected way. As rivers are often transboundary, it would be great to see this aspect – river protection schemes across borders – emerging. Thus, a more regional (EU-wide and beyond) approach that protects dynamic and free-flowing rivers from any kind of alterations could take the ongoing national efforts to the next level. There is currently no over-arching strategic planning approach that identifies needs for strict river protection and priorities for restoration action. Such an approach would be useful in order to achieve permanent protection of free-flowing rivers in a more coherent way and across all European ecoregions.

⁶ <https://www.vijesti.me/vijesti/drustvo/wwf-i-tnc-veliki-korak-u-zastiti-rijeka-crne-gore>

Annex I: National Legislation

Slovenian Law on the Protection of the Soča and Tributaries

Zakon o določitvi zavarovanega območja za reko Sočo s pritoki

<http://pisrs.si/Pis.web/pregledPredpisa?id=ZAKO120>

Neuradno prečiščeno besedilo Zakona o določitvi zavarovalnega območja za reko Sočo s pritoki obsega:

- Zakon o določitvi zavarovalnega območja za reko Sočo s pritoki (Uradni list SRS, št. 7/76 z dne 17. 3. 1976),
- Popravek zakona o določitvi zavarovanega območja za reko Sočo s pritoki (Uradni list SRS, št. 8/76 z dne 25. 3. 1976),
- Zakon o spremembah in dopolnitvah zakona o določitvi zavarovalnega območja za reko Sočo s pritoki (Uradni list SRS, št. 29/86 z dne 18. 7. 1986).

ZAKON

o določitvi zavarovanega območja za reko Sočo s pritoki

(neuradno prečiščeno besedilo št. 1)

1. člen

S tem zakonom se določa zavarovano območje za reko Sočo s pritoki z namenom, da se zavarujejo voda in poglavitne značilnosti vodnega režima ter tako ohranijo biološke lastnosti voda in naravno okolje na tem območju.

2. člen

Zavarovano območje iz prejšnjega člena zajema strugo ter vodna in priobalna zemljišča reke Soče in njenih pritokov na odseku od izvira Soče oziroma njenih pritokov do vtoka reke Idrijce pri Mostu na Soči. Meje priobalnih zemljišč iz prejšnjega odstavka predpiše občinska skupščina z odlokom; meje se označijo na karti v merilu 1 : 10.000, ki je sestavni del odloka.

3. člen

Na zavarovanem območju je prepovedana gradnja in rekonstrukcija vodnogospodarskih objektov ali naprav ter gradnja in rekonstrukcija drugih objektov in naprav, ki lahko vplivajo na spremembo vodnega režima ali kakovost vode. Prav tako je na zavarovanem območju prepovedano tudi vsako drugo dejanje ali opustitev dejanja, ki utegne spremeniti vodni režim ali kakovost vode, zlasti pa:

- rudarska minerska in druga podobna dela ter drugi podobni prostorski posegi;
- golosečnja na zavarovanem območju in sečnja posameznih dreves na vodnih in priobalnih zemljiščih;
- dela, zaradi katerih se lahko pojavi ali poveča erozija oziroma plazenje tal;
- izpuščanje, spravljanje in pretakanje vodi nevarnih in škodljivih snovi, kot so strupene snovi, nafta in njeni derivati ter druge podobne snovi;
- odlaganje in izpuščanje odkopnih in odpadnih materialov, smeti ter drugih podobnih snovi;-
- izpuščanje vode s takšno temperaturo, ki bi lahko škodila vodnemu rastlinstvu in živalstvu;
- odvzemanje mivke, peska, proda in kamna;
- odvzemanje posameznih vrst rastlinstva in živalstva iz struge reke oziroma njenih pritokov, razen tistih, katerih pridobivanje urejajo posebni predpisi;
- vnašanje živalskih in rastlinskih vrst, ki sicer ne žive v strugi ter vodnih in priobalnih zemljiščih reke Soče.

4. člen

Ne glede na prepovedi iz prejšnjega člena lahko pristojni republiški upravni organ izjemoma izda ob pogojih, s katerimi se zavaruje vodni režim po predpisih o vodah, lokacijsko dovoljenje, vodnogospodarsko soglasje oziroma gradbeno dovoljenje za gradnjo posameznih objektov in naprav širšega regionalnega pomena na zavarovanem območju po predhodnem mnenju Izvršnega sveta Skupščine občine Tolmin, republiškega komiteja za varstvo okolja in republiškega upravnega organa, pod čigar pristojnost spada objekt ali naprava. Za gradnjo umetnih jezer za energetske izrabo se lahko izda lokacijsko dovoljenje, vodnogospodarsko soglasje oziroma gradbeno dovoljenje na zavarovanem območju samo nizvodno Trnovega in če je taka gradnja določena z urbanističnim programom občine Tolmin. Če je potrebna sanacijska sečnja ali če je za vodni režim koristen odzem mivke, peska, proda ali kamna ali odlaganje odkopnih, vodi

neškodljivih materialov, na določenih mestih, lahko pristojni upravni organ skupščine občine dovoli tak poseg v zavarovano območje.

Prepoved iz prejšnjega člena se ne nanaša na gradnjo in rekonstrukcijo vodnogospodarskih objektov in naprav drugih objektov, katerih namen je zavarovanje brežin in struge pred hudourniki, erozijo in plazenjem hribin ter na vzdrževanje takih že obstoječih objektov in naprav.

5. člen

Skupščina občine Tolmin, območna vodna skupnost Soče, zveza vodnih skupnosti Slovenije in republiški sekretariat za urbanizem pripravijo do 31. decembra 1976 sanacijski program za celotno zavarovano območje, določijo rok za izvršitev potrebnih sanacijskih del in način financiranja teh del.

6. člen

Kršitve tega zakona se obravnavajo po določbah 64. do 67. člena zakona o vodah (Uradni list SRS, št. 16/74) ter po določbah tega zakona.

7. člen

Organizacija združenega dela ali druga pravna oseba, ki na zavarovanem območju poškoduje vodni vir ali kakovost vode ali spremeni naravni izgled struge z rudarskimi, minerskimi in drugimi podobnimi deli ali z drugimi prostorskimi posegi se kaznuje za gospodarski prestopok z denarno kaznijo od 1.000.000 do 10.000.000 dinarjev.

Za dejanje iz prejšnjega odstavka kaznuje za gospodarski prestopok odgovorna oseba organizacije, združenega dela ali druge pravne osebe z denarno kaznijo od 50.000 dinarjev do 500.000 dinarjev. 8. člen Z denarno kaznijo od 50.000 dinarjev do 1.000.000 dinarjev se kaznuje za prekršek organizacija združenega dela ali druga pravna oseba:

1. če na zavarovanem območju brez dovoljenja pristojnega organa ali v nasprotju z dovoljenjem po drugem odstavku 4. člena tega zakona odvzema mivko, pesek, prod ali kamen;

2. če odlaga ali izpušča odkopne in odpadne materiale, smeti ter druge podobne snovi ali če odlaga odkopne vodi neškodljive materiale brez dovoljenja pristojnega organa ali v nasprotju z dovoljenjem po drugem odstavku 4. člena tega zakona;

3. če opravlja dela, zaradi katerih se pojavi ali poveča erozija oziroma plazenje tal;

4. če odvzame posamezne vrste rastlinstva ali živalstva iz struge reke ali njenih pritokov v nasprotju z določbami predzadnje alineje 3. člena tega zakona;

5. če vnaša živalske in rastlinske vrste v nasprotju z določbami zadnje alineje 3. člena tega zakona.

Za dejanje iz prejšnjega odstavka se kaznuje za prekršek odgovorna oseba organizacije združenega dela ali druge družbene pravne osebe z denarno kaznijo od 10.000 dinarjev do 100.000 dinarjev.

9. člen

Z denarno kaznijo od 10.000 do 100.000 dinarjev se kaznuje za prekršek posameznik za dejanje iz prvega odstavka 7. in 8. člena tega zakona.

Zakon o določitvi zavarovalnega območja za reko Sočo s pritoki (Uradni list SRS, št. 7/76) vsebuje naslednjo končno določbo:

»10. člen

Ta zakon začne veljati osmi dan po objavi v Uradnem listu SRS.«.

Zakon o spremembah in dopolnitvah zakona o določitvi zavarovalnega območja za reko Sočo s pritoki (Uradni list SRS, št. 29/86) vsebuje naslednjo končno določbo:

»4. člen

Ta zakon začne veljati osmi dan po objavi v Uradnem listu SRS.«.

Finnish Rapids Protection Act

Koskiensuojelulaki / Forsskyddslag (Swedish version)

<http://www.finlex.fi/sv/laki/alkup/1987/19870035>

Forsskyddslag 35/1987 - Ursprungliga författningar -

Given i Helsingfors den 23 januari 1987

I enlighet med riksdagens beslut stadgas:

1 §

För byggande av nytt kraftverk får inte beviljas i vattenlagen (264/61) nämnda tillstånd som gäller i följande vattendrag och delar av vattendrag:

- 1) i Partakoski och Kärnäkoski i Savitaipale kommun;
- 2) i Kermankoski i Kermanvirta i Heinävesi kommun;
- 3) i Karvionkoski mellan Varisvesi och Kermajärvi i Heinävesi kommun;
- 4) i Konnuskoski mellan Konnusvesi och Savivesi i Leppävirta kommun;
- 5) i Pielisstråten i vattendragen ovanför Pankajärvi i städerna Lieksa, Nurmes och Kuhmo;
- 6) i Nurmijoki mellan Haapajärvi och Säleväjärvi i Sonkajärvi kommun;
- 7) i Keyritynjoki och Puntinjoki i Juankoski, Nilsä och Rautavaara kommuner;
- 8) i Tiilikanjoki i Rautavaara kommun;
- 9) i Vaikkojoki i Juuka och Kaavi kommuner;
- 10) i Koitajoki mellan riksgränsen och Kahvisaari i Ilomants kommun;
- 11) i vattendraget Haapajoki-Ukonjoki i Ilomants kommun och Lieksa stad;
- 12) i Kymmene älvs nedre lopp fram till området nedanför Koivukoski i Kotka stad;
- 13) i Kymmene älv mellan Hirvijärvi och Tammijärvi sjöar i Pyttis och Strömfors kommuner;
- 14) i Ahvionkoski, Kulaaankoski och Pernoonkosket i Kymmene älv i städerna Anjalankoski och Kotka;
- 15) i Kivijärvi stråten i Lemi, Luumäki, Savitaipale och Valkeala kommuner samt i städerna Anjalankoski och Kouvola;
- 16) i Kalkis fors mellan Päijänne och Ruotsalainen i Asikkala kommun;
- 17) i Arvajastråten i kommunerna Kuhmoinen och Längelmäki samt i Jämsä stad;
- 18) i Kuusaankoski, Lujankoski och Kapeenkoski mellan Kuhnamo och Saravesi i Laukaa kommun och Äänekoski stad;
- 19) i Huopanankoski och Keihärinkoski mellan Vuosjärvi och Pihkurinselkä i Viitasaari kommun;
- 20) i Kolima forsled från Kärnäkoski till Kymönkoski i Viitasaari kommun;
- 21) i Naarakoski mellan Naarajärvi och Kuhnamo i Äänekoski stad;
- 22) i Saarijärvi stråten, uppåt från Leuhunkoski i Karstula, Kyyjärvi, Multia, Perho, Pylkönmäki och Soini kommuner samt i städerna Alajärvi och Saarijärvi;
- 23) i Rautalampistråten i vattendraget ovanför Kuhankoski i Hankasalmi, Jäppilä, Kangasniemi, Karttula, Keitele, Kiuruvesi, Konnevesi, Laukaa, Maaninka, Pielavesi, Pihtipudas, Pyhäjärvi, Rautalampi, Sumiainen, Tervo, Toivakka, Vesanto och Viitasaari kommuner, i Pieksämäki landskommun samt i Idensalmi, Kuopio och Pieksämäki städer;
- 24) i Puuskankoski mellan Pieni Sämpiä och Tuusjärvi i Mäntyharju kommun;
- 25) i Kiskonjoki-Bjärnä års vattendrag i Bjärnä, Finby, Karislojo, Kiikala, Kisko, Muurla, Pertteli, Pojo, Sammatti, Suomusjärvi, och Tenala kommuner samt i Salo stad;
- 26) i Kilpikoski i Kumo älv samt i Kutalanvuolle och Hiedanvuolle i Rautavesi i Vammala stad och Äetsä kommun;
- 27) i Kuokkalankoski och Herralankoski mellan Ahtialanjärvi och Kirkkojärvi i Lempäälä kommun;
- 28) i Pihlajavesistråten i städerna Virdois, Keuruu och Etseri;
- 29) i Myllykoski i Norrmark å i Norrmarks kommun;
- 30) i vattendraget Lappfjärds å-Isojoki i Kristinestad samt i Bötoms, Kauhajoki, Storå och Östermark kommuner;
- 31) i Esse ås nedre lopp ända till nedanför Evijärvi i Evijärvi och Pedersöre kommuner;
- 32) i Perho å från Murickforsen till järnvägsbron i Kronoby kommun och Karleby stad;
- 33) i Lestijoki vattendrag i Himanka, Kelviä, Lestijärvi, Lochteå och Toholampi kommuner samt i staden Kannus;
- 34) i Siiponjoki i Kalajoki kommun;
- 35) i Kalajokis nedre lopp ända till nedanför Hamarinkoski i Alavieska och Kalajoki kommuner samt i Ylivieska stad;
- 36) i Pyhäjokis nedre lopp ända till nedanför Haapakoski i Pyhäjoki, Merijärvi och Haapavesi kommuner samt i staden Oulainen;
- 37) i Siikajokis nedre lopp ända till nedanför Pöyrynkoski i Ruukki och Siikajoki kommuner;
- 38) i Saarikoski och det ovanför belägna vattendraget i Kuhmostråten i Kuhmo stad;
- 39) i Kiminge älvs vattendrag i Haukipudas, Kiiminki, Ylikiiminki, Pudasjärvi, Puolanka och Utajärvi kommuner;

- 40) i Ijo älvs vattendrags mellersta och övre lopp i Kuusamo, Posio, Pudasjärvi, Puolanka, Ranua, Suomussalmi, Taivalkoski, Yli-Ii och Ylikiiminki kommuner;
- 41) i Kuivajoki vattendrag i Kuivaniemi, Ranua och Simo kommuner;
- 42) i Simojoki vattendrag i Posio, Ranua, Simo och Tervola kommuner samt i Rovaniemi landskommun;
- 43) i Vähäjoki vattendrag i Tervola kommun och i Rovaniemi landskommun;
- 44) i Auttijoki vattendrag i Rovaniemi landskommun och Posio kommun;
- 45) i Käsmäjoki vattendrag i Salla kommun och Kemijärvi stad;
- 46) i vattendragen ovanför Kemi älvs och Tenniöjokis sammanflöde i Savukoski och Salla kommuner;
- 47) i Torne älvs-Muonio älvs biflöden i Enontekis, Kittilä, Kolari, Muonio, Pello och Övertorneå kommuner samt i Rovaniemi landskommun och Torneå stad;
- 48) i Tana älvs biflöden i Enare och Utsjoki kommuner;
- 49) I Neijdenälvens vattendrag i Enare och Utsjoki kommuner;
- 50) i Juutuanjoki och de ovanför belägna vattendragen i Enare och Utsjoki kommuner;
- 51) i Ivalo älvs vattendrag i Enare, Enontekis, Kittilä och Sodankylä kommuner;
- 52) i Tuulomajoki vattendrag i Enare, Salla, Savukoski och Sodankylä kommuner; samt
- 53) i Koutajoki vattendrag i Kuusamo, Posio och Salla kommuner.

2 §

Till en ägare av vattenkraft eller en innehavare av nyttjanderätt till vattenkraft, som till följd av vad som stadgas i 1 § inte kan tillgodogöra sig vattenkraft som han äger eller besitter, utges på yrkande av ägaren eller nyttjanderättshavaren av statens medel en ersättning som skall bestämmas såsom full ersättning enligt det gängse pris som har uträknats på grundvalen av vattenkraftens nominella effekt i naturligt tillstånd.

3 §

Har en ägare av vattenkraft eller en innehavare av nyttjanderätt till vattenkraft åsamkats sådana kostnader för planeringsåtgärder och andra särskilda åtgärder som krävts för ibruktagande av vattenkraften och som hänför sig till sådant byggande av kraftverk som är förbjudet med stöd av 1 §, skall dessa kostnader ersättas av statens medel på yrkande av ägaren eller nyttjanderättshavaren. En förutsättning för ersättning enligt 1 mom. är dessutom att ansökan om tillstånd att bygga kraftverket är anhängig då denna lag träder i kraft och att till ansökan har fogats en plan för byggande av kraftverket.

4 §

De i 2 och 3 §§ nämnda ersättningarna bestäms i den ordning som stadgas i lagen om inlösen av fast egendom och särskilda rättigheter (603/77). De kostnader som stadgas i 82 § av nämnda lag skall betalas av staten. I fråga om förfarandet gäller dessutom i tillämpliga delar vad som stadgas i lagens 97 §.

5 §

På ersättning som avses i 2 § lagen om specialskydd för Ounasjoki älv (703/83) tillämpas vad som stadgas i 2 §, 3 § 1 mom. och 4 §.

6 §

Närmare stadganden om verkställigheten av denna lag utfärdas vid behov genom förordning.

7 §

Denna lag träder i kraft den 1987. Förordnande om ersättningsförrättning som avses i denna lag skall sökas inom fem år efter denna lags ikraftträdande. När det är fråga om ett ärende, i vilket tillstånd till byggande av kraftverk har beviljats och tillsändsutslaget vunnit laga kraft före denna lags ikraftträdande, eller ett ärende, i vilket ett i 2 kap. 26 § vattenlagen nämnt tillstånd till inledande av byggnadsarbetet har beviljats före denna lags ikraftträdande, skall stadgandena i vattenlagen tillämpas.

Regeringens proposition 25/8, Lag- och talousutsk. Bet. 21/86, Stora utsk. bet. 216/86

Republikens President
Mauno Koivisto

Miljöminister
Matti Ahde

Miljöbalken, Chapter 4, §6:

https://www.riksdagen.se/sv/dokument-lagar/dokument/svensk-forfattningssamling/miljobalk-1998808_sfs-1998-808

6 § /Träder i kraft I:2019-01-01/ Vattenkraftverk samt vattenreglering eller vattenöverledning för kraftändamål får inte utföras i

1. nationalälvarna Torneälven, Kalixälven, Piteälven och Vindelälven med tillhörande vattenområden, källflöden och biflöden,
2. Dalälven i
 - a) vattenområdena Västerdalälven uppströms Hummelforsen och Österdalälven uppströms Trängslet med tillhörande käll- och biflöden, och
 - b) älvsträckorna Västerdalälven nedströms Skiffsforsen och Dalälven nedströms Näs bruk,
3. Ljusnan i
 - a) vattenområdena Voxnan uppströms Vallhaga med tillhörande käll- och biflöden, och
 - b) älvsträckorna mellan Hede och Svegsjön och mellan Laforsen och Arbråsjöarna,
4. Ljungan i
 - a) vattenområdena Ljungan uppströms Storsjön och Gimån uppströms Holmsjön med tillhörande käll- och biflöden, och
 - b) älvsträckorna mellan Havern och Holmsjön och nedströms Viforsen,
5. Indalsälven i
 - a) vattenområdena Åreälven, Ammerån, Storån-Dammån och Härkan med tillhörande käll- och biflöden, och
 - b) älvsträckan Långan nedströms Landösjön,
6. Ångermanälven i
 - a) vattenområdena Lejarälven, Storån uppströms Klumpvattnet, Långselån-Rörströmsälven, Saxån, Ransarån uppströms Ransarn och Vojmån uppströms Vojmsjön med tillhörande käll- och biflöden, och
 - b) älvsträckan Faxälven mellan Edsele och Helgumsjön,
7. Vapstälven med tillhörande käll- och biflöden,
8. Moälven med tillhörande käll- och biflöden,
9. Lögdeälven med tillhörande käll- och biflöden,
10. Öreälven med tillhörande käll- och biflöden,
11. Umeälven i
 - a) vattenområdena Tärnaån, Girjesån och Juktån uppströms Fjosoken med tillhörande käll- och biflöden, och
 - b) älvsträckan Tärnaforsen mellan Stor-Laisan och Gäuta,
12. Sävarån med tillhörande käll- och biflöden,
13. Skellefteälven i de delar som utgörs av källflödena uppströms Sädvajaure respektive Riebnes och Malån med tillhörande käll- och biflöden,
14. Byskeälven med tillhörande käll- och biflöden,
15. Åbyälven med tillhörande käll- och biflöden,
16. Luleälven i vattenområdena Stora Luleälven uppströms Akkajaure, Lilla Luleälven uppströms Skalka och Tjaktjajaure och Pärälven med tillhörande käll- och biflöden,
17. Råneälven med tillhörande käll- och biflöden,
18. Emån med tillhörande käll- och biflöden,
19. Bräkneån med tillhörande käll- och biflöden,
20. Mörrumsån med tillhörande käll- och biflöden,
21. Fylleån med tillhörande käll- och biflöden,
22. Enningdalsälven uppströms riksgränsen till Norge med tillhörande käll- och biflöden, och
23. Klarälven mellan Höljes och Edebäck.

Trots första stycket får åtgärder som behövs för att upprätthålla, underhålla eller ändra en anläggning eller verksamhet vidtas, om åtgärderna inte medför någon ökad negativ miljöpåverkan eller endast en tillfällig sådan ökad påverkan. Lag (2018:1407).

Norwegian Act relating to river systems and groundwater (Water Resources Act)

Act No. 82 of 24 November 2000

published: In 2000 part 26

entry into force: 2001-01-01

https://www.regjeringen.no/globalassets/upload/oed/vedlegg/lover-og-reglement/act_no_82_of_24_november_2000.pdf

Chapter 3. Further details regarding licences for measures in a river system etc.

Section 22. (planning in river systems)

Once central public authorities have instituted preparation of a master plan for the use or protection of river systems for a larger area, the water authorities may without further consideration delay or reject an application for a licence that pertains to a river system included in the scope of the plan.

A licence may be granted only if the measure is without appreciable importance for the plan. When a plan as mentioned in paragraph one is completed, the processing of applications for licences shall be based on it. An application that is at variance with the plan may be rejected without further consideration. Only the Ministry may grant a licence for measures in a river system that may reduce the hydropower in river systems that are assigned to power development in the plan.

A master plan for various measures within a single river system should preferably be drawn up pursuant to the rules in the Planning and Building Act. Measures in a river system subject to a licensing requirement must have a licence pursuant to this Act, and legally binding plans pursuant to the Planning and Building Act may not substitute for a licence.

Chapter 5. Protected river systems

Section 32. (protected river systems)

In this Act, protected river systems are understood to be river systems protected from hydropower development by a resolution of the Storting on a protection plan for a river system or by another resolution of the Storting.

Protected river systems shall be announced in the Norwegian Law Gazette.

Changes in the extent of protected river systems may only be made by a resolution of the Storting. Such resolutions shall be announced in the Norwegian Law Gazette.

Section 33. (rules for protected river systems)

In protected river systems, protection is guaranteed in particular by

- a) the rules in this Act, including the special rules in this chapter,
- b) the provisions of decisions pursuant to Act no. 63 of 19 June 1970 relating to nature conservation, or
- c) legally binding plans pursuant to the Planning and Building Act. Insofar as the river system comes under decisions pursuant to the Nature Conservation Act, the rules in and in pursuance of the Nature Conservation Act apply instead of this Act. Nevertheless, the rules in the Act concerning safety, supervision, compensation and who may exercise rights apply. If a protected river system comes under a binding plan pursuant to the Planning and Building Act, the rules in this Act apply alongside such a plan.

Section 34. (hydropower development in protected river systems)

No one may undertake hydropower development in contravention of Storting resolutions on the protection of river systems.

All plans for hydropower development in protected river systems must be notified to the water authorities for assessment before the measures are implemented.

The rules in section 35 apply insofar as they are applicable to measures connected with hydropower development in protected river systems.

Section 35. (other measures in protected river systems)

In protected river systems in which protection is guaranteed by this Act, existing installations may remain and ongoing activities may continue, unless otherwise dictated by sections 66 and 67. In other respects the following special rules apply:

1. Existing installations may not be utilised for new purposes without a licence pursuant to section 8.

2. *If a change in ongoing activities within the framework of a current licence will affect the conservation value of the river system, this may take place only with a new licence. The same applies to the resumption of activities that have been stopped for at least five years.*
3. *Measures pursuant to section 12, paragraph one, in protected river systems are not exempted from the requirement to obtain a licence pursuant to section 8.*
4. *The water authorities may stipulate for specified areas in protected river systems that all measures are to be subject to notification.*
5. *New installations may be permitted only if the interest of the conservation value of the river system does not weigh against them.*
6. *The rebuilding of an existing installation that involves expansions may be permitted only if after an overall assessment, conditions in the river system will be as environmentally favourable as before the rebuilding.*
7. *Abstraction of water is permitted in accordance with section 15. Nevertheless, the water authorities may set a limit for the total abstraction of water.*
8. *When the water authorities issue decisions applying to a protected river system pursuant to this Act, the interest of its conservation value shall be given preponderant weight. The water authorities may reject an application for a licence without further consideration. If a licence is granted, the justification for the decision shall show how the conservation value is assumed to be affected and why this was not crucial for the decision.*
9. *The water authorities may issue decisions to re-establish vegetation along protected river systems that is natural to the site in a zone along their banks that is stipulated in a binding plan pursuant to the Planning and Building Act. Compensation pursuant to the rules in Act No. 17 of 6 April 1984 relating to compensation for the expropriation of real property shall be paid for losses due to the decision. Unless otherwise agreed, the compensation shall be set by an appraisal requested by the water authorities.*

Spanish Water Law

Ley de Aguas

<https://www.boe.es/buscar/pdf/2001/BOE-A-2001-14276-consolidado.pdf>

Artículo 42. Contenido de los planes hidrológicos de cuenca.

1. Los planes hidrológicos de cuenca comprenderán obligatoriamente:

[...]

c') La asignación y reserva de recursos para usos y demandas actuales y futuros, así como para la conservación y recuperación del medio natural. A este efecto se determinarán:

Los caudales ecológicos, entendiendo como tales los que mantiene como mínimo la vida piscícola que de manera natural habitaría o pudiera habitar en el río, así como su vegetación de ribera.

Las reservas naturales fluviales, con la finalidad de preservar, sin alteraciones, aquellos tramos de ríos con escasa o nula intervención humana. Estas reservas se circunscribirán estrictamente a los bienes de dominio público hidráulico.

Annex II: References, internet resources and interview partners

References

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Norwegian Ministry of the Environment. 2002. Environment and Water Resources Management the Norwegian Way. Oslo.

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<https://spip.ecologistasenaccion.org/IMG/pdf/informe-rnf.pdf>

Internet resources

Slovenia:

<https://www.naravovarstveni-atlas.si>

Finland:

<https://www.ekoenergy.org/cn/vesivoiman-luonto/vesivoima/suojellut-joet/>

Sweden:

<https://alvraddarna.se/fakta/om-vattenkraft/>

http://www.vattenmyndigheterna.se/SiteCollectionDocuments/sv/bottenviken/moten-ochseminarier/vattenr%C3%A5dsdagar_2012/havochvatten-johan-klings.pdf

Norway:

<https://www.internationalrivers.org/resources/norway-protection-plan-for-watercoursesand-master-plan-for-hydropower-development-16833>

Spain:

<https://www.ecologistasenaccion.org/34334/>

<https://www.ecologistasenaccion.org/99512/propuestas-para-la-gestion-de-las-reservas-naturales-fluviales/>

<https://www.ecologistasenaccion.org/107344/se-declaran-nuevas-reservas-naturales-fluviales-en-islasbalears/>

<https://fnca.eu/investigacion/proyectos-de-investigacion/reservial>

https://www.ub.edu/web/ub/es/menu_eines/noticias/2016/09/012.html

Interview partners

Slovenia:

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<https://www.sll.fi/en/>

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<https://www.front.org.mk/>

Albania, Macedonia:

Theresa Schiller, EuroNatur Foundation

Project Manager Save the Blue Heart of Europe

<https://www.euronatur.org/en/>

<https://balkanrivers.net/>

Portugal:

Ana Brazao, GEOTA – Grupo de Estudos de Ordenamento do Território e Ambiente

Project Rios Libres

<https://rioslivresgeota.org/>