

A stylized illustration of a brown trout with dark spots swimming in a stream. The stream is depicted with light blue and white water flowing over dark grey and brown rocks. In the background, there is a large yellow sun in a light blue sky, and a teal-colored area on the right side, possibly representing a forest or another part of the landscape.

FISH PASSAGE STRATEGY

– Towards a natural life cycle

Preface

Finland's National Fish Passage Strategy aims to strengthen our threatened and endangered migratory fish stocks. Without a natural life cycle these stocks will not stay viable in the long run. Targeting resources to measures promoting natural reproduction of migratory fish stocks contributes to the effort to preserve their diversity and biological diversity in general.

The strategy was prepared in a broadly-based development group, steered by the Ministry of Agriculture and Forestry. The strategy was adopted as a Government Resolution on 8 March 2012. The purpose of the strategy is to steer the construction of fish passages during the first three periods of water management planning until the end of the 2020s.

Ministry of Agriculture and Forestry

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- Towards a natural life cycle

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Contents

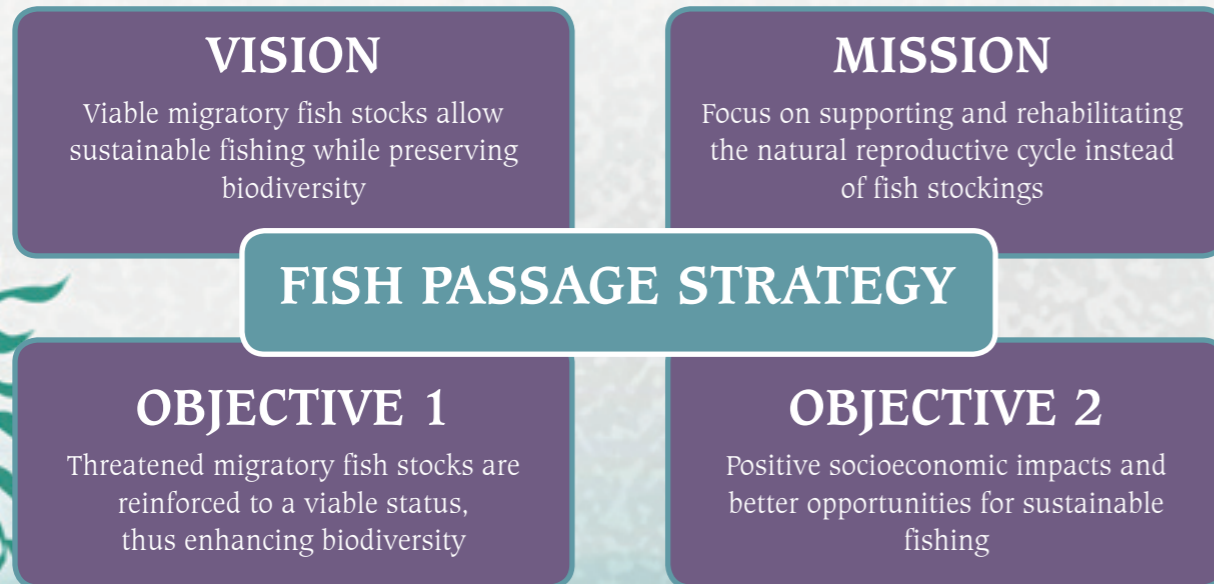
Objectives of the strategy	4
Multi-objective prioritisation and assessment of the projects	5
Funding arrangements and increased cooperation	6
Management obligation to support a natural life cycle	7
Regulation practices in watercourses	7
A sufficient brood stock by regulating fishing	8
More research and monitoring	9
Commitment to the necessary support measures	10
Background and need for constructing a fish passage	11



● Objectives of the strategy

The main objective of the Fish Passage Strategy is to enhance the viability of our threatened and endangered migratory fish stocks. The aim is also to adopt a consistent, cost-efficient and participatory approach to constructing fish passages and to improve the performance and transparency of actions by the public authorities.

The strategy also wishes to clarify certain issues connected to the assessment of the need for fish passages, enhance cooperation to promote the projects, and support other measures that contribute to the rehabilitation of migratory fish stocks as part of the fish passage solutions.



● Multi-objective prioritisation and assessment of the projects

The planning and implementation of fish passages requires diverse expertise and considerable resources. The limited resources should be targeted in a coordinated and comprehensive way to the most useful sites.

Prioritisation and targeting the resources should take account of the endangerment status and indigenouness of the migratory fish stocks, the size of the juvenile production area to be achieved, and the socioeconomic significance of the construction project. Especially in sites where several consecutive dams need to be passed the possibility of succeeding in achieving a natural reproductive cycle should be assessed.

The rehabilitation of threatened migratory fish species can be supported by comprehensive and species-specific programmes which besides fish passage solutions introduce other measures to rehabilitate the stocks.

Funding arrangements and increased cooperation

Work on the recovery of migratory fish stocks in harnessed waters must be done as a collaborative effort among several actors.

In most cases the projects impact on large areas with diverging interests for various actors. Successful reconciliation of these objectives cannot be achieved unless the different actors fully trust each other. Working groups on migratory fish with representatives from the main interest and stakeholder groups should be set up for the largest rivers and rivers that are the most important for migratory fish.

For implementing the strategy new and innovative national and international funding opportunities need to be sought, while taking full use of the various sources of funding available at present, such as Regional Councils, municipalities and business life. With regard to the state the strategy is implemented within the government spending limits and state budget by utilising, combing and reallocating funds from various sources in diverse ways.

Management obligation to support a natural life cycle

Fishery obligation is incorporated into sustainable management of waters and fish stocks. Measures to promote the natural reproduction of fish, in particular, are now in a key position. These may include fish passages, restoration of running waters, transporting spawners over migratory barriers and various kinds of monitoring projects that support the recovery of migratory fish stocks

To reach the objective changes are needed in several river systems as well as the feeding areas of migratory fish that ascend to these, especially concerning the stocking obligations but also in the organisation of fishing.

Under the Water Act the permit authority may review the conditions concerning the fisheries obligation and fisheries fee in case of significant changes in the circumstances.

Regulation practices in watercourses

Hydropower is particularly important in the Finnish society for balancing short-term variations in electricity consumption. Water economy permits issued in Finland are permanent, but the conditions included in the permit may be reviewed should the regulation have significant adverse impacts on the aquatic environment or use of waters.

The conditions and breeding potential of migratory fish can be improved through better regulation practices especially in small and medium-sized river systems.

● A sufficient brood stock by regulating fishing

Sustainable exploitation and management of migratory fish stocks and ensuring the passage of fish call for more efficient fishing regulation practices than we have at present.

Fishing regulation measures in river systems to be restored and feeding areas of migratory fish stocks should ensure that a sufficient number of fish ascend to the fish passages and further to their reproduction areas.

Among the most important regulatory measures are protected areas and closed seasons, regulation of fishing techniques, definition of allowed or prohibited fishing methods and fishing quotas.

Before any fish passage projects are being implemented, plans in support of the rehabilitation project need to be drawn up for the organisation of fishing concerning all life cycle stages of migratory fish.

● More research and monitoring

The construction of fish passages must be based on high-standard scientific research on the status of the migratory fish stock, possibility to succeed in rehabilitating a natural reproductive cycle, and juvenile production potential of the watercourse. Research results allow to ensure that the fish passage to be constructed works in the best possible way.

The functioning of the fish passages must be monitored after they have been constructed. Information is needed on the numbers of fish and range of species, as well as any adjustments to the structures and flows that may be necessary. The accumulation of knowledge and experience contributes to the design of new, even better fish passages and improving the functioning of the old ones.

The monitoring of the functioning of fish passages and the funding needed for this is included in all new fish passage projects.

● Commitment to the necessary support measures

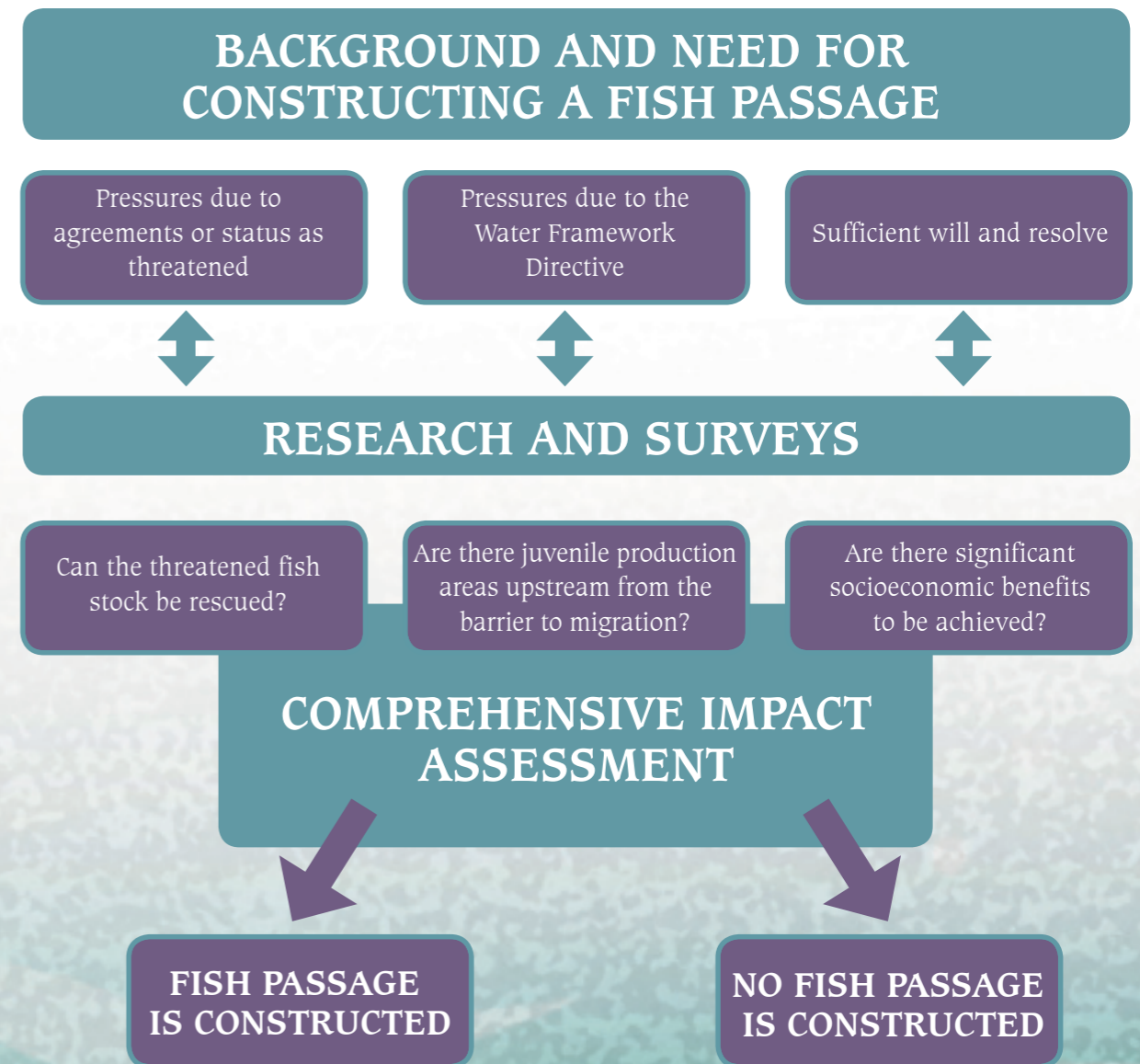
In projects aimed to rehabilitate migratory fish stocks commitment to the necessary support measures is also needed.

The descent of smolts to the sea or lake must be ensured. Stocking may also be needed in support of initiating the natural reproductive cycle.

Where necessary, the environmental load of the river system from the drainage basin must be reduced to ensure good habitats for spawn and fry.

The spawning and shelter areas for fish and surface area of juvenile production areas can be increased by restoring streams and rivers.

Barriers to migration may also be mill dams no longer used for their original purpose or old, very small power plants which could just as well be removed. Bottom dams and road culverts can be altered so as to allow the fish to migrate past them.





Of our migratory fish species **the sea trout** and **landlocked salmon** are classified as critically endangered and **Bothnian Bay salmon, migratory whitefish, eel** and **inland water stocks of trout** to the south of the Arctic Circle as endangered. Finnish river systems are quite heavily harnessed for the needs of domestic power production. Despite the need to produce hydropower, there is a strong commitment to preserving our wild migratory fish stocks. The need for a National Fish Passage Strategy arose from the development needs in water management work. The strategy aims to steer the development towards better reconciliation of the partly conflicting objectives relating to the preservation of migratory fish stocks and hydropower production in Finland.