

Baltic Sea Environment Proceedings No. 126B

Sea Trout and Salmon Populations and Rivers in Poland

HELCOM assessment of salmon (*Salmo salar*) and sea trout (*Salmo trutta*) populations and habitats in rivers flowing to the Baltic Sea.



Helsinki Commission

Baltic Marine Environment Protection Commission

Published by:

Helsinki Commission

Katajanokanlaituri 6 B

FI-00160 Helsinki

Finland

<http://www.helcom.fi>

Author

Piotr Debowski from the Inland Fisheries Institute of Poland

Editing and layout of the contents: Miia Mannerla (HELCOM project staff)

For bibliographic purposes this document should be cited as:

HELCOM, 2011

Sea Trout and Salmon Populations and Rivers in Poland – HELCOM assessment of salmon (*Salmo salar*) and sea trout (*Salmo trutta*) populations and habitats in rivers flowing to the Baltic Sea. Balt. Sea Environ. Proc. No. 126B.

Information included in this publication or extracts thereof are free for citing on the condition that the complete reference of the publication is given as stated above.

Copyright 2011 by the Baltic Marine Environment

Protection Commission – Helsinki Commission –

Layout of the cover: Leena Närhi, Bitdesign, Vantaa, Finland

Cover photo: Grzegorz Radtke.

The maps: Rafał Bernaś.

Number of pages: 59

ISSN 0357-2994

This report has been funded through a co-financing agreement between the European Union (European Commission, Directorate General for Maritime Affairs and Fisheries) and HELCOM (Overview of the state of salmon (*Salmo salar*) and sea trout (*Salmo trutta*) populations in rivers flowing to the Baltic Sea – SI2.546540).



HELCOM has the sole responsibility for this report and the European Commission is not responsible for any use that may be made of the information contained therein.

Contents

1. Introduction	4
2. Sea trout and salmon populations and rivers in Poland.....	6
The River Bauda	6
The River Błotnica	7
The River Brda	8
The River Czarna Woda (Czarna Wda)	11
The River Drawa	12
The River Drwęca.....	15
The River Gowienica	17
The River Gwda	18
The River Ina.....	21
The River Łeba.....	23
The River Łupawa	25
The River Oder.....	27
The River Parsęta	30
The River Pasłęka	32
The River Piaśnica	35
The River Radunia	36
The River Reda	38
The River Rega	41
The River Słupia.....	43
The River Wda	46
The River Wieprza.....	48
The River Wierzyca	50
The River Vistula (Wisła).....	52
The River Wolczenica.....	55
The River Zagórska Struga	57
3. Acknowledgements.....	59

1. Introduction

This Report gives a description of Polish salmon and sea trout populations and rivers that empty into the Baltic Sea. The Report is based on the HELCOM SALAR Project that focused on the state of salmon (*Salmo salar*) and sea trout (*Salmo trutta*) populations in rivers flowing to the Baltic Sea.

The deliveries of the HELCOM SALAR Project include a General Report on Baltic salmon and sea trout populations and rivers (BSEP 126A) as well as reports with individual descriptions of populations and rivers separately for Denmark, Estonia, Finland, Latvia, Lithuania, Poland, Russia and Sweden (BSEP 126B). The project also prepared a GIS map of salmon rivers as well as a database compiling information on salmon and sea trout populations and rivers.

The overall ecological state of the Baltic rivers and their fish populations has deteriorated from their pristine state. This is a consequence of direct anthropogenic impacts caused by many activities in the drainage area, in the rivers and in the Baltic Sea. In the rivers, the most detrimental activities have been damming, dredging and channelizing rivers to serve for hydropower production, log driving and agricultural purposes. Also indirect impacts of human activities such as nutrient and sediment loads from agriculture, forestry and sewage sources have had negative consequences on the ecological state of the Baltic rivers.

The General Report of the HELCOM SALAR Project presents an overview, inventory and classification of Baltic rivers with salmon and/or sea trout populations. In order to improve the status of these populations, the Report recommends measures for the restoration of river habitats and waters, for the opening of passage as well as for fisheries management in rivers. Furthermore, a prioritization of Baltic salmon and sea trout populations in need of urgent actions for their recovery is included. The recommendations and prioritizations form a basis for the development of international and national programs for the planning, funding and systematic realization of these actions.

The HELCOM SALAR Project was funded through a co-financing agreement between the European Commission (DG MARE) and HELCOM. It implements fisheries actions in the strategic HELCOM Baltic Sea Action Plan to radically reduce pollution to the sea and to restore the good ecological status of the marine environment by 2021.

The Reports have been prepared in co-operation with nominated salmonid and river habitat experts of the Baltic Sea countries as mentioned on the second page. The texts concerning salmonid populations and rivers in each country have been produced by the nominated experts and edited by the project staff in the HELCOM secretariat.

The General Report, the Reports with river descriptions and the GIS map are available at www.helcom.fi and the databank as an excel file at the institutions of the nominated experts.

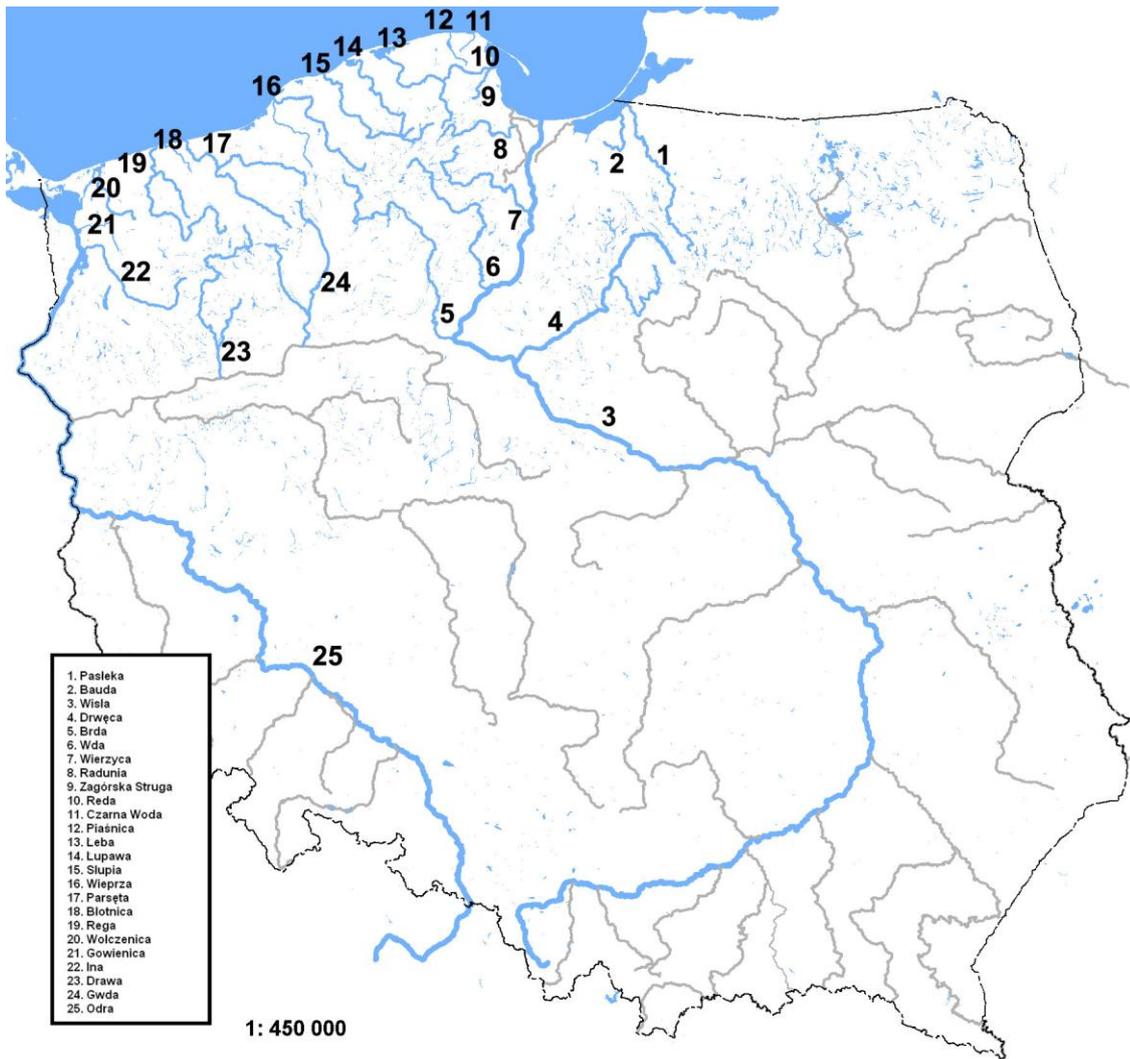


Figure 1. Map of the rivers of Poland.

2. Sea trout and salmon populations and rivers in Poland

The River Bauda

The River Bauda is a sea trout river flowing to the Vistula Lagoon.

Basic hydrological facts

River length: 58 km, a total of 100 km of the main river and tributaries are accessible for sea trout
Size of the catchment area: 342 km²
Average flow: No information
Daily lowest flow: No information
Number of migration hindrances: 0

Habitat and water quality in River Bauda

The River Bauda starts at the hills of Warmia Plain and flows through agricultural areas in the northern direction emptying into the Vistula Lagoon near the town of Frombork. The water quality of the River Bauda is affected by agriculture and the local industry. Hence the water quality is poor. The river is characterized by flow variation and frequent water turbidity. The majority of the length of the River Bauda has a natural character.

There are no important obstacles on the river. Potential spawning and nursery areas are located in the main river and in its small tributaries.

River Bauda according to the Water Framework Directive

The name of the water management district is Vistula River Basin and the river type is lowland gravely river (20).

Ecological status: Poor

Natura 2000

The upper and the lower part of the river belong to the Natura 2000 network as SPA and SCI areas, respectively.

River Bauda sea trout stock

Despite of the open migration route in the river Bauda, its sea trout population has been very small for a few dozen years. The river has been stocked with 8,000–10,000 sea trout alevins of the Vistula strain for a few years. Adult sea trout have been observed in the River Bauda, but spawning and wild offspring observations are lacking.

Sea trout population facts

Population category: 5
Reproduction area: No information
Production capacity: No information
Recent wild smolt production estimate: No information

Fishing regulations in the River Bauda

The closed season is from October 1 – December 31. Minimum legal size of salmon and sea trout is 35 cm. Only fishing with rod and artificial lure is allowed. A bag limit of 2 salmon and sea trout per fisher per day applies.

Specific actions for the development of the salmonid populations

To improve the water quality sewage output from towns and industries should be strictly controlled and an effective protection zone should be established to reduce nutrient and sediment loads from agriculture.

The recommendations in the general report of the HELCOM SALAR project concerning river fisheries management are applicable for this river.

The River Błotnica

The River Błotnica is a sea trout river flowing to the Lake Resko Przymorskie at the coast of the Baltic proper.

Basic hydrological facts

River length: 28 km, 19 km of the main river and tributaries are accessible for sea trout
Size of the catchment area: 319 km²
Average flow: No information
Daily lowest flow: No information
Number of migration hindrances: 4 (1 contains a fish way)

Habitat and water quality in River Błotnica

The River Błotnica is a former tributary of the River Rega. It flows through peat land and agricultural areas. The river is unchanged in the upper run, but the lower part of the river is channelized. The River Błotnica flows into the Lake Resko Przymorskie (554 ha) that is connected with the Baltic Sea by a short canal. The largest tributary of River Błotnica, Dębosznicza (35 km), has a similar character as the main river.

The first obstacle on Błotnica for migrating fish is already at 1 km above the Lake Resko Przymorskie. It has no fish pass. The second and the third obstacles, located at 6 and 10 km upstream, also lack fish ways. The tributary Dębosznicza is dammed at 9 km and at 19 km and neither of these dams has a fish pass.

Potential spawning and nursery areas are sparse, and they are limited to the areas in the upper run of the river and its tributaries.

River Błotnica according to the Water Framework Directive

The name of the water management district is Oder River Basin and the river type is organic stream (23).

Ecological status: Poor

Natura 2000

The lower part of the river belongs to the Natura 2000 network as a SPA area.

River Błotnica sea trout stock

Sea trout spawners have been observed in the lower part of the tributary Dębosznica. During the past years, the rivers Błotnica and Dębosznica have been stocked with 40,000–50,000 fry of the Parsęta strain.

Sea trout population facts

Population category: 5
Reproduction area: No information
Production capacity: No information
Recent wild smolt production estimate: No information

Fishing regulations in the River Błotnica

The closed season is from October 1 – December 31. Minimum legal size of salmon and sea trout is 35 cm. Only fishing with rod and artificial lure is allowed. A bag limit of 2 salmon and sea trout per fisher per day applies.

Specific actions for the development of the salmonid populations

Restoration of the natural character of the river bed and its surroundings is recommended.

The recommendations in the general report of the HELCOM SALAR project concerning accessibility and river fisheries management are applicable for this river.

The River Brda

The River Brda is a salmon and sea trout river flowing to the River Vistula.

Basic hydrological facts

River length: 245 km of which 3 km accessible for salmonids
Size of the catchment area: 4,665 km²
Average flow: 27.4 m³/s
Daily lowest flow: No information
Number of migration hindrances: 4 (1 contains a fish way)

Habitat and water quality in River Brda

The River Brda is a tributary of the River Vistula. The river starts in the moraine hills of the Bytów Lakeland. In its upper and middle run it flows in a forested area and through some lakes, and passes a large forested area of Bory Tucholskie. In the lower run the river is channelized and forms a part of the waterway Vistula-Oder. Finally, after 171 km it joins the River Vistula in the town of Bydgoszcz. The main tributaries of Brda are rivers Zbrzyca, Kamionka and Krówka. The lengths of these rivers are 49 km, 69 km and 51 km, respectively.

The water quality in River Brda is generally good. The first dam on the main river is located close to the river mouth, at 3 km, and the second one at 10 km. Both are equipped with fish passes that are not working properly. There are also a few obstacles without fish passes 40 km from the river mouth.

Potential spawning and nursery areas are found mainly in the middle section of the River Brda above the major obstacles, and in some parts of the upper and lower runs of the river.

River Brda according to the Water Framework Directive

The name of the water management district is Vistula River Basin and the river type is lowland gravelly river (20).

Ecological status: Poor

Natura 2000

The middle and the upper parts of the river belong to the Natura 2000 Network as SPA areas. Some parts of the river are also located in the territory of a national park and a nature reserve.

River Brda salmon and sea trout stocks

There is evidence that River Brda has been a salmon river in the past. The lower run of the river has been stocked with salmon of the Daugava strain since 2000, lately by 12,000 – 38,000 smolts annually. No adult salmon or wild offspring have been observed in the river.

There are no accessible spawning grounds for sea trout in the river basin. Brda has been stocked with sea trout since 2000, lately in amounts varying between 21,000 and 67,000 smolts and 200,000–500,000 fry and parr. The released fish are offspring of spawners caught in the lower Vistula. Some fish are annually caught by anglers in the lower run of the River Brda but neither spawning nor wild offspring have been observed.

Salmon and sea trout population facts

Population category: 7 (salmon and sea trout)

Reproduction area: No information

Production capacity: No information

Recent wild smolt production estimate: No information

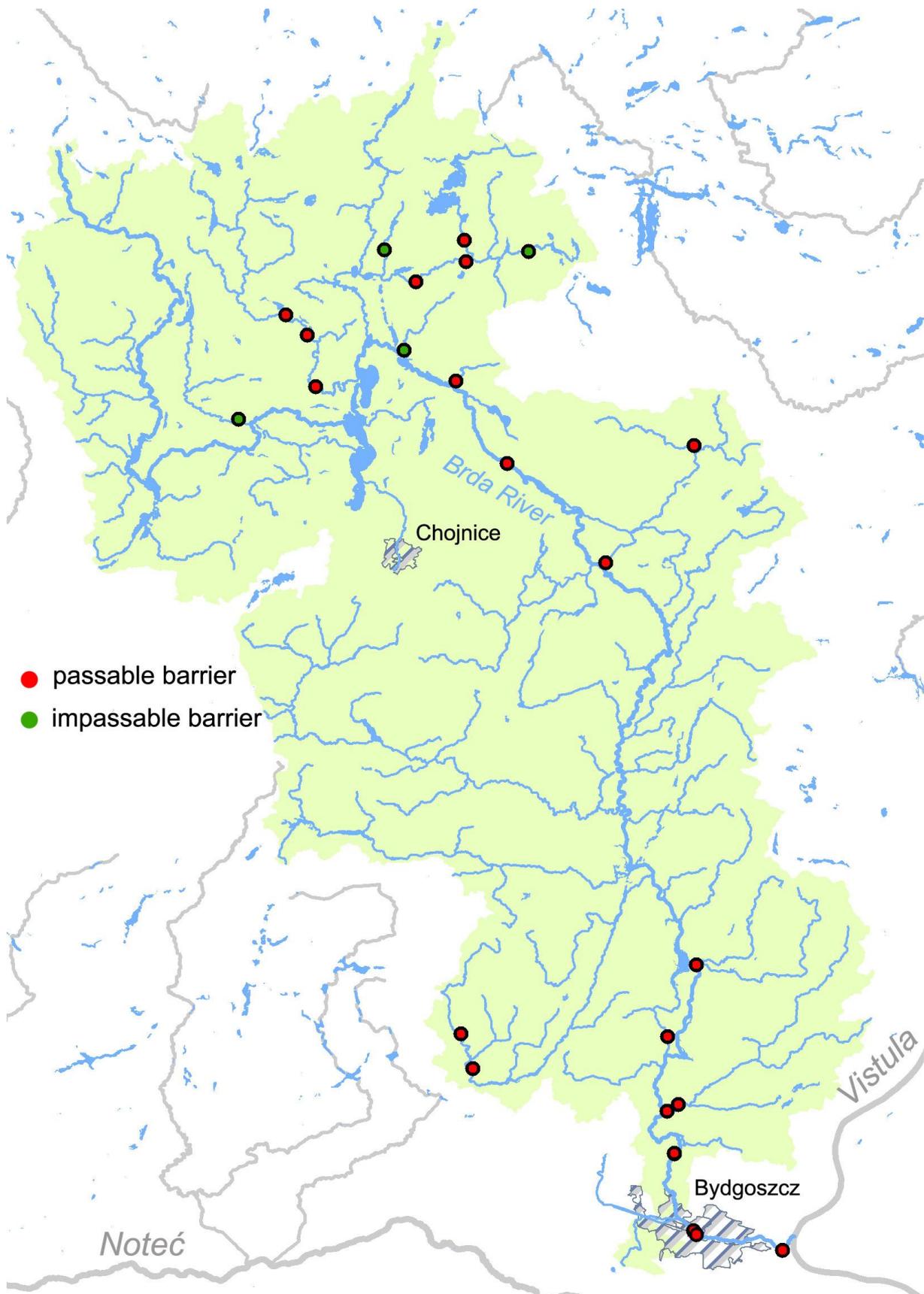


Figure 2. The Brda River catchment area and the location of migration barriers in the river.

Fishing regulations in the River Brda

The closed season is from October 1 – December 31. Minimum legal size of salmon and sea trout is 35 cm. Only fishing with rod and artificial lure is allowed. A bag limit of 2 salmon and sea trout per fisher per day applies.

Specific actions for the development of the salmonid populations

The recommendations in the general report of the HELCOM SALAR project concerning accessibility and river fisheries management are applicable for this river.

The River Czarna Woda (Czarna Wda)

The River Czarna Woda is a sea trout river flowing to the Baltic Proper.

Basic hydrological facts

River length: 20 km of which 16 km accessible for sea trout

Size of the catchment area: 88 km²

Average flow: No information

Daily lowest flow: No information

Number of migration hindrances: 1

Habitat and water quality in River Czarna Woda

The River Czarna Woda flows through a peat land area directly to the sea. The river is channelized for the most part. The only dam is at 16 km and does not have a fish pass. Potential spawning and nursery areas are located below the dam.

River Czarna Woda according to the Water Framework Directive

The name of the water management district is Vistula River Basin and the river type is organic stream (23) and river influenced by the Baltic Sea waters (22).

Ecological status: Poor

Natura 2000

Parts of the river belong to the Natura 2000 network as SCI areas.

River Czarna Woda sea trout stock

Spawning sea trout as well as wild offspring have been observed below the dam. The river has been stocked for few years with 3,000 parr of the Vistula strain.

Sea trout population facts

Population category: 4
Reproduction area: 0.1 ha/1 ha (spawning area/nursery area)
Production capacity: No information
Recent wild smolt production estimate: No information

Fishing regulations in the River Czarna Woda

The closed season is from October 1 – December 31. Minimum legal size of salmon and sea trout is 35 cm. Only fishing with rod and artificial lure is allowed. A bag limit of 2 salmon and sea trout per fisher per day applies.

Specific actions for the development of the salmonid populations

Restoration of the natural character of the river bed and its surroundings is recommended.

The recommendations in the general report of the HELCOM SALAR project concerning river fisheries management are applicable for this river.

The River Drawa

The River Drawa is a salmon and sea trout river flowing to River Noteć in the Oder River system.

Basic hydrological facts

River length: 192 km, 48 km of the main river and tributaries are accessible for salmon and sea trout
Size of the catchment area: 3,291 km²
Average flow: 20 m³/s
Daily lowest flow: No information
Number of migration hindrances: 7 (1 contains a fish way)

Habitat and water quality in River Drawa

The River Drawa is a right tributary of Noteć - right tributary of Warta – right tributary of Oder. The River Drawa begins in a lake area in the middle Pomerania. It flows through some lakes in the upper and middle runs similarly to its main tributaries. River Drawa descends from moraine upland areas in the southern direction and passes very large forested areas. It joins the River Noteć at 49 km. The main tributaries of the River Drawa are rivers Korytnica (53 km), Płociczna (48 km) and Mierzęcka Struga (44 km).

The water quality of River Drawa is generally good. It is influenced locally by a few small towns and agriculture. The middle part of the river and some of its tributaries, especially Płociczna, provide very good habitat for salmonids.

There are a few dams in the river. The first one, at 32 km is above the main tributaries and is equipped with an old fish pass that is not working. The following dams are located at 89 km, 127 km and 156 km and have no fish passes. There are no obstacles on the way from Drawa mouth to the sea.

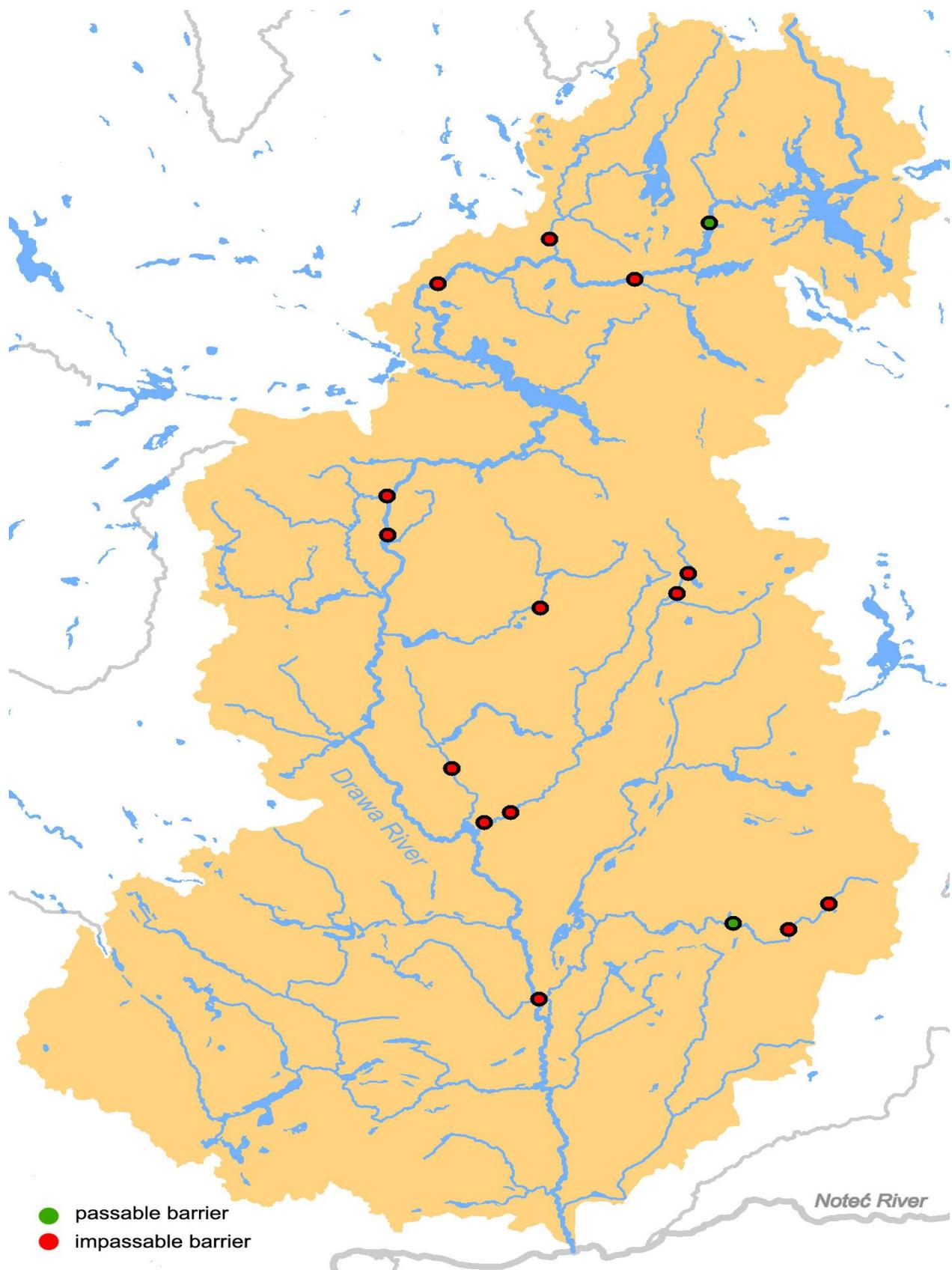


Figure 3. The Drawa River catchment area and the location of migration barriers in the river.

River Drawa according to the Water Framework Directive

The name of the water management district is Oder River Basin and the river type is lowland gravely river (20) and river in a peat valley (24).

Ecological status: Good

Natura 2000

The River belongs to the Natura 2000 network. The middle part of the river flows through a National Park area.

River Drawa salmon and sea trout stocks

The salmon population of the River Drawa disappeared in the end of 1980s, and it was the last remaining original salmon population in Poland. Salmon used to spawn in the lower part of the River Drawa, more specifically below the first dam and in Płociczna. It is believed that the extinction of the salmon population resulted from factors such as overfishing in the sea, fishing during the spawning migration and poaching in the spawning areas. A concluding factor to the extinction was the emptying of a reservoir which caused sand to be deposited in the spawning areas in River Drawa.

Salmon catches in River Drawa in the 19th century were at the level of a few hundred fish. After the Second World War the number was around 100 fish and decreased until the end of the 70s. The population was supported by stocking since the 1950s. The program of reintroduction of salmon into the river has begun in 1995. Rivers Drawa and Płociczna have annually been stocked with 10,000–70,000 smolts and some tens of thousands of parr of the Daugava strain. Thanks to the stockings salmon have been observed to spawn in the river since 1997. The number of spawners has been decreasing and no wild offspring have been observed.

Although the sea trout stock was smaller than the salmon stock in the past, sea trout spawners are still observed in the river every year. The spawning ground of sea trout overlaps with the salmon spawning ground. River Drawa has annually been stocked with a several hundred sea trout parr of the Rega strain.

Salmon and sea trout population facts

Population category: 6 (salmon), 4 (sea trout)

Reproduction area: 4 ha/30 ha (spawning area/ nursery area) (salmon and sea trout)

Production capacity: No information

Recent wild smolt production estimate: No information

Fishing regulations in the River Drawa

The closed season is from October 1 – December 31. Minimum legal size of salmon and sea trout is 35 cm. Only fishing with rod and artificial lure is allowed. A bag limit of 2 salmon and sea trout per fisher per day applies.

Specific actions for the development of the salmonid populations

Water quality in Oder should be improved. An effective protection zone should be established along stretches of Drawa that are affected by nutrient and sediment loads from agriculture. Sewage and litter output in towns by Drawa should be strictly controlled.

The recommendations in the general report of the HELCOM SALAR project concerning accessibility and river fisheries management are applicable for this river.

The River Drwęca

The River Drwęca is a potential salmon river and a sea trout river flowing to Vistula.

Basic hydrological facts

River length: 231 km, 12 km is accessible for salmon and a total of 287 km of the main river and tributaries are accessible for sea trout

Size of the catchment area: 5,697 km²

Average flow: 29.9 m³/s

Daily lowest flow: No information

Number of migration hindrances: 12 (3 contain a fish way)

Habitat and water quality in River Drwęca

The River Drwęca is a right tributary of River Vistula. The river starts in the moraine hills of the Mazurian Lake District. It flows through a few lakes in the upper run, and then passes agricultural areas in south-western direction. The river joins the River Vistula 50 km below the Włocławek dam near the town of Toruń. The main tributaries of River Drwęca are rivers Iławka (44 km), Wel (107 km) and Struga Toruńska (54 km).

The water quality of River Drwęca is rather poor. The water quality is influenced by many small towns in the river basin and agriculture. The first two dams, both with only partly working fish passes, are located at 11 km and 14 km from the river mouth, respectively. There are no hindrances in the river until a dam at 177 km. This dam has a fish pass of unknown efficiency.

River Drwęca according to the Water Framework Directive

The name of the water management district is Vistula River Basin and the river type is lowland gravelly river (20).

Ecological status: Poor

Natura 2000

The river valleys of Drwęca and its larger tributaries belong to the Natura 2000 Network (SCI areas) and there is an ichthyological nature reserve in the catchment area.

All of the tributaries have migration obstacles close to their river mouths. Potential spawning and nursery areas are located in the lower Wel; in the upper, lower and middle run of Drwęca, and in some small tributaries.

River Drwęca salmon and sea trout stocks

According to historical references Vistula salmon used to enter the River Drwęca. The river system has been stocked with salmon of the Daugava strain since 1995, lately in amounts between 40,000–60,000 smolts and 200,000–500,000 parr annually. During the past years, some adult

salmon (between 12 and 127 kg) have been caught below the first dam for breeding purposes. Neither spawning nor wild salmon offspring have been observed in the river.

The range of sea trout migration is limited to the section of Drwęca below the lakes and to the lower runs of a few small tributaries where some spawners have been observed. It is believed that sea trout spawn also in some areas of the main river.

River Drwęca has been stocked with sea trout since the 1960s, lately in amounts varying between 60,000 and 140,000 smolts and about 1 million fry and parr. The released fish are offspring of the spawners caught in a trap below the first dam. There is intensive sea trout angling focused on kelts in the river.

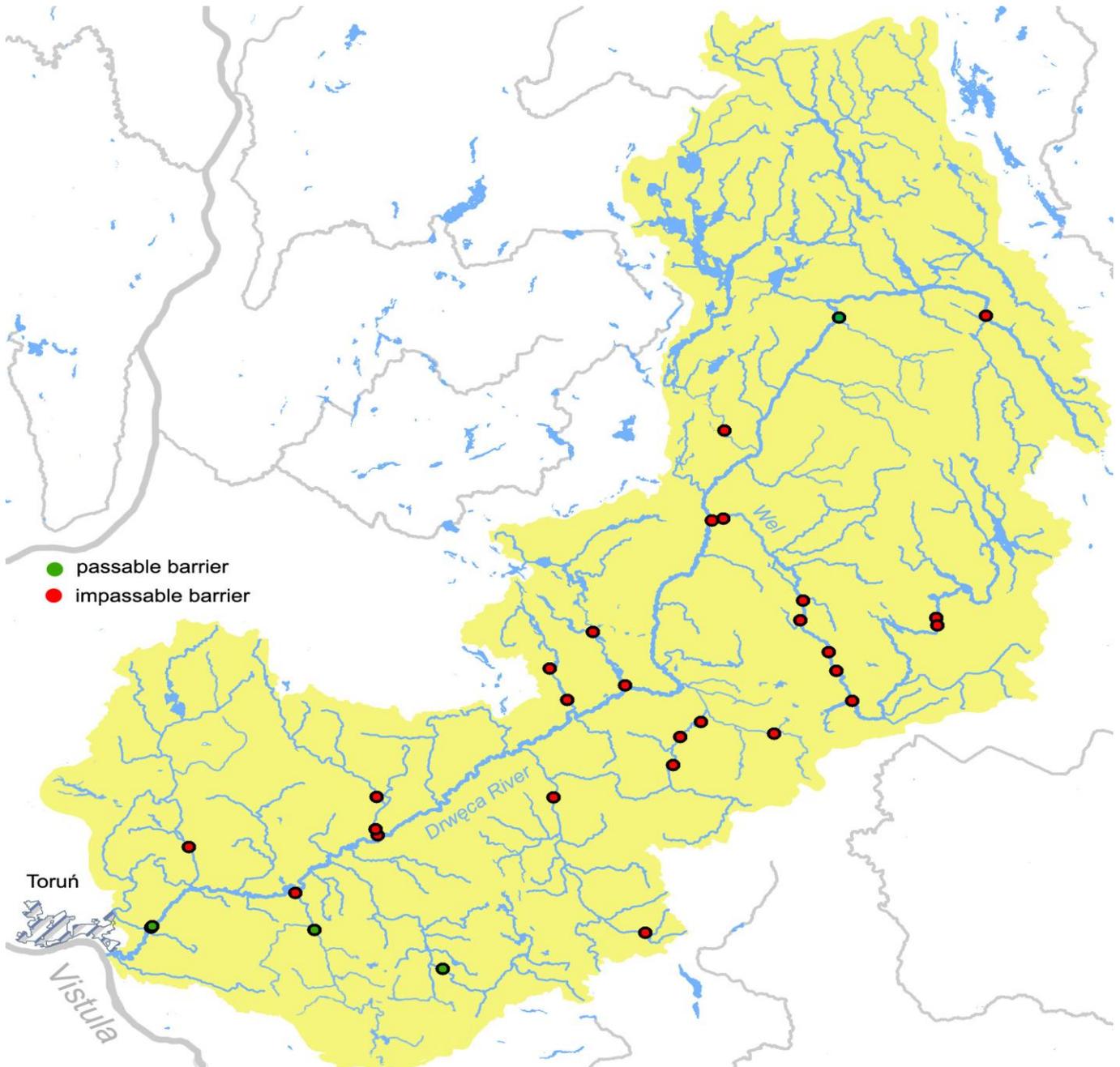


Figure 4. The Drwęca River catchment area and the location of migration barriers in the river.

Salmon and sea trout population facts

Population category: 6 (salmon), 5 (sea trout)
Reproduction area: No information
Production capacity: No information
Recent wild smolt production estimate: No information

Fishing regulations in the River Drwęca

The closed season is from October 1 – December 31. Minimum legal size of salmon and sea trout is 35 cm. Only fishing with rod and artificial lure is allowed. A bag limit of 2 salmon and sea trout per fisher per day applies.

Specific actions for the development of the salmonid populations

Sewage and litter output in towns should be strictly controlled to improve the water quality. An effective protection zone should be established to reduce nutrient and sediment loads from agriculture.

The recommendations in the general report of the HELCOM SALAR project concerning accessibility and river fisheries management are applicable for this river.

The River Gowienica

The River Gowienica is a sea trout river flowing to the Szczecin Lagoon.

Basic hydrological facts

River length: 51 km, 27 km of the main river and tributaries are accessible for sea trout
Size of the catchment area: 368 km²
Average flow: No information
Daily lowest flow: No information
Number of migration hindrances: 4 (1 contains a fish way)

Habitat and water quality in River Gowienica

The River Gowienica flows through the Goleniowska Plain into the Szczecin Lagoon. The first migration obstacle of the river without a fish pass is at 19 km from the mouth. There are also two obstacles in the biggest tributary, the river Stepnica. Potential spawning and nursery areas are located in both Gowienica and Stepnica.

River Gowienica according to the Water Framework Directive

The name of the water management district is Oder River Basin and the river type is organic stream (23) and lowland sandy-clayey river (19).

Ecological status: Poor

Natura 2000

The river valley belongs to the Natura 2000 network as a SCI area.

The Gowienica sea trout stock

Sea trout spawners and wild offspring have been observed in the lower Gowienica and Stepnica. Gowienica has been stocked for few years with 30,000–50,000 fry of the Rega origin.

Sea trout population facts

Population category: 4

Reproduction area: No information

Production capacity: No information

Recent wild smolt production estimate: No information

Fishing regulations in the River Gowienica

The closed season is from October 1 – December 31. Minimum legal size of salmon and sea trout is 35 cm. Only fishing with rod and artificial lure is allowed. A bag limit of 2 salmon and sea trout per fisher per day applies.

Specific actions for the development of the salmonid populations

The recommendations in the general report of the HELCOM SALAR project concerning accessibility and river fisheries management are applicable for this river.

The River Gwda

The River Gwda is a salmon and sea trout river flowing to River Noteć in the Oder River system.

Basic hydrological facts

River length: 140 km which are not accessible for salmon and sea trout

Size of the catchment area: 4,947 km²

Average flow: 27.2 m³/s

Daily lowest flow: No information

Number of migration hindrances: 19

Habitat and water quality in River Gwda

The River Gwda is a right tributary of Noteć. River Noteć connects to the river Oder through the tributary of Warta. The River Gwda begins in a lake area of the middle Pomerania, from where it flows through some lakes in the upper run like its main tributaries. River Gwda descends from moraine upland areas in the Southern direction in a forested valley, and joins Noteć at its 120 km, above a series of dams. The river passes one bigger town, Piła, in its lower run. The main tributaries are rivers Czernica (53 km), Plytnica (63 km), Piława (78 km) and Głomia (54 km).

The water quality of Gwda is influenced by eutrophication and polluted lakes in upper run. However, the water quality in the majority of the tributaries as well as their habitat is generally good.

There are many hydropower dams in the river. The two first ones (at 27 km and 38 km) have no fish passes and are located below the main tributaries. There are a total of at least 19 significant migration obstacles in the river basin.

River Gwda according to the Water Framework Directive

The name of the water management district is Oder River Basin and the river type is lowland gravelly river (20).

Ecological status: Fair

Natura 2000

A part of the river valley and its main tributary Piława belong to the Natura 2000 network.

River Gwda salmon and sea trout stocks

The salmon population in the River Gwda was quite large in the past. The population was strongly influenced by dam constructions (in rivers Noteć and Gwda) so that it ultimately disappeared in the middle of 20th century. Lately, the river has been annually stocked with 8,000–10,000 smolts, and a few tens of thousands of alevins and parr have also been released into the river. No adult salmon nor wild offspring has been observed in the river.

The status of the sea trout population in Gwda is similar to the salmon stock. 4,000–5,000 sea trout smolts and a few thousand parr of the Rega strain have been released yearly into the river lately. However, spawners or offspring have not been observed in the river.

Salmon and sea trout population facts

Population category: 7 (salmon and sea trout)

Reproduction area: No information

Production capacity: No information

Recent wild smolt production estimate: No information

Fishing regulations in the River Gwda

The closed season is from October 1 – December 31. Minimum legal size of salmon and sea trout is 35 cm. Only fishing with rod and artificial lure is allowed. A bag limit of 2 salmon and sea trout per fisher per day applies.

Specific actions for the development of the salmonid populations

Water quality should be improved by efficient sewage treatment and the establishment of effective protection zones along agricultural lands by the river.

The recommendations in the general report of the HELCOM SALAR project concerning accessibility and river fisheries management are applicable for this river.

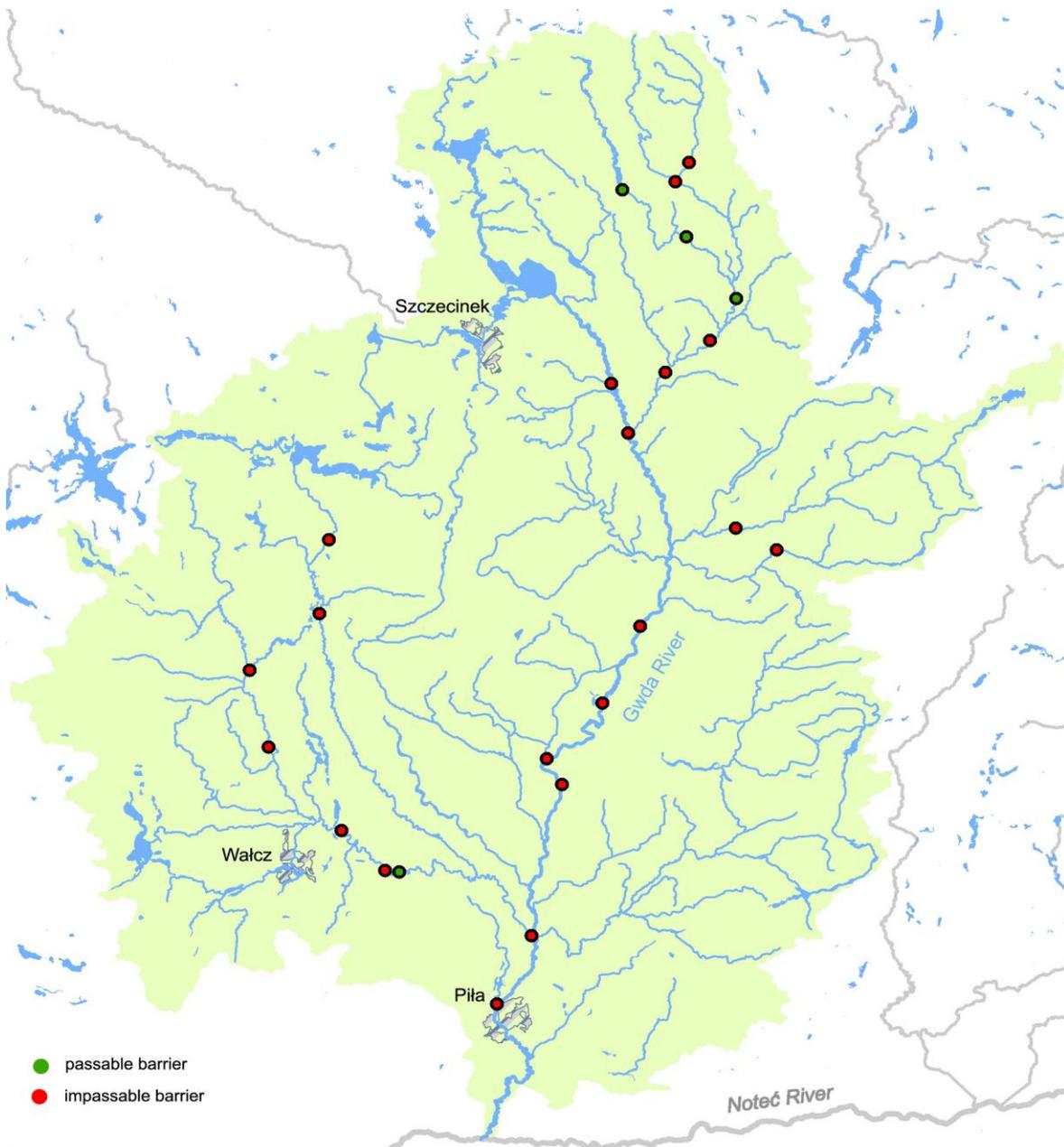


Figure 5. The Gwda River catchment area and the location of migration barriers in the river.

The River Ina

The River Ina is a potential salmon river and a sea trout river flowing to the river Oder.

Basic hydrological facts

River length: 125 km of which 57 km is accessible for salmon and 106 km for sea trout

Size of the catchment area: 2,151 km²

Average flow: 5 m³/s

Daily lowest flow: No information

Number of migration hindrances: 19 (1 contains a fish way)

Habitat and water quality in River Ina

River Ina originates from the Lake Ińsko and flows to Oder through some small lakes that cover the upper part of the catchment area. The upper part of valley of Ina is wide and marshy. The valley is narrow in the middle part where the river flows through a forest. River Ina passes the towns of Ińsko, Goleniów and Stargard Szczeciński along its way. The largest tributaries of the river are rivers Krępiel and Mała Ina.

The first dam of the River Ina is located 57 km from the mouth and it is equipped with a working fish pass. Further upstream in the main river, there are 8 migration obstacles that do not contain fish passes. Six of the dams work only seasonally and are not completely blocking fish migration. Also, many of the tributaries are blocked by dams, including the tributaries of Krępiel and Mała Ina.

The river water is affected by pollution coming from the surrounding towns and agriculture.

River Ina according to the Water Framework Directive

The name of the water management district is Oder River Basin and the river type is river in a peat valley (24) and lowland gravely river (20).

Ecological status: Poor

Natura 2000

The upper and the lower part of river belong to the Natura 2000 network (SPA and SCI areas, respectively).

River Ina salmon and sea trout stocks

There is evidence that River Ina was a salmon river in the past. The river system has been stocked with salmon of the Daugava strain since 2004 and lately 20,000 – 60,000 fry have been released annually. A few salmon are caught by anglers in the lower part of the river every year. Neither spawning nor wild salmon offspring has been observed.

Sea trout are able to pass the first dam and some of the following obstacles and can access a total of 106 km of the River Ina. They spawn in the middle part of the main river and in some small streams. Ina has been stocked with sea trout since the 1960s, lately by 240,000–500,000 fry annually. Stocking material is of the Rega strain.

Salmon and sea trout population facts

Population category: 6 (salmon), 5 (sea trout)
Reproduction area: No information
Production capacity: No information
Recent wild smolt production estimate: No information

Fishing regulations in the River Ina

The closed season is from October 1 – December 31. Minimum legal size of salmon and sea trout is 35 cm. Only fishing with rod and artificial lure is allowed. A bag limit of 2 salmon and sea trout per fisher per day applies.

Specific actions for the development of the salmonid populations

Strict control of sewage and litter output in towns should be applied. Nutrient and sediment loads from agriculture should be reduced by establishing effective protection zones along the river.

The recommendations in the general report of the HELCOM SALAR project concerning accessibility and river fisheries management are applicable for this river.

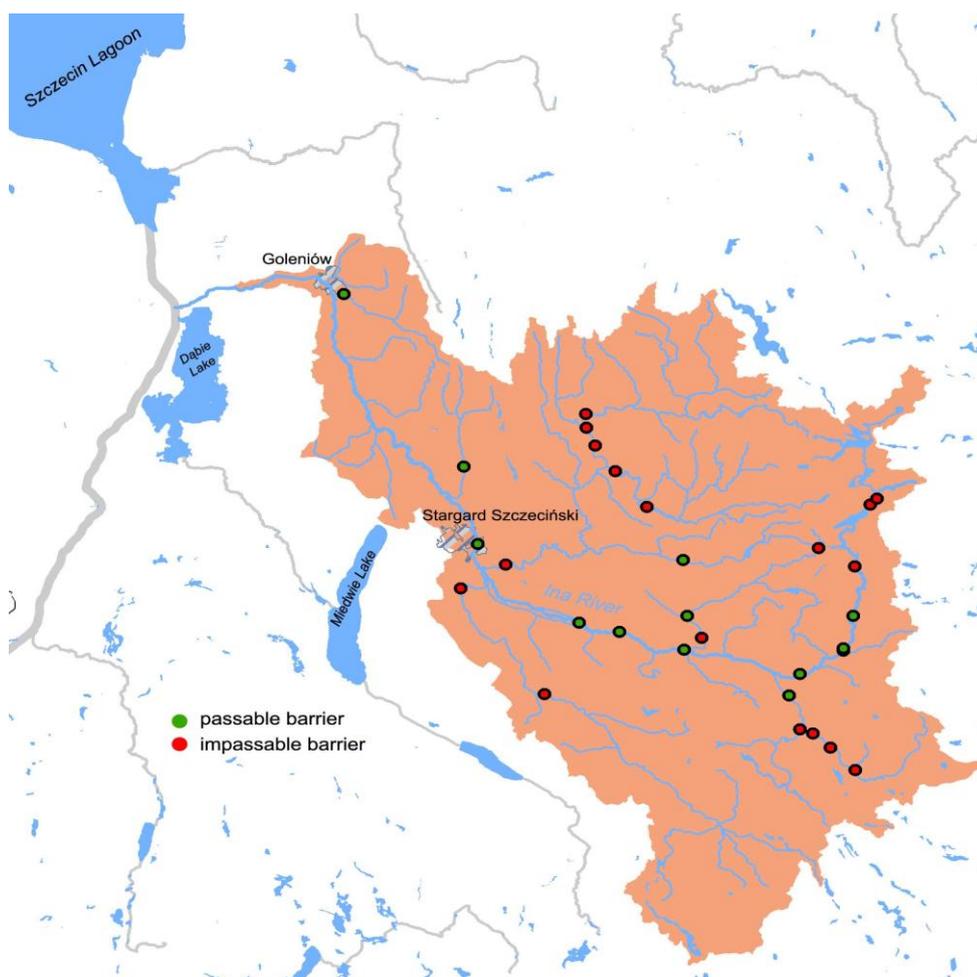


Figure 6. The Ina River catchment area and the location of migration barriers in the river.

The River Łeba

The River Łeba is a potential salmon river and a sea trout river flowing to the Baltic Proper.

Basic hydrological facts

River length: 127 km, 47 km of the main river and tributaries are accessible for salmon and 75 km for sea trout

Size of the catchment area: 1,768 km²

Average flow: 11.79 m³/s

Daily lowest flow: No information

Number of migration hindrances: 10 (1 contains a fish way)

Habitat and water quality in River Łeba

The River Łeba begins in a lake system and descends through a narrow forest valley that widens in the middle run. The river passes the town of Lębork and flows through a valley covered by peat land, meadows and pasture. The lower part of the river is channelized. Before entering the sea, River Łeba flows through the shallow lake of Łebsko (7,140 ha) which is the third biggest lake in Poland. The lake is connected to the sea via a brackish, 2 km long channel in the town of Łeba. The most important tributaries of River Łeba are Okalica (17 km), Struga Kisewska (17 km) and Pogorzelica (21 km).

The water quality is affected by the town of Lębork and by numerous fish farms in the upper part of the drainage system. The main river is blocked by many dams. The water of the first dam, located at 47 km, is used for an irrigating system and for a fish farm. It is equipped with a primitive and only partly working bypass and sometimes fish can jump over the dam. The second dam, at 60 km, is a dam of Lębork that is an electric power station. The Lębork dam has no fish way, and hence is the upper border of fish migration in River Łeba. There are some more dams further up the river, and none of them has a fish way. Also, most of the tributaries are blocked in the lower part of the catchment area.

Potential salmonid spawning and nursery areas are located mainly in the upper and middle run of River Łeba, in Okalica, in the middle and upper Pogorzelica and Struga Kisewska, as well as in some of the smaller tributaries.

River Łeba according to the Water Framework Directive

The name of the water management district is Vistula River Basin and the river type is lowland sandy-clayey river (19) and river in a peat valley (24).

Ecological status: Poor

Natura 2000

The upper and the lowest runs of the river belong to the Natura 2000 network (SCI and SPA areas). Słowiński National Park is also located in the area.

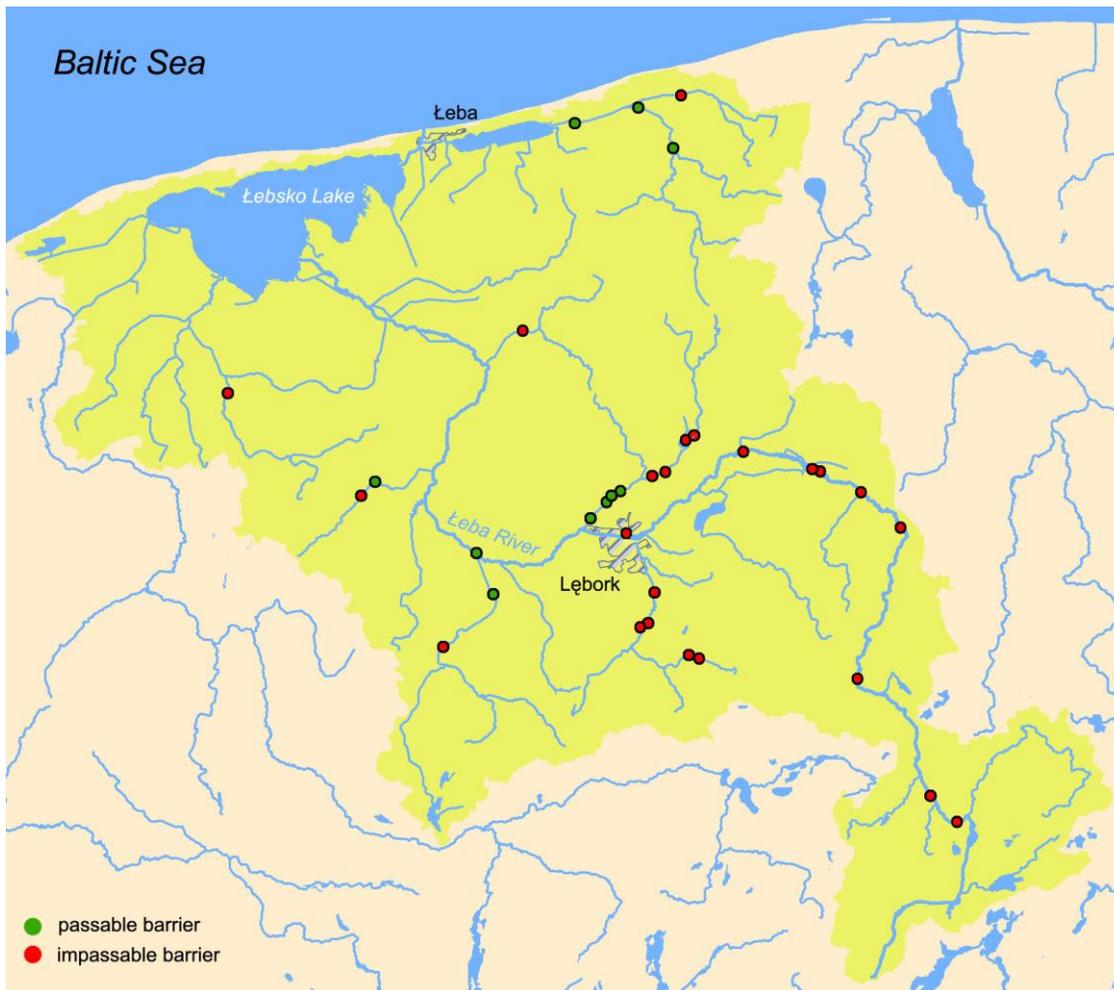


Figure 7. The Łeba River catchment area and the location of migration barriers in the river.

River Łeba salmon and sea trout stocks

There is evidence that River Łeba was a salmon river in the past. The river has been stocked with salmon of the Daugava-strain since 2000 and lately 6,000–8,000 smolts are released annually. Salmon individuals are sporadically caught in Lake Łebsko or in the lower parts of the river. Neither spawning nor wild salmon offspring have been observed.

Part of the sea trout spawning run is able to pass the first dam and reach the limited spawning grounds. The most important spawning area is located in lower Okalica, where 100–200 redds have been located (but in 2009 only 63), and 0+ parr density has been about 150 individuals per 100 m². Other known spawning grounds have been found in Łębork below the second dam, in the tributary Rzechcinka (with 23 redds and density of parr 34 ind/ 100 m² in 2009), as well as in some small tributaries of lower Łeba. Spawning grounds in Okalica and Łeba in Łębork are supplemented with gravel.

Professional fishery in Łebsko Lake catches about 300–500 kg of sea trout, mainly for breeding purposes. Łeba has been stocked with sea trout smolts since the 1960s. Since 2000 the number varied between 12,000 and 113,000. In 2009, 47,000 smolts and more than 1 million of fry were released. At least for 30 years released fish are offspring of spawners caught in Lake Łebsko. There is intensive sea trout angling in the lower part of river.

Salmon and sea trout population facts

Population category: 6 (salmon), 5 (sea trout)
Reproduction area: 1.5 ha/ 9 ha (spawning area/nursery area) (sea trout)
Production capacity: No information
Recent wild smolt production estimate: No information

Fishing regulations in the River Łeba

The closed season is from October 1 – December 31. Minimum legal size of salmon and sea trout is 35 cm. Only fishing with rod and artificial lure is allowed. A bag limit of 2 salmon and sea trout per fisher per day applies.

Specific actions for the development of the salmonid populations

Sewage and litter output in Lębork should be strictly controlled as well as nutrient loads from fish farms.

Restoration of the natural character of the river bed and its surroundings is recommended.

The recommendations in the general report of the HELCOM SALAR project concerning accessibility and river fisheries management are applicable for this river.

The River Łupawa

The River Łupawa is a sea trout river and a historical salmon river flowing to the Baltic Proper.

Basic hydrological facts

River length: 111 km of which 13 km accessible for salmonids
Size of the catchment area: 924 km²
Average flow: 8.5 m³/s
Daily lowest flow: No information
Number of migration hindrances: 11

Habitat and water quality in River Łupawa

The River Łupawa begins in the large Jasień Lake, from where it flows with a steep slope into a narrow forest valley. After about 90 km it widens and flows through a peatland plain on the seaside with pasture and meadows. At this point the river is regulated and flows through a shallow Lake of Gardno (2,469 ha). The lake is connected to the sea via a brackish, 2 km long channel. River Łupawa has a few tributaries of which Bukowina (30 km) is the largest one.

There are a few villages on the riverside, and the water of Łupawa has a good quality affected only by numerous fish farms. The river channel has mostly a natural character, but is blocked by many dams. The first one, a hydropower station, is at 13 km and has no fish way. The next six dams do not have fish ways either.

Almost the entire river length of Łupawa and the lower part of Bukowina, except for the last a dozen or so kilometers, have potential salmonid spawning or nursery areas.

River Łupawa according to the Water Framework Directive

The name of the water management district is Vistula River Basin and the river type is lowland sandy-clayey river (19) and lowland gravely river (20).

Ecological status: Poor

Natura 2000

The river valley belongs to the Natura 2000 network (SCI area), and the lowest part flows through the Słowiński National Park.

The Łupawa salmon and sea trout stocks

According to historical sources Łupawa was a salmon river. The river is not stocked with salmon. Sporadically salmon individuals are caught in Lake Gardno. Neither spawning, nor salmon wild offspring have been observed.

The sea trout spawning run ends at the first dam but every year about one hundred fish are caught below and released above the dam. There are no spawning grounds in the accessible part of the river except in Grabownica which is a small stream flowing into Lake Gardno.

Every year from 300 to 800 kg of sea trout is caught by a professional fishery in Lake Gardno, mainly for breeding purposes. Łupawa has been stocked with sea trout since the 1970s, usually with parr in amounts between 50,000 and 100,000 but in 2009 also with 34,000 smolts. The releasing of fish will continue. Released fish are offspring of spawners caught in Lake Gardno.

Salmon and sea trout population facts

Population category: 8 (salmon), 7 (sea trout)

Reproduction area: 0 ha/2 ha (spawning area/nursery area)

Production capacity: No information

Recent wild smolt production estimate: No information

Fishing regulations in the River Łupawa

The closed season is from October 1 – December 31. Minimum legal size of salmon and sea trout is 35 cm. Only fishing with rod and artificial lure is allowed. A bag limit of 2 salmon and sea trout per fisher per day applies.

Specific actions for the development of the salmonid populations

Nutrient loads from fish farms should be strictly controlled.

The recommendations in the general report of the HELCOM SALAR project concerning accessibility and river fisheries management are applicable for this river.

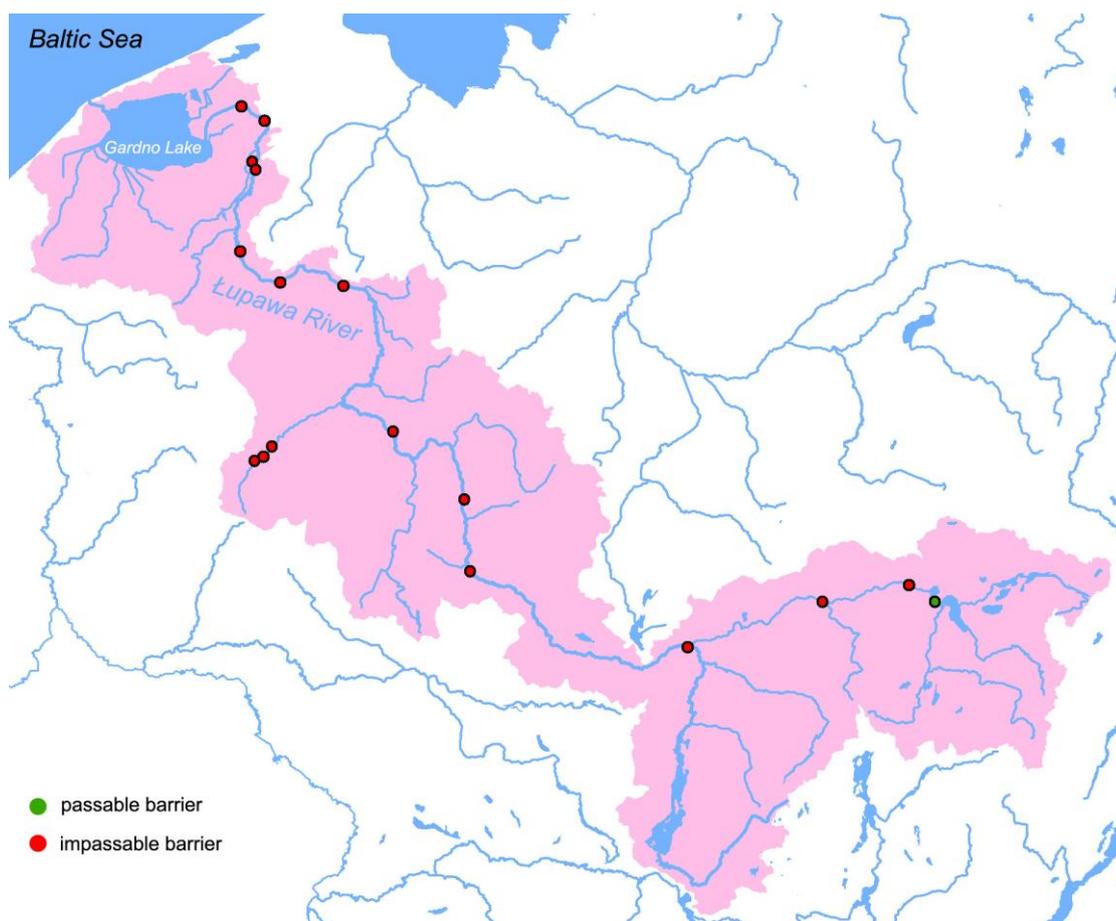


Figure 8. The Łupawa River catchment area and the location of migration barriers in the river.

The River Oder

The River Oder is a salmon and sea trout river flowing to the Gulf of Pomerania

Basic hydrological facts

River length: 840 km of which 550 km accessible for sea trout

Size of the catchment area: 119,074 km²

Average flow: 535 m³/s

Daily lowest flow: No information

Number of migration hindrances: 3

Habitat and water quality in River Oder

The river is 840 km long with a drainage area of 119,074 km² (89% in Poland, 6% in Czech Republic and 5% in Germany); it is the second biggest river in Poland. It begins 634 m a.s.l. in Sudety Mountains in the Czech Republic and enters Poland after 100 km. A further 187 km downstream it forms the border between Poland and Germany. The river ultimately flows into the Szczecin Lagoon then into three branches (the Dziwna, Świna and Peene) that empty into the Baltic Sea via the Gulf of Pomerania. The Oder flows through many big towns and industrial regions: Ostrava, Silesia, Opole, Wrocław, Frankfurt (Oder), Szczecin. It is navigable over a large part of its total length and connected with Havel, Spree and Vistula water systems. Important

tributaries of Oder are: Nysa Kłodzka (182 km), Bóbr (272 km), Nysa Łużycka (252 km, it forms the Polish-German border) and Warta (808 km) with Noteć (388 km).

The water of the river and some tributaries in the upper part of the basin is affected by intensive industry, mining and urban areas. In the lower part it is mainly affected by agriculture and towns. The first dam on Oder is 550 km from the mouth. It's equipped with a partly working fish pass. Final end of fish migration is 21 km upstream in the city of Wrocław. Upstream, on a section of 100 km, there are 26 other obstacles. All tributaries of upper Oder are blocked by many dams. The biggest tributary Warta joins Oder at its 145 km. It is open as far as 493 km where there is an impoundment without a fish pass. Most of Warta tributaries have lowland character; also the biggest one, Noteć, is almost entirely regulated. The first obstacle in Noteć is at 50 km. Above there are more than 10 dams and sluices without or with bad fish passes. The majority of right tributaries of Noteć flows from the moraine area of lake lands, and have partially upland character.

River Oder according to the Water Framework Directive

The name of the water management district is Oder River Basin and the river type is large lowland river (21).

Ecological status: Poor

Natura 2000

Majority of river valley and many of its tributaries belong to the Natura 2000 and to other forms of protection.

The Oder salmon and sea trout stocks

The main reduction of the salmon range in the Oder system ensued in 1800-1900 centuries during the rapid industrialization of Silesia and Sudety Mountains; it demoted and cut off historical highland reproduction areas. At first salmon disappeared from upper and middle Oder, then from upper Warta. Some salmon stocks survived till the 2000 century: in tributary of Warta – Wełna and tributaries of Noteć – Gwda and Drawa. The latter was the last Polish salmon stock and became extinct in the 80ties. Except some stocking of tributaries seen as separate salmon rivers there have been releases into the main river after the year 2000. Lately they have benn on a level of 20 – 30 thousands of smolts and varying number of alevins and parr. Only one known place of spawning is in Drawa but no wild offspring neither there nor anywhere in Oder system were registered.

The historical spawning area in the upper part of the basin are cut off and demoted. Sea trout are observed below the upper limit of possible migration, in the middle run of Oder, they also enter some tributaries; some of them are seen as sea trout rivers. There are some releases into the main river and few small streams: 10,000–40,000 smolts and a few hundred thousand of alevins and parr lately. Stocking material is offspring of spawners caught in Rega.

Salmon and sea trout population facts

Population category: 7 (salmon and sea trout)

Reproduction area: No information

Production capacity: No information

Recent wild smolt production estimate: No information

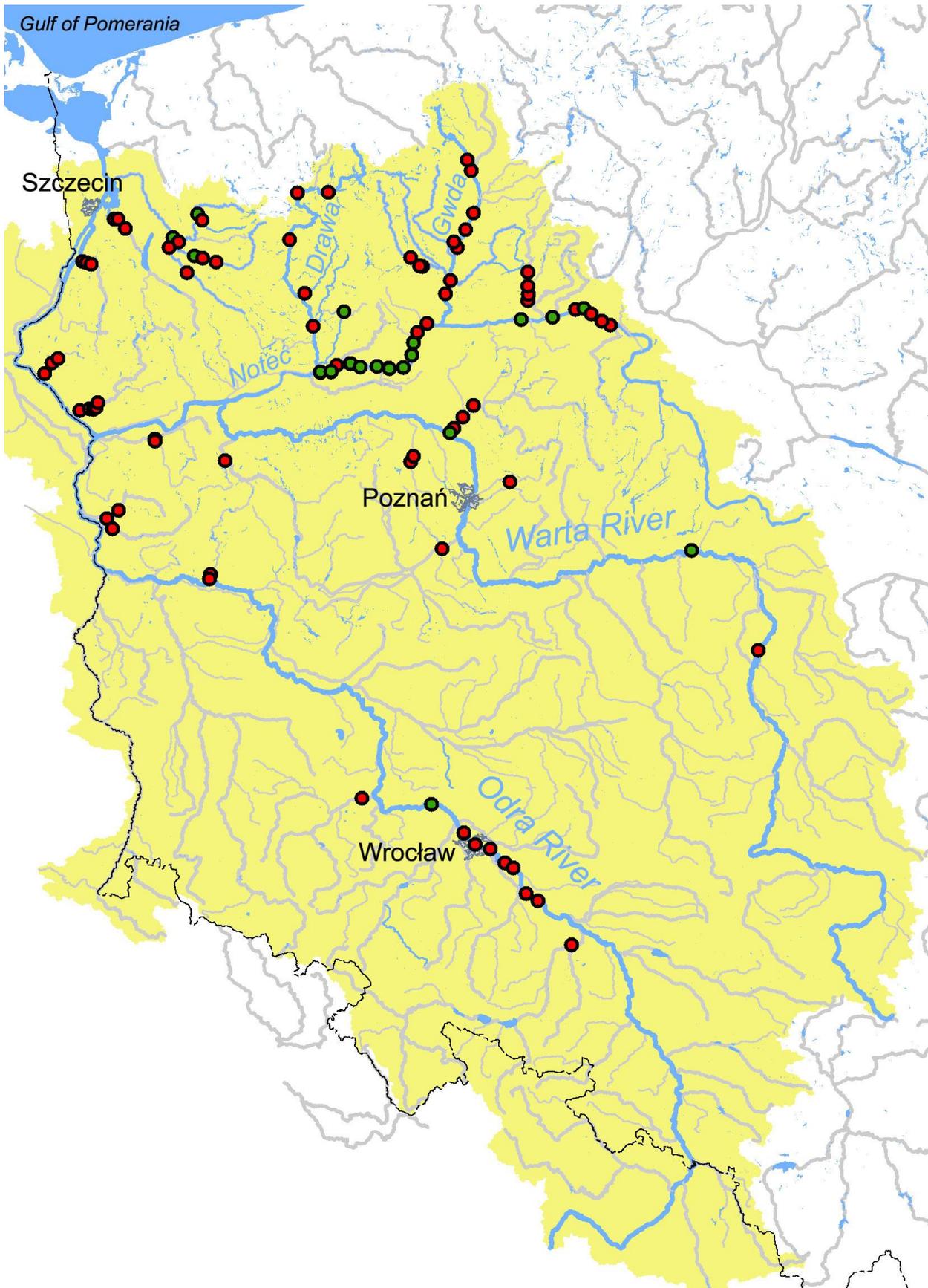


Figure 9. The Oder River catchment area and the location of migration barriers in the river.

The River Parsęta

The River Parsęta is a sea trout river and a potential salmon river flowing to the Baltic Proper.

Basic hydrological facts

River length: 143 km, 134 km of the main river and tributaries are accessible for salmonids

Size of the catchment area: 3,084 km²

Average flow: 29.4 m³/s

Daily lowest flow: No information

Number of migration hindrances: 11 (2 contain fish ways)

Habitat and water quality in River Parsęta

River Parsęta and most of its main tributaries flow through forested valleys with meadows, and through areas of fields and forest. The river passes some small towns on the way to the sea, and it enters the Baltic Proper at the harbour town of Kołobrzeg. The majority of River Parsęta and its main tributaries have a natural character. The most important tributaries of River Parsęta are rivers Dębica (42 km), Mogilica (42 km), Leśnica (43 km), Pokrzywnica (33 km) and Radew (91 km).

The water quality is affected by pollution from the surrounding towns and by the numerous fish farms in the river. The first dam is at 55 km and it is equipped with a working fish pass. The next dam, at 111 km, also has a fish pass although it only works during favorable flow conditions. The upper limit of fish migration is set by a dam at 134 km. The largest tributary, River Radew, is dammed just above its mouth and fish can partly pass it by a rough-and-ready fish pass. The limit of fish migration in Radew is at 30 km. Many other tributaries of Parsęta are for the most part accessible for salmonids.

Potential salmonid spawning areas are dispersed and rather small because of shortage of riffles and the lack of proper spawning substrate in rivers. They are located in the upper, middle and lower run of River Parsęta, as well as in the tributaries Pokrzywnica and Leśnica. Some areas are also found in the other tributaries and in the numerous small streams

River Parsęta according to the Water Framework Directive

The name of the water management district is Oder River Basin and the river type is lowland gravely river (20) and lowland sandy-clayey river (19).

Ecological status: Poor–Good

Natura 2000

The river valleys of Parsęta and the valleys of its bigger tributaries belong to the Natura 2000 Network as SCI areas.

The Parsęta salmon and sea trout stocks

There is evidence of Parsęta being a salmon river in the past. The river system has been stocked with salmon of the Daugava strain since 1995, lately by 10,000–40,000 smolts annually. In the past

years, some adult salmon of 40–80 kg have been annually caught for breeding purposes in the mouth of Radew. Also several salmon kelts are caught by anglers every year. Neither spawning nor wild salmon offspring have been observed in the river.

Sea trout can migrate a distance of 134 km along River Parsęta. They may also enter the bigger and smaller tributaries. Sea trout spawning grounds exist in Radew below the dam, in middle run of Pokrzywnica, in some areas of Mogilica and in some other tributaries. It is believed that sea trout spawn also in the main river.

River Parsęta has been stocked with sea trout since the 1960s. After 2000 the amounts have varied between 40,000 and 140,000 smolts, and about 1 million of fry have been stocked. For the past 30 years, the released fish have been offspring of spawners caught in the middle run of Parsęta where the annual catch is about 1,000 kg. There is intensive sea trout angling focused on kelts, the catch is estimated to be above 1,000 kg.

Salmon and sea trout population facts

Population category: 6 (salmon), 4 (sea trout)

Reproduction area: 3.5 ha/ 33 ha (spawning area/nursery area) (sea trout)

Production capacity: No information

Recent wild smolt production estimate: No information

Fishing regulations in the River Parsęta

The closed season is from October 1 – December 31. Minimum legal size of salmon and sea trout is 35 cm. Only fishing with rod and artificial lure is allowed. A bag limit of 2 salmon and sea trout per fisher per day applies.

Specific actions for the development of the salmonid populations

Sewage and litter output in towns and nutrient and sediment loads from fish farms should be strictly controlled.

The recommendations in the general report of the HELCOM SALAR project concerning accessibility and river fisheries management are applicable for this river.

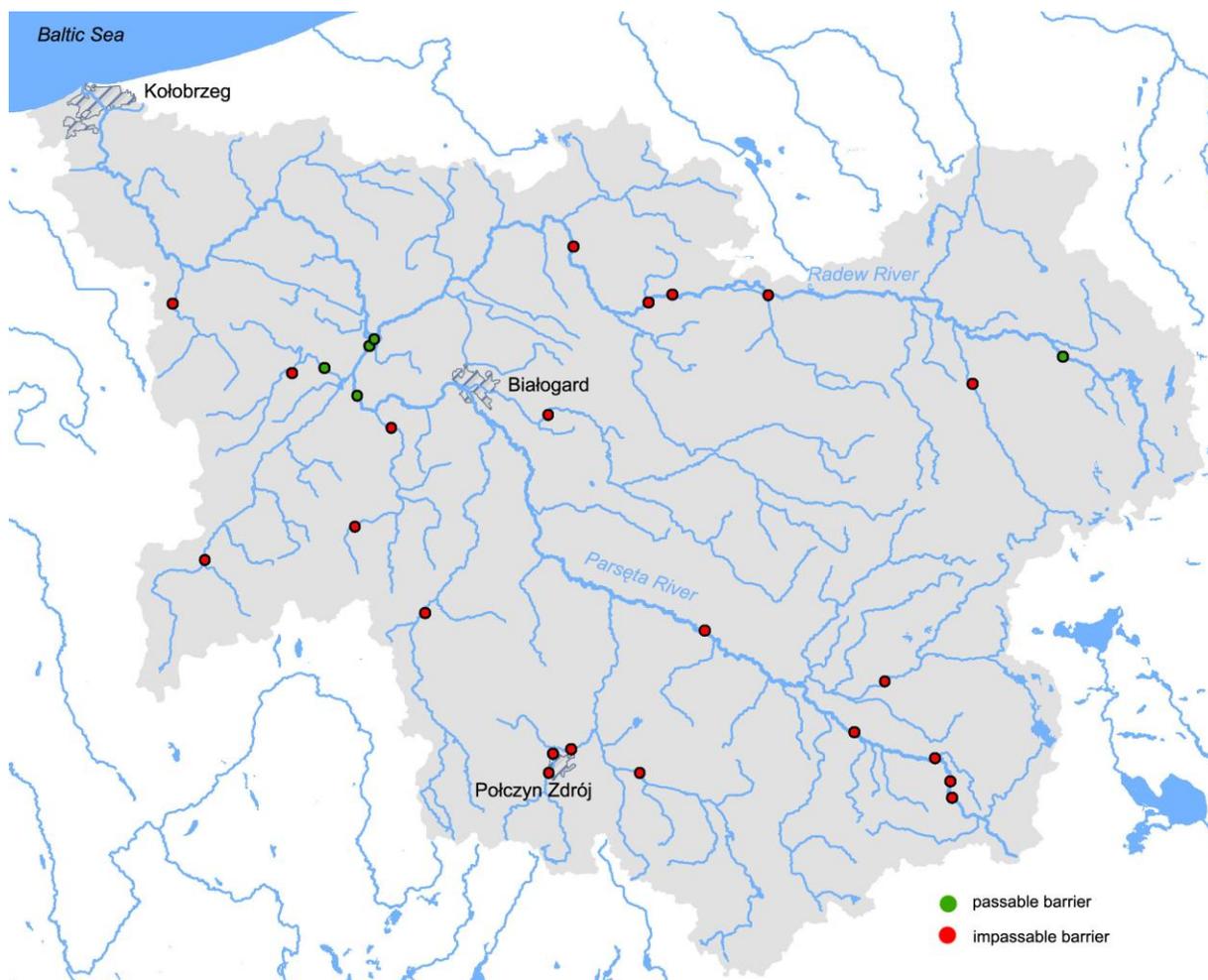


Figure 10. The Parsęta River catchment area and the location of migration barriers in the river.

The River Pasłęka

The River Pasłęka is a sea trout river flowing to the Vistula Lagoon.

Basic hydrological facts

River length: 187 km of which 45 km accessible for sea trout
 Size of the catchment area: 2,321 km²
 Average flow: 15 m³/s
 Daily lowest flow: No information
 Number of migration hindrances: 11 (1 contains a fish way)

Habitat and water quality in River Pasłęka

The River Pasłęka starts in the moraine hills of the Olsztyn Lakeland. In its upper run the river flows through some lakes and through an agricultural region, Warmia, in the northern direction. It empties into the Vistula Lagoon below the town of Braniewo. The biggest tributaries of River Pasłęka are rivers Drwęca Warmińska (51 km) and Wałsza (71 km).

The water of the River Pasłęka is influenced by agriculture but, except the section below Braniewo, is of good quality.. The water of the main tributaries is also locally polluted near the towns. The largest parts of Pasłęka and its tributaries have a natural character.

The first dam is at 10 km and has a partly working fish pass. The second dam, at 24 km, has no fish pass nor does the third dam at 109 km. Also the main tributaries are dammed in their lower runs.

The main potential spawning and nursery areas are located in middle Pasłęka below the third dam and in the lower section of Walsza. Spawning areas also exist in some other parts of the river system.

River Pasłęka according to the Water Framework Directive

The name of the water management district is Vistula River Basin and the river type is lowland gravelly river (20).

Ecological status: poor

Natura 2000

The river valley belongs to the Natura 2000 Network (SCI area) and almost the entire river is located within a nature reserve.

River Pasłęka sea trout stock

Sea trout has no access to the spawning grounds in the river Pasłęka. The river has been stocked with sea trout for a few years with 2,500 smolts and 200,000 fry annually. Released fish are offspring of spawners from Vistula. Individual adult fish have been observed below the second dam every year but spawning or wild offspring have not been proven.

Sea trout population facts

Population category: 7

Reproduction area: 0 ha/1 ha (spawning area/nursery area)

Production capacity: No information

Recent wild smolt production estimate: No information

Fishing regulations in the River Pasłęka

The closed season is from October 1 – December 31. Minimum legal size of salmon and sea trout is 35 cm. Only fishing with rod and artificial lure is allowed. A bag limit of 2 salmon and sea trout per fisher per day applies.

Specific actions for the development of the salmonid populations

Water quality should be improved through strict control of sewage and litter output in towns and effective protection zones along agricultural lands by the river. The water level of the tributary Walsza should be stabilized in the areas below the town of Pieniężno.

The recommendations in the general report of the HELCOM SALAR project concerning accessibility and river fisheries management are applicable for this river.

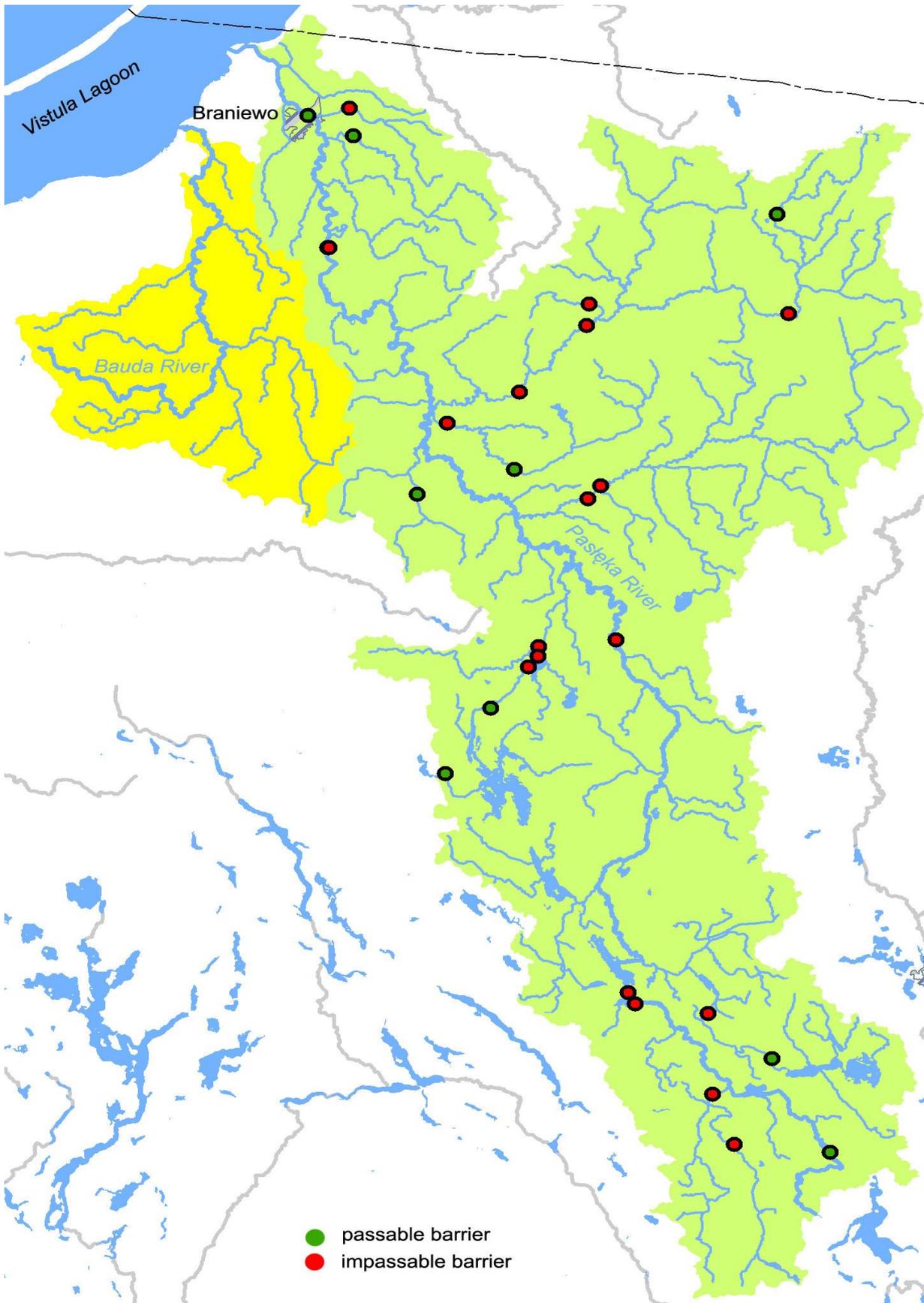


Figure 11. The Pasłęka and Bauda River catchment areas and the location of migration barriers in the rivers.

The River Piaśnica

The River Piaśnica is a sea trout river flowing to the Baltic Proper.

Basic hydrological facts

River length: 30 km of which 14 km accessible for sea trout
Size of the catchment area: 319 km²
Average flow: No information
Daily lowest flow: No information
Number of migration hindrances: 6

Habitat and water quality in River Piaśnica

The River Piaśnica flows into the northern direction from the Kaszubian Lakeland. In its upper part the river Piaśnica is a small fast flowing stream. After 16 km it flows into the Lake Żarnowieckie. The lake is 7.6 km long and covers 1,400 ha. Its water level varies according to the work of pumped-storage power station located on the lake shore. The section between the lake and the sea is 6 km long. The biggest tributary of River Piaśnica is Bychowska Struga (20 km) that empties into the Lake Żarnowieckie.

The first partial migration obstacle for salmonids is at the lake outlet but it is usually passable. The second obstacle is at 20 km from the sea. The tributary Bychowska Struga is also closed by a few dams. Potential spawning and nursery areas are located in Bychowska Struga and in Piaśnica below the second dam.

River Piaśnica according to the Water Framework Directive

The name of the water management district is Vistula River Basin and the river type is lowland sandy stream (17) and organic stream (23).

Ecological status: poor

Natura 2000

The river valleys of River Piaśnica and the valleys of its bigger tributaries belong to the Natura 2000 network as SCI areas.

The Piaśnica sea trout stock

Spawning sea trout and wild offspring have been observed in River Piaśnica below the second dam and in the lowest section of the tributary Bychowska Struga. River Piaśnica has been stocked with 4,000 parr of the Vistula strain for a few years.

Sea trout population facts

Population category: 4
Reproduction area: 0.5 ha/ 2 ha (spawning area/ nursery area)
Production capacity: No information
Recent wild smolt production estimate: No information

Fishing regulations in the River Piaśnica

The closed season is from October 1 – December 31. Minimum legal size of salmon and sea trout is 35 cm. Only fishing with rod and artificial lure is allowed. A bag limit of 2 salmon and sea trout per fisher per day applies.

Specific actions for the development of the salmonid populations

Water level variation should be mitigated.

The recommendations in the general report of the HELCOM SALAR project concerning accessibility and river fisheries management are applicable for this river.

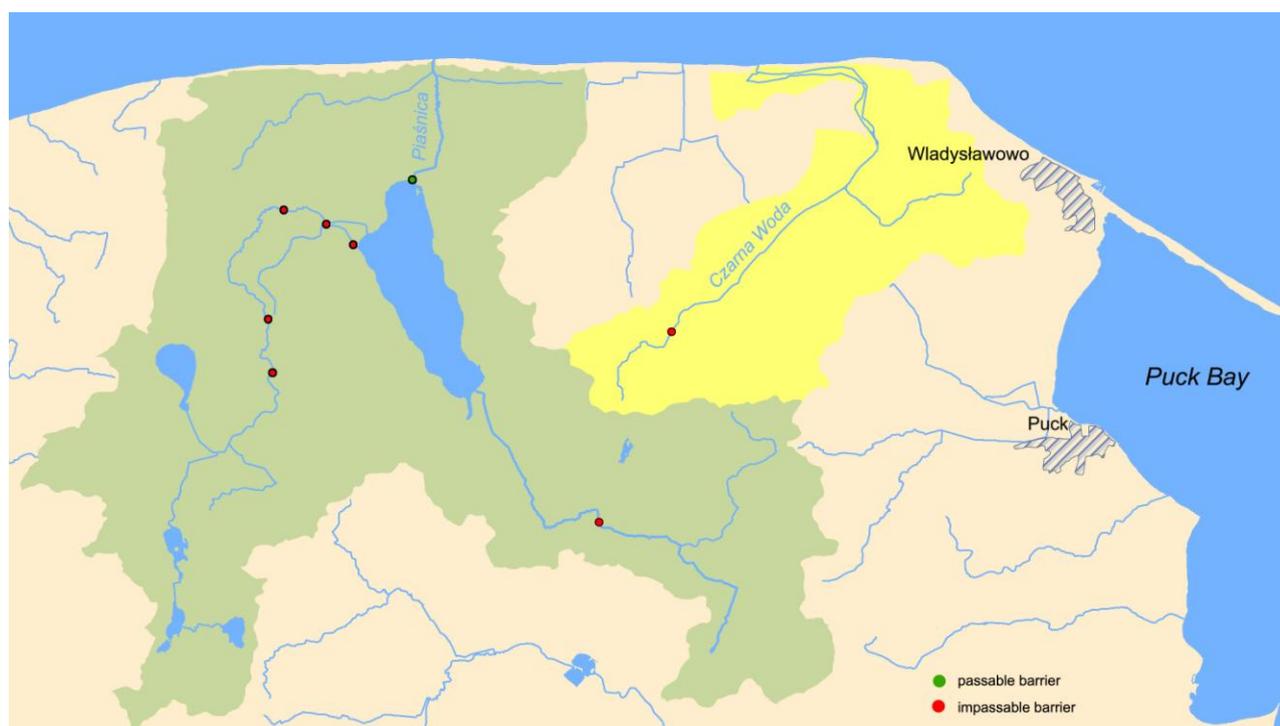


Figure 12. The Piaśnica and Czarna Woda River catchment areas and the location of migration barriers in the rivers.

The River Radunia

The River Radunia is a sea trout river flowing through River Motława to Vistula.

Basic hydrological facts

River length: 93 km of which 13 km accessible for sea trout
Size of the catchment area: 822 km²
Average flow: No information
Daily lowest flow: No information
Number of migration hindrances: 15

Habitat and water quality in River Radunia

The River Radunia is a left tributary of Motława which flows into one of the branches of Vistula delta in the town of Gdańsk. River Radunia starts in the moraine hills of the Kaszubian Lakeland. In its upper run the river flows through a group of lakes, and later through agricultural and urbanized areas. River Radunia has a few tributaries of which the largest ones are rivers Mała Słupina (17 km) and Reknica (18 km).

The water quality of River Radunia is under the influence of towns and agriculture. There are many impoundments on Radunia. One of them supplies water for the agglomeration of Gdańsk. The first dam is at 13 km and it has no fish pass. There are ten dams in the middle section of the river, and none of these dams has a fish pass.

Potential salmonid spawning and nursery areas are located in the middle and upper run of the river.

River Radunia according to the Water Framework Directive

The name of the water management district is Vistula River Basin and the river type is lowland sandy-clayey river (19).

Ecological status: poor

Natura 2000

There is a nature reserve in a middle section of the river.

The Radunia sea trout stock

Sea trout has no access to the main spawning grounds in the river basin but it is believed that some sea trout spawn below the first dam. Radunia has been stocked with sea trout for a few years on a level of 3,000–15,000 smolts annually. The released fish are offspring of spawners caught in the lower Vistula. Some fish are caught by anglers in the lower part of River Radunia every year.

Sea trout population facts

Population category: 5

Reproduction area: No information

Production capacity: No information

Recent wild smolt production estimate: No information

Fishing regulations in the River Radunia

The closed season is from October 1 – December 31. Minimum legal size of salmon and sea trout is 35 cm. Only fishing with rod and artificial lure is allowed. A bag limit of 2 salmon and sea trout per fisher per day applies.

Specific actions for the development of the salmonid populations

Water quality should be improved through strict control of sewage and litter output in towns and effective protection zones along agricultural lands by the river.

The recommendations in the general report of the HELCOM SALAR project concerning accessibility and river fisheries management are applicable for this river.

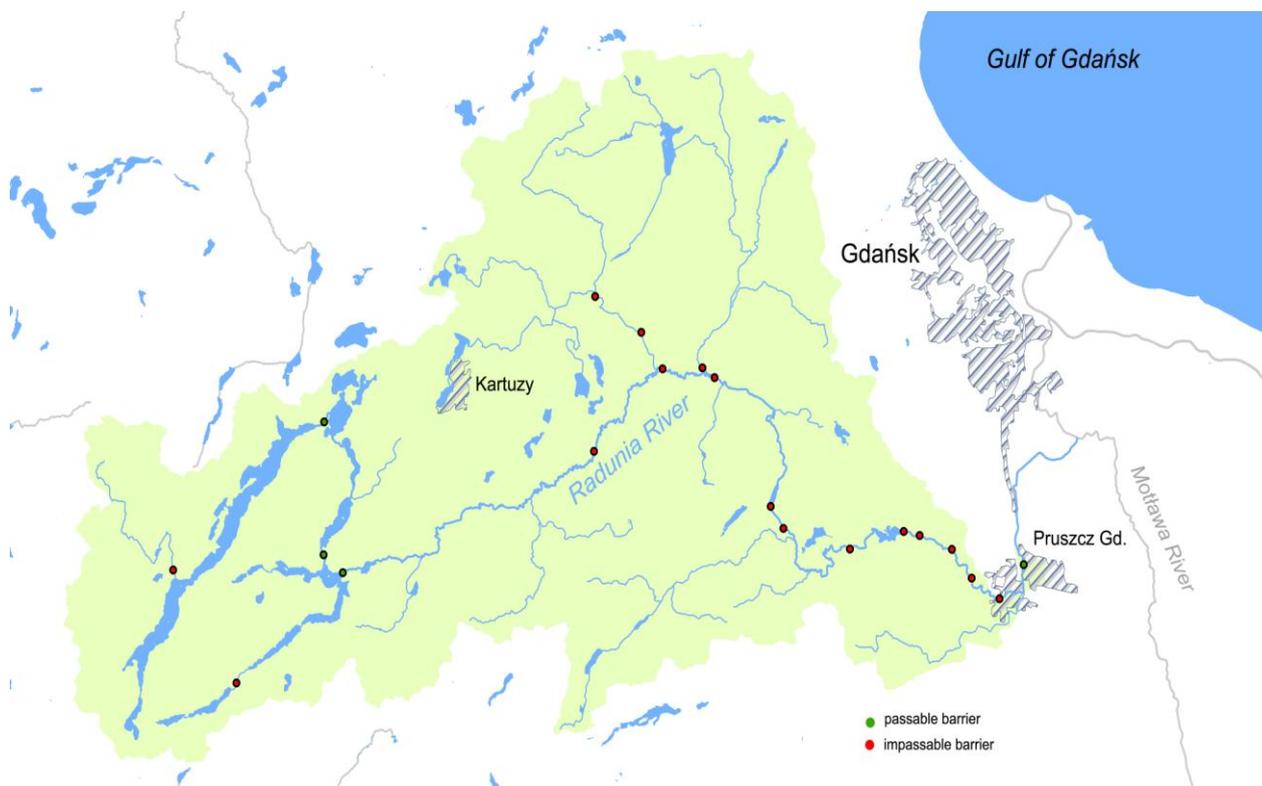


Figure 13. The Radunia River catchment area and the location of migration barriers in the river.

The River Reda

The River Reda is a sea trout river and a potential salmon river flowing to the Bay of Gdańsk.

Basic hydrological facts

River length: 50 km, 25 km the main river and tributaries are accessible for salmonids

Size of the catchment area: 485 km²

Average flow: 4.35 m³/s

Daily lowest flow: No information

Number of migration hindrances: 9 (1 contains a fish way)

Habitat and water quality in River Reda

The river Reda catchment area is characterized by fields and meadows. In the upper and lower parts of the catchment area, the river is regulated. River Reda flows through a manmade lake of Orle in the middle run. From here, the river runs by the local agglomerations of Wejherowo and Reda, and discharges into the shallow part of the Bay of Gdańsk, the Bay of Puck.

The largest tributary, River Bolszewka (27 km long), makes up for almost half of the catchment area.

The river water is affected by the urbanization of surroundings and by numerous fish farms, especially in Bolszewka.

The main river is blocked by two dams. The first one is located 9 km from the coast and is equipped with a primitive, but partly working fish way. The second dam, 25 km from the coast, does not have a fish way. There are also several dams in Bolszewka.

Potential spawning and nursery areas are located mainly in the tributaries Bolszewka, Gościcinka (tributary of Bolszewka) and Cedron. In the main river, the areas are found below the second dam and in parts of the following 10 km downstream.

River Reda according to the Water Framework Directive

The name of the water management district is Vistula River Basin and the river type is lowland sandy-clayey river (19).

Ecological status: poor

Natura 2000

The Bay of Puck, where the river discharges, belongs to the Natura 2000 network (SCI and SPA areas). The last 1 km of the river belongs to a nature reserve.

The Reda salmon and sea trout stocks

There is evidence that River Reda was a salmon river in the past. The river has been stocked with salmon of the Daugava strain since 2000, lately on the level of 6,000 smolts annually. Some salmon individuals are caught in the lower run below the first dam by anglers every year. Neither spawning nor wild salmon offspring have been observed.

Part of the sea trout spawning run is able to pass the first dam and reach spawning grounds. The most important spawning place is in Cedron, where usually 100–200 redds have been located. Another known spawning ground is below the second dam in the main river. It is believed that some fish spawn also in some areas downstream of the middle run.

River Reda has been stocked with sea trout smolts since the 1960s, and after 2000 in amounts of 20,000–40,000. In 2009, 64,000 smolts and almost 100,000 parr were stocked. The released fish are of the Vistula strain. There is intensive sea trout angling in the lower part of the river.

Salmon and sea trout population facts

Population category: 6 (salmon), 5 (sea trout)

Reproduction area: 1 ha/ 15 ha (spawning area/ nursery area)

Production capacity: No information

Recent wild smolt production estimate: No information

Fishing regulations in the River Reda

The closed season is from October 1 – December 31. Minimum legal size of salmon and sea trout is 35 cm. Only fishing with rod and artificial lure is allowed. A bag limit of 2 salmon and sea trout per fisher per day applies. The tributary Cedron and the last 1 km of Reda are closed from fishing.

Specific actions for the development of the salmonid populations

Sewage and litter output in agglomerations and nutrient and sediment loads from fish farms should be strictly controlled. The flow level below the second dam should be stabilized.

The recommendations in the general report of the HELCOM SALAR project concerning accessibility and river fisheries management are applicable for this river.

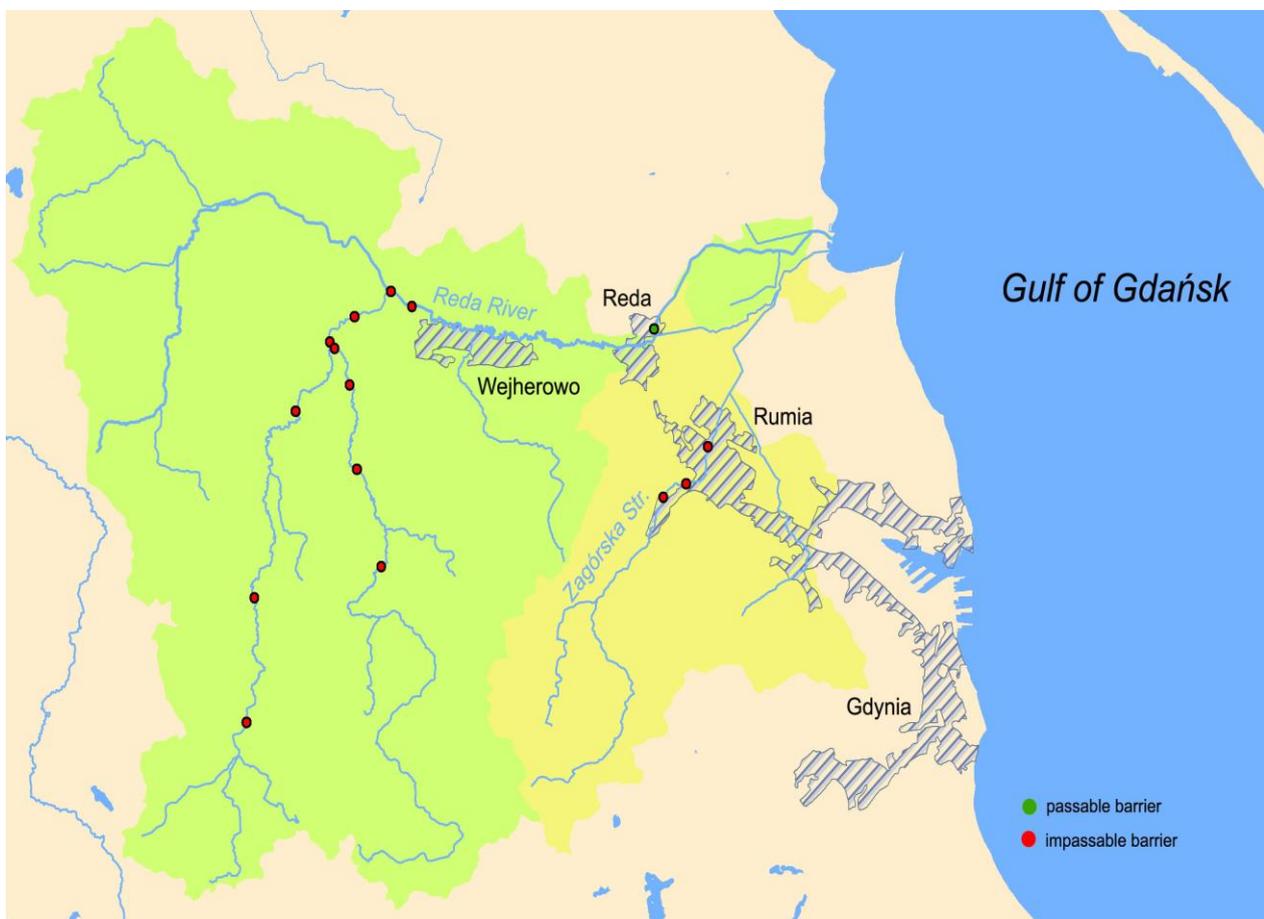


Figure 14. The Reda and Zagórska Struga River catchment areas and the location of migration barriers in the rivers.

The River Rega

The River Rega is a sea trout river and a potential salmon river flowing to the Baltic Proper.

Basic hydrological facts

River length: 188 km, 60 km the main river and tributaries are accessible for salmon and 68 km for sea trout
Size of the catchment area: 2,767 km²
Average flow: 21.9 m³/s
Daily lowest flow: No information
Number of migration hindrances: 21 (2 contain a fish way)

Habitat and water quality in River Rega

The River Rega is regulated in the upper run, where it is flowing between pastures and fields. The river regains its natural character in the middle run and flows through some manmade reservoirs. The last several kilometers of the river are also regulated. Rega passes a few big towns. The most important tributaries are Ukleja (48 km) and Mołstowa (54 km).

The river water is affected by towns and agriculture. The first dam on Rega is located 17 km from the mouth and is equipped with a working fish pass. The next dam is at 42 km, and has a fish pass working only occasionally. The limit of fish migration in the main river is the third dam at 48 km. After the third dam, there are a total of six dams. Some of them are high, and only one has a fish pass.

There are many obstacles in the tributaries as well. There are six dams without fish passes located in Ukleja and three, two with working fishways, in Mołstowa. Potential spawning and nursery areas are located mainly in Mołstowa, Ukleja, in some sections of the upper Rega and in some smaller tributaries.

River Rega according to the Water Framework Directive

The name of the water management district is Oder River Basin and the river type is lowland sandy-clayey river (19).

Ecological status: poor

Natura 2000

The last few kilometers of the river belong to the Natura 2000 network as SCI and SPA areas.

The Rega salmon and sea trout stocks

There is evidence that River Rega was a salmon river in the past. The river system has been stocked with salmon of the Daugava strain since 1997, lately in amounts between 10,000 and 35,000 smolts annually. In the last years, some adult salmon (50–120 kg) are annually caught for breeding purposes at the first dam of Rega. Also every year some salmon kelts are caught by anglers. Neither wild spawning salmon nor wild salmon offspring have been observed.

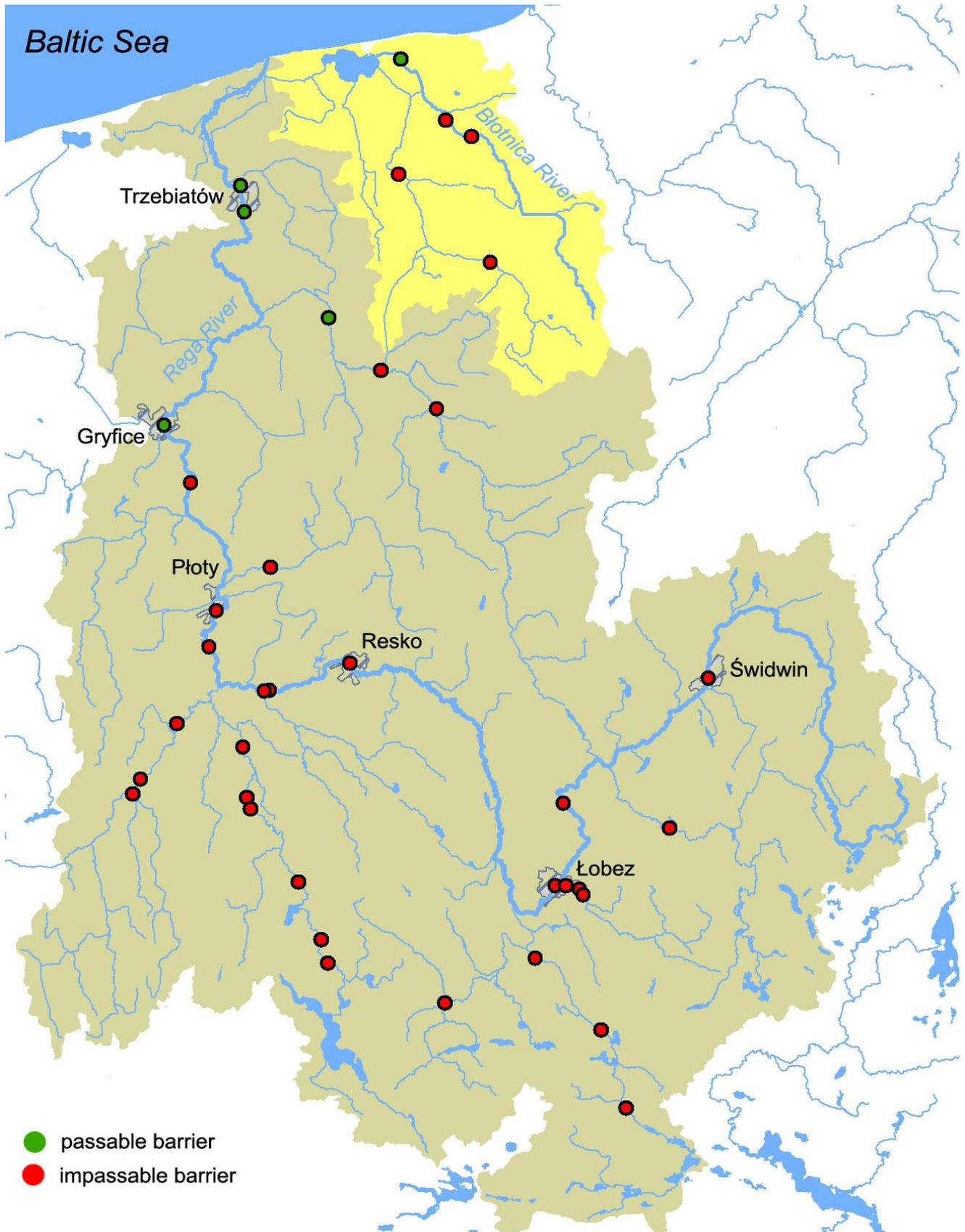


Figure 15. The Rega and Błotnica River catchment areas and the location of migration barriers in the rivers.

Sea trout migrate in Rega 42 km or in suitable flow conditions 48 km. There are no known spawning places in the main river on the section. Fish spawn in the small stream of Lubieszowa or enter Małostowa which is the best and the largest spawning stream in the basin. 23 km of the length of Małostowa is available for salmonids and there are many spawning grounds in the river and in its small tributaries.

River Rega has been stocked with sea trout since the 1960s, after 2000 in amounts varying between 30,000 and 70,000 smolts and 0.5–0.8 million fry and parr. At least for 30 years released fish are offspring of spawners caught in Rega at the first dam: the annual catch has lately been between 1,400–1,800 kg.

There is intensive sea trout angling: it is estimated that the catch is about 250–300 fish.

Salmon and sea trout population facts

Population category: 6 (salmon), 5 (sea trout)
Reproduction area: No information
Production capacity: No information
Recent wild smolt production estimate: No information

Fishing regulations in the River Rega

The closed season is from October 1 – December 31. Minimum legal size of salmon and sea trout is 35 cm. Only fishing with rod and artificial lure is allowed. A bag limit of 2 salmon and sea trout per fisher per day applies.

Specific actions for the development of the salmonid populations

Sewage and litter output in towns should be strictly controlled. Nutrient and sediment loads from agriculture should be reduced by establishing effective protection zones along the rivers.

The recommendations in the general report of the HELCOM SALAR project concerning accessibility and river fisheries management are applicable for this river.

The River Słupia

The River Słupia is a salmon and sea trout river flowing to the Baltic Proper.

Basic hydrological facts

River length: 152 km, 36 km of the main river and tributaries are accessible for salmon and 78 km for sea trout
Size of the catchment area: 1,621 km²
Average flow: 16.24 m³/s
Daily lowest flow: No information
Number of migration hindrances: No information

Habitat and water quality in River Słupia

The River Słupia in its upper run flows through some lakes and a forest valley. Surrounded by some meadows and fields, the river continues to the sea. In the middle part of the river two of the

many dams form reservoirs, and the river passes the town of Słupsk at 36 km from the river mouth. River Słupia flows into the sea at the town of Ustka that has a fishing harbour located in the river mouth. Słupia has many tributaries, of which the most important are Bytowa (25 km), Kamienica (37 km) and Skotawa (45 km).

The river water is affected by towns and fish farms. There are a total of seven power stations in the main river and many other dams in the tributaries. The first are based on one dam at 36 km, in Słupsk. They are equipped with two fish ways that are working well. The next dam is at 57 km and does not have a fish way. It is hence the upper border of fish migration in River Słupia, blocking access to many tributaries. The biggest tributary, Skotawa, that joins Słupia below, is dammed by a power station at 2 km.

Potential spawning and nursery areas are located mainly in middle run of Słupia, but also in some places of lower Słupia, in the entire Kamienica, in sections of Skotawa and in some of the smaller tributaries.

River Słupia according to the Water Framework Directive

The name of the water management district is Vistula River Basin and the river type is lowland sandy-clayey river (19).

Ecological status: good

Natura 2000

The middle run of the river belongs to the SPA and Landscape Park "Dolina Słupi".

The Słupia salmon and sea trout stocks

According to historical sources Słupia was a salmon river. The river has been stocked with salmon of the Daugava strain since 1995, lately on the level of 12,000–18,000 smolts annually. Salmon spawn in some areas of the lower section of Słupia, below Słupsk, where redds have been observed and wild parr have been caught. Only few adult individuals pass fish ways at the first dam or are caught there in a trap catching fish for breeding purposes. Every year a few fish are caught by anglers in the lower run of Słupia.

The number of adult sea trout passing fish ways at the first dam and counted by fish scanners was about 7,000 in 2007 and 2008 and 3,700 in 2009. The main sea trout spawning grounds are in the lower run of Skotawa, Kwacza, Głaźna, and Żelkowa Woda. Some sea trout spawn also in the main river above Słupsk, in some areas of the lower run and in some other small tributaries. There are also two artificial spawning grounds: one in the lower run of Głaźna and second one in Słupsk, below an old mill on one arm of Słupia.

There were very intensive occurrence of ulcerative dermal necrosis (UDN) on adult sea trout in 2007 and 2008 resulting in high mortality of spawners, but it subsided in 2009.

Słupia has been stocked with sea trout smolts since the 1960s, after 2000 in amounts varying between 12,000–147,000 and more than 1 million fry. At least for 30 years released fish are offspring of spawners caught in a trap below the first dam. There is intensive sea trout angling focused mainly on kelts.

Salmon and sea trout population facts

Population category: 5 (salmon), 4 (sea trout)

Reproduction area: 0.2 ha/5 ha (spawning area/nursery area) (salmon); 1.7ha/15 ha (spawning area/nursery area) (sea trout)

Production capacity: No information

Recent wild smolt production estimate: No information

Fishing regulations in the River Słupia

The closed season is from October 1 – December 31. Minimum legal size of salmon and sea trout is 35 cm. Only fishing with rod and artificial lure is allowed. A bag limit of 2 salmon and sea trout per fisher per day applies.

Specific actions for the development of the salmonid populations

Sewage and litter output in Bytów and Słupsk and nutrient loads from fish farms should be strictly controlled, and the flow should be stabilized below the second dam.

The recommendations in the general report of the HELCOM SALAR project concerning accessibility and river fisheries management are applicable for this river.

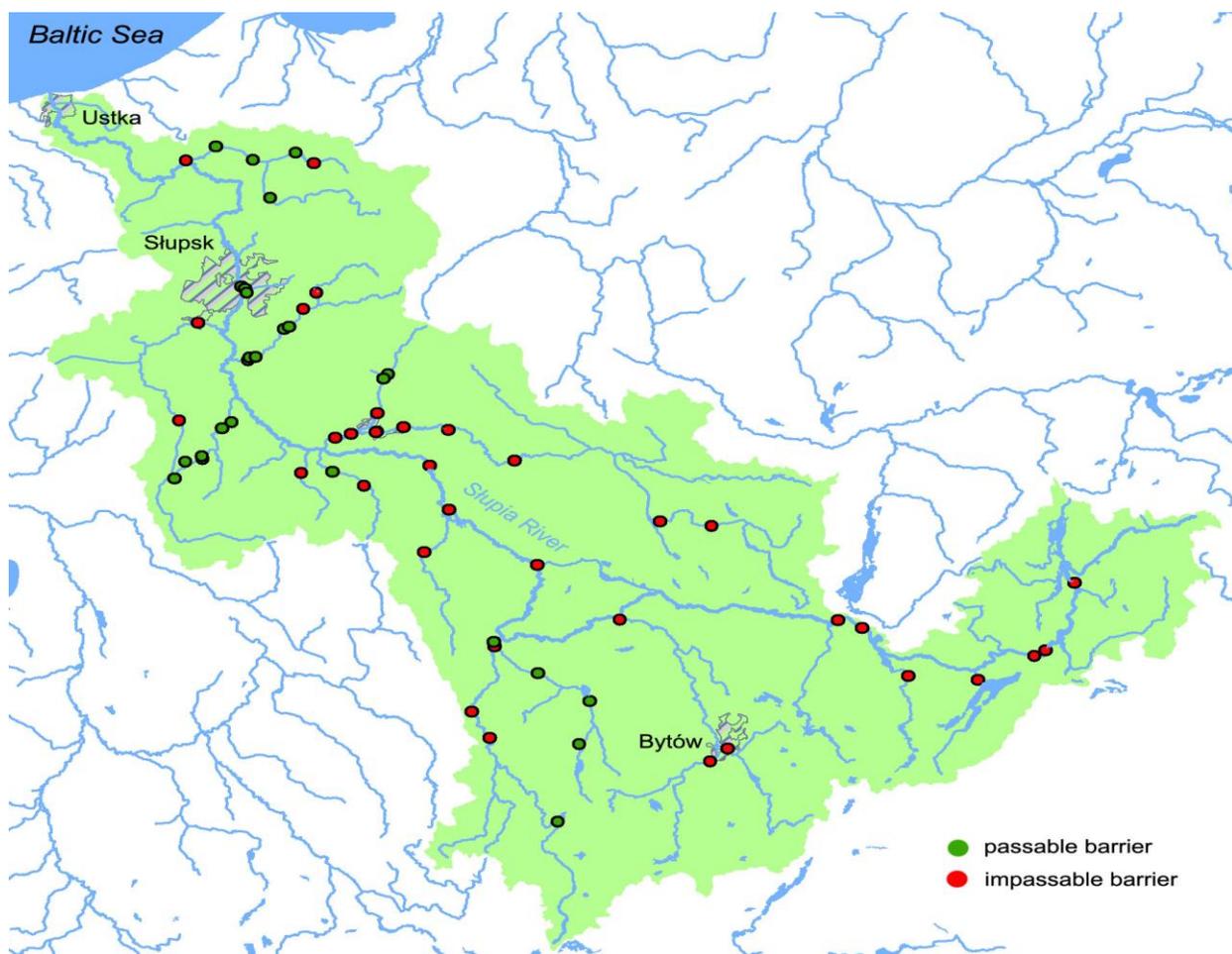


Figure 16. The Słupia River catchment area and the location of migration barriers in the river.

The River Wda

The River Wda is a salmon and sea trout river flowing to the River Vistula.

Basic hydrological facts

River length: 198 km of which 11 km accessible for salmonids

Size of the catchment area: 2,324 km²

Average flow: 6.5 m³/s

Daily lowest flow: No information

Number of migration hindrances: 15 (1 contains a fish way)

Habitat and water quality in River Wda

The River Wda is a left tributary of Vistula. It starts in the moraine hills of the Pomeranian Lakeland. In its upper run the river flows through a group of lakes, and enters a large forested area of Bory Tucholskie. River Wda joins River Vistula at its 128 km in the town of Świecie. River Wda has only a few tributaries of which the largest ones are rivers Niechwaszcz (40 km) and Prusina (29 km).

The water of River Wda is generally good. The first dam is close to the river mouth at 6 km, and has a new fish pass with unknown efficacy. The second one, at 11 km, does not have a fish pass and neither do the four obstacles above it. Potential spawning and nursery areas are located mainly in the middle Wda above the major obstacles and in some sections of the upper run.

River Wda according to the Water Framework Directive

The name of the water management district is Vistula River Basin and the river type is lowland sandy-clayey river (19).

Ecological status: good

Natura 2000

The middle and upper part of the river basin belong to the Natura 2000 network as SPA areas and partly as SCI areas.

The Wda salmon and sea trout stocks

There is evidence that the River Wda was a salmon river in the past. The lower run of the river has been stocked with salmon smolts of the Daugava strain since 2001, lately in amounts between 18,000 and 43,000 annually. No adult salmon or wild offspring have been observed in the river.

For sea trout, there are no accessible spawning grounds in the river. River Wda has been stocked with sea trout since 2000, lately in amounts varying between 30,000 and 68,000 smolts and 300,000–430,000 fry. Released fish are offspring of spawners caught in the lower Vistula. A few fish have been caught by anglers in the lower run of River Wda annually, but spawning or wild offspring have not been observed.

Salmon and sea trout population facts

Population category: 7 (salmon and sea trout)

Reproduction area: 0 ha/0 ha (spawning area/nursery area)

Production capacity: No information

Recent wild smolt production estimate: No information

Fishing regulations in the River Wda

The closed season is from October 1 – December 31. Minimum legal size of salmon and sea trout is 35 cm. Only fishing with rod and artificial lure is allowed. A bag limit of 2 salmon and sea trout per fisher per day applies.

Specific actions for the development of the salmonid populations

The recommendations in the general report of the HELCOM SALAR project concerning accessibility and river fisheries management are applicable for this river.

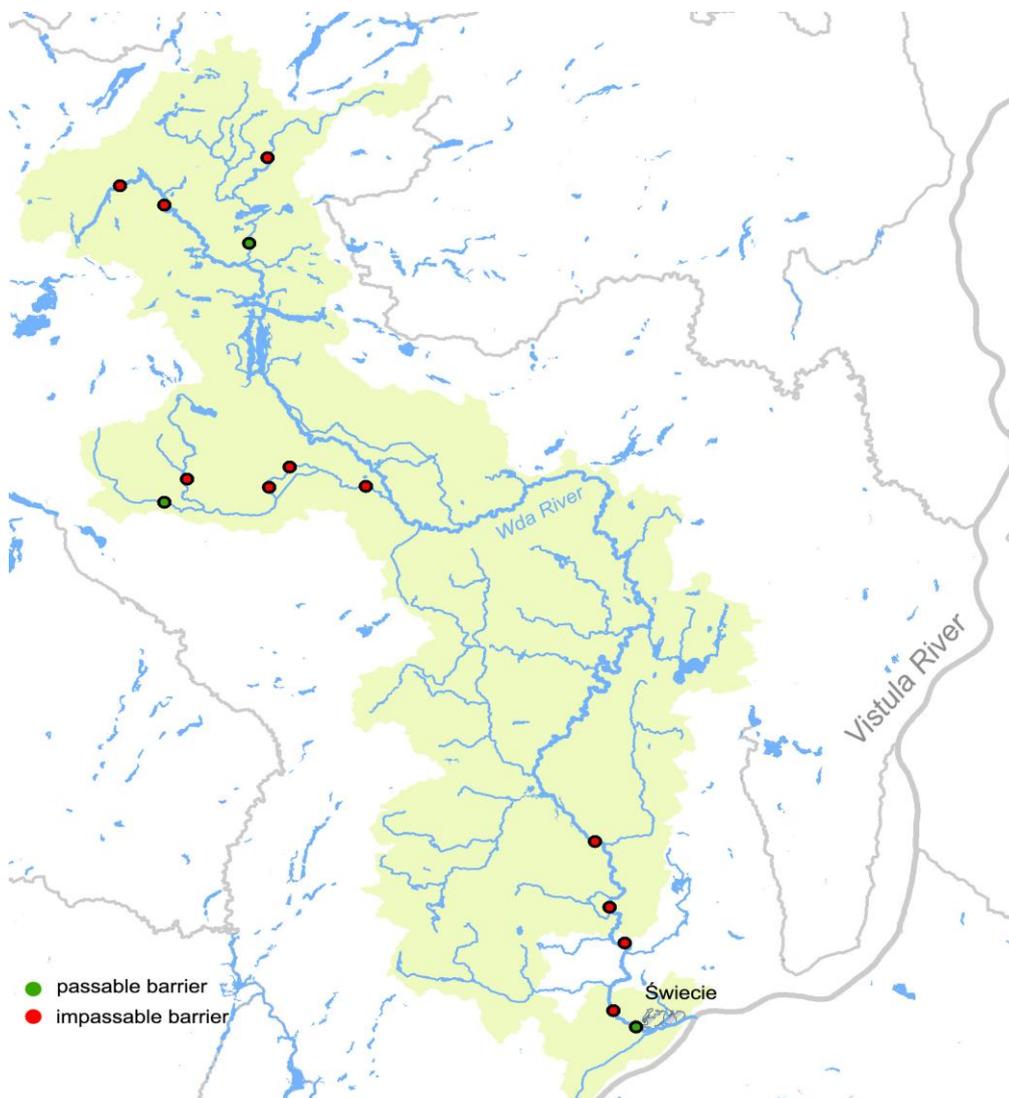


Figure 17. The Wda River catchment area and the location of migration barriers in the river.

The River Wieprza

The River Wieprza is a sea trout river and a potential salmon river flowing to the Baltic Proper.

Basic hydrological facts

River length: 133 km, 110 km of the main river and tributaries are accessible for salmon and 120 km for sea trout
Size of the catchment area: 2,213 km²
Average flow: 17.12 m³/s
Daily lowest flow: No information
Number of migration hindrances: 10 (2 contain a fish way)

Habitat and water quality in River Wieprza

In the upper run the River Wieprza flows through a forest valley which widens in the middle part where the river is partly regulated and surrounded mainly by meadows and pastures; it passes the town of Sławno. In the lower part Wieprza flows again in a forest then between meadows and fields. The river passes the town Darłowo and a few kilometers downstream flows into the sea at the fishing harbor Darłówko.

River Wieprza has many tributaries. The most important of them is River Grabowa which is 72 km long and flows through the town of Polanów. A majority of River Grabowa is regulated and it joins Wieprza 1 km before the river mouth. The other large tributaries, rivers Pokrzywna (32 km) and Studnica (41 km), are located in the upper part of the catchment area.

The water quality of the river is affected by towns and numerous fish farms. There are 5 power stations on the main river. The first one is located 3 km from the mouth and is equipped with a well working fish way. The second dam is at 49 km and is passable at least partly, during sufficient water level periods. The third dam, located at 73 km, is the upper border of fish migration in Wieprza. The first obstacle on the tributary of Grabowa, at 11 km, has a fish way, but the next one at 37km closes the river definitively.

Potential spawning and nursery areas are located mainly in Pokrzywna and Studnica, in the upper Wieprza, and in the upper Grabowa, including some small streams.

River Wieprza according to the Water Framework Directive

The name of the water management district is Oder River Basin and the river type is lowland sandy-clayey river (19).

Ecological status: poor

Natura 2000

The river valleys of Wieprza and the valleys of its bigger tributaries belong to the Natura 2000 network as SCI areas.

The Wieprza salmon and sea trout stocks

There is evidence that river Wieprza was a salmon river in the past. The river system has been stocked with salmon of the Daugava strain since 1995, lately in amounts between 10,000–70,000

smolts annually. In 2009 the number was over 118,000. Also some fry are released in the river. Spawning salmon spawning have been observed below the third dam in Wieprza but wild offspring have not been caught so far. Spawners for breeding purposes are caught at the first dam in Wieprza, lately of 100–300 kg.

Sea trout migrate into the rivers Wieprza and Grabowa. Despite the existing obstacles they can reach the third dam that is impassable. Downstream of it there is only one known spawning area in Wieprza. Sea trout also spawn in some small tributaries of the lower run of Wieprza. There are no spawning places in the accessible parts of Grabowa.

River Wieprza has been stocked with sea trout smolts since the 1960s. After 2000 the amounts have varied between 0–190,000 smolts and between 0.6–1.6 million fry. At least for 30 years the released fish have been offspring of spawners caught in Wieprza in a trap below the first dam. There is intensive sea trout angling focused mainly on kelts.

Salmon and sea trout population facts

Population category: 6 (salmon), 5 (sea trout)
 Reproduction area: 1.5 ha/ 20 ha (spawning area/nursery area) (sea trout)
 Production capacity: No information
 Recent wild smolt production estimate: No information

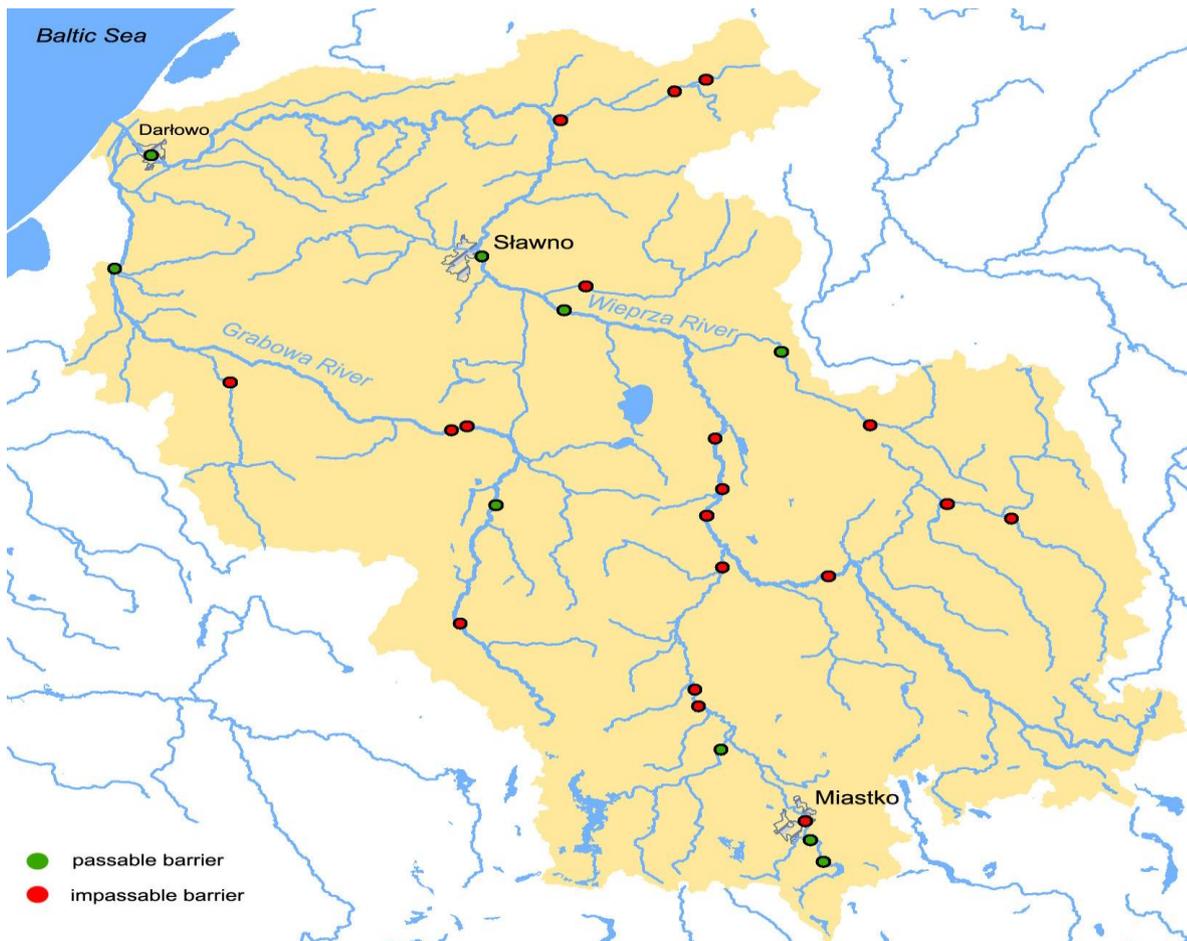


Figure 18. The Wieprza River catchment area and the location of migration barriers in the river.

Fishing regulations in the River Wieprza

The closed season is from October 1 – December 31. Minimum legal size of salmon and sea trout is 35 cm. Only fishing with rod and artificial lure is allowed. A bag limit of 2 salmon and sea trout per fisher per day applies.

Specific actions for the development of the salmonid populations

Sewage and litter output in Sławno and nutrient and sediment loads from fish farms should be strictly controlled.

The recommendations in the general report of the HELCOM SALAR project concerning accessibility and river fisheries management are applicable for this river.

The River Wierzyca

The River Wierzyca is a salmon and sea trout river flowing to the River Vistula.

Basic hydrological facts

River length: 170 km of which 5 km accessible for salmonids

Size of the catchment area: 1,607 km²

Average flow: 8.8 m³/s

Daily lowest flow: No information

Number of migration hindrances: 18

Habitat and water quality in River Wierzyca

The River Wierzyca is a left tributary of Vistula. The river starts in the moraine hills of the Kaszubian Lakeland. In the upper run it flows through a few lakes followed by an agricultural area. The river passes the town of Starogard Gdański and joins River Vistula at 65 km in the town of Gniew. River Wierzyca has a few tributaries of which the biggest ones are Mała Wierzyca (35 km) and Wietcisa (45 km).

The water quality of River Wierzyca is under the influence of towns and agriculture. In the lower run the water quality is poor. There is a dam near the river mouth at 5 km. There are six dams in the middle section of the river. Potential spawning and nursery areas are located along the main river and in some tributaries.

River Wierzyca according to the Water Framework Directive

The name of the water management district is Vistula River Basin and the river type is lowland sandy-clayey river (19).

Ecological status: poor

Natura 2000

The upper part of the river basin belongs to the Natura 2000 network as a SPA area.

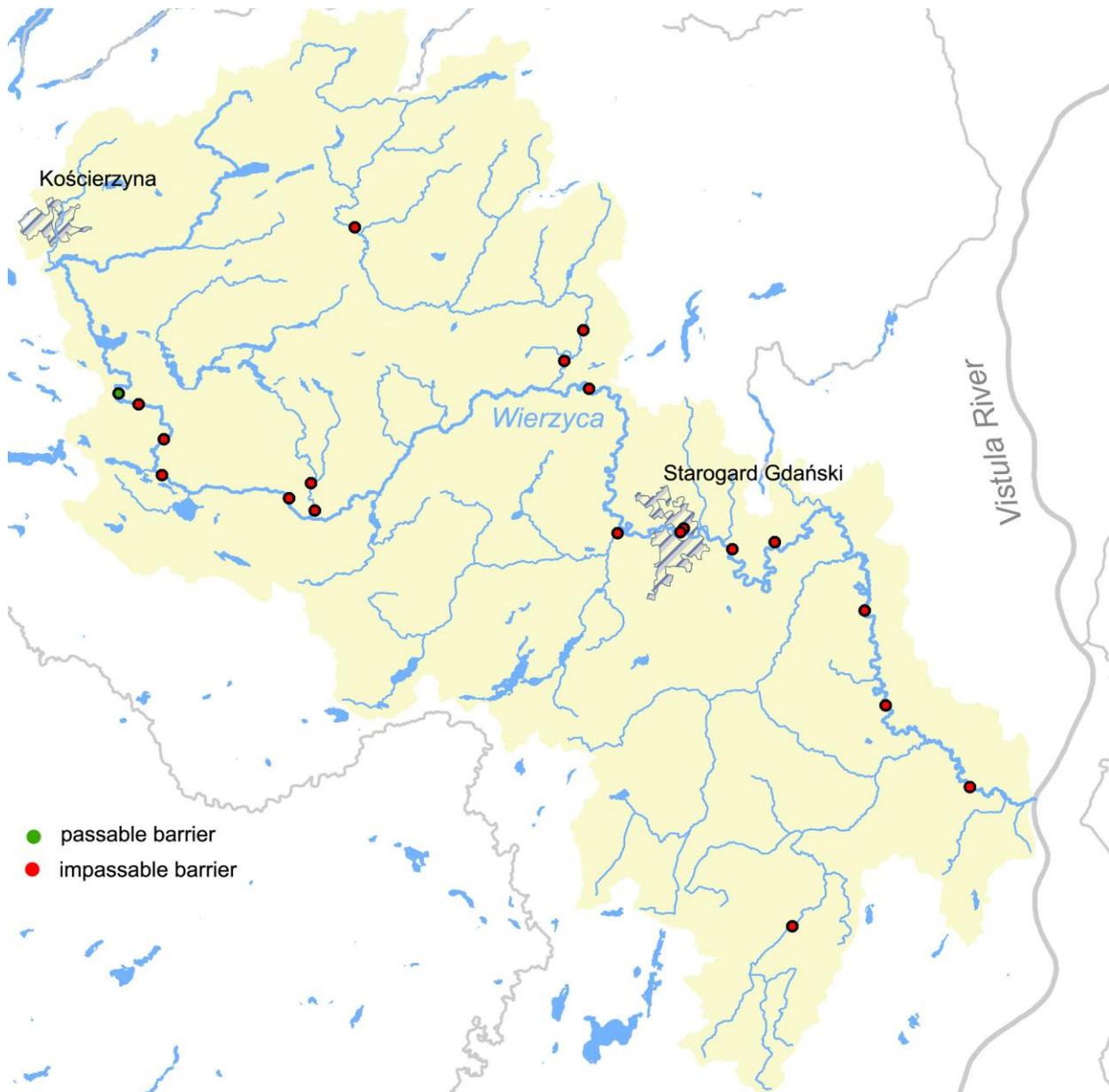


Figure 19. The Wierzyca River catchment area and the location of migration barriers in the river.

The Wierzyca salmon and sea trout stocks

According to historical sources Wierzyca was a salmon river. Migration of fish in the basin is limited to the lowest 5 km of the main river. The lower run of the river has been stocked with salmon of Daugava origin since 2001, lately in amount of 30,000 parr annually. Angling catch of 350 kg and catch of 45 kg for breeding purposes were reported in 2008 and 2009 from lower part of the river, but neither salmon spawning nor wild offspring was observed.

Sea trout has no access to main spawning grounds in the river basin. Wierzyca has been stocked with sea trout since 2000, lately in amounts varying between 30–45,000 parr. Released fish are offspring of spawners caught in the lower Vistula. A catch of around 600 kg is reported by anglers from the lowest part of the river. Sea trout spawning was observed below the first dam, but the suitable area is very limited and no wild offspring have been observed.

Salmon and sea trout population facts

Population category: 7 (salmon and sea trout)
Reproduction area: 0.1 ha/0.5 ha (spawning area/ nursery area)
Production capacity: No information
Recent wild smolt production estimate: No information

Fishing regulations in the River Wierzyca

The closed season is from October 1 – December 31. Minimum legal size of salmon and sea trout is 35 cm. Only fishing with rod and artificial lure is allowed. A bag limit of 2 salmon and sea trout per fisher per day applies.

Specific actions for the development of the salmonid populations

To improve the water quality sewage and litter output in towns should be strictly controlled and an effective protection zone should be established to reduce nutrient and sediment loads from agriculture.

The recommendations in the general report of the HELCOM SALAR project concerning accessibility and river fisheries management are applicable for this river.

The River Vistula (Wisła)

The River Vistula (Wisła) is a salmon and sea trout river flowing to the Bay of Gdańsk.

Basic hydrological facts

River length: 1,020 km, 838 km of the main river and tributaries are accessible for salmonids
Size of the catchment area: 199,813 km²
Average flow: 1,054 m³/s
Daily lowest flow: No information
Number of migration hindrances: No information

Habitat and water quality in River Vistula (Wisła)

The River Vistula is the biggest river in Poland. 86 % of the catchment area is in the Polish territory and covers over half of the area of the country. Its source is in southern Poland, 1,220 m above the sea level in the western part of the Carpathian Mountains. From there it flows over the vast Polish plains passing several large Polish cities along its way, including Kraków, Warszawa, Toruń, Bydgoszcz and Gdańsk. The river empties into the Vistula Lagoon with a delta and several branches or directly into the Gdańsk Bay of the Baltic Sea.

The River Vistula is navigable from the Baltic Sea until Bydgoszcz, at 171 km. The river basin is asymmetric: there are more tributaries on the right side of the river. In the upper part the tributaries Dunajec (249 km), Wisłoka (173 km) and San (456 km) flow from the mountain areas. In the middle run the tributaries Wieprz (349 km), Pilica (333 km), Narew (487 km) and its largest tributary Bug (774 km), and Bzura (173 km) rise from landscape dominated by plains. In the lower part the tributaries Drwęca (231 km), Brda (245 km), Wda (198) and Wierzyca (170 km) enter Vistula from upland areas of the postglacial lake land.

Especially in the upper part, the water quality of Vistula is poor due to industry and urbanization. The first dam on Vistula is located in Włocławek 266 km from the sea. It is equipped with a poor-working fish pass. The next obstacle without a fish pass is at 838 km. Also many tributaries are dammed, and these dams are often located near their mouths.

River Vistula (Wisła) according to the Water Framework Directive

The name of the water management district is Vistula River Basin and the river type is large lowland river (21).

Ecological status: poor

Natura 2000

The middle and lower parts of Vistula and many tributaries belong to the Natura 2000 network or are protected in another way.

The Vistula (Wisła) salmon and sea trout stocks

The salmon population of Vistula was very large in the past. The main spawning areas of salmon were located in the Carpathian tributaries of Soła, Skawa, Raba, Dunajec, Wiśłoka and San, but also some areas existed in the tributaries Drwęca, Brda, Wda and Wierzyca of the lower Vistula. The last salmon in the highland rivers were observed in the 1950s, and the construction of the Włocławek dam in 1968 prevented the migration and presence of the species in the river for good. The individuals that were caught later in the lower Vistula were probably straying fish.

The River Vistula has been stocked with salmon of the Daugava strain since 1995. Fish are released into tributaries, including those considered as separate salmon rivers, and into the main river. In the beginning of the stockings, 20–200 smolts were released annually. Later the amount was raised to 100,000–120,000. Smolts are usually released into the lowest section of Vistula. Rivers of the upper part of the basin have been stocked mainly with alevins and parr. The amounts range from 300,000–400,000 in the past years. There is a commercial net fishery in the lower part of Vistula. During the past years the catch has varied from 1.3–5 tons of salmon annually. A part of the catch has been used for breeding purposes.

River Vistula also held a large sea trout population in the past. Sea trout used to be able to migrate until the mountain tributaries located almost a 1,000 km from the sea. However, the species disappeared from the upper part of the basin during the 1950s and 1960s. After the dam of Włocławek was constructed, sea trout have been observed above the dam only occasionally. Remains of the stock survived in a large tributary of Drwęca in the lower run.

Salmon and sea trout population facts

Population category: 7 (salmon and sea trout)

Reproduction area: No information

Production capacity: No information

Recent wild smolt production estimate: No information

Some tributaries are still considered as sea trout rivers, but their populations are reared. A large quantity of smolts (around 700,000 annually) is being released at the river mouth and in the lower run. Also 350,000–400,000 sea trout parr are released annually, mainly into the upper part of the

river. The stocking material is offspring of the spawners caught at the river mouth. There is a commercial net fishery in the lower part of Vistula. During the past years the catch has varied between 10–35 tons of sea trout annually.

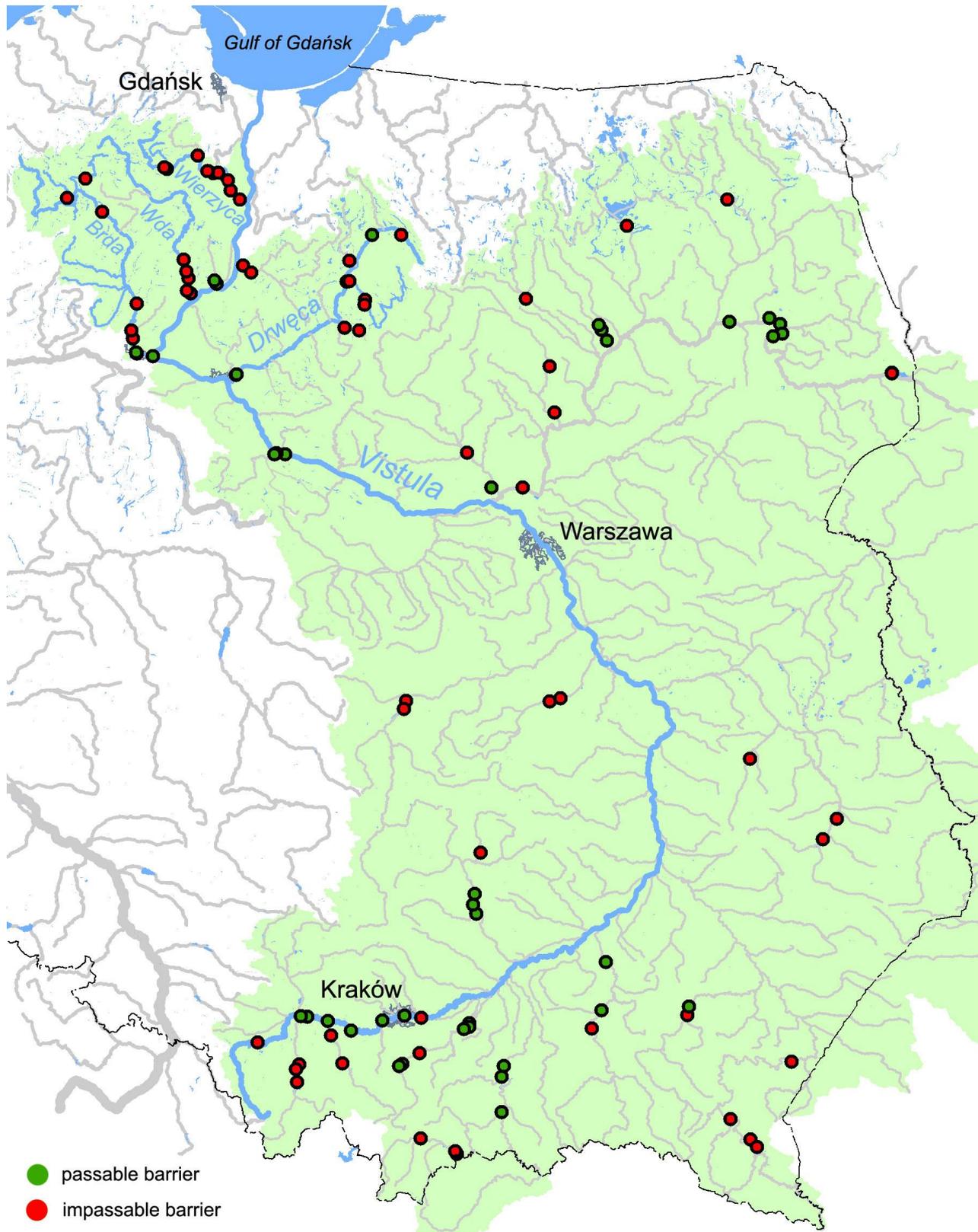


Figure 20. The Vistula River catchment area and the location of migration barriers in the river.

Fishing regulations in the River Vistula (Wisła)

The closed season is October 1 – December 31 and from Thursday to Sunday above the Włocławek dam, and December 1 – end of February and from Friday to Sunday during the period of March 1 – December 31 below the Włocławek dam. Minimum legal size of salmon and sea trout is 35 cm. Only fishing with rod and artificial lure is allowed. A bag limit of 2 salmon and sea trout per fisher per day applies.

Specific actions for the development of the salmonid populations

The water quality should be improved by efficient treatment of sewage from cities, towns and industrial plants as well as by establishing effective protection zones along agricultural lands by the rivers. Littering in urban areas should be controlled.

The recommendations in the general report of the HELCOM SALAR project concerning accessibility and river fisheries management are applicable for this river.

The River Wołczenica

The River Wołczenica is a potential sea trout river flowing to the Pomeranian Bay.

Basic hydrological facts

River length: 52 km, 66 km of the main river and tributaries accessible for sea trout
Size of the catchment area: 462 km²
Average flow: No information
Daily lowest flow: No information
Number of migration hindrances: 2

Habitat and water quality in River Wołczenica

River Wołczenica flows through the Gryficka Plain into Dziwna, the eastern strait connecting Szczecin Lagoon with the Pomeranian Bay. The first obstacle without a fish pass is located 25 km from the mouth. There are potential spawning and nursery areas for salmonids in the river and in its tributaries.

River Wołczenica according to the Water Framework Directive

The name of the water management district is Oder River Basin and the river type is lowland gravelly river (20).

Ecological status: poor

The Wołczenica sea trout stock

Sea trout spawners have been observed in the lower run of the river Wołczenica. The river has been stocked with 30,000–50,000 fry of the Rega strain for a few years.

Sea trout population facts

Population category: 6
Reproduction area: No information
Production capacity: No information
Recent wild smolt production estimate: No information

Fishing regulations in the River Wołczenica

The closed season is from October 1 – December 31. Minimum legal size of salmon and sea trout is 35 cm. Only fishing with rod and artificial lure is allowed. A bag limit of 2 salmon and sea trout per fisher per day applies.

Specific actions for the development of the salmonid populations

The recommendations in the general report of the HELCOM SALAR project concerning accessibility and river fisheries management are applicable for this river.

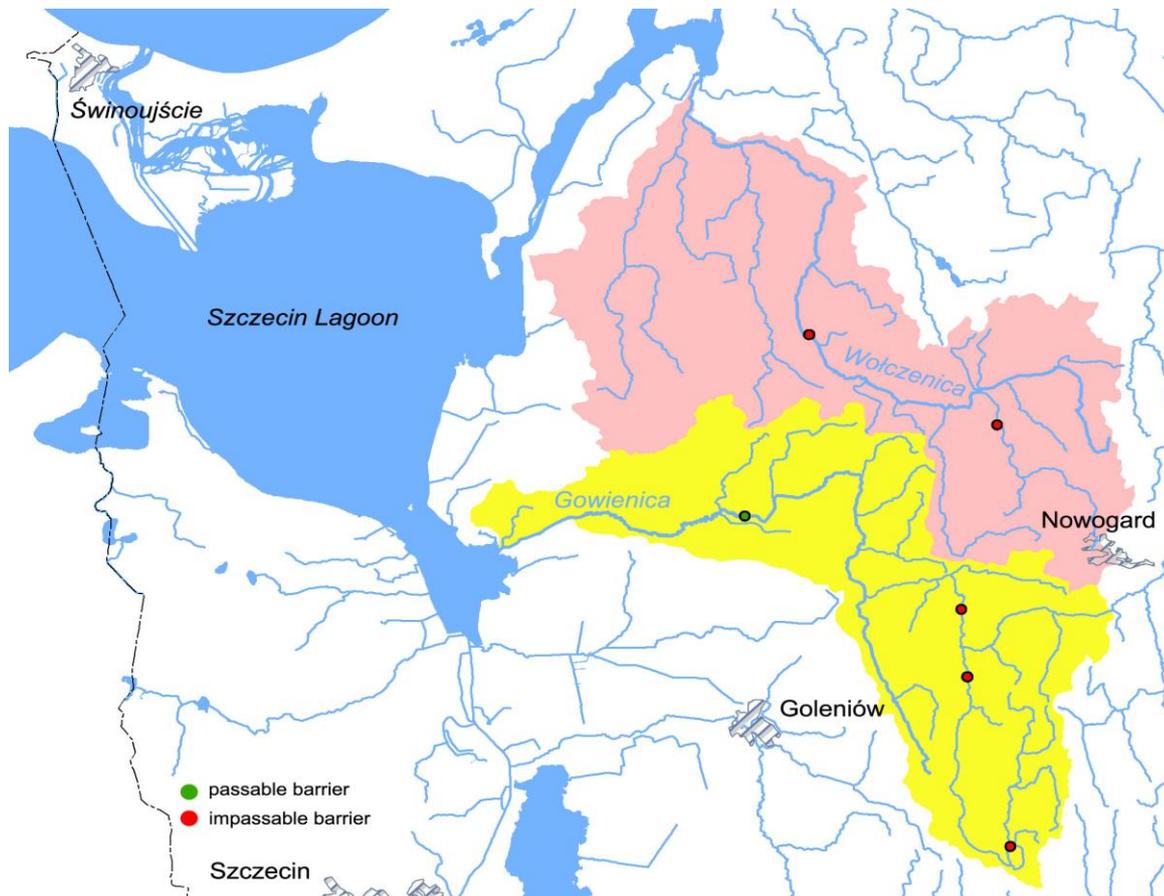


Figure 21. The Wolczenica and Gowienica River catchment areas and the location of migration barriers in the rivers.

The River Zagórska Struga

The River Zagórska Struga is a sea trout river flowing to the Bay of Gdańsk.

Basic hydrological facts

River length: 29 km of which 9 km accessible for sea trout
Size of the catchment area: 149 km²
Average flow: No information
Daily lowest flow: No information
Number of migration hindrances: 3

Habitat and water quality in River Zagórska Struga

The River Zagórska Struga flows through the town of Rumia and the agglomeration of Gdańsk-Gdynia on its way to the Bay of Gdańsk. The water of Zagórska Struga is directed by a canal into the lower run of river Reda. The middle section of the river passes an urbanized area. The river water quality is poor.

The river is dammed at 9 km and 11 km. The dams have no fish passes. Potential spawning and nursery areas exist in the middle and upper run of the river.

River Zagórska Struga according to the Water Framework Directive

The name of the water management district is Vistula River Basin and the river type is lowland sandy stream (17).

Ecological status: poor

Natura 2000

The river does not belong to the Natura 2000 network.

The Zagórska Struga sea trout stocks

Spawning sea trout and wild offspring have been observed below the first dam. Zagórska Struga has not been stocked but fish from the River Reda can enter it.

Sea trout population facts

Population category: 1
Reproduction area: 0.3 ha/ 0.5 ha (spawning area/ nursery area)
Production capacity: No information
Recent wild smolt production estimate: No information

Fishing regulations in the River Zagórska Struga

The closed season is from October 1 – December 31. Minimum legal size of salmon and sea trout is 35 cm. Only fishing with rod and artificial lure is allowed. A bag limit of 2 salmon and sea trout per fisher per day applies.

Specific actions for the development of the salmonid populations

The river water quality should be improved by proper sewage treatment and control of littering in towns and reduction of nutrient and sediment loads by establishing an effective protection zone along agriculture lands by the river.

The recommendations in the general report of the HELCOM SALAR project concerning accessibility and river fisheries management are applicable for this river.

3. Acknowledgements

HELCOM wishes to express its most sincere thanks to the nominated expert of Poland, Piotr Debowski from the Inland Fisheries Institute who has prepared texts and coordinated the HELCOM SALAR project work in Poland and to his team of experts.

HELCOM expresses its gratitude to all the experts that have participated in the HELCOM SALAR project. The report would not have been produced without their collective effort.

HELCOM is grateful to Leena Närhi, Bitdesign, for designing layout for the cover of the report.

This report has been funded through a co-financing agreement between the European Union (European Commission, Directorate General for Maritime Affairs and Fisheries) and HELCOM (Overview of the state of salmon (*Salmo salar*) and sea trout (*Salmo trutta*) populations in rivers flowing to the Baltic Sea – SI2.546540).



HELCOM has the sole responsibility for this report and the European Commission is not responsible for any use that may be made of the information contained therein.



www.helcom.fi