



Agenda Item 6.1
For Information

Council

CNL(14)23

***Annual Progress Report
on Actions Taken Under Implementation Plans for the Calendar Year 2013***

EU – Germany

CNL(14)23

Annual Progress Report on Actions taken under Implementation Plans for the Calendar Year 2013

The primary purposes of the Annual Progress Reports are to provide details of:

- any changes to the management regime for salmon and consequent changes to the Implementation Plan;
- actions that have been taken under the Implementation Plan in the previous year;
- significant changes to the status of stocks, and a report on catches; and
- actions taken in accordance with the provisions of the Convention

These reports will be reviewed by the Council. Please complete this form and return it to the Secretariat **by 1 April 2014**.

The annual report 2013 is structured according to the catchments of the rivers Rhine, Ems, Weser and Elbe.

Party:	European Union
Jurisdiction/Region:	Germany

1: Changes to the Implementation Plan

1.1 Describe any proposed revisions to the Implementation Plan and, where appropriate, provide a revised plan.

Item 3.3 - *Provide an update on progress against actions relating to Aquaculture, Introductions and Transfers and Transgenics (section 4.8 of the Implementation Plan)* - has been supplemented by a new measure (A2).

1.2 Describe any major new initiatives or achievements for salmon conservation and management that you wish to highlight.

Rhine

ICPR

The 15th Conference of Rhine Ministers held on 28th October 2013 in Basel has agreed on the following points for the rebuilding of a self-sustainable salmon population in the Rhine system in its Communiqué of Ministers (www.iksr.org / [International Cooperation / Conferences of Ministers](#)):

- Salmon stocking can be reduced step by step in parts of the River Sieg system in the lower reaches of the Rhine, even though such stocking measures on the long run remain absolutely essential in the upper reaches of the Rhine, in order to increase the number of returnees and to enhance the carefully starting natural reproduction.

- The restoration of the migration routes represents an important management aspect within the implementation of the WFD and that of the Swiss law on water protection.
- Migratory fish also play a role in the implementation of the European Marine Strategy Directive.
- For juvenile salmon, the downstream migration in the turbine areas is critical because of the great danger of injuries, particularly in cases of successive hydropower plants. For 2014/2015, the ICPR has the mission to intensively work on the joint determination of innovative techniques of downstream migration at transverse structures.
- Due to ongoing measures, river continuity upstream as far as Basel is becoming more and more realistic and plannable. This will open the access to the existing spawning grounds of migratory fish in the rivers Birs, Wiese and Ergolz (CH) by 2020.

In order to achieve the objectives of the programme "Rhine 2020" and of the "Master Plan Migratory Fish Rhine" in the main stream of the Rhine, Ministers acknowledged that:

- the Haringvliet sluices on the North Sea coast will partly be opened in 2018;
- the fish passage at the Strasbourg impoundment will become in operation in 2015;
- the same year, construction work on the fish passage at the Gerstheim fish passage will start in order to reconnect the Elz-Dreisam area with the Rhine;
- the experience and assessment of the effectiveness of the fish passages in the river system built so far will contribute to improve the technical solutions still to construct;
- the transfer of fish into the old bed of the Rhine in the region around the impoundment Vogelgrün/Breisach is a technical challenge. With respect to the upstream migration through the Upper Rhine until Basel, the ICPR will facilitate an exchange of experience of experts in 2014, taking into account the results of studies existing so far in order to contribute to finding a technically optimal solution;
- an efficient fish pass system at the impoundments Rhinau, Marckolsheim and Vogelgrün on the Upper Rhine must be planned and implemented, so that, by 2020, fish may reach the old bed of the Rhine and Basel.

Concerning the Rhine tributaries, the Ministers agreed on the following :

- By constructing fish passages at the impoundments, the continuity of the River Moselle as far as Schengen (tri-border region France-Luxembourg-Germany) must successively be restored.
- Fish passability must be restored at all existing transverse structures in all programme waters of the "Master Plan Migratory Fish Rhine";
- As a matter of principle, no new migration obstacles may be constructed in the programme waters and, as far as possible, no obstacles to migration may be constructed in the remaining freely flowing stretches in order to conserve these stretches as spawning grounds and juvenile habitats.
- The measures of the "Master Plan Migratory Fish Rhine" should be extended to several tributaries to the High Rhine and the Aare (CH) which, according to an inventory of 2012, present more than 200 ha of further habitats for juvenile salmon.

North Rhine-Westphalia

The new Wildlachszentrum Rhein-Sieg (Rhein-Sieg Wild Salmon centre) officially opened in October 2013. This modern fish farm is equipped with recirculation technology. The descendants of the Sieg river salmon that are caught during the spawning period in the control and catch stations, should be reared there. The hatchery has a capacity to produce 200.000 fingerlings per year.

Rhineland-Palatinate

Genetic studies of salmon have been performed from the Haspertsperre Salmon Centre. Fish from this hatchery is used for salmon stocking in Rhineland-Palatinate and Hesse. According to these studies the used stocking material matches largely the Swedish Ätran strain. Genetic bottleneck effects were not detected.

Baden-Wuerttemberg

So far it is not clear where exactly the salmon who immigrate to the Upper Rhine area come from. Therefore the Swiss Federal Office for the Environment (FOEN) initiated a project, which investigates the genetic origins of the returning adults. Genetic analyzes of recent years show that the majority of the ascending animals come from previous restocking measures. However, it is still unclear from which stocking waters the animals exactly originate. In order to make statements to that effect, the FOEN started a project that examines the genetic origin of the returning animals more closely. Therefore samples are obtained from those breeders that are used in different salmon farms along the Upper Rhine for the production of stocking material. Baden- Württemberg supports the efforts of its Swiss colleagues and provides sample material from the Baden-Württemberg salmon program. As the offspring of individual sets of parents are raised separately and reach separate release river, a large number of returning salmon can be allocated accurately to families or the corresponding release sites in a few years. Hopefully the investigations give further insights regarding the functionality and suitability of stocking waters in order to further optimize the salmon program.

Elbe

Saxony

In October 2013 a workshop of the working group "Elbefischerei" composed of fisheries authorities of the riparian federal states of the Elbe and selected stakeholders from the angler associations took place in the Fisheries Department of the Saxon State Agency for Environment and Agriculture in Königswartha. Main topics of this event were the following subjects:

- Loss factors for juvenile and adult salmon
- The selecting of suitable donor-strains for reintroduction
- Funding opportunities to ensure the continuation of salmon restoration in the Elbe

One key message of the workshop was, that the restoration programme of Elbe salmon is a long-term project . A species with such a complex biology like the Atlantic salmon, is not

to bring back by one-time or short-term actions. The creation of river continuity for downstream migrating smolts and upstream migrating adult salmon has highest priority next to the maintain and expansion of spawning habitats.

Brandenburg

Under the auspices of the Landesanglerverband Brandenburg (State fishing association) a new Salmon and Sea Trout hatchery started operation in late 2013. The hatchery intends to help optimizing the artificial propagation of caught salmon returnees and to improve the salmon homing ability.

The hydropower plant in Perleberg at the Stepenitz river was shut down in 2013 with funds from the implementation of the EU-WFD.

A brochure of the Institute of Inland Fisheries Potsdam-Sacrow with a comprehensive overview of the salmon and sea trout reintroduction projects in Brandenburg and Saxony-Anhalt is currently being finalized.

Saxony-Anhalt

Attempts to support salmon migration by trap and truck in the Mulde river in Dessau were abandoned in 2013, because of extremely difficult fishing conditions.

Weser

Lower Saxony

Various measures aimed at restoring salmon migration routes were realized in 2013. In the Leine river 3 barrages were equipped with fish ladders. The Leine river now has in its whole course from Göttingen up to the Leine confluence with the Aller river for salmon suitable fish migration facilities.

Ems

Lower Saxony

The former weir system of Quakenbrück in the Hase river was completely dismantled and displaced by a rock ramp.

2: Stock status and catches.

2.1 Provide a description of any significant changes in the status of stocks relative to the reference points described in the Implementation Plan and of any new factors which may significantly affect the abundance of salmon stocks.

Rhine

ICPR

During the annual exchange meeting of migratory fish experts within the ICPR in January 2014, it has been shown that the number of registered returning salmon in 2013 (217 individuals without recordings from the Delta Rhine) was again lower than in 2012 (344 individuals; see appendixes 1 and 2). Also records of natural reproduction of salmon returned to the Rhine system falls behind the expectations in most programme waters (see appendix 3), although stocking measures with salmon in the Rhine system 2013 were carried out in the same

order of magnitude as in other years (1.851.052 individuals of different stocking stages, see appendix 4).

Though this is only a first impression, the negative trend that has begun in 2009 does not seem to have turned again.

The ICPR plans to search for causes to elaborate a new strategy against declining numbers of returning salmon, based on new findings on salmon behaviour in the Rhine system, e.g. from telemetric studies. Also research from the marine environment will be considered. An exchange with the salmon working groups at ICES (WGNAS, WGERAAS) is strived for.

North Rhine-Westphalia

In contrast to the general downward trend of the registered numbers of adult salmon in the Rhine catchment area the numbers of returning salmon in North Rhine-Westphalia increased slightly in 2013 (169) compared to 2012 (134).

Rhineland-Palatinate

The data obtained from control and catch stations of returned adult salmon do not meet expectations despite optimized stocking strategies. Reasons for that cannot be specifically named yet. The natural reproduction is also still unsatisfactory in some project waters.

Elbe

Lower Saxony

No significant changes in the status of Lower Saxon salmon stocks that are based primarily on stocking measures (the same applies to the Weser and Ems catchments). Natural reproduction of salmon could not be recorded for Lower Saxony in 2013.

Brandenburg

The proportion of returned adult salmon from captive bred fish to wild-born fish is estimated due to fin marking 50:50 for the Stepenitz river system in 2013.

Saxony-Anhalt

After the first record of an adult salmon in the Nuthe river in 2011, the number of detected salmon is rising steadily (7 in 2012 and 16 in 2013). A successful natural reproduction of salmon in the Nuthe river was evident for the first time in 2013. Therefore the ecological and water-chemical parameters of the Nuthe water system is considered to be suitable for salmon reintroduction.

Saxony

There are no significant changes to the status of stocks compared to the preceding years.

2.2 Provide the following information on catches:(nominal catch equals reported quantity of salmon caught and retained in tonnes ‘round fresh weight’ (i.e. weight of whole, ungutted, unfrozen fish) or ‘round fresh weight equivalent’).				
	In-river	Estuarine	Coastal	Total
(a) provisional nominal catch (which may be subject to revision) for 2013 (tonnes)	0,3t catch by recreational fisheries for Lower Saxony (mainly in-river catches)	./.	./.	0,3t
(b) confirmed nominal catch of salmon for 2012 (tonnes)	0,48t catch by recreational fisheries for Lower Saxony (mainly in-river catches)	./.	./.	0,48t
(c) estimated unreported catch for 2013 (tonnes)	./.	./.	./.	./.
(d) number and percentage of salmon caught and released in recreational fisheries in 2013.	Fisheries on salmon is prohibited in the entire Rhine catchment (see 3.1). Also in the other catchments no catch and release in recreational fisheries is practiced.			

3: Implementation Plan Actions.		
3.1 Provide an update on progress against actions relating to the Management of Salmon Fisheries (section 2.8 of the Implementation Plan)		
Action F1:	Description of Action:	The ICPR has drafted recommendations aimed at improving legal compliance and thus reducing by-catches and illegal catches of salmon by professional and recreational fishing (see " Master Plan Migratory Fish Rhine ").
	Expected Outcome:	Diminish the pressure due to fishery.
	Monitoring/Enforcement Results:	The delegations of the Rhine riverine countries report orally about the implementation of the above mentioned recommendations in the ICPR expert group FISH once a year.
	Ongoing/completed:	ongoing
	Achieved objective?	The national oral reports all point in the same direction: Legislation is good, control is difficult and almost only possible within areas with a fishing ban.
Action F2:	Description of Action:	Developing of a self-sustaining salmon population in the Agger river without stocking
	Expected Outcome:	Verification if the salmon population in this river is restored successfully

	Monitoring/Enforcement Results:	In a subsystem of the Agger river salmon stocking will gradually reduced starting this year. This process will be supported scientifically and is initially planned for the next 3 years. Thereafter, the results will be checked and if necessary be applied to other water systems.
	Ongoing/completed:	Ongoing
	Achieved objective?	
3.2 Provide an update on progress against actions relating to Habitat Protection and Restoration (<i>section 3.4 of the Implementation Plan</i>)		
Action H1:	Description of Action:	The German Federal Ministry of Transport and Digital Infrastructure launched the program “ <i>Durchgängigkeit Bundeswasserstraßen</i> ” (Patency Federal Waterways) in 2012. It’s objective is to preserve and restore the ecological passability at about 250 barrages in German federal waterways to improve fish migration. Many of the proposed measures in the catchments of Rhine, Ems, Weser and Elbe and are located in the migration routes to current or potential salmon reintroduction rivers. Hence these activities have a high priority for reintroduction of salmon in Germany.
	Expected Outcome:	Increased accessibility of spawning and juvenile habitats.
	Monitoring/Enforcement Results:	The implementation of measures due to the strategy of the German Federal Ministry of Transport and Digital Infrastructure encompass 46 measures for the first implementations phase. For more than 30 measures the process of planning has been started at the beginning of 2014. Two measures are under construction and one fishway (at the Koblenz barrage system) is ready and will be monitored.
	Ongoing/completed:	Ongoing
	Achieved objective?	
Action H2:	Description of Action:	Restoration of up- and downstream river continuity and development of the quantitative and qualitative aspects of spawning and juvenile habitats in the entire Rhine catchment. The specific measures planned for anadromous migratory fish in the different sections of the Rhine are listed in the " Master Plan Migratory Fish Rhine ".
	Expected Outcome:	Increased quality and quantity of spawning and juvenile habitats and decreased mortality due to barrages and hydropower plants.
	Monitoring/Enforcement Results:	The “Progress Report on the Implementation of the Master Plan Migratory Fish in the Rhine Bordering States 2010-2012” (www.iksr.org – Documents/Archive – Technical Reports – Report N° 206) shows which measures have been realized since 2009 (see also appendix 5).

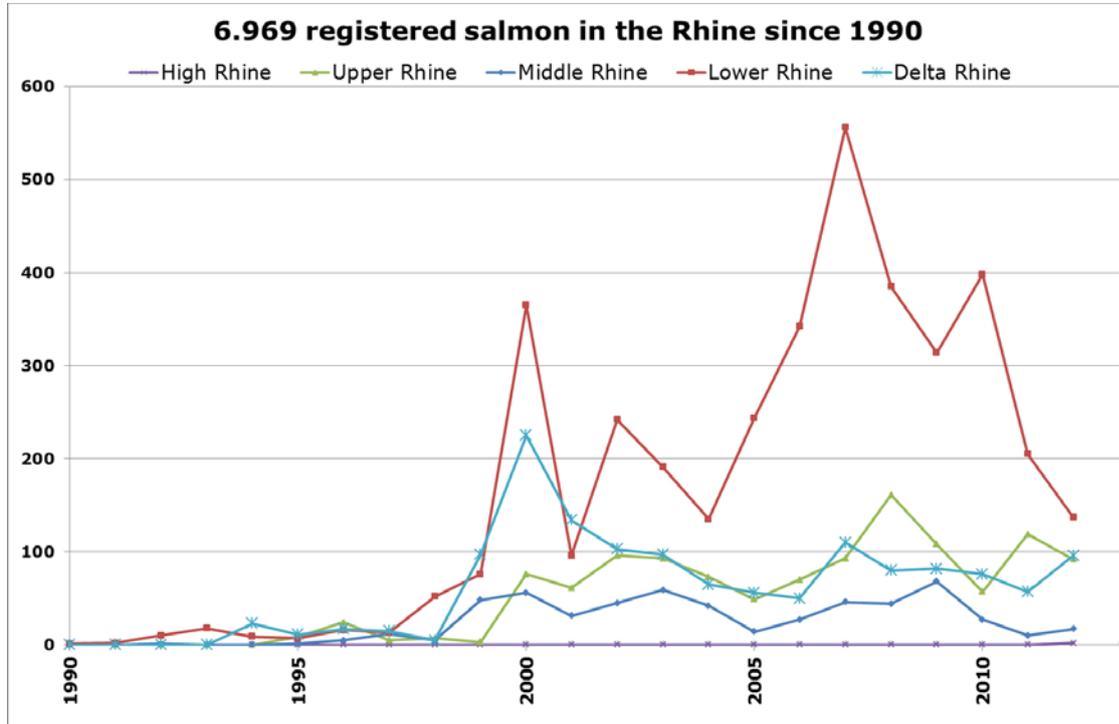
	Ongoing/completed:	Ongoing
	Achieved objective?	Partially
Action H3:	Description of Action:	Reestablishing continuity of the Elbe river and its primarily tributaries from estuary to the springs. The action includes 34 weirs in Brandenburg, 6 in Hamburg, 3 in Mecklenburg-Western Pomerania, potentially 1 in Lower Saxony, 9 in Saxony-Anhalt, 1 in Schleswig-Holstein, 23 in Thuringia, 54 in Saxony and 3 under responsibility of the “Bund”.
	Expected Outcome:	Improved access to spawning grounds and decreased mortality due to barrages and hydropower plants.
	Monitoring/Enforcement Results:	In order to achieve the environmental objectives of the EU Water Framework Directive, the restoration of longitudinal continuity is planned in numerous waters of the Elbe catchment area. Priority actions on about 150 barrages are implemented in the main migration corridors of migratory fish species. In addition to the construction or improvement of fish ways or fish bypasses, barrages will be dismantled as well. According to the Flussgebietsgemeinschaft Elbe 29% of the measures to improve the river continuity in the national priority waters of the Elbe basin were completed by the beginning of 2013. 5% of the measures are under construction and 37% are slated for implementation.
	Ongoing/completed:	Ongoing
	Achieved objective?	Partially
3.3 Provide an update on progress against actions relating to Aquaculture, Introductions and Transfers and Transgenics (section 4.8 of the Implementation Plan)		
Action A1:	Description of Action:	Stocking material is completely attained from material gained from returning spawners, from reconditioned kelts and captive breeding in North Rhine Westphalia Rhine tributaries.
	Expected Outcome:	No further use of ova from foreign origin. Establish a separate locally adapted indigenous salmon population in North Rhine Westphalia Rhine tributaries.
	Monitoring/Enforcement Results:	Thanks to the commissioning of the Wild Salmon centre Rhein-Sieg this measure is expected to be carried out by the year 2015.
	Ongoing/completed:	Ongoing
	Achieved objective?	Partially
Action A2:	Description of Action:	The ICPR expert group FISH had an exchange about the possibilities of genetic monitoring of salmon in the Rhine catchment (during a workshop in October 2013 and the regular meeting in January 2014). The different initiatives in the Rhine catchment now aim at harmonizing their genetic monitoring.

Expected Outcome:	Genetic monitoring will allow assessing 1. the efficiency of o stocking measures performed; o different strains that are stocked; o different stocking strategies (age, parents used, the origin of broodstock etc.) 2. the relative importance for stocking of the different streams of the Rhine catchment.
Monitoring/Enforcement Results:	The outcome of the different ongoing genetic monitoring activities will be bundled up within the ICPR to contribute to the aetiology on salmon stock decline and the strategy against it (see 2.1).
Ongoing/completed:	ongoing
Achieved objective?	

4: Additional information required under the Convention
4.1 Details of any laws, regulations and programmes that have been adopted or repealed since the last notification.
<u>Elbe</u>
<i>Saxony-Anhalt</i> So far the catch of salmon was possible under certain conditions. By 06.03.2013 the Fisheries regulations of Saxony-Anhalt has been modified to a general fishing ban for salmon.
4.2 Details of any new commitments concerning the adoption or maintenance in force for specified periods of time of conservation, restoration and other management measures.
<u>Rhine</u>
<i>Rhineland-Palatinate</i> has installed a new fishing ban area between km 600.5 and 602.15 (Middle Rhine near Engers / Urmitzer Werth) aiming at protecting salmon returning into the Saynbach system from illegal fishery. The Saynbach is a small Rhine tributary with extensive and good spawning and juvenile habitats for salmon in which natural reproduction is regularly recorded since 2000 (see appendix 3).
4.3 Details of any new actions to prohibit fishing for salmon beyond 12 nautical miles.
./.
4.4 Details of any new actions to invite the attention of States not Party to the Convention to matters relating to the activities of its vessels which could adversely affect salmon stocks subject to the Convention.
./.
4.5 Details of any actions taken to implement regulatory measures under Article 13 of the Convention including imposition of adequate penalties for violations.
./.

Appendixes (Rhine)

Appendix 1: Registered salmon in the Rhine since 1990 (source: ICRP technical report n° 206, completed for 2013)



Appendix 2: Adult salmon in the Rhine system since 1990 (source: ICRP technical report n° 206, completed for 2013, without data from the Rhine delta)

 Adult salmon detected in the Rhine system since 1990 																														
Fish of 50 cm or more are considered to be adult (first catches)																														
Year	Switzer-land	France		Baden-Württemberg						Hesse and Rhineland-Palatinate							North Rhine-Westphalia					Netherlands			Rhine	Year				
	High Rhine	Rhine*, Ill	Gambshelm	Iffezheim	Elz-Dreisam	Murg	Kinzig	Rench	Alb	Others**	Main	Wisper	Nette	Lahn	Saynbach	Mosel	Ahr	Sieg	Rhine	Sieg	Wupper	Ruhr	Lippe	IJssel	Waal		Lek	Total		
1990																				1							1	1990		
1991																				2								2	1991	
1992																1				10								11	1992	
1993																0			2	16								18	1993	
1994																0				9						16	7	32	1994	
1995				9												1			1	6					7	4	28	1995		
1996				23					1				0	4	1			1	15					2	15	4	62	1996		
1997				5								1	8	3					13				2	5	8		45	1997		
1998				7								0	1	4	0	2			42	7		1	0	2	3		69	1998		
1999				3								8	21	7	12	7			53	15		1	0	12	85		224	1999		
2000				75				1				5	35	14	2	8			335	21		1	3	28	194		722	2000		
2001		2		59								1	4	12	4	10	0		84	12			1	23	110		322	2001		
2002				94				1	1		3	0	3	20	11	8	9		213	17	3		3	28	72		486	2002		
2003				90			1			2		2	0	15	37	3	2	8		160	20	1	2	3	44	50		440	2003	
2004				72				1				0	2	8	17	4	11	5		93	37			4	33	28		315	2004	
2005				49								0	2	0	6	1	5	10		195	39			6	38	12		363	2005	
2006			18	47			2	1	1		1	4	1	5	13	4	0	11	1	287	43			4	28	18		489	2006	
2007			27	62			3			1		4	1	12	26	2	1	24		463	69			4	79	27		805	2007	
2008		1	70	86					2	2		1	1	8	21	10	3	9	4	339	32	1		4	43	33		670	2008	
2009		3	46	52	1		3	0	0	1	2	0	7	3	28	21	6	3	2	0	282	30	0	0	4	60	18		572	2009
2010		8	26	18	1		0	2	0	0	2	0	3	3	10	10	0	1	5	0	385	8	0	0	4	47	25		558	2010
2011		3	47	50	2		2	12	0	1	1	1	0	0	9	1	0	0	2	1	196	6	0	0	5	8	44		391	2011
2012		2	3	53	22	1	4	6	1	0	2	0	0	0	3	8	5	1	3	2	127	5	0	0	11	46	39		344	2012
2013	0	0	23	4	0	2	5	0	1	1	0	1	1	0	5	1	4	0	1	154	14	0	0					217	2013	
Total	2	20	310	827	5	17	27	4	5	16	1	25	15	119	266	82	63	105	13	3480	375	5	5	58	549	792		7186	Total	

Information according to data of local working groups.
 The tributaries of the Rhine indicated include the entire respective subsystem (e.g. Wupper and Dhünn).
 * FR: Rhine upstream of Gambshelm
 **DE-HE + DE-RP: "Others" includes reports from the Rhine and other tributaries (e.g. Wieslauter, Wied, Weschnitz)

Appendix 3: Proof of reproduction of salmon returned to the Rhine system (ICRP technical report n° 206, completed for 2013)

Proof of reproduction of salmon returned to the Rhine system				Year of spawning proof (reproduction during the preceding autumn/winter)																				
Country	System	Project water - Selection of the most important tributaries (* no stocking)	First salmon stocking	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	
				D	Wupper-Dhünn	Wupper Dhünn Eifgenbach	1993	/	/	/	/	/	/	/	/	0	/	/	/	/	/	(X)	/	/
D	Sieg	Sieg NRW Agger (lower 30 km) Naafbach Pleisbach Hanfbach Bröl Homburger Bröl Waldbröl Derenbach Steinchesbach Krabach Gierzhagener Bach Irsenbach Sülz Schlingebach	Salmon stocking measures in the Sieg river system since 1988, since 1988 in addition to classical timber and barbel regions also in selected smaller and medium sized brooks	X	/	/	/	/	/	/	X	0	XX	/	/	/	/	/	/	/	/	XX	/	
X	/	/		/	/	/	/	/	/	0	0	XXX	XXX	XXX	XX	XXX	XXXX	XXXX	XXXX	/	/	/	XXX	XXX
/	/	/		/	/	/	/	/	/	XX	0	/	XXX	XXX	XXX	XXX	XXXX	XXXX	XXXX	/	/	/	XXX	XXX
/	/	/		/	/	/	/	/	/	0	/	0	/	0	/	X	/	X	/	/	/	/	/	/
/	/	/		/	/	/	/	/	/	0	0	/	0	X	/	/	/	/	/	/	/	/	/	/
X	/	/		X	/	/	/	/	0	0	XX	XX	0	XX	XXX	/	XXX	/	XXX	/	/	/	/	XX
/	/	/		/	/	/	/	/	/	0	0	/	XX	XXX	XX	X	/	/	/	/	/	/	/	/
/	/	/		/	/	/	/	/	/	0	0	/	0	0	XXX	XXX	/	0	/	/	/	/	/	/
/	/	/		/	/	/	/	/	/	/	/	/	0	/	/	/	/	/	/	/	/	/	/	/
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/	/	/		/	/	/	/	/	/	/	0	0	/	/	/	XX	/	/	/	/	/	/	XXX	/
/	/	/		/	/	/	/	/	/	/	0	0	/	/	/	/	X	XXXX	XXX	/	/	/	XXX	0
D	Ahr	Ahr	1995	/	/	/	/	/	/	X	0	0	X	X	0	0	0	?	0	XX	XX	0	XX	
D	Nette	Nette *	-	/	/	/	/	/	/	/	X	0	XX	X	X	X	0	X	0	X	0	X	0	
D	Saynbach	Saynbach Brexbach	1994 1994	/	/	/	/	/	/	XX	XX	XX	XXX	XXXX	XXXX	XX	XXXX	XXXX	XX	XX	XXX	X	X	
D	Moselle	Elzbach Kyll Prüm system	2005 1996 1996	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	
Lux/D		Sure	1992 1992	/	/	/	/	/	/	/	/	0	/	/	/	/	/	/	/	/	/	/	/	
D	Lahn	Mühlbach Weil Dill	1994 1995 1995	/	/	/	/	/	(X)	0	/	/	/	/	/	/	/	/	/	/	/	/	/	
D	Nahe	Nahe	2004 (unique)	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	
D	Wisper	Wisper	1999	/	/	/	/	/	/	/	/	0	XX	XX	0	0	XX	XXXX	0	X	XX	0	0	
D	Main	Schwarzbach Kinzig system (Hesse)	2009 2001	/	/	/	/	/	/	/	/	/	/	/	/	0	/	0	0	0	0	0	0	
D	Alb	Alb	2001	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	X	X	X	
D/F	(Wies)Lauter	(Wies)Lauter	1991	/	/	/	/	/	/	/	/	/	/	/	/	/	/	?	?	?	?	X	X	
D	Murg	Murg	2001	/	/	/	/	/	/	/	/	/	/	/	X	X	X	/	/	/	X	X	X	
F/D	Rhine	Rhine downstream Iffezh	-	/	/	/	/	/	/	/	/	/	/	X	/	/	/	/	/	/	/	/	/	
D	Rench	Rench	2001	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	
F	Ill	Bruche Fecht Upper Ill system** Moder	1991 1991 1991 2005	/	X	X	X	X	X	X	X	X	X	X	X	X	X	X	XXX	XXX	XXX	XXX	XX	
/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	XX	X	XX	0	
/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	X	X	X	0	
/	/	/	/	/	/	/	/	/	/	/	/	/	/	X	X	X	X	X	X	X	X	X	0	
D	Kinzig	Kinzig (Baden-Württemberg)	2001	/	/	/	/	/	/	/	/	/	/	X	/	/	/	/	/	X	X	X	/	
D	Elz-Dreisam	Elz Dreisam	2005 2008	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	
F/D	Rhine	Old branch of the Rhine	1991	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	
CH	Wiese	Wiese	1984	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	
CH	Birs	Birs	1995	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	
CH	Ergolz	Ergolz	1995	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	

LEGEND

quality proof / individuals detected / samples taken from individual locations	X
qualitative evidence / returnees released upstream of obstacle	(X)
little success of reproduction (1 to ≤ 5 parr/100 m2)	XX
considerable success of reproduction (> 5 - 50 parr/100 m2)	XXX
extremely high rate of success of reproduction (> 50 parr/100 m2)	XXXX
Investigations carried through, no cases detected	0
no investigation	/
Evidence uncertain	?

Spawning grounds (largely) accessible
 Spawning grounds partially accessible/accessible to a limited extent
 Spawning habitats not accessible/accessible in exceptional cases

** Ill river system without rivers Thur and Lauch

Appendix 4: Stocking measures with big salmonids in the Rhine system 2013
 Compiled by the ICPR expert group FISH, unpublished data

Stocking measures with big salmonids in the Rhine system 2013				
Country / Water body	Stocking			
	Kind and stage	Number	Origin	Marking
Switzerland				
Rhine	Lb (L ₃)	5.000	Allier	no
Birs	Lb (L ₃)	7.000	Allier	no
Ergolz	Lb (L ₃)	1.000	Allier	no
Riehen Tych	Lb (L ₃)	600	Allier	no
Wiese	Lb (L ₃)	3.000	Allier	no
Arisdörferbach	Lb (L ₃)	2.000	Allier	no
Mohlinbach	Lb (L ₃)	6.500	Allier	no
Etzgerbach	Lb (L ₃)	5.000	Allier	no
Bachtalbach	Lb (L ₃)	500	Allier	no
Binnenkanal Klingnau	Lb (L ₃)	500	Allier	no
Magdenerbach	Lb (L ₃)	3.500	Allier	no
Frankreich				
Rhine (Old Rhine)	L a	47.000	Allier	
	LO	46.500	Rhine	
	L a	37.800	Allier	
Doller	L a	20.000	Rhine	
	L a	11.750	Allier	
Thur	L a	31.350	Allier	
Lauch	L a	10.760	Rhine	
Fecht and tributaries	L a	42.500	Rhine	650 a/c
Ill	L a	2.500	Rhine	
Glessen and tributaries	L a	34.900	Rhine	400 a/c
Bruche	L a	29.040	Allier	2120 a/c
	L a	32.120	Rhine	
Mosel	L a	3.000	Atran	
Houille	L a	4.000	Allier	
Blies	L a	3.000	Allier	
Saar (Moselsystem)	L a	5.000	EFH Atran	
Luxemburg				
Sûre (Moselle)	Ls	10.022	Denmark	a/c + wt
Germany, Baden-Württemberg				
Alb	La	18.760	Loire-Allier	no
Murg	La	47.000	Loire-Allier	no
Murg	Ls	3.470	Loire-Allier	no
Oos, Oosbach	La	3.000	Loire-Allier	no
Rench	La	10.250	Loire-Allier	no
Kinzig with tributaries Erlenbach, Gutach, Wolf	La	70.700	Loire-Allier	no
	La	25.900	Rhine	no
	Ls	4.300	Loire-Allier	no
Elz	La	29.250	Loire-Allier	no
Dreisam	La	3.000	Loire-Allier	no
Wiese	La	9.500	Loire-Allier	no
Germany, Hesse				
Nidda *	Mf p	10.000	Rhine	a/c
Lahn, Dill, Weil	L 1	1.400	EFH Atran	a/c
Kinzig (Main)	L p	1.000	EFH Atran	
Schwarzbach (Main)	L p	20.000	EFH Atran	
Weschnitz (first stocking !)	L p	4.500	EFH Atran	
Wisper	L s	3.200	EFH Atran	a/c
	L p	22.000	EFH Atran	
Germany, Rhineland-Palatinate				
Ahr	L p	75.000	EFH Atran	
Ahr	L s	4.200	EFH Atran	a/c
Lahn, Mühlbach	L s	5.000	EFH Atran	a/c
	L p	0		
Mosel, Elzbach	L p	11.000	EFH Atran	
Mosel, Elzbach	L s	4.200	EFH Atran	a/c
Saynbach	L s	2.850	EFH Atran	a/c
Nister, Kleine Nister (Sieg)	L p	4.000	KFS Sieg	
Nister, Kleine Nister (Sieg)	L p	4.000	EFH Atran	
Nister (Sieg)	L p	23.500	KFS Sieg	
	L p	23.000	EFH Atran	
	L s	3.300	EFH Atran	a/c
Wisserbach (Sieg)	L p	0		
	L s	1.000	EFH Atran	a/c
Wieslauter	L p	30.000	Allier	
Germany, North Rhine-Westphalia				
Sieg and tributaries	Lb (LO)	89.510	Sieg	no
	Lb (La)	200.000	Atran	no
	Lb (La)	340.331	Sieg	no
	Lp (0+)	9.518	Sieg	a/c
	Lp (0+)	112.000	Atran	z.T. a/c
	Lp (1+)	20.000	Atran	a/c
	Lp (1+)	10.687	Sieg	no
	Ls (L1)	12.697	Sieg	no
	Ls (L2)	40	Sieg	Transponder
	Wupper and small tributaries	Lb (LO)	63.500	Sieg
Lb (La)		47.300	Sieg / 3000 Wupper	no
Ls (L2)		40	Sieg	Transponder
Dhünn and small tributaries	Lb (LO)	61.267	Sieg	no
	Ls (L2)	40	Sieg	Transponder
cwt = coded wire tags; a/c = adipose clipping; EFH = brood stock keeping;				
KFS = Monitoring and catching station; L e = salmon spawn; L b = Salmon fry; LO 0 unfeeded fry; La = feeded fry;				
L p = Salmon parr; L ps = Salmon pre-smolt; L s = Salmon smolt; L 1 = one year old salmon; L 2 = two years old salmon				
Mf p = Sea trout parr; k. A. = not specified by deadline				
Sum stocking stages		1.851.052		

Appendix 5: Improved river continuity of the Rhine and its tributaries, in particular of programme waters for migratory fish. Survey of the Programme "Rhine 2020" for the years 2005 to 2012. State: June 2013 (source: ICRP technical report n° 206)

Country	Section of the Rhine / Tributary	Water body/section, name, description of measure	1.1.2000 - 31.12.2005	1.1.2006 - 31.12.2010	Implementation planned by end 2012*	Costs (million Euros)
NL	Delta Rhine	Lek/ Nederrijn: Hagestein, Amerongen, Driel	3			9,2
		Lake IJssel, closure embankment (expenses: 2,5 - 5 million €); preparation of implementation			1	5
	Maas	Haringvliet sluices "de Kier", important access for migratory fish to Rhine and Meuse river system (implementation ongoing)			1	n.s.
	Hollandsche IJssel	Scooping-bucket elevator Katwijk			1	0,17
	Hollandsche IJssel	Scooping-bucket elevator Abraham Kroes			1	0,25
	Nieuwe Waterweg	Scooping-bucket elevator Mr. Dr. C.P. Zaaljer			1	0,11
	Nieuwe Maas	Scooping-bucket elevator Mr. U.G. Schilthuis (in preparation)			1	n.s.
	Nieuwe Maas	Scooping-bucket elevator SchiegemaaI (in preparation)			1	n.s.
	Boven Merwede	Scooping-bucket elevator Gorinchem (in preparation)			1	n.s.
	Hollandsche IJssel	Scooping-bucket elevator M. Verdoold Cz (in preparation)			1	n.s.
Hollandsche IJssel	Scooping-bucket elevator Gouda (in preparation)			1	n.s.	
Sum Delta Rhine			3	0	10	14,7
Delta Rhine cumulated			3	3	13	
D-NW	Kaiflack	Fishway from the Lower Rhine into the Kaiflack at the scooping-bucket elevator at Rhine km 852.4 (at the Emmerich			1	1,3
		Wupper: Upstream passability in water body for migratory fish from the confluence until km 72.3 is granted. Downstream migration: Presumably need of restoration at 5 sites; tributaries: Morsbach, Gelpe, Eschbach, Wiembach, Murbach	2	5	1	1,5
		Dhünn: River continuity of the water body for migratory fish achieved	1	3		0,8
	D-RP	Sieg	Rheinische Sieg; monitoring station; pilot fish protection installation Unkelmühle: Accomplishment 2012	3	1	1
Bröl			1	1		0,15
Agger with Sülz and Naaf				2		0,6
Sieg, middle section			4	2		1
D-NW	Sieg	Sieg, middle section: Weir Hösch, Freusburger Mühle, weir Scheuerfeld (RWE), weir Euteneuen			2	1
		Nister, downstream region (23 km)	4	4	1	1,2
D-NW	Sieg	Sieg, upstream region in North Rhine-Westphalia		8	1	
D-NW	Sieg	Ferdorf, upstream tributary of R. Sieg	7	17	1	
Sum Lower Rhine & tributaries			22	43	8	18,05
Lower Rhine cumulated			22	65	73	
D-RP	Ahr	Ahr (70 km)	23	23	2	4
		Nette, downstream region (6.6 km)	3			0,17
		Nette, upstream	3	6	4	0,75
		Saynbach-Brexbach	6	6		1
Lux	Moselle	Moselle, Koblenz (fishway and visitors' centre in service, construction almost accomplished)			1	5,18
		Elzbach, downstream		1		0,07
		Sauer, Rosport (construction beginning: 2011)			1	1,22
D-RP	Lahn	Sauer, Erpeldange		1		0,11
		Sauer, Bourscheid			1	0,2
		Sauer, Dirbach			1	0,3
		Lahn, lower section (Lahnstein until border RP/HE)	3	1		3,1
D-HE	Lahn	Mühlbach, downstream region (6 km)	4		2	0,3
		Aar, downstream region (13 km)	6	4	0	0,9
		Lahn, border RP/HE until downstream the mouth of R. Dill	1	4	1	n.s.
		Lahn, upstream mouth of R. Dill until border HE/NW	3	6	3	n.s.
		Elbbach (downstream, 10 km to Hadamar)	6			1,1
		Dill (as far as Dillenburg-Niederscheld)	9	2		2,33
D-RP	Nahe	Nahe (110 km)	5	5	5	5,1
D-HE	Wisper	Wisper, downstream and middle section		1	1	0,22
Sum Middle Rhine and tributaries including Moselle			77	60	22	26,9
Middle Rhine cumulated			77	137	159	
DE-HE	Main	Main: Kostheim		1		0,97
		Schwarzbach (Eppstein)		1		0,02
		Nidda (with Usa and Nidder)		10	2	1,2
		Kinzig (with Bracht, Salz, Bieber and Schwarzbach/Kinzig (= upstream Kinzig)	2	10	4	1,5
					8	
			6			

Appendix 5 (continued): Improved river continuity of the Rhine and its tributaries, in particular of programme waters for migratory fish

Country	Section of the Rhine / Tributary	Water body/section, name, description of measure	1.1.2000 - 31.12.2005	1.1.2006 - 31.12.2010	Implementation planned by end 2012*	Costs (million Euros)	
D-BW	Neckar	Neckar: lowermost transverse structure near Ladenburg**		1		0,49	
D-RP	(Wies) Lauter	(Wies)Lauter Bienwaldmühle			1	0,25	
F		(Wies)Lauter, weir Scheibenhardt			1	0,38	
D-RP		(Wies)Lauter, Lauterbourg mill		1		0,16	
D-RP		(Wies)Lauter, Berizzi mill	1			0,17	
F		(Wies)Lauter, French section near Wissembourg		1	n.s.	n.s.	
D-BW	Alb	Alb downstream	1	4	1	1,956	
		Alb upstream to mouth of R. Maisenbach in Marxzell	1	8	1	0,454	
	Murg	Murg, downstream region (20 km)	1	1	3	0,5205	
		Murg, upstream region until the mouth of the R. Forbach at Balersbronn	1	2	2		
					8	1,271	
F / D-BW	Rhine	southern Upper Rhine: Iffezheim, Gamsheim		2		20	
		southern Upper Rhine: Strasbourg			1	10	
		southern Upper Rhine, Kembs (renewal of concession): Construction of a new fish passage			1	8	
D-BW	Rench	Rench	4	8	4	5,3	
F	Ill	Ill to mouth of R. Doller		1	1	n.s.	
		Bruche, Giessen, Liepvrette, Fecht, Weiss, Doller		2	3	n.s.	
D-BW	Kinzig	Kinzig (Baden-Württemberg)	1	18	11	n.s.	
	Elz-Dreisam	Elz and Dreisam, downstream regions	6	6		n.s.	
		Elz and Dreisam, to km 90		2	16	n.s.	
Sum Upper Rhine & tributaries including Main			18	79	77	52,6	
Upper Rhine cumulated			18	97	174		
CH	High Rhine	Power plant Rheinfelden: bypass river within new concession (reconstruction going on since 2007)			1	n.s.	
		Ryburg-Schwörstadt power plant: bypass river for salmon, improvement of fishladder			1	n.s.	
		Säckingen power plant: 580 m long bypass river		1		n.s.	
		Power plant Albruck-Dogem: Nature-near bypass river with		1		n.s.	
		Eglisau power plant: within the new concession 2 fishways at the weir and the lock				1	n.s.
		Mouth R. Glatt: Construction of fishways in the Glattstollen as compensatory measure within the new concession for the Eglisau power plant				2	n.s.
CH	Wiese	Rheinau power plant: Improvement of fish ladders at the auxiliary weirs or dismantling; increase of residual flow; pre-studies accomplished in 2005/2006			1	n.s.	
D-BW		Wiese, downstream: Elaboration of pre-project for fish ladder at "Schliesse" (km 3.5) and restoration of drop structures (km 3)			n.s.	n.s.	
		Wiese, middle section and upstream	2	10	2	n.s.	
CH	Birs	Birs: downstream section: improved fish migration and revitalisation; replacement of 5 drop structures by block ramps	5	2		n.s.	
		Birs, upstream: improved fish migration			1	n.s.	
	Ergolz	Ergolz			1	n.s.	
	Biber	Removal of several obstacles to river continuity and restoration of fish passability			n.s.	n.s.	
Sum High Rhine & tributaries			7	16	8	0,0	
High Rhine cumulated			7	23	31		
D-BW	Tributaries to Lake Constance	Upper and Lower Argen, lowermost hydropower plants		2		n.s.	
		Upper and Lower Argen, upstream hydropower plant			n.s.	n.s.	
		Schussen, gauging station Lochbrücke / Gerbertshaus		1		n.s.	
		Schussen, hydropower plant Berg (accessibility Wolfegger Ach and Ettishofer Ach)				n.s.	n.s.
		Seefelder Aach, hydropower plant Mühlhofen, improve river continuity				n.s.	n.s.
		Stockacher Aach	2	3	2	n.s.	
		Radolfzeller Aach	4	4	2	n.s.	
D-BY/AT		Leibach and Rickenbach: Reconstruction of at least 3 transverse structures			3	1,5	
D-BY		Oberreitnauer Ach (reconstruction transverse structures)		1	2	0,14	
CH	Alpine Rhine	Fish passage power plant Reichenau			1	n.s.	
AT		Spirsbach			1	0,5	
FL		Liechtenstein Inland canal			1	n.s.	
AT	Ill	Hochwuhrriver km 8,0, fishway power plant with video surveillance since October 2010	1			n.s.	
		weir Dabalada, km 20,0			1	1	
Sum Lake Constance, Alpine Rhine & tributaries (Lake Constance sea trout)			7	14	10	3,14	
Lake Constance & Alpine Rhine cumulated			7	21	31		
n.s. = not specified							
*Wherever possible, a preview of planned measures was made using the following colour codes:							
		"Implementation ongoing": Measures the implementation of which has just begun or just been completed					
		"planned": Measures, for which the planning permission procedure has been accomplished and financing is secured					
		"scheduled": Measures for which the required work will presumably start before the end of 2012					
** The R. Neckar and its tributaries are not central migration routes and habitats for anadromous fish species.							