

Agenda item 6.1 For information

# Council

CNL(16)22

Annual Progress Report on Actions Taken Under the Implementation Plan for the Calendar Year 2015

EU - Germany

# CNL(16)22

# Annual Progress Report on Actions taken under the Implementation Plan for the Calendar Year 2015

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 2016.

| Party:               | European Union |
|----------------------|----------------|
| Jurisdiction/Region: | Germany        |

# 1: Changes to the Implementation Plan

# 1.1 Describe any proposed revisions to the Implementation Plan

(Where changes are proposed, the revised Implementation Plans should be submitted to the Secretariat by 1 December).

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

# Rhine

#### North Rhine-Westphalia

Function controls of previously installed fish protection devices for downstream migrating smolts and eels on two hydropower plants (Sieg, Wupper) were successfully carried out.

#### Rhineland-Palatinate

Progeny of salmon strayers from the river Nette, which is an unstocked river, has been genetically analysed by the Agri-Food & Biosciences Institute Northern Ireland (AFBINI), Belfast. Most of the analysed individuals genetically matched with British and Irish origins. Two Individuals could be assigned to a Central Norwegian origin. No trace of Swedish and / or French origins were found in the samples.

## Baden-Wuerttemberg

The river Alb, a Rhine tributary near Karlsruhe was equipped with a permanent counting station (Vaki-Counter) to learn more about the salmon migration in this river.

## **Elbe**

## **Brandenburg**

Since autumn 2014 an optical video monitoring system is being tested in the rivers Stepenitz and Pulsnitz. First results from the river Stepenitz indicate that 30-50% more salmon were monitored compared to previous methods.

Initial trials with calcein tags for the tagging of juvenile salmon failed due to technical difficulties. Nevertheless by 2016, a modified repeat testing with calcein tags is being planned.

# Brandenburg / Saxony-Anhalt

A salmon redd mapping conducted by trained anglers is planned for the near future. The aim is to involve the local angling clubs in the salmon and sea trout projects and to create river sponsorships. Furthermore the redd mapping will deliver scientific information about spawning grounds and for habitat rehabilitation.

## 2: Stock status and catches.

2.1 Provide a description of any new factors which may significantly affect the abundance of salmon stocks and, if there has been any significant change in stock status since the development of the Implementation Plan, provide a brief (200 word max) summary of these changes.

#### Rhine

# *ICPR*

The increasing trend observed in 2014 continued in 2015 (see annex 1). The registered numbers of returning adult salmon increased by two-thirds compared to the previous year and was higher than ever before at the upper Rhine in Iffezheim (228 salmon). The number of registered adult salmon returning from the sea and observations of natural reproduction of salmon in the Rhine tributaries are documented (see graph and statistics attached). Stocking measures in the catchment were only about half as high in 2015 as in the previous year due to problems at different breeding facilities.

#### North Rhine-Westphalia

Despite unfavourable discharge conditions in 2015: Detection of highest number of returning adult salmon of the last five years. As in the years before, natural reproduction was observed in the Sieg-System.

#### Baden-Wuerttemberg

Unfortunately there are still efforts to increase the use of hydropower generation in salmon spawning and nursery habitats which is in direct contradiction to a successful reintroduction of salmon. Therefore further efforts to increase the river connectivity and habitat improvement measures and the preservation of existing habitats are considered necessary. Smolt predation by birds is still a significant problem. Competing protection concepts often prevent effective protection measures for salmon.

## Elbe

#### Lower Saxony

There are no significant changes in the status of Lower Saxon salmon stocks (applies to the Elbe, Weser and Ems catchments). Natural reproduction of salmon could not be recorded for Lower Saxony in 2015.

# Brandenburg/Saxony-Anhalt / Saxony

Even more than in previous years the salmon run and spawning season was negatively affected by extreme weather conditions. Since spring 2015 there was a permanently continuing low water situation in the Elbe and its tributaries up to the middle of November. The main salmon run time was also impacted by extreme high temperatures. Therefore in most Elbe tributaries the figures of monitored adult salmon were lower than expected.

# Saxony-Anhalt

Through the dismantling and modification of three barrages by the State Agency for Flood Defence and Water Management of Saxony-Anhalt the connectivity of the river Nuthe is recovered on a length of 23 kilometres.

# Brandenburg/Saxony-Anhalt

The planned deepening of the River Elbe in the Lower Elbe is seen as very problematic especially for migratory fish species. The fear is inter alia that the recurrent oxygen deficits during the summertime may get worse in the Lower Elbe.

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').

| (a) provisional nominal   | In-river                   | Estuarine                            | Coastal | Total |
|---|----------------------------|--------------------------------------|---------|-------|
| catch (which may be subject to revision) for  | 0,3t catch by recreational | ./.                                  | ./.     | ./.   |
| 2015 (tonnes)   | fisheries for              |                                      |         |       |
| (1.)  | Lower Saxony               | 1                                    | ,       | 1     |
| (b) confirmed nominal catch of salmon for 2014 (tonnes)                                       | 0,3t catch by recreational | ./.                                  | ./.     | •/•   |
| 2014 (tollics)  | fisheries for Lower Saxony |                                      |         |       |
| (c) estimated unreported catch for 2015 (tonnes)  | ./.                        | ./.                                  | ./.     | ./.   |
| (d) number and<br>percentage of salmon<br>caught and released in<br>recreational fisheries in |                            | mon is prohibited atchments no catch |         |       |
| 2015.   |                            |                                      |         |       |

| 3: Imp            | olementation Plan Actions.   |  |
|-------------------|--|--|
| Fis<br>Not<br>med | sheries (Section 2.8 of the Implei<br>e: The reports under 'Progress on Acasure of progress made. While referrin | gainst actions relating to the Management of Salmon mentation Plan).  Ition to Date' should provide a brief overview with a quantitative g to additional material (e.g. via links to websites) may assist those ll not be evaluated by the Review Group.   |
| Action F1:        | Description of Action (as submitted in the IP):  | 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 (as submitted in the IP):   | Diminish the pressure due to fishery.  |
|                   | Progress on Action to Date (see note above):   | Experts annually exchange information within the ICPR on the implementation of these recommendations in the Rhine bordering countries and report on their effectiveness in practice.  The Dutch delegation has drafted a report about their examination of the fishing activities at the coast which had been induced by the ICPR expert group FISH to ensure that more salmon reach the spawning grounds in the German and French tributaries to the River Rhine [results see below]. |
|                   | Current Status of Action (e.g. 'Not started'; 'Ongoing'; 'Completed'):   | Information exchange ongoing Fisheries report of Netherlands completed.  |
|                   | If 'Completed', has the Action achieved its objective?   | The Dutch study showed that only a limited no. of fisheries' permits is actually used. Most salmonids are caught near the Haringvliet sluices. Probability for by-catches is highest when gillnets are used close to the shore. The obligation to use mesh nets for shrimp catching as well as the introduction of a closed season for eel fishing led to a reduced probability for catches of salmonids.  |
| Action F2:        | Description of Action  | Developing of a self-sustaining salmon population in   |
| F Z:              | (as submitted in the IP):  Expected Outcome (as submitted in the IP):  | the Agger river without stocking.  Verification if the salmon population in this river is restored successfully.   |
|                   | Progress on Action to Date (see note above):   | In a subsystem of the Agger river stocking has been gradually reduced since 2013. In 2015 stocking was reduced to zero throughout the Agger-System   |
|                   | Current Status of Action (e.g. 'Not started'; 'Ongoing'; 'Completed'):   | ongoing  |
|                   | If 'Completed', has the Action achieved its objective?   |  |

# **3.2** Provide an update on progress against actions relating to Habitat Protection and Restoration (Section 3.4 of the Implementation Plan).

**Note:** The reports under 'Progress on Action to Date' should provide a brief overview with a quantitative measure of progress made. While referring to additional material (e.g. via links to websites) may assist those seeking more detailed information, this will not be evaluated by the Review Group.

|               | V 1  | g to additional material (e.g. via links to websites) may assist those ll not be evaluated by the Review Group.  |
|---------------|--|--|
| Action<br>H1: | Description of Action (as submitted in the IP):                        | The German Federal Ministry of Transport, Building and Urban Development launched the program "Durchgängigkeit Bundeswasserstraßen" (Patency Federal Waterways) in 2012. Its 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 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 (as submitted in the IP):                             | Increased accessibility of spawning and juvenile habitats.   |
|               | Progress on Action to Date (see note above):                           | At the end of 2015, the German Federal Ministry of Transport and Digital Infrastructure updated its strategy for the implementation of measures. Of the total of 46 originally scheduled measures for the first implementation phase, only 3 measures have been built so far, of which two measures are situated at the Müritz-Elde-Waterway and one at the Saale. The second implementation phase that started in the beginning of 2016 includes a total of 77 measures, of which 52 measures at the Rhine, Ems, Weser and Elbe are already in the process of planning. The monitoring for a total of 12 (established since 2010) fishpasses at the Weser, Elbe and Rhine is in progress. |
|               | Current Status of Action (e.g. 'Not started'; 'Ongoing'; 'Completed'): | Ongoing  |
|               | If Completed, has the Action achieved its objective?                   |  |
| Action<br>H2: | Description of Action (as submitted in the IP):                        | 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 (as submitted in the IP):                             | Increased quality and quantity of spawning and juvenile habitats and decreased mortality due to barrages and hydropower plants.  |
|               | Progress on Action to Date (see note above):                           | The second River Basin Management Plan "Rhine" (available in German, French and Dutch; English version will be available in March 2016) according to the European Water Framework Directive was  |

|               | Current Status of Action  | published in December 2015 and contains a description of measures for migrating fish (chapter 7.1.1) and a list of obstacles that will be modified until 2021). A new ICPR project group PG ORS (Oberrhein/Rhin-Supérieur) was launched which aims at supporting the implementation planning of an efficient fish passage system at the three barrages in Rhinau, Marckolsheim and Vogelgrün in the Upper Rhine.  An ICPR workshop on downstream fish migration will be held in Maastricht from 6 to 7 October 2016. Innovative solutions for fish protection and downstream fish passage will be presented.  The german federal programme "Blaues Band" was launched in September 2015 and provides funding from 2016 to 2018 for the ecological restoration of former federal waterways which will also promote habitat restoration in the Rhine catchment.  The first integrated LIFE project in Germany "Living Lahn" was launched in January 2016. The project, which runs for 10 years, aims to contribute to the implementation of the Water Framework Directive in order to achieve "good ecological status" for surface waters in the catchment area of the Lahn River, an eastern tributary of the Rhine. Restoration of nearnatural conditions will improve the Lahn's ecological status and biodiversity.  Ongoing |
|---------------|---|--|
|               | (e.g. 'Not started'; 'Ongoing'; 'Completed'):   |  |
|               | If Completed, has the Action achieved its objective?                                    |  |
| Action<br>H3: | Description of Action (as submitted in the IP):   | Reestablishing continuity of the Elbe river and its primary 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 Federal Government.  |
|               | Expected Outcome (as submitted in the IP): Progress on Action to Date (see note above): | Improved access to spawning grounds and decreased mortality due to barrages and hydropower plants.  Many of the targets set for 2015 to improve river connectivity in the first international management plan for the Elbe river basin (2010-2015) could be fully implemented or they are at least already initiated. However, the experience gained in the implementation of the first management plan showed that many of the goals were difficult to achieve. For example it revealed planning delays due to new knowledge from feasibility studies and due to administrative difficulties. Therefore a realignment of the implementation strategies was  |

|                              | necessary in some cases. Much of this difficulty must be solved in the second management period until 2021. Apart from the operation objectives mentioned in the first management plan, there were a number of other measures added and already implemented. In Annex 4 the status and the operation targets for river connectivity at barrages in the Elbe river basin district are presented on a map until 2021. |
|------------------------------|---|
| Current Status of Action     | Ongoing   |
| (e.g. 'Not started';         |   |
| 'Ongoing'; 'Completed'):     |   |
| If Completed, has the Action |   |
| achieved its objective?      |   |

#### 3.3 Provide an update on progress against actions relating to Aquaculture, Introductions and Transfers and Transgenics (Section 4.8 of the Implementation Plan). Note: The reports under 'Progress on Action to Date' should provide a brief overview with a quantitative measure of progress made. While referring to additional material (e.g. via links to websites) may assist those seeking more detailed information, this will not be evaluated by the Review Group. Action Description of Action Stocking material is completely attained from material **A1:** (as submitted in the IP): 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. (as submitted in the IP): Establish a separate locally adapted indigenous salmon population in North Rhine Westphalia Rhine tributaries. As well as in 2014, the "Wild Salmon Center Rhine-Progress on Action to Date (see note above): Sieg" (hatchery) operated very successfully in 2015. The implementation of action A1 depends strongly on the continued successful operation of the "Wild Salmon Center Rhine-Sieg" At the hatchery of LANUV NRW, reconditioning of kelts has been found comparably ineffective over the last few years. For this reason, and for reasons of animal welfare, it was abandoned in 2015 in favour of an extension of the local captive broodstock (genebank). Current Status of Action ongoing (e.g. 'Not started'; 'Ongoing'; 'Completed'): If Completed, has the Action achieved its objective?

| A 04: 0 | D ' ' CA '                   | E 4 11 1 1 C 4 141 4 IODD                                |
|---------|------------------------------|--|
| Action  | Description of Action        | Experts annually exchange information within the ICPR    |
| A2:     | (as submitted in the IP):    | expert group FISH about the possibilities of genetic     |
|         |                              | monitoring of salmon in the Rhine catchment. The         |
|         |                              | different initiatives in the Rhine catchment now aim at  |
|         |                              | harmonizing their genetic monitoring.                    |
|         | Expected Outcome             | Genetic monitoring will allow assessing                  |
|         | (as submitted in the IP):    | 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.                          |
|         | Progress on Action to Date   | Results of different genetic monitoring campaigns in     |
|         | (see note above):            | the Rhine catchment have been documented. The            |
|         | ,                            | genetic experts of EG FISH agreed upon a harmonized      |
|         |                              | genetic monitoring whose implementation has to be        |
|         |                              | finalized, e.g. clarification of funding and storage of  |
|         |                              | samples.   |
|         | Current Status of Action     | Ongoing  |
|         | (e.g. 'Not started';         | Ongoing  |
|         | , · ·                        |  |
|         | 'Ongoing'; 'Completed'):     |  |
|         | If Completed, has the Action |  |
|         | achieved its 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.

# North Rhine-Westphalia

The Migratory Fish Program of North Rhine-Westphalia (2011-215) will be continued. The objectives of the new program 2016-2020 result from the findings of former activities, and of the recent developments in the implementation of European Water Framework Directive.

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.

#### Rhine

## North Rhine-Westphalia

As part of the Migratory Fish Program of North Rhine-Westphalia, the activities for protection and restoration of the salmon stocks will be continued (see 4.1).

### Rhineland-Palatinate

The existing year-round catch ban continues to apply for salmon and sea trout. The year-round total fishing ban continues to apply for the fish protection areas at the mouths of some Rhine tributaries (Mosel/Rhein, Nette/Rhein, Ahr/Rhein, Saynbach/Rhein) as well as the temporary fishing ban (01 September to 31 December) 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.

4.3 Details of any new actions to prohibit fishing for salmon beyond 12 nautical miles.

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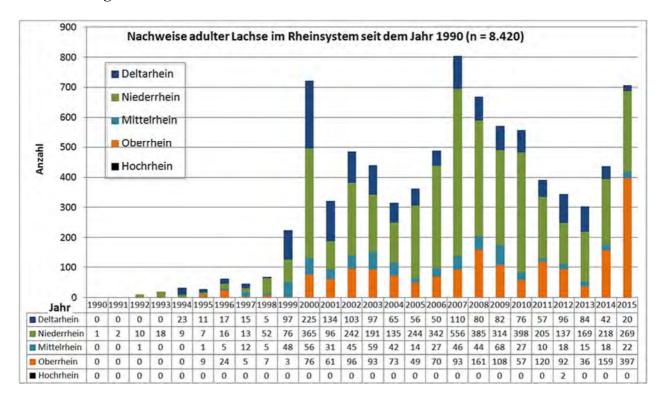
4.4 Details of any new actions to invite the attention of States not Party to the Convention to matters relating to the activities of its vessels which could adversely affect salmon stocks subject to the Convention.

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4.5 Details of any actions taken to implement regulatory measures under Article 13 of the Convention including imposition of adequate penalties for violations.

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Annex 1: Registered salmon in the Rhine since 1990



Annex 2: Proof of reproduction of salmon returned to the Rhine system

|            |                     | Project water Calastin                             |   | Year   | of sp  | awnin | g pro | of (re | produ | ction  | during | the p   | prece   | ding a | utum   | n/wint  | er)    |         |          |   |
|------------|---------------------|--|---|--------|--------|-------|-------|--------|-------|--------|--------|---------|---------|--------|--------|---------|--------|---------|----------|---|
|            |                     | Project water - Selection<br>of the most important | First   |        |        |       |       |        |       |        |        |         |         |        |        |         |        |         |          |   |
| ountr<br>y | System              | tributaries (* no stocking)                        | salmon<br>stocking  | 1994   | 1995   | 1996  | 1997  | 1998   | 2006  | 2007   | 2008   | 2009    | 2010    | 2011   | 2012   | 2013    | 2014   | 2015    |          |   |
| D          | Wupper-             | Wupper   | - 5   | 1      | 1      | 1     | /     | 1      | 1     | 1      | (X)    | 1       | 1       | İ      | 1      | 1       |        | 1       |          |   |
|            | Dhünn               | Dhünn  | 1993  | 1      | 1      | 1     | 1     | 1      | Х     | 1      | 1      | 1       | 1       | 1      | 1      | 1       |        | j       |          |   |
|            | 10277               | Eifgenbach   |   | Ī      | 1      | 1     | 1     | - 1    | 0     | 1      | 1      | 1       | 1       | 1      | 1      | 1       |        | T       |          |   |
| D          | Sieg                | Sieg NRW   |   | Х      | 1      | 1     | 1     | 1      | 1     | 1      | 1      | 1       | 1       | 1      | XX     | 1       | XX     | 0       |          |   |
|            |                     | Agger (lower 30 km)                                | r 5 "   | Х      | 1      | 1     | 1     | /      | _     |        | XXXX   |         | 1       | 1      | XXX    | XXX     | XXX    | XXX     |          |   |
|            |                     | Naafbach<br>Pleisbach<br>Hanfbach                  | Sieg river<br>addition to<br>s also in<br>ad brooks   | 1      | 1      | 1     | 1     | 1      | XXX   | -      | XXXX   |         | 1       | 1      | XXX    | XXX     | XXX    | XXXX    |          |   |
|            |                     | Pleisbach  | als als   | 1      | 1      | 1     | 1     | 1      | 1     | Χ /    | 1      | X /     | 1       | 1      | 1      | 1       |        | 1       |          | _ |
|            |                     | Bröl   | asures in the S<br>ince 1998 in ac<br>parbel regions in<br>medium sized                                     | X      | 1      | 1     | X     | 1      | XX    | XXX    | 1      | XXX     | 1       | 1      | 1      | XX      | XXX    | XXX     |          | _ |
|            |                     | Homburger Bröl                                     | saures in the since 1998 in barbel regions in medium size   | /      | 1      | 1     | /     | 1      | XX    | X      | 1      | /       | 1       | 1      | 1      | /       | 0      | XX      |          | _ |
|            |                     | Waldbröl   | since 1<br>barbel   | 1      | 1      | 1     | 1     | 1      | XXX   | XXX    | 1      | 0       | 1       | 1      | 1      | 1       | XXX    | 0       |          |   |
|            |                     | Derenbach  | since<br>since<br>bar   | 1      | 1      | 1     | 1     | 1      | 0     | 1      | 1      | 1       | 1       | 1      | 1      | 1       |        | 1       |          |   |
|            |                     | Steinchesbach                                      | 1988, s<br>er and b   | 1      | 1      | 1     | 1     | 1      | 0     | 1      | 1      | 1       | 1       | 1      | 1      | 1       |        | 1       |          |   |
|            |                     | Krabach  | king<br>e 19<br>ber   | 1      | 1      | 1     | 1     | 1      | 1     | 1      | 1      | 1       | 1       | 1      | 1      | 1       |        | 1       |          |   |
|            |                     | Gierzhagener Bach                                  | Salmon stocking measures system since 1988, since 16 classical umber and barbel relected smaller and mediur | 1      | 1      | 1     | 1     | 1      | 1     | Х      | 1      | 1       | 1       | 1      | 1      | 1       |        | 1       |          |   |
|            |                     | Irsenbach  | on s<br>ical<br>ical  | 1      | 1      | 1     | 1     | 1      | 1     | 1      | 1      | 1       | 1       | 1      | 1      | 1       | OP-SAU | 1       |          |   |
|            |                     | Irsenbach<br>Sülz<br>Schlingenbach                 | Salmon system solassical selected   | /      | 1      | 1     | 1     | 1      | XX    | /      | /      | /       | 1       | 1      | XXX    | 1       | XXX    | XXXX    |          | _ |
|            |                     | middle Sieg RLP                                    |   | 1      | 1      | 1     | 1     | 1      | X     | X      | XXXX   |         | 0       | 1      | XXX    | 9       | 0      | 0       |          | _ |
|            |                     | Nister system                                      | 1994<br>1991  | 1      | 1      | 1     | 1     | 1      | XXX   | X      | XXXX   |         | X       | ?<br>X | ?<br>X | X       | ?<br>X | ?<br>X  | -        | _ |
|            |                     | Wisserbach   | 1991  | 1      | 1      | 1     | 1     | 1      | XXX   | XX     | XXXX   | 0       | X       | 0      | 0      | 0       | 0      | XX      |          |   |
|            |                     | Elbbach  | 1995  | 1      | 1      | 1     | 1     | 1      | 1     | XX     | XX     | 0       | 0       | 0      | 1      | 1       | 1      | 1       |          |   |
|            |                     | Heller-Daade                                       | 1998  | 1      | 1      | 1     | 1     | 1      | 1     | Х      | Х      | ×       | 0       | 0      | 0      | 0       | 0      | 0       |          |   |
|            |                     | Asdorf   | 1997  | 1      | 1      | 1     | 1     | 1      | 1     | 1      | 1      | 1       | 0       | 1      | 1      | 1       | 0      | 0       |          |   |
| D          | Ahr                 | Ahr  | 1995  | 1      | 1      | 1     | 1     | 1      | 0     | 0      | ?      | 0       | XX      | XX     | 0      | XX      | XX     | XXX     |          |   |
| D          | Nette               | Nette *  | - 1-  | 1      | 1      | 1     | 1     | 1      | Х     | 0      | Х      | 0       | Х       | 0      | Х      | 0       | XX     | XX      |          |   |
| D          | Saynbach            | Saynbach   | 1994  | 1      | 1      | 1     | 1     | 1      | XX    | -      | XXXX   |         | XX      | XXX    | Х      | Х       | XX     | XX      |          |   |
|            |                     | Brexbach   | 1994  | 1      | 1      | 1     | 1     | 1      | 0     | 0      | XXX    |         | XX      | 0      | 0      | 0       | 0      | 0       |          |   |
| D          | Moselle             | Elzbach  | 2005  | 1      | 1      | 1     | L     | 1      | 1     | 1      | 1      | 1       | 1       | 1      | 1      | T       | 1      | 0       |          | _ |
|            |                     | Kyll<br>Prům system                                | 1996  | 1      | 1      | 1     | 1     | 1      | 1     | 1      | 1      | 1       | 1       | 1      | 1      | 1       | 1      | 1       | -        | _ |
| ux/D       |                     | Prüm system<br>Sauer                               | 1996<br>1992  | 1      | 1      | 1     | 1     | 1      | 1     | 1      | 1      | 1       | 1       | 1      | 1      | 1       | 1      | 1       |          | _ |
| -ux/D      |                     | Our  | 1992  | 1      | 1      | 1     | 1     | 1      | 1     | 1      | 1      | 1       | 1       | 1      | 1      | 1       | 1      | 1       |          | _ |
| D          | Lahn                | Mühlbach   | 1994  | 1      | 1      | 1     | 1     | 1      | 1     | 1      | 1      | İ       | 1       | 1      | 1      | 1       | 1      | 1       |          |   |
| 7          | 7                   | Weil   | 1995  | 1      | 1      | 1     | 1     | 1      | 1     | 1      | 1      | 1       | 1       | 1      | 1      | 1       | 0      | i       |          |   |
|            |                     | Dill   | 1995  | 1      | 1      | 1     | 1     | 1      | 1     | 1      | 1      | 1       | 1       | 1      | 1      | 1       | 1      | 1       |          |   |
| D          | Nahe                | Nahe   | 2004 / 2013   | 1      | 1      | 1     | 1     | 1      | 1     | 1      | 1      | 1       | 1       | 1      | 1      | 1       | 0      | 0       |          |   |
| D          | Wisper              | Wisper   | 1999  | 1      | 1      | 1     | 1     | 1      | 0     | XX     | XXXX   | 0       | Х       | XX     | 0      | 0       | XX     | 0       |          |   |
| D          | Main                | Schwarzbach  | 2009  | 1      | 1      | 1     | 1     | 1      | 1     | 1      | 0      | 0       | 0       | 0      | 0      | 0       | 0      | Х       |          |   |
| _          |                     | Kinzig system (Hesse)                              | 2001  | 1      | 1      | -1    | - /   | 1      | 0     | 1      | 1      | 1       | I       | 1      | /      | ?       | 0      | 1       |          |   |
| D/F        | Alb<br>(Wies)Lauter | Alb  | 2001  | 1      | 1      | 1     | 1     | 1      | f     | 1      | /      | X       | /<br>v  | X      | X      | X       | X      | Х       |          | _ |
| D/F<br>D   | Murg                | Murg   | 1991  | 1      | 1      | 1     | 1     | 1      | X     | X      | X /    | /       | X /     | X      | X      | X       | /      | X       |          | _ |
| F/D        | Rhine               | Rhine downstream Iffezh                            | 2001  | /      | 1      | 1     | 1     | 1      | /     | /      | 1      | 7       | 1       | /      | /      | /       | 1      | 1       |          | _ |
| D          | Rench               | Rench  | 2001  | 1      | 1      | 1     | 1     | 1      | 1     | 1      | 1      | 1       | 1       | 1      | 1      | 1       | 1      | 1       |          | _ |
| F          | III                 | Bruche   | 1991  | 1      | Х      | Х     | X     | Х      | X     | X      | X      | XXX     | XXX     | XXX    | XXX    | XX      | XXX    | XX      |          |   |
| -5         | 7                   | Fecht  |   | 1      | 1      | 1     | 1     | 1      | 1     | 1      | 1      | 1       | XX      | Х      | XX     | 0       | XX     | Х       |          |   |
|            |                     | Upper III system                                   | 1991  | 1      | 1      | 1     | 1     | 1      | 1     | 1      | 1      | 1       | Х       | Х      | Х      | 0       | 0      | 1       |          |   |
|            |                     | Moder  | 2005  | 1      | 1      | 1     | 1     | 1      | Х     | Х      | Х      | Х       | Х       | Х      | Х      | 0       | Х      | 0       |          |   |
| D          | Kinzig              |  | 2001  | 1      | 1      | 1     | 1     | 1      | 1     | 1      | 1      | 1       | Х       | Х      | Х      | 1       | 1      | 1       |          |   |
| D          | Elz + Dreisar       |  | 2005  | 1      | 1      | 1     | 1     | 1      | 1     | 1      | 1      | 1       | 1       | 1      | 1      | 1       | 1      | 1       |          |   |
|            | Dist                | Dreisam  | 2008  | 1      | 1      | 1     | 1     | 1      | 1     | 1      | 1      | 1       | 1       | 1      | 1      | 1       | 1      | 1       |          |   |
|            | Rhine               | Old branch of the Rhine                            | 1991  | 1      | 1      | 1     | 1     | 1      | 1     | 1      | 1      | 1       | 1       | 1      | 1      | 1       | 1      | 1       |          | _ |
| CH         | Wiese<br>Bire       | Wiese<br>Birs                                      | 1984  | 1      | 1      | 1     | 1     | 1      | 1     | 1      | 1      | 1       | 1       | 1      | 1      | 1       | 1      | 1       | -        | _ |
| CH         | Birs<br>Ergolz      | Ergolz   | 1995<br>1995  | 1      | 1      | 1     | 1     | 1      | 1     | 1      | 1      | 1       | 1       | 1      | 1      | 1       | 1      | 1       |          | _ |
| 9/1        | goi2                | 3012   | 1000  | 1994   | 1995   |       |       | 1998   | 2006  |        | 2008   |         |         | 2011   |        | 2013    | 2014   | 2015    | -        |   |
|            | _                   |  |   |        | .000   | .000  | .551  | .000   |       | _001   |        |         | _010    | _011   |        | _010    |        | _010    |          |   |
| EGE        |                     |  |   |        |        |       |       |        |       |        |        |         |         |        |        |         |        |         |          |   |
| uality     | proof / individ     | uals detected / samples tal                        | en from indi  | vidual | locati | ons   | Х     |        | Spaw  | ning g | round  | s (larg | ely) ac | cessib | le     |         |        |         |          |   |
| ualita     | tive evidence /     | returnees released upstre                          | am of obstac  | le     |        |       | (X)   |        | Spaw  | ning g | round  | s parti | ally ac | cessib | le/acc | essible | e to a | limite  | d extent |   |
| ttle su    | ccess of repro      | luction (1 to ≤ 5 parr/100 m                       | 2)  |        |        |       | XX    | 1 3    | Spaw  | ning h | abitat | not a   | ccessi  | ble/ac | cessib | le in e | xcept  | ional d | ases     |   |
| onsid      | erable success      | of reproduction (> 5 - 50 pa                       | arr/100 m2)   |        |        |       | XXX   |        |       |        |        |         |         |        |        |         |        |         |          |   |
| xtrem      | ely high rate o     | f success of reproduction (                        | > 50 parr/100   | m2)    |        |       | хххх  |        |       |        |        |         |         |        |        |         |        |         |          |   |
| nvesti     | gations carried     | through, no cases detecte                          | d   |        |        |       | 0     |        |       |        |        |         |         |        |        |         |        |         |          |   |
| 1.10       | stigation           |  |   |        |        |       | 1     | 1      |       |        |        |         |         |        |        |         |        |         |          |   |
|            | ce uncertain        |  |   |        |        |       | ?     |        |       |        |        |         |         |        |        |         |        |         |          | Т |
|            |                     |  |   |        |        |       | _     |        |       |        |        |         |         |        |        |         |        | 1       |          |   |
|            |                     |  |   |        |        |       |       |        |       |        |        |         |         |        |        |         |        |         | A 1      |   |
|            |                     |  |   |        |        |       |       |        |       |        |        |         |         |        |        |         |        |         |          |   |
|            |                     |  |   |        |        |       |       |        |       |        |        |         |         |        |        |         |        |         |          |   |
|            |                     | Nahe: stocking or                                  |   |        |        |       |       |        |       |        |        |         |         |        |        |         |        |         |          |   |

Annex 3: Stocking measures with migratory salmonids in the Rhine system 2014

| Country / Water body   |                          |                                   | Stocking   |                      |                    |
|--|--------------------------|-----------------------------------|--|----------------------|--------------------|
|  | Kind and stage           | Number                            | Origin   | Marking              | smolt<br>equivalen |
| Switzerland<br>Niese   | La                       | 2600                              | Petite Camargue/Rhine group 9                                    | genetics             |                    |
| Rhine  |                          | 0                                 |  |                      |                    |
| Riehen Tych  | La                       | 600                               | Petite Camargue/Rhine group 8                                    | genetics             |                    |
| St. Alban-Teich<br>Birs (lower part)                             | La                       | 1500                              | Petite Camargue/Rhine group 8                                    | genetics             |                    |
| Arisdörferbach<br>Iirs   | La<br>La                 | 2500<br>500                       | Petite Camargue/Rhine group 7                                    | genetics             |                    |
| ergolz   | La                       | 1000                              | Petite Camargue/Rhine group 8 Petite Camargue/Rhine group 8      | genetics<br>genetics |                    |
| Magdenerbach   | La                       | 2000                              | Petite Camargue/Rhine group 10                                   | genetics             |                    |
| Möhlinbach (Bachtele, Möhlin)<br>Möhlinbach (Möhlin / Zeiningen) | La<br>La                 | 500<br>1500                       | Petite Camargue/Rhine group 6<br>Petite Camargue/Rhine group 6   | genetics<br>genetics |                    |
| Möhlinbach (Zuzgen, Hellikon)                                    | La                       | 2300                              | Petite Camargue/Rhine group 6                                    | genetics             |                    |
| Etzgerbach<br>Rhine  | La<br>La                 | 2000<br>1000                      | Petite Camargue/Rhine group 10<br>Petite Camargue/Rhine group 10 | genetics<br>genetics |                    |
| Old Bed of the Rhine   | La                       | 1500                              | Petite Camargue/Rhine group 10                                   | genetics             |                    |
| Bachtalbach<br>nland canal Klingnau                              | La<br>La                 | 500<br>500                        | Petite Camargue/Rhine group 10<br>Petite Camargue/Rhine group 10 | genetics<br>genetics |                    |
| Sum  | Lu                       | 20500                             | reace camargacy reinte group 10                                  | gundado              |                    |
| France<br>Bruche   | La                       | 42120                             |  | genetics             | 4212               |
| Mossig   | La                       | 400                               |  | genetics             | 40                 |
| Giessen and tributaries  | La                       | 8200                              |  | genetics             | 820                |
| ièpvrette<br>Il  | La<br>La                 | 26700<br>2320                     |  | genetics<br>genetics | 2670<br>232        |
| echt   | La                       | 26700                             |  | genetics             | 2670               |
| Weiss<br>Béhine  | La<br>La                 | 5800<br>1000                      |  | genetics<br>genetics | 580<br>100         |
| auch   | La                       | 6760                              |  | genetics             | 676                |
| Thur<br>Doller   | La<br>La                 | 16350<br>26750                    |  | genetics<br>genetics | 1635<br>2675       |
|  | L0                       | 145000                            |  | genetics             | 7250               |
| Rhine (Old Bed of the Rhine)                                     | La                       | 8800                              |  | genetics             | 880                |
| Moselle  | Le                       | 2100                              | Ätran  | genetics<br>genetics |                    |
|  | L0                       | 2550<br>0                         | Ätran  | genetics             |                    |
| Houille<br>Blies   | La                       | 3000                              |  | genetics<br>genetics | 300                |
| Saar (Moselle system)  |                          |                                   |  | -                    |                    |
| Sum<br>Luxemburg   |                          | 324550<br>0                       |  |                      | 24740              |
| Sure (Moselle)   |                          | 0                                 |  |                      |                    |
| Germany, Baden-Württemberg                                       |                          | u                                 |  |                      |                    |
| Alb<br>Murg  |                          |                                   |  |                      |                    |
| Dos, Oosbach   |                          |                                   |  |                      |                    |
| Rench  |                          |                                   |  |                      |                    |
| Kinzig and tributaries Erlenbach,<br>Gutach, Wolf                |                          |                                   |  |                      |                    |
|  |                          |                                   |  |                      |                    |
| Elz  |                          |                                   |  |                      |                    |
| Elz .  |                          |                                   |  |                      |                    |
| Dreisam<br>Viese   |                          |                                   |  |                      |                    |
| Viese  |                          |                                   |  |                      |                    |
| Sum<br>Germany, Hesse  |                          | 329890                            |  |                      |                    |
| vidda *  | Mf s                     | 2640                              | Wupper   | a/c                  |                    |
| ahn, Dill, Weil  | Ls                       | 4385<br>6000                      | Atran (DCV)  | a/c                  |                    |
| ahn, Dill, Weil<br>Gnzig (Main)                                  | Lp<br>Lp                 | 2000                              | Ātran (EFH)<br>Ātran (EFH)                                       |                      |                    |
| Schwarzbach (Main)   | Lp                       | 19300                             | Ātran (EFH)  |                      |                    |
| Weschnitz  |                          |                                   |  |                      |                    |
| Visper   | Lp                       | 9000                              | Ātran (EFH)  |                      |                    |
| Sum<br>Germany, Rhineland Palatinate                             |                          | 43325                             |  |                      |                    |
| hhr  | Lp                       | 50000                             | Ätran (EFH)  |                      |                    |
| ahn, Mühlbach  |                          | 0                                 |  |                      |                    |
| Moselle, Elzbach   |                          |                                   |  |                      |                    |
| Moselle, Elzbach<br>Saynbach                                     | L p<br>L s               | 21500<br>1200                     | Ātran (EFH)<br>Ātran (EFH)                                       | a/c                  |                    |
| Saynbach   | Ls                       | 4040                              | Ātran (DCV)  | a/c                  |                    |
| Nister, Kleine Nister (Sieg)                                     | Ls                       | 9100                              | Ātran (DCV)  | a/c                  |                    |
| Vister (Sieg)  | Lp                       | 28490                             | Ätran (KFS)  | a/ L                 |                    |
| Vister (Sieg)  | Lp                       | 48510                             | Ātran (EFH)  |                      |                    |
| Wisserbach (Sieg)  |                          | 0                                 | 2  |                      |                    |
| Nahe   | LŚ                       | 8762                              | Ātran (DCV)  | a/c                  |                    |
| Nahe<br>Guldenbach (Nahe)  | Lp                       | 9250                              | Ātran (EFH)  |                      |                    |
| Speyerbach   | La                       | 30000                             | Allier   |                      |                    |
| Vieslauter<br>Sum  | La                       | 35000<br>245852                   | Allier   |                      |                    |
| Germany, North Rhine Westphalia                                  |                          |                                   |  |                      |                    |
|  | La<br>La                 | 85554<br>105985                   | Sieg-Rückkehrer<br>Gundenau-Rückkehrer / EFH                     |                      | 13237<br>18017     |
| Sieg and tributaries   | La                       | 143037                            | Sieg-Rückkehrer / EFH  |                      | 23965              |
| and an an analysis and a second                                  | L1p                      | 2950<br>6880                      | Sieg-Rückkehrer / EFH  |                      | 590                |
|  | L1 (Smolt)<br>L2 (Smolt) | 6880                              | Sieg-Rückkehrer / EFH<br>Sieg-Rückkehrer / EFH                   | Heliogenblue / NEDAP | 1720<br>17         |
|  | L2 (Smolt)               | 567                               | Sieg-Rückkehrer / EFH  | HDX / NEDAP          | 142                |
| Vupper and small tributaries                                     | L0<br>La                 | 45601<br>45000                    | Sieg-Rückkehrer / EFH<br>Sieg-Rückkehrer / EFH                   |                      | 2280<br>2250       |
| Phünn and small tributaries                                      | L1p                      | 10000                             | Sieg-Rückkehrer / EFH  |                      | 2000               |
| ment and sman choutailes   | L2 (Smolt)               | 66<br>445707                      | Sieg-Rückkehrer / EFH  | NEDAP Transponder    | 17<br><b>64234</b> |
| Zuma   |                          |                                   |  |                      | 04234              |
| Sum<br>wt = coded wire tags; a/c = adipose clipping              | g; EFH = parent fish ke  | eping; DCV = [                    | Danish Center for Vildlaks                                       |                      |                    |
|  | salmon spawn; L b =      | seping; DCV = 0<br>Salmon fry; L0 | 0 unfeeded fry; La = feeded fry;                                 | lman:                |                    |

Actual data are still not available yet for Baden-Wuerttemberg

Annex 4: Restoration of ecological continuity at barrages in the Elbe river basin district (red: operation target until 2021, green: measure completed, yellow: restricted passable, black: not passable, grey: status is unclear)

