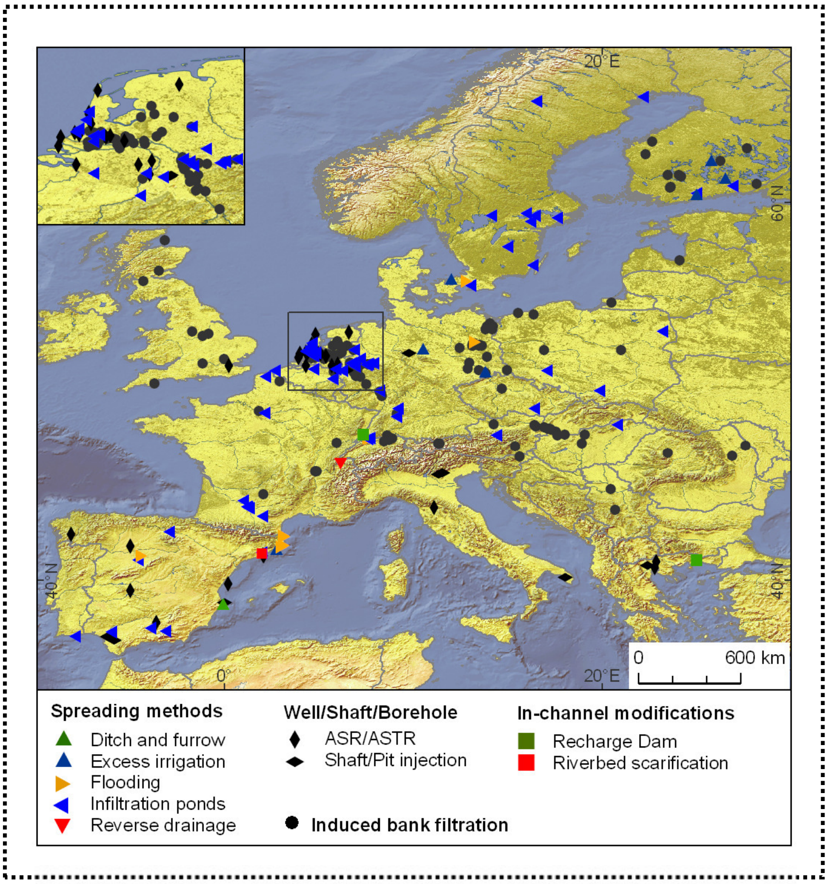
M11.1 CHARACTERIZATION OF EUROPEAN MANAGED AQUIFER RECHARGE (MAR) SITES - ANALYSIS



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Title: Characterization of European managed aquifer recharge (MAR) sites - Analysis

Abstract: Different types of managed aquifer recharge (MAR) schemes are widely distributed and applied on various scales in the European countries, but no systematic categorization and compilation existed up to now. The European MAR catalogue presented herein includes a wide range of parameters, e.g. operational information, hydrogeological properties and water quality monitoring for different types of MAR. The database includes currently 270 MAR sites, but is neither a representative nor an exhaustive data compilation. Nevertheless, based on the available data it is shown that MAR plays an important role in the European water supply producing large water quantities for the domestic water supply.

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available information for each site in the MAR catalogue

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1 Introduction

DEMEAU is a three-year, EU-funded demonstration project on promising technologies that tackle emerging pollutants in water and waste water. Within the DEMEAU project one of the water treatment technology focused on is Managed Aquifer Recharge (MAR). Different types of MAR are widely distributed and applied on various scales in the European countries, but no systematic categorization and compilation existed up to now. To enable insight in the wide range in applications and operations for European MAR sites, a catalogue in the form of a relational database was developed.

The European MAR catalogue presented herein includes a wide range of parameters, e.g. operational scale, various aquifer properties and water quality. Analysis of the data is presented in this report. For the sake of convenient data entry, modification and display of data is enabled through various graphical user interfaces (Figure 1). Specific knowledge of relational database is not required to take advantage of the European MAR catalogue. It is intended as an evolving database that allows continuous improvement and expansion of the data in the catalogue. Therefore, this report provides a snapshot of the current content.

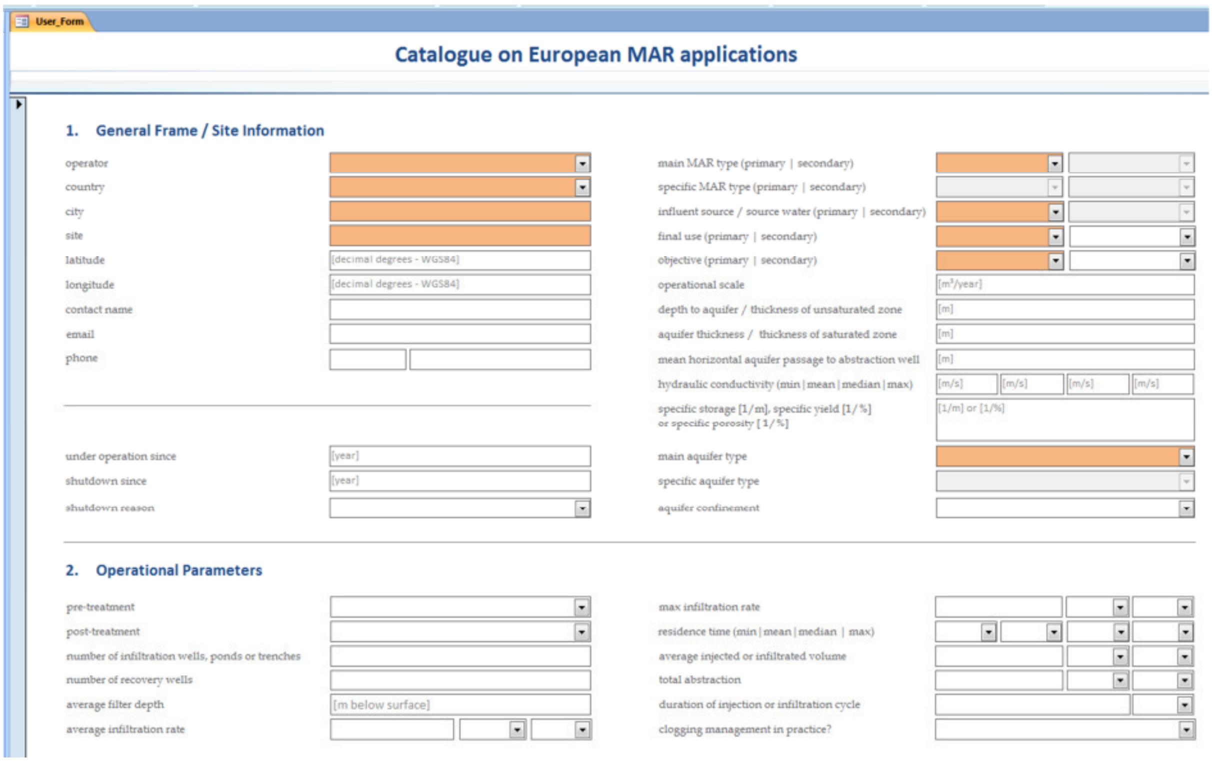

Figure 1: Example of the graphical user interface displaying the site specific user form of the MAR catalogue

1.1 Motivation and objectives

The European MAR catalogue aims at providing an information platform of European MAR sites for technical experts, authorities and scientists. With the help of the catalogue it is also possible to identify the current state of knowledge for the respective site or MAR type. Therefore, this unique catalogue provides a valuable information source of MAR in Europe.

1.2 MAR definition

Managed aquifer recharge (MAR) can be defined as the intentional recharge, storage and treatment of water in aquifers. Depending on the type and purpose of the MAR intervention one or more of the three main objectives are dominant. There are a number of different techniques available using boreholes, dug wells, infiltration ponds, furrows/trenches, ditches/barriers and/or wells to infiltrate, induce infiltration or inject water into the aquifer (Figure 2).

MAR types can be divided into five main groups (IGRAC, 2013):

i) Bank filtration is a category by its own and describes the induced infiltration of surface water from a river or a lake by well pumping. Water quality improvement, which is commonly observed during the subsurface passage, is often the main objective of this MAR type.

ii) Rainwater harvesting includes MAR types which collect rain and surface run-off. Barriers and trenches are made e.g. to reduce the surface run-off and erosion and to enable agriculture in hilly terrain. This MAR type increases the water contact area and provides additional recharge potential. Rooftop harvesting collects rain and stores the water in settling tanks before it is recharged through defunct dug wells or boreholes to the aquifer.

iii) In-channel modifications are structures built in streams to intercept or detain the stream flow and enhance groundwater recharge. This type of MAR is common in arid and semi-arid areas where intermittent or ephemeral stream conditions prevail. Sand dams e.g. are usually small structures built in ephemeral/intermittent streams to store water during rainy season to overcome periods of drought. Check dams are used to stop part of the seasonally (monsoon, storm events) occurring stream flow to enhance infiltration through the stream bed. The controlled discharge of the stored water through recharge releases provides additional options at times of limited infiltration upstream of check dam.

iv) Well, shaft, dam and borehole recharge comprise a wide range of types of recharge by gravitation in dug wells, shafts, pits or injection of water by wells (e.g. aquifer storage and recovery, ASR). Please note that in contrast to the classification by IGRAC (2013) the underground dams is not classified here as in-channel modification. MAR structures of this type are mostly below ground level and are also constructed to prevent or counteract seawater intrusion.

v) Spreading methods are used when the geology and hydrology allows the aquifer to be recharged from ground level directly. MAR structures of this type are mostly above or at ground level. Infiltration ponds are often operated until fully saturated conditions below the pond are developed, while soil aquifer treatment (SAT) always requires unsaturated conditions below the infiltration basin. During SAT treated effluent is recharged through a biological active zone (soil), a vadose zone and finally to the saturated zone where the recharged water is recovered and reused.

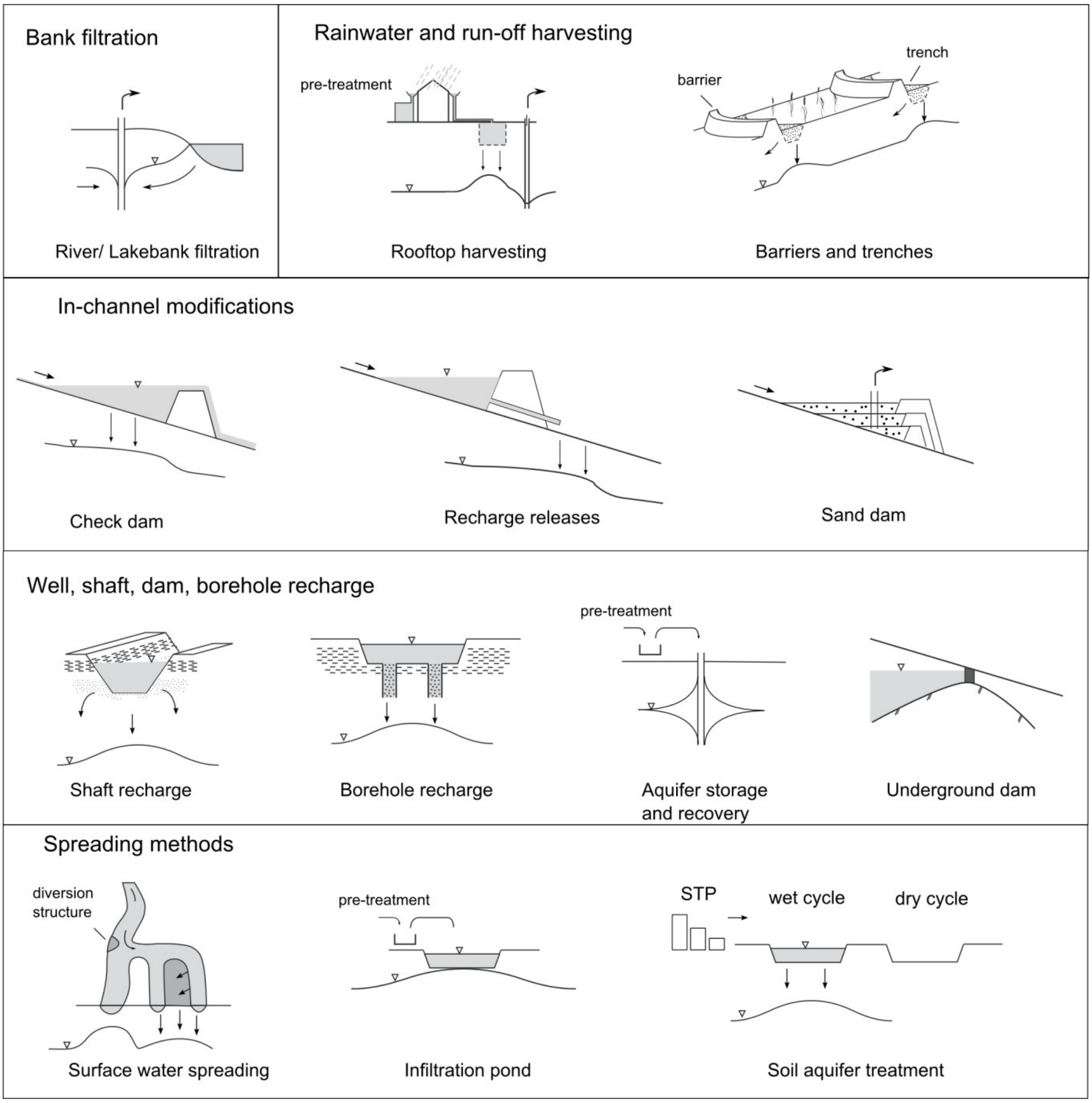

Figure 2: **Sketches of MAR types (modified and extended from Dillon (2005)). STP = sewage treatment plant**

2 Development of the European MAR catalogue

2.1 Structure of the database and classification of fields

The underlying set-up of the MS ACCESS database and relational structure is presented in detail in the report "Development of a catalogue on European MAR sites: Documentation" available under http://demeau-fp7.eu/results. . In total 38 parameters (plus references) were categorized in general site information (e.g. name of operator, location, MAR type), hydrogeological properties (e.g. aquifer type, hydraulic conductivity), operational information (e.g. operational scale, number of abstraction wells) and water quality monitoring (e.g. bulk chemistry monitoring schedule). Table 1 documents the number and percentage of entries in the catalogue. The fields "site name", "country", "city", "geographic location" and "main MAR type" are mandatory fields, while all other fields are optional. The documented information of sites in annex a contains in addition to

Table 1: Overview of field parameter and entries included in the MAR catalogue (* Fields are mandatory)

No.	Field parameter	Entry count (%)	Category	No.	Field parameter	Entry count (%)	Category	No.	Field parameter	Entry count (%)	Category
1	Name of operator	270 (100)	General site information	14	Aquifer confinement	155 (57)	Hydrogeological properties	27	Recovered infiltrate	39 (14)	Operational parameter
2	Email of operator	270 (100)		15	Aquifer thickness	123 (46)		28	Infiltration rate	22 (8)	
3	Country*	270 (100)		16	Horizontal aquifer passage	108 (40)		29	Final use	245 (91)	
4	City*	270 (100)		17	Specific aquifer type	220 (81)		30	Objective	231 (86)	
5	Site name*	270 (100)		18	Hydraulic conductivity	108 (40)		31	Monitoring regularity bulk chemistry	57 (21)	Water quality
6	Latitude*	270 (100)		19	Main aquifer type	221 (82)		32	Monitoring micro biological parameters	57 (21)	
7	Longitude*	270 (100)		20	Average injected or infiltrated volume	95 (35)	Operational parameter	33	Monitoring emerging pollutants	30 (11)	
8	Main MAR type*	270 (100)		21	Operational scale	189 (70)		34	Monitoring in situ	52 (19)	
9	Specific MAR type*	270 (100)		22	Number of infiltration wells	81 (30)		35	Monitoring heavy metals	47 (17)	
10	Influent source	266 (99)		23	Number of recovery wells	75 (28)		36	Monitoring organic compounds	30 (11)	
11	Under operation since	185 (69)		24	Residence time	87 (32)		37	List of emerging pollutants	25 (9)	
12	Shut down since	56 (21)		25	Pre-treatment	97 (36)		38	References	270 (100)	
13	Filter screen depth	95 (35)		26	Post-treatment	63 (23)					

the 270 sites in table 1 ten more sites, which are already added to the database, but not finally proved at the time this analysis was written.

To characterize the content of the catalogue, a selection of fields are classified according to their importance or significance for later interpretation. The selected fields are important hydrogeological and operational parameters shown in Table 2.

Only records which contain all important hydrogeological parameters are class 1 sites. Class 2 sites are characterized by the hydraulic conductivity and at least one additional field information. Class 3 sites do not contain the information about the hydraulic conductivity but at least one of the other fields. Class4 sites do not contain any of the information.

Table 2: Classification of records based on the availability of important hydrogeological and operational information

	Hydraulic conductivity	Aquifer thickness	Horizontal aquifer passage	Number of recovery wells	Operational scale
Class 1	Contains all field information of the five parameters				
Class 2	Must be available	At least one field of the four parameters			
Class 3	Does not contain	At least one field of the four parameters			
Class 4	Residual				

Nineteen MAR sites in the catalogue, corresponding to 7 % were classified as class 1 sites. Class 2 contains 103 sites, corresponding to 38% of all MAR sites. Class 3 sites make up approx. 45 % (124 sites) and class 4 contains the residual 24 sites (approx. 9 %) of all MAR sites (Figure 3).

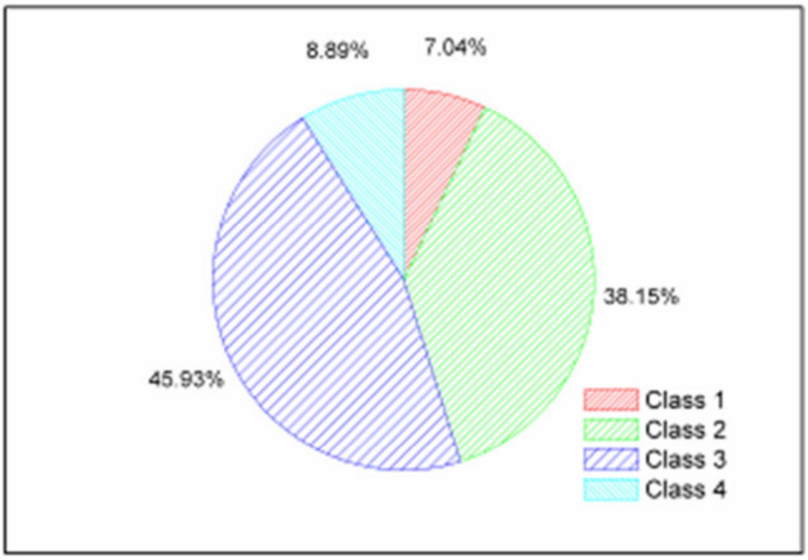

Figure 3: Classification of sites based on record completeness of essential hydrogeological and operational information

MAR sites with relatively complete data entries (class 1 and class 2) make up approx. 45 % of all sites included in the MAR catalogue. Class 3 sites are considered to be moderately characterized. Sites with very poor availability of hydrogeological and operational information (class 4) are only 9 %. It must be noted that many of the European MAR sites considered are likely better characterized, but the information was not available from the considered literature.

Information of European MAR systems was compiled from 264 different information sources which were cited 564 times in total (Table 3). The largest share of information sources consists of scientific publications (i.e. research papers, books, PhD, Diploma and Master's theses), followed by information from community and operator websites (24%) and technical documents (12%). The remaining source types, i.e. presentations (both talks and posters), reports from previous governmental and non-governmental research projects, personal communication with specialists and operators, as well as newspaper articles (10%).

Table 3: Type and number of information sources, citations per category and ratio

Category	Sources per category	Citations per category	Ratio citation/source
Newspaper articles	3	3	1.0
Personal information	5	5	1.0
Presentations	8	8	1.0
Research projects	10	16	1.6
Scientific publications (peer reviewed paper, Master thesis ...)	140	321	2.3
Technical documents	31	109	3.5
Websites	67	102	1.5
Total	**264**	**564**	**2.2**

By looking at the numbers of citations obtained per category large differences can be observed. On average each reference was cited 2.2 times (Table 3) but scientific publications and technical documents were cited more frequently and offer a higher degree of information. In contrast, newspaper articles, presentations, research projects and websites usually address only a few aspects and contain less information.

Some of the parameters are displayed as box and whisker plots. Box and whisker plots are standardized ways of displaying the distribution of data based on: minimum, first quartile, median, third quartile, and maximum. The central rectangle spans the first quartile to the third quartile (the interquartile range or IQR). The red line inside the rectangle shows the median and "whiskers" above and below the box show the minimum and maximum, as long as they do not lie 1.5 × IQR or more above the third quartile or 1.5 × IQR or more below the first quartile. Outliers, plotted as small circles, lie either 1.5×IQR or more above the third quartile or 1.5×IQR or more below the first quartile.

Extreme values, plotted as small stars, are either 3×*IQR* or more above the third quartile or 3×*IQR* or more below the first quartile.

2.2 Quality assurance and plausibility control

During data acquisition and entry, several persons from various institutions contributed. Besides the risk of human error during data entry, other factors, e. g. outdated sources will challenge the quality of the collected data. Thus, following the data acquisition period, various quality control measures were carried out to ensure a high level of data integrity.

Identified outliers and conspicuous extreme values of the database's numerical fields were double checked using the respective references. Besides these relatively simple statistical tests on individual fields, logical checks were performed between related parameters in order to identify data gaps. For example, it can be assumed that information on the year of closure and the reason for closure are usually jointly available. Therefore, for record sets where only one of these parameters was filled, the literature was consulted once more to make sure no available information was omitted. Implausible or unlikely combinations of parameter values were also checked and corrected if necessary. An example would be the combinations of the parameters "specific MAR type" and "number of infiltration wells". Sites that have a specific number of infiltration wells should also either have ASR, ASTR or dug well / shaft / pit injection as the "specific MAR type". Where that was not the case site information was double checked. Subsequently, a selection of datasets was cross checked by different personnel and specialists of partner institutions and affiliated operators (BWB, Dunea and Eskap).

The MAR catalogue does not claim to be a representative and certainly not an exhaustive database. The lack of data for specific countries does not necessarily mean the lack of MAR sites. It can rather be attributed to the fact, that language barriers restricted the literature research to languages spoken by members of the research team (i.e. English, Spanish, German, Polish, Dutch and French). Moreover, many sources of information i.e. technical reports are simply not available in the public or scientific domain.

3 Results and discussion

3.1 General overview and historical development of MAR sites in Europe

The database contains 270 MAR sites of which 53 sites were closed due to various reasons. A spatial overview of all currently operating and shut-down European MAR sites included in the catalogue is given in Figure 4.The spatial distribution of currently active MAR sites covers most of the European countries with distinct differences in occurrence frequency from region to region. MAR hot spot regions can be identified in The Netherlands, Belgium and West Germany where induced bank filtration is the dominant MAR type. Also in the region around Berlin and Dresden in East Germany as well as along the Danube River in Austria and Hungary many bank filtration sites can be found. In contrast to these hot spots other regions in Europe are not or sparsely represented, namely the Balkans region, Norway, Ireland, Denmark, the Baltic states and other eastern European countries.

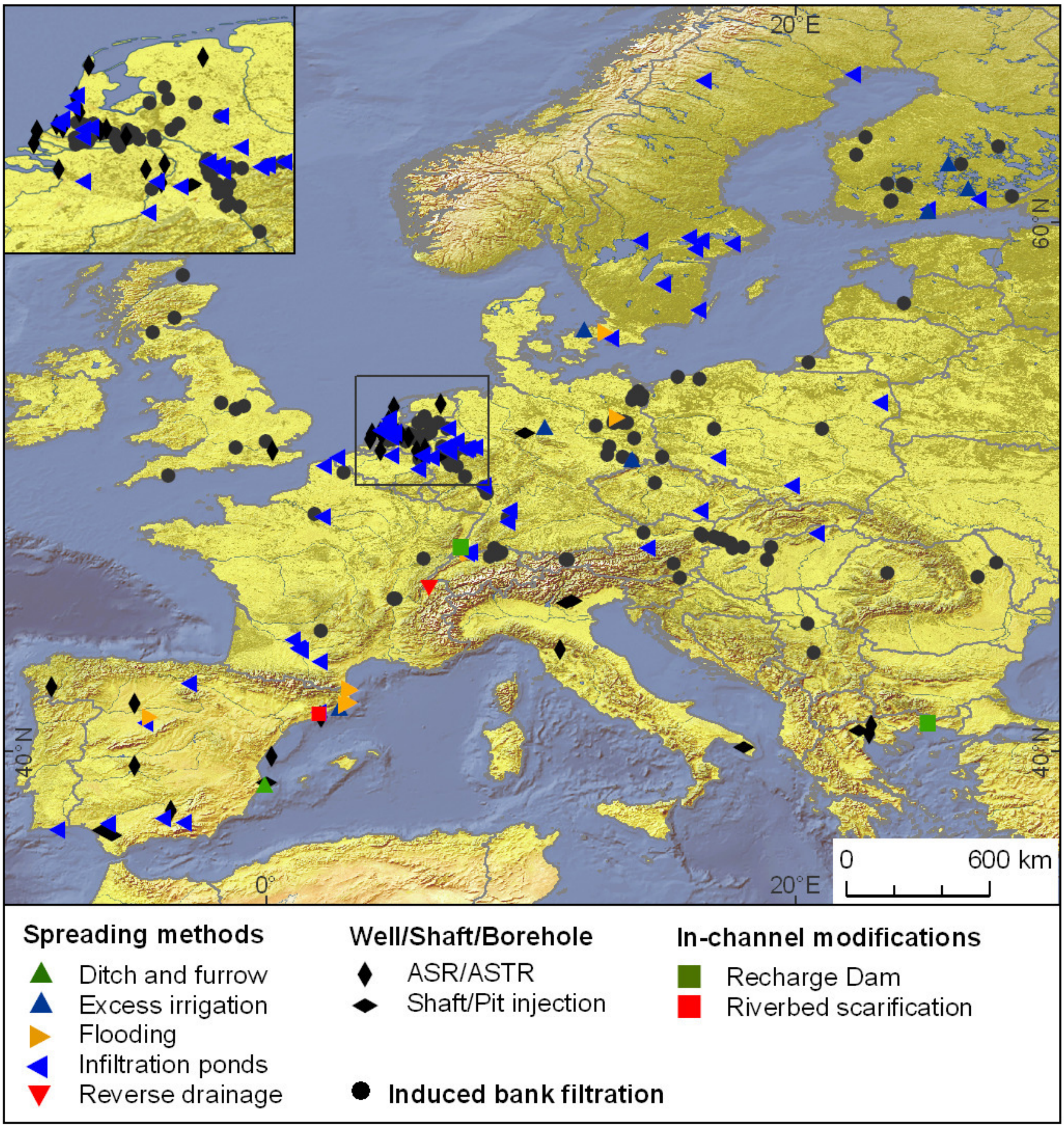

Figure 4: Spatial occurrence of MAR sites in Europe

The distribution of main and specific MAR types in the database is presented in Figure 5. With 145 out of the 270 systems (54 %) induced bank filtration is the most dominant MAR type. Surface spreading methods rank second among all main MAR types with 79 systems (29%). Well, shaft and borehole recharge systems form the third largest group of main MAR types with 44 sites in Europe (16%) and in-channel modifications are applied at 2 sites only (0.7%). Rainwater harvesting was not an applied MAR technology at any of the analyzed sites in Europe.

Together with induced bank filtration, ponds & basins with 61 sites (23%) are the most important specific MAR types. For the latter, none of the considered MAR sites in Europe belonged to either of its two sub-types (i.e. sub surface dams and sand dams).

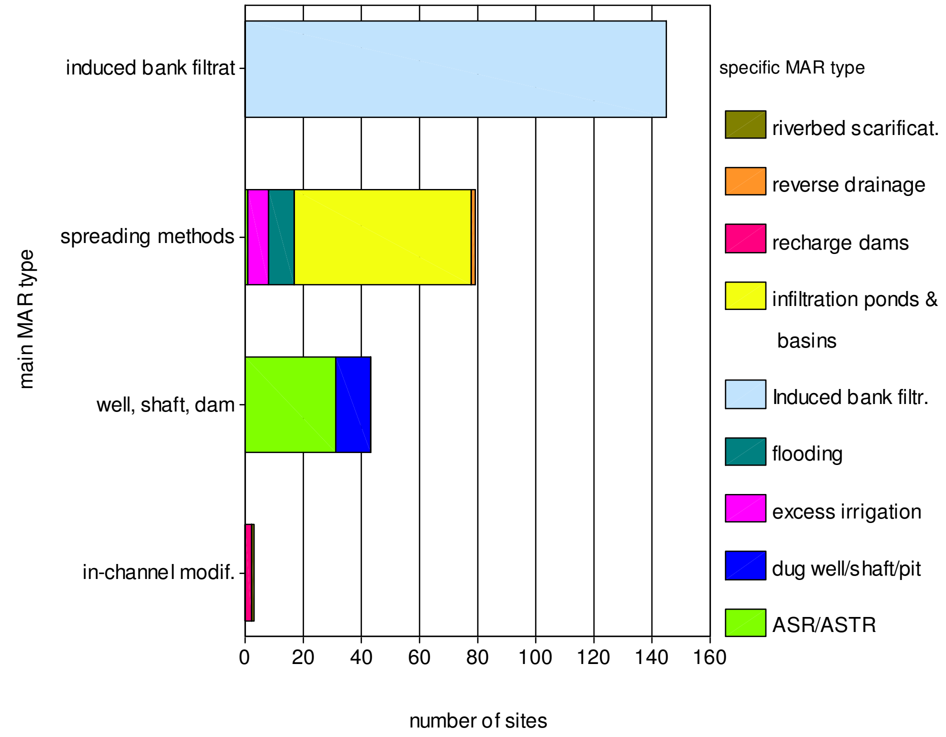

Figure 5: Distribution of main (labels) and specific (colours) MAR types

The distribution of MAR types per country is shown in Figure 6. In terms of total numbers, Germany and The Netherlands together have 136 out of the 270 known MAR sites (50 %), followed by 25 Spanish and 13 French sites (9% and 5%, respectively). For Finland, Sweden, Switzerland and the UK have between 10 and 18 sites (17 % in total) could be identified, while the remaining 19 % of the sites are distributed amongst 15 other countries.

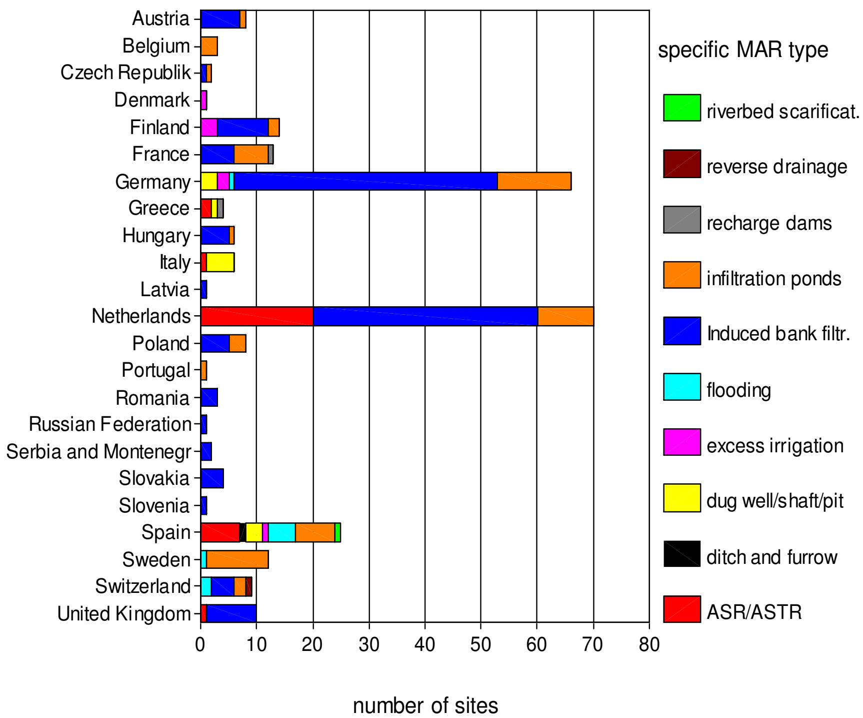

Figure 6: MAR type distribution per country

Information on the year of first operation and the year of shut down allows drafting the historical development of MAR in Europe. In Figure 7, the number of MAR sites opened between 1870 and 2012 classified in a 10 year interval are shown. The modern history of what is called MAR today begins with two techniques which are most prominently represented in the MAR catalogue: i) bank filtration and ii) groundwater replenishment by infiltration ponds. The first reported MAR site in Europe was in Glasgow (UK) where in 1810 the Glasgow Waterworks Company constructed a perforated collector pipe parallel to the Clyde River (Ray et al., 2002) and abstracted bank filtrated water (BMI, 1985). This method was successful at the beginning and many other cities in the UK (e.g. Nottingham, Perth, Derby, Newark). (Ray et al., 2002) adopted the idea and in the 1860´s it came to a first heyday of "naturally filtered water" in the UK (BMI, 1985). However, many of these early sites experienced problems with decreasing well performance and had been abandoned in later years (BMI, 1985). For many of these early sites the exact starting and ending year of operation was not found in the literature and are not included in Figure 7. Nevertheless, the idea of "naturally filtered water" induced by pumping was born and spreaded to continental Europe, where it was soon adapted by cities in The Netherlands, Belgium, Sweden, France, Austria and Germany.

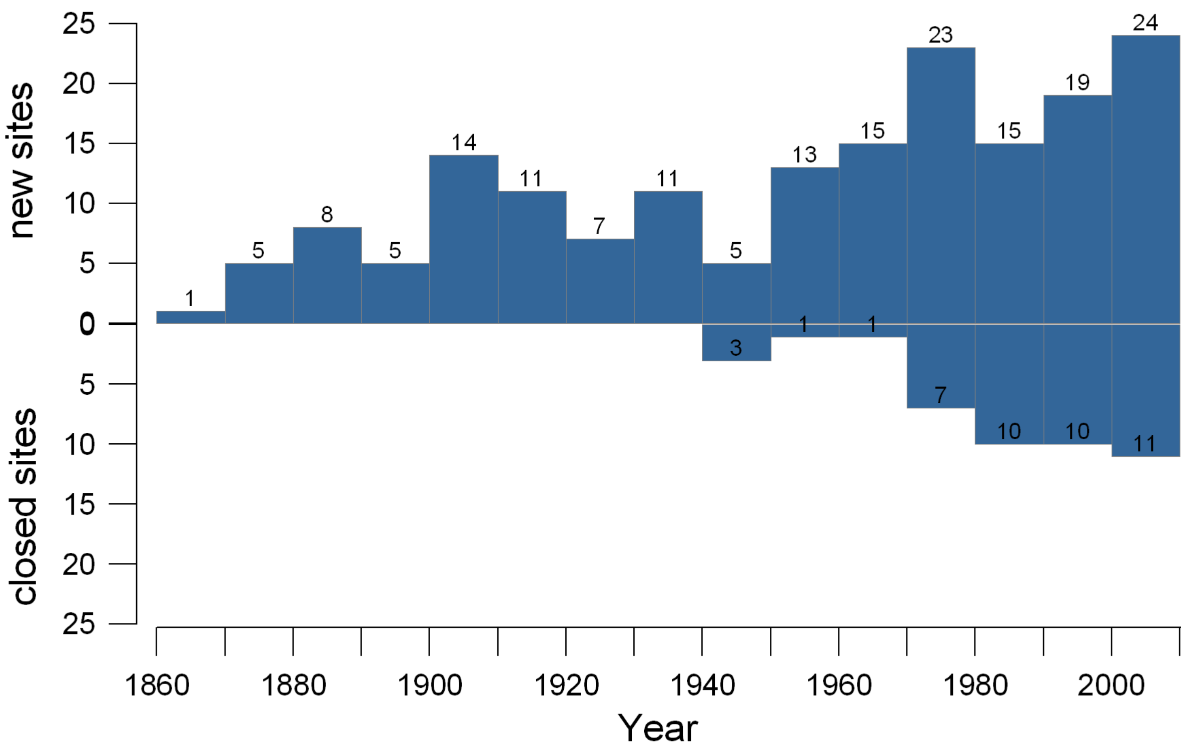

Figure 7: **Historical development of MAR sites in Europe showing the number of new MAR sites opened between 1860 and 2010**

The increasing industrialization and growing population in European cities confronted the municipal water supply with new challenges. The traditional water supply with surface water was impaired by increasing contamination of the new industries and improper sanitation. The pioneers of MAR in Germany were at the Rhine River (e.g. WW Düsseldorf 1870) and at the Ruhr River (e.g. WW Essen 1875), at the Elbe River (e.g. WW Saloppe 1875, WW Hosterwitz 1908) around Dresden and in the Berlin area (e.g. WW Müggelsee, switched to groundwater in 1904-1909, WW Tegel 1901-1903). Similar to the development in Germany and Sweden, river bank filtration (RBF) and infiltration ponds found application in The Netherlands and Switzerland. In The Netherlands e.g., the first known RBF based water supply was reported to have started its operation in 1890 (Stuyfzand, 1989). The first MAR site in Switzerland started its operation in Basel "Langen Erlen" in 1912. Eastern

European cities then followed and in Hungary the first RBF site was installed north of Budapest on a Danube island (Szentendre) in the 1920´s (Homonnay, 2002). To date, this MAR system is the main drinking water source for Budapest (Homonnay, 2002). Additional RBF sites have been developed on other Danube islands (e.g. Csepel) and nowadays several RBF sites exist along the rivers of Raba, Drava, Ipoly, Sajo and Hernad (Homonnay, 2002). In Romania the MAR history starts with the operation of the Iasi water supply system at the Moldova River in 1911 and the cities of Cluj Napoca followed in 1935 with conjunctive use of RBF and infiltration ponds and Bacau in 1961 (Rojanschi et al., 2002). In Finland the first plant using groundwater replenishment by infiltration ponds started its operation in 1929 in Vaasa (Tapio et al., 2006). A few other plants were developed before and after world war II, but the systematic development of MAR in Finland only started in the 1960´s (Tapio et al., 2006). It is reported that in the year 1992 about 20 water suppliers relied on different MAR types mainly constructed in 1970´s. In 2002 already 25 operating water works utilized MAR in Finland (Tapio et al., 2006). Finally, Tapio et al. (2006) report that after several decades of experience with MAR, this technique is continuously favored by water suppliers.

Based on the analysis of the MAR database it is observed that the amount of new sites is increasing with time. This finding is a clear indication of the growing appreciation within the water sector of this long-known technique for the modern challenges in water management and production.

Finally, it must also be noted that due to different reasons 56 (21%) of the sites listed in the database were shut down. While for more than half of them the reason for closure is unknown, many of the remaining sites where only used as pilot studies for a limited period of time. At other sites, operation has been suspended temporarily or was shut down entirely due to economic or political reasons.

3.2 Operational parameter

3.2.1 Primary influent source water

The primary influent source water is the main water type which is used as input water for a particular MAR type. In the database it was possible to choose between wide ranges of different water types (i.e. river water, lake water, storm water, reclaimed domestic wastewater etc.).

Figure 8 illustrates the distribution of influent source water per specific MAR type. In some cases distinct correlations between specific MAR types and influent sources can be observed. As induced bank filtration only occurs along the banks of rivers and lakes this MAR type has two primary influent sources: river and lake water. Groundwater which is in virtually all cases of bank filtration also an influent source water is not shown here, despite of the fact that groundwater may contribute significant to the abstracted water. However, it is not intended to be the primary influent water.

In the case of recharge dams, which are built within riverbeds, river water is the influent source. Since only two records with information on the influent source exist for the MAR type "ditch and furrow", characteristic influent sources cannot be determined.

The remaining MAR types are not restricted to a location near river or lake banks and thus show a larger variety of influent sources.

With a total of 44 available data sets, the main MAR type of well, shaft and borehole recharge (i.e. ASR/ASTR and dug well / shaft / pit injection) shows a large variety of primary influent water sources. ASR/ASTR systems are often used for pilot studies and scientific research purposes and they also use the rather exceptional influent sources of storm water and groundwater.

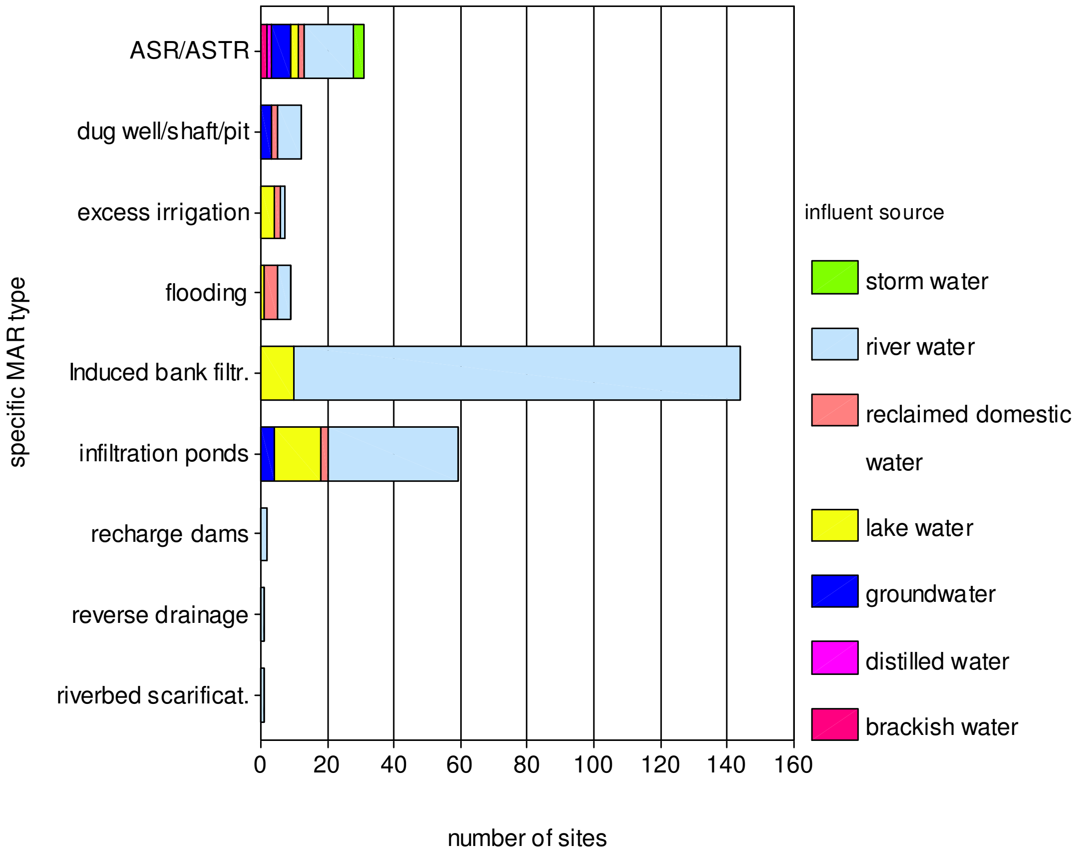

Figure 8: **Distribution influent source water per specific MAR type**

Alternative influent sources such as reclaimed or storm water can be found in areas which are prone to water stress (e.g. Spain), but also in moderate regions (e.g. north Germany) (Figure 9).

Distilled water was used as input water at an ASR site in The Netherlands (Den Burg) between 1977 and 1990. Surplus water from a seawater desalination plant in the winter time was injected and abstracted in the summer period when water demand was increased (Stuyfzand et al., 2012).

Reclaimed domestic water is used as an influent source at 12 sites in Europe. In most cases it is used for agricultural purposes. In Braunschweig (Germany) the sewage works Steinhof is infiltrating about 12 Mio. m^3/a of treated sewage by flooding and sprinkler irrigation. This high operational scale makes this system the largest MAR system utilizing reclaimed water in Europe. At the Llobregat aquifer in Barcelona (Spain) reclaimed water is injected via injection wells or infiltrated through infiltration ponds to act as a hydraulic barrier against seawater intrusion (Ortuno et al., 2012).

Only a few sites in Europe produce domestic water with reclaimed water. In Torreele/St-Andre (Belgium) tertiary treated wastewater is infiltrated in a dune area. The MAR system, in combination with advanced technical treatment, produces potable water in the range of 2.5 Mio. m^3/a (van Houtte and Verbauwhede, 2008). Another example is found at a small scale pilot site in Giannitsa (Greece) (Ferreira et al., 2007).

Apart from the direct usage of reclaimed water via various MAR types several other sites exist which use treated wastewater or a blend of fresh and treated effluent water as source water. E.g. bank filtration sites situated downstream of a sewage treatment plant (i.e. Berlin Tegel (Germany)).

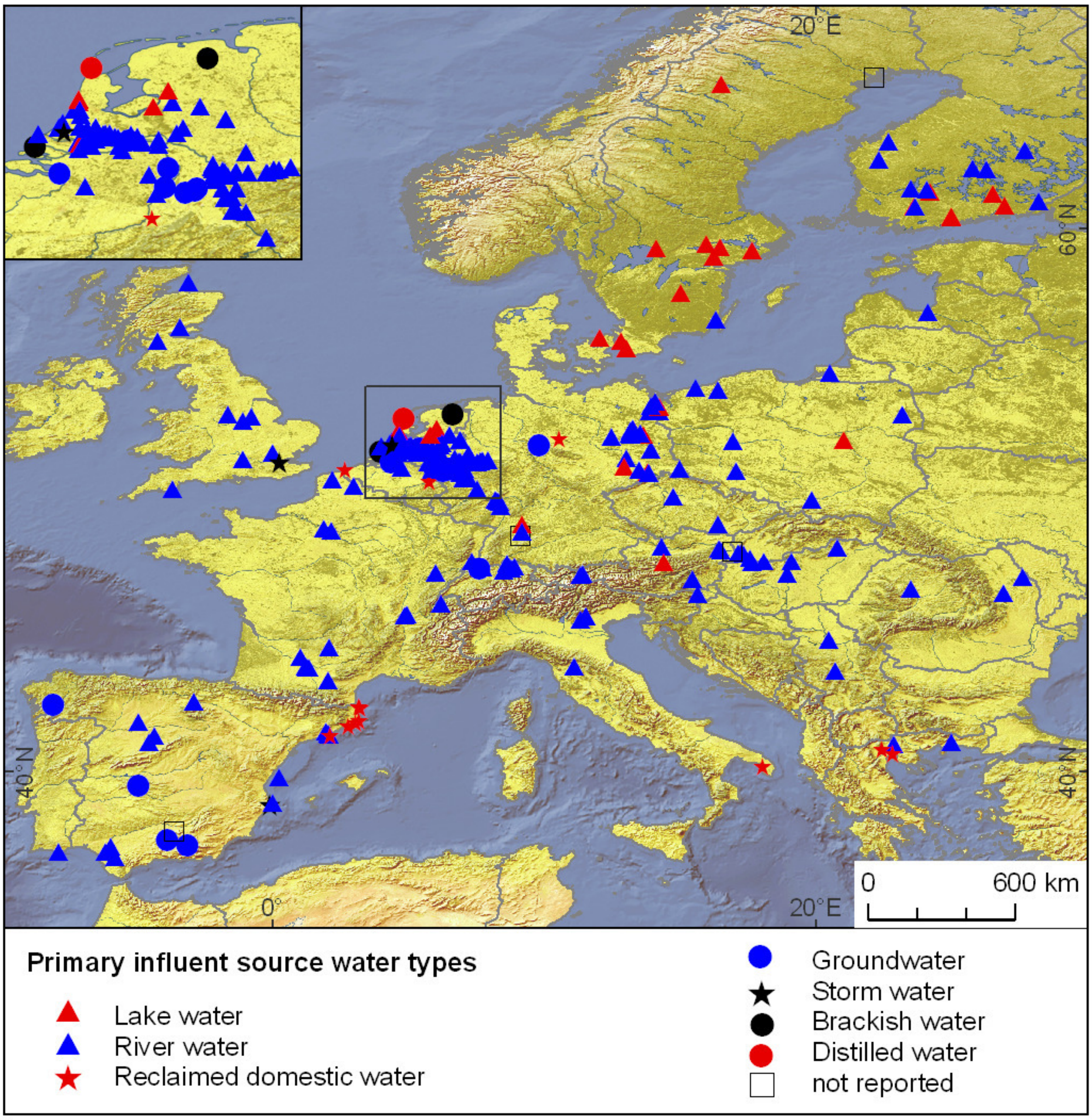

Figure 9: Primary influent source water types of MAR sites in Europe

3.2.2 Final use and main objectives of MAR sites in Europe

The final use describes the intended usage of the output water of the respective MAR system. The catalogue allows distinguishing between agricultural, domestic, ecological and industrial usages. The main objective describes the purpose of the MAR system which can be differentiated between water quality management, physical aquifer management, maximizing storage, management of the water distribution system, ecological benefits and other benefits. Final use and objective are closely related as e.g. an ecological usage is often connected to e.g. the conservation of groundwater dependent ecosystem which is summarized under the objective ecological benefits. However, an ecological or agricultural usage may also contribute to water quality management in which the MAR system is operated to improve or restore groundwater quality.

Figure 10 shows the percentage share of objectives related to the final use of MAR systems. MAR water used for agriculture purposes shows various objectives. At a site in Portugal (Campina de Faro aquifer system) river water was recharged through infiltration ponds in order to improve groundwater quality (Ferreira et al., 2007) . The objective “physical aquifer management” is realized when the MAR system is mainly for stabilizing or restoring groundwater heads. In Marbella (Spain) e.g. injection wells are designed to restore hydraulic gradient to counteract seawater intrusion (Bueso et al., 2006). Maximizing natural storage of the aquifer is intended to be realized by MAR at a site in Greece (close to the city of Kilkis), where river water is injected to bridge seasonally occurring water shortages (Panagopoulos et al., 2004).

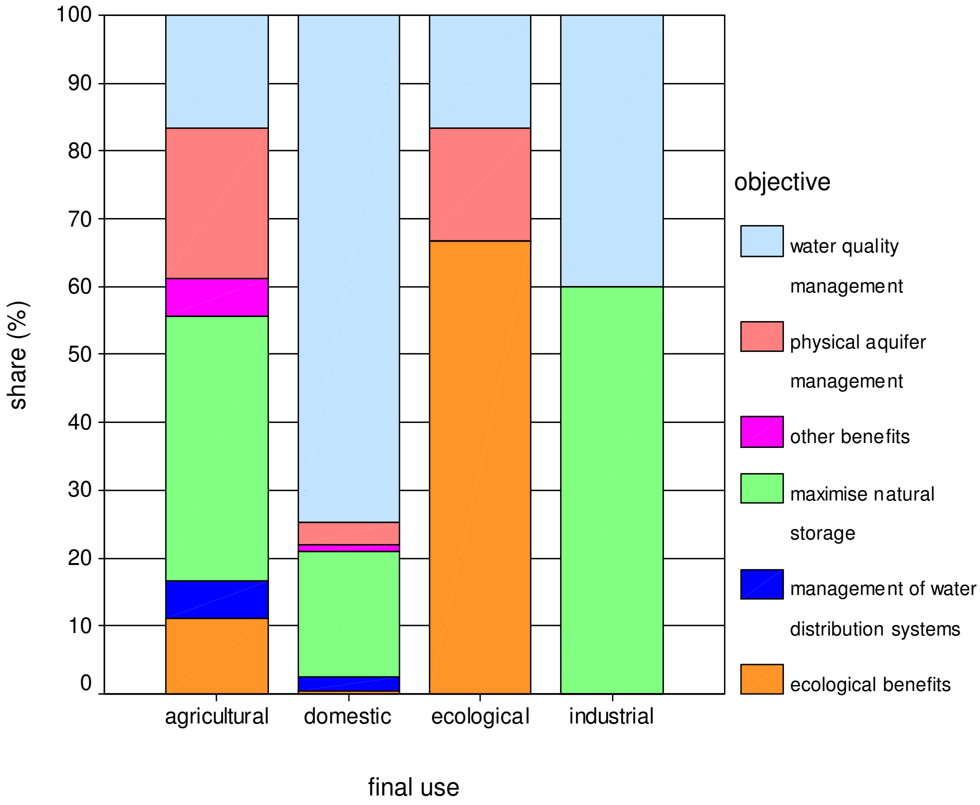

Figure 10: Percentage share of main objective per final use of European MAR systems

Using MAR water for agricultural purposes appears to be much more common in Spain than anywhere else in Europe (Figure 11). Ecological uses are common in Germany, Spain and in The Netherlands, while most industrial uses can be found in Germany.

It is obvious that the main objective for MAR systems producing water for domestic use is in most cases water quality management, but also other objectives such as maximizing natural storage are realized. In Italy e.g. at the Bisenzio River the local aquifer was overexploited over decades and the declining water table threatened the water supply wells. A pilot MAR site explored the potential of MAR in this context (Landini and Pranzini, 2002). At surface water spreading sites in Sweden (Luleå and Landskrona) physical aquifer management appears to be the primary objective but water quality management was also reported to be an important objective. At an ASR site close to London (Horton Kirby) water is stored to bridge seasonal, peak and drought domestic water demand (Riches et al., 2007).

MAR sites with reported ecological use are rare with an amount of 2% for all records of final use data. At an open-pit lignite mining area in West Germany injection wells are operated to stabilize the groundwater table for ecological benefits. The injected source water is groundwater which is pumped from the active mining area to the surrounding area.

Industrial use of MAR water (2% as well) was identified in Germany where process water is produced by bank infiltration for the steel industry and another site in Cologne where bank filtration produces process water for the chemical industry.

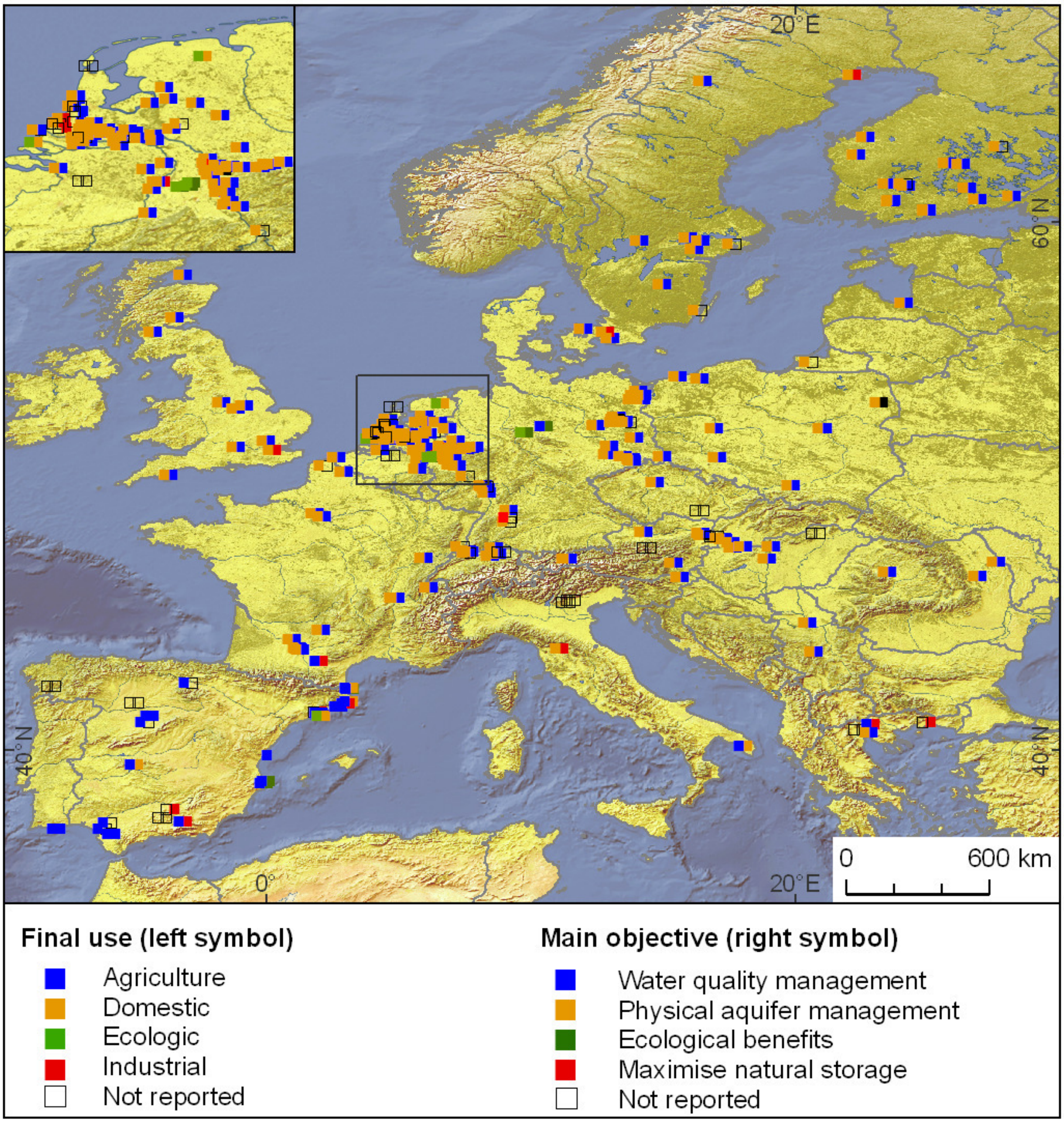

Figure 11: Final use and main objective of MAR sites in Europe

3.2.3 Operational scale

The operational scale gives insight in the total water quantity produced by the MAR system. The operational scale of a water plant which utilizes MAR but also other water sources such as direct groundwater abstraction, is often not differentiated in MAR and other sources. Therefore, the operational scale is often a rough estimation. Anyhow, information on the operational scale allows a (semi-) quantification of water which is produced by MAR.

There is no doubt that MAR plays an important role in the European water supply and induced bank filtration often combined with infiltration ponds produces large water quantities. Large quantities (>

36.5 × 10^6 m^3/a) of MAR water are produced by sites in Hungary, Slovakia, The Netherlands, Germany, Poland and France.

Some of the largest MAR sites exist on islands (Csepel and Szentendre) in the Danube River in Budapest (Hungary), where the operational scale of the river bank filtration sites are reported to be 146 and 219 × 10^6 m^3/a, respectively. Along with all other MAR sites in Hungary included in the catalogue, the total water volume is contributing approx. 59 % to the public water (total public water supply 661 × 10^6 m^3/a in 2006 based on EEA (2010)). Laszlo and Literathy (2002) estimated the share of river bank filtrated water alone to the drinking water supply be about 40 %. This high share of MAR derived water makes Hungary one of the top MAR countries in Europe in terms of share of MAR water to the total public water supply.

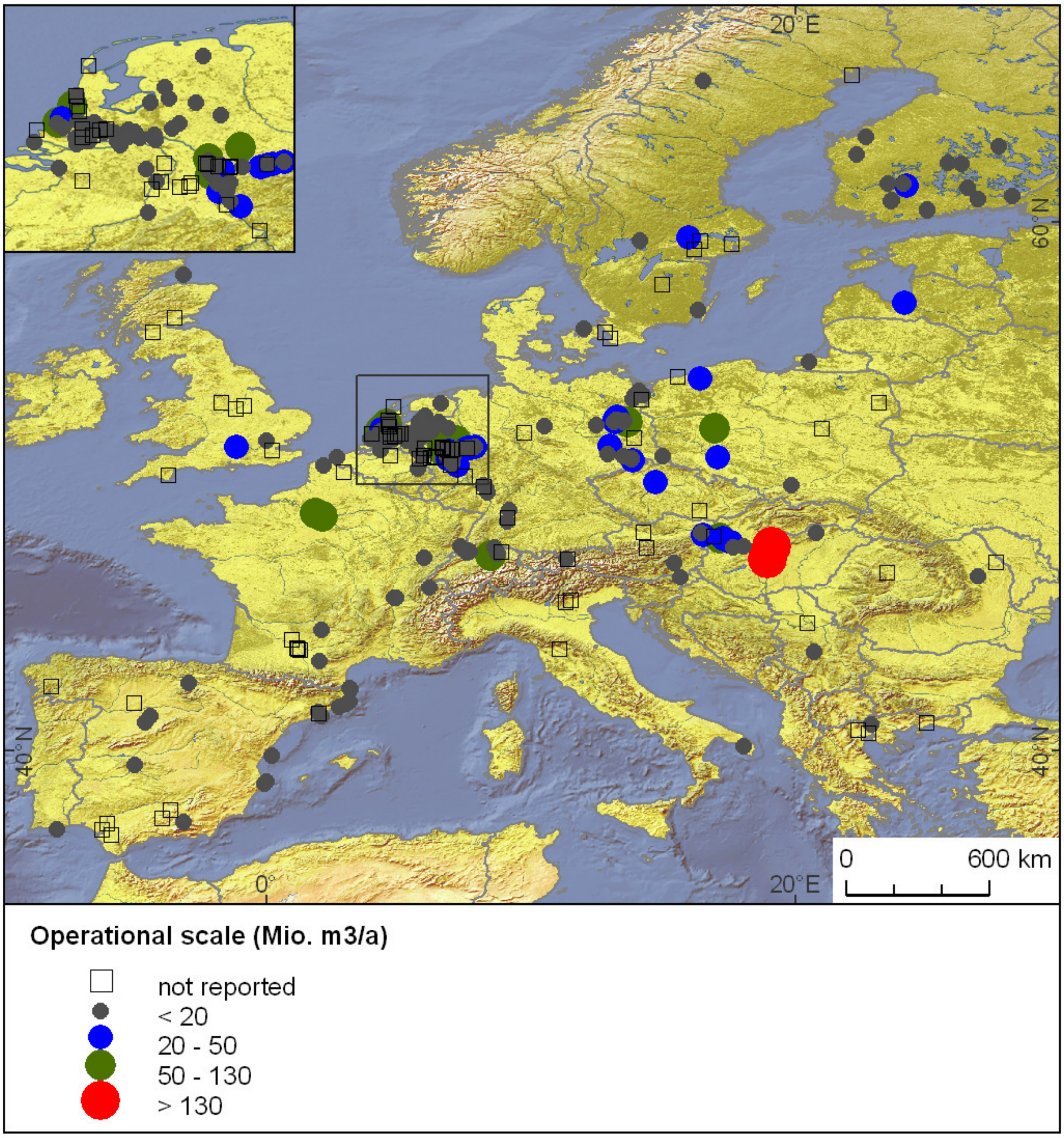

Figure 12: Spatial distribution of operational scale of sites utilizing MAR in Europe

Also the Slovakian public water supply relies on MAR to a large extend. The sum of operational scale for all Slovakian MAR sites (entirely Riverbank Filtration) makes up approx. 55 % of total public water supply (total public water supply 320×10^6 m^3/a in 2007 based on EEA (2010)).

The MAR database includes 48 sites in Germany producing domestic water that were in operation until the year 2007. The sum of operational scales from these sites yield 868×10^6 m^3/a, which is about 16 % of the total public water supply (total public water supply 5371×10^6 m^3/a in 2007 based on EEA (2010)) This finding is identical to the value Schmidt et al. (2003) calculated.

The sum of operational scale for all MAR sites in The Netherlands producing domestic water and were in operation until 2007 is about 373×10^6 m^3/a. The share of MAR water to the public water supply is therefore 30 % (total public water supply 1256×10^6 m^3/a in 2007 based on EEA (2010)). This finding is in contrast to estimations from Stuyfzand (1989) given with approx. 7 % for Bank Filtration systems for the year 1981, but may can be explained by an disproportionally increase of operational scale of MAR sites and the inclusion of other MAR techniques.

Other figures, such as the 50% of bank filtered water in France as given in Doussan et al. (1997) based on a study by Castany (1985) appears to exaggerate the share of MAR water for public water supply. The MAR catalogue includes 8 sites producing domestic water until 2007. The sum of operational scale from these sites make up approx. 3 % of the public water supply in France (total public water supply 5861×10^6 m^3/a in 2007 based on EEA (2010)). This large contrast may be explained different definitions of bank filtration among the countries. In France wells which are situated in alluvial strata were considered as surface water influenced and therefore categorized as river bank filtration wells. This rough simplification may have led to the high share of RBF water, but the actual figures are likely lower.

Estimations for the importance of MAR in Finland are in the range of 13-15% of RBF and infiltration pond water contribution to the total municipal water supply in 2003 given in Tapio et al. (2006) based on personal communication with Kivimäki. The catalogue lists 16 MAR sites from Finland with a total operational scale of 82 Mio.m^3/a. Total annual public water supply in 2007 was 404 Mio. m^3 (EEA, 2010), which results in a contribution of 20 % MAR water to the total water supply.

In Switzerland it is estimated that about one third (25-30 %) of groundwater originates from induced bank filtration (EAWAG, 2013). The catalogue lists 8 MAR sites in Switzerland producing domestic water with a total operational scale of approx. 127 Mio. m^3/a. Public water supply in 2007 was 981 Mio. m^3/a (EEA, 2010) yielding 13 % contribution of MAR water.

In countries without a strong MAR tradition, or weak representation much lower shares (<1 %) of MAR water contribution to public water supply are calculated, but not shown here.

Operational scale against the specific MAR type is illustrated as box plots in Figure 12. Induced bank filtration, closely followed by infiltration ponds & basins, are the MAR types with the highest maximum operational scale. In addition, these two types also stand for 83 % of all available data on operational scales which closely reflects the general distribution of MAR types in Europe.

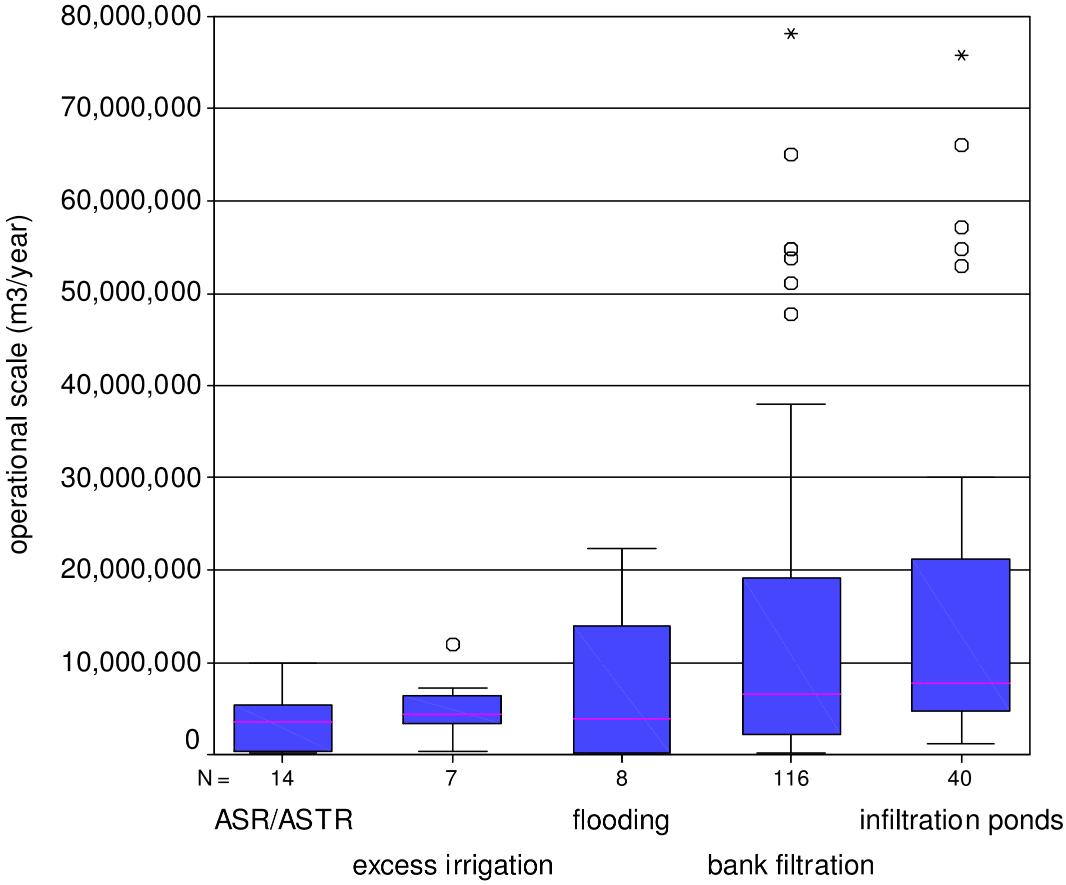

Figure 13: **Box and whisker plots showing the distributions of operational scales per specific MAR type (only n>2 shown, for box and whisker explanation see section 2.1, last paragraph)**

3.3 Hydrogeological properties

3.3.1 Aquifer type, thickness and confinement

The main aquifer types distinguished are consolidated and unconsolidated lithological formations. Both types can be further differentiated by specific aquifer properties describing the geological genesis of the aquifer. The aquifer confinement describes if the aquifer is under confined/semi-confined or unconfined hydraulic conditions.

Information on aquifer confinement and aquifer types is available for 155 and 220 cases respectively, which is equivalent to 57% and 82% of all currently operational MAR sites. About 79% of the 155 sites are located at unconfined aquifers, 16% at semi-confined ones and 5% of them inject water into confined aquifers.

Spatial occurrence of European MAR sites according to the specific aquifer type is shown in Figure 14. 97 % of all MAR sites included in the catalogue are situated in unconsolidated sediments, only 3 % in consolidated aquifers such as sandstones or carbonate terrains. MAR systems in karstic aquifers were not found in the literature.

MAR sites realized in consolidated geological media are rare. Close to London (UK) at the Thames River the fissured chalk aquifer (limestone) is hydraulically connected to the overlying riverbed deposits and used for Riverbank Filtration. Other examples of MAR in consolidated media can be found in the Salento region in Nardò (Italy), where treated municipal wastewater is injected into a fractured limestone and dolomite aquifer. Recharge capacity of infiltration ponds were investigated during a pilot study in the Alcala La Real (Spain) calcarenites aquifer. This pilot study showed promising results but the site was abandoned due to limited underground storage capacities. Based on the data included in the catalogue it can be observed that MAR in consolidated aquifers is the exception in Europe. The complex hydraulic conditions (e.g. flow conduits, secondary porosity) and often decreased sorption capacity in consolidated aquifers (e. g. sandstones) compared to porous aquifers complicate the realization of MAR systems.

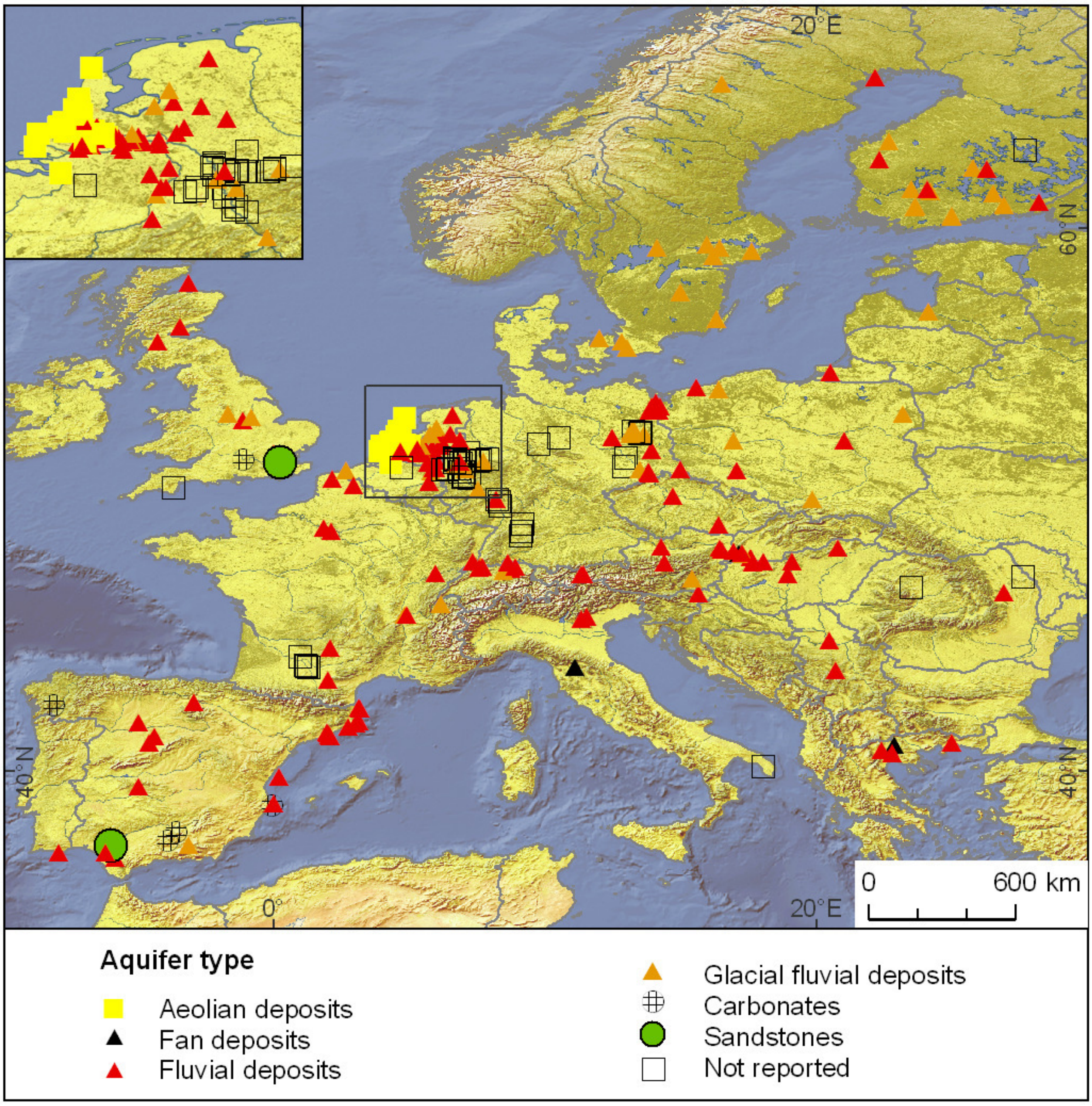

Figure 14: Main aquifer types for MAR sites in Europe

Fluvio-glacial detrital and fluvial sediments constitute the two largest aquifer types (57 and 131 cases respectively). While these two types are most common in northern and mountainous regions, aeolian sediments can mostly be found in flat coastal areas, such as The Netherlands.

Figure 15 presents relative shares of specific MAR types per specific aquifer confinement, while Figure 15 shows the number of sites per specific aquifer type and specific mar type. Considering aquifer types with more than five record sets of MAR types only, induced bank filtration shows highest relative shares for the specific aquifer types “fluvial deposits” and “fluvio-glacial detrital sediments”. In addition, “recharge dams”, “excess irrigation” and “reverse drainage methods” are also only found in combination with these two aquifer types.

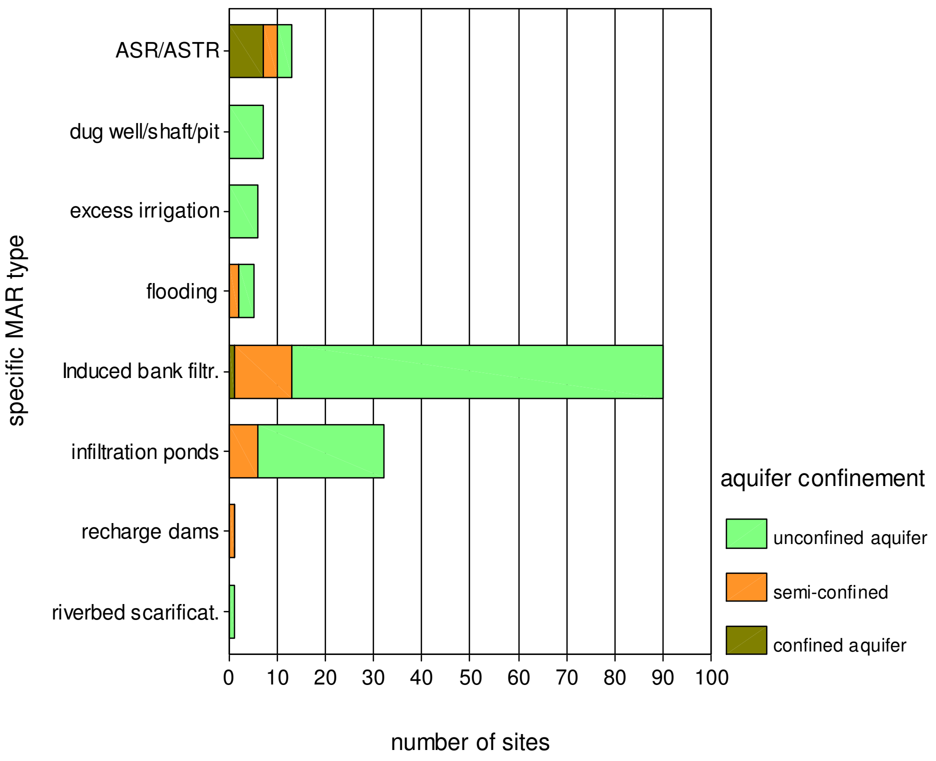

Figure 15: Relative shares of different types of aquifer confinement vs. specific MAR type

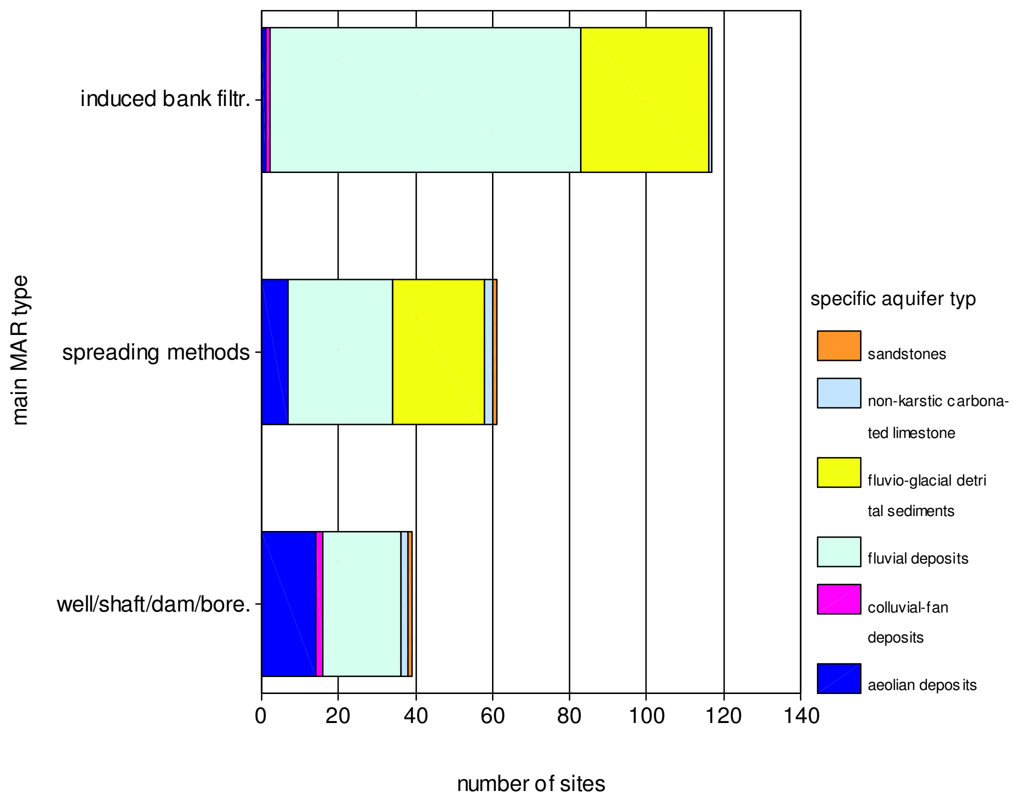

Figure 16: Relative shares of different types of aquifer confinement vs. specific MAR type

This may not be of surprise because these MAR types are usually located near rivers or lakes that are naturally more abundant under geological conditions which were formed by the water and ice instead of wind. In contrast to that, aeolian deposits contain the lowest relative share of induced bank filtration since this aquifer type is often found in dune areas located along the coastline and not alongside rivers or lakes. For this aquifer type, well, shaft, dam and borehole methods show much higher relative shares.

With 231 out of 270 cases, the overwhelming majority of MAR types utilizing some form of spreading technique and induced bank filtration. They are almost always located in areas with unconfined or semi-confined aquifers (Figure 14).

The application of spreading techniques intrinsically depends on the availability of a hydraulic connection from ground surface to the aquifer, meaning unconfined conditions. Under these conditions the effectiveness of groundwater recharge is primarily dependent on the permeability and thickness of the unsaturated zone when applying spreading techniques (e.g. infiltration ponds & trenches and flooding). For induced bank filtration, unconfined aquifer conditions are common since the technique depends on the hydraulic connection with a surface water source. However, semi-or unconfined conditions can result when rivers or lakes have incise (shallow) confining layers, such as Holocene peat and clay deposits. Overall, spreading techniques, induced bank filtration and in-channel modifications are usually applied in cases where the aquifer to be recharged is at or near to the ground surface. In contrast, MAR sites using some sort of well, shaft and borehole recharge technique contain much higher shares of confined aquifers as these systems are designed to inject or infiltrate water directly into the aquifer, thus making them less dependent of the permeability and thickness of the unsaturated zone or the possible existence of aquitards.

Comparing the aquifer thickness with the specific MAR type (see Figure 16) we see, those sites with induced bank filtration and infiltration ponds – the two classes with the most entries in the catalogue – aquifer thickness varies over a large range of meters. Sites with ASR and ASTR methods however are using aquifers with larger thicknesses. Since these techniques commonly depend on injection and extraction from wells, available aquifer thickness controls the maximum well screen length which is linearly related to well production capacity for a given aquifer.

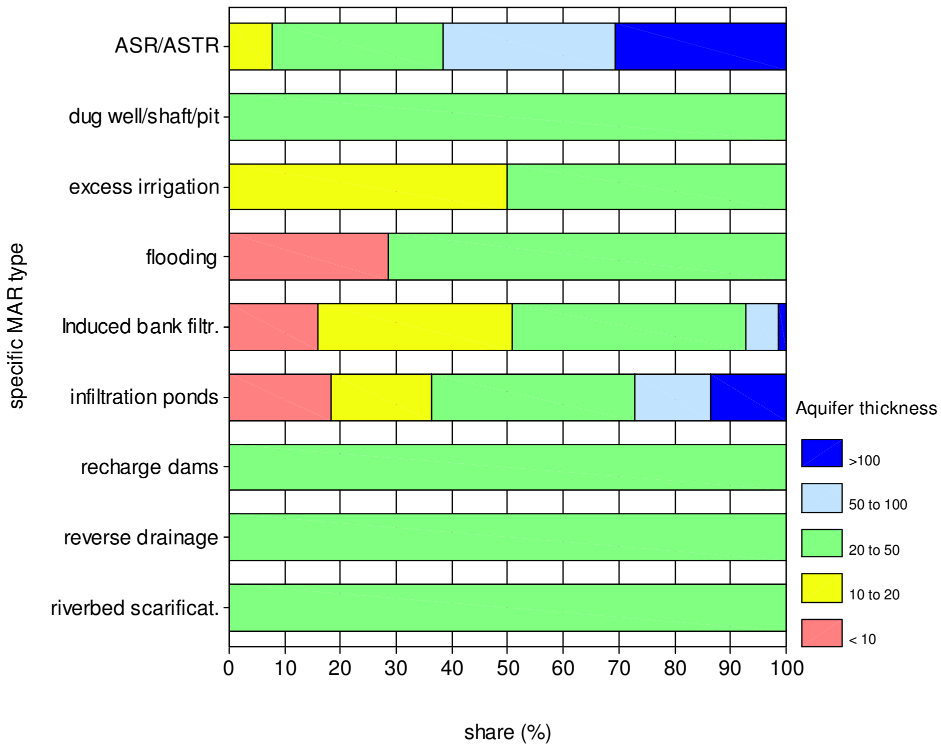

Figure 17: Relative shares of aquifer thickness (Meters) vs. specific MAR type

3.3.2 Horizontal aquifer passage, recovery rate

The horizontal aquifer passage is the distance between the point/area of recharge (e.g. river banks during induced bank filtration or the injection well during ASTR) and the point of recovery (e.g. the production well). Horizontal aquifer passage roughly relates to the residence time of the infiltrated source water during aquifer passage, but is not equal to the flow path.

For 108 cases information is available on the average horizontal aquifer passage at the MAR site. Figure 17 shows the ranges except of one site with the dug-well-shaft-pit-injection type.

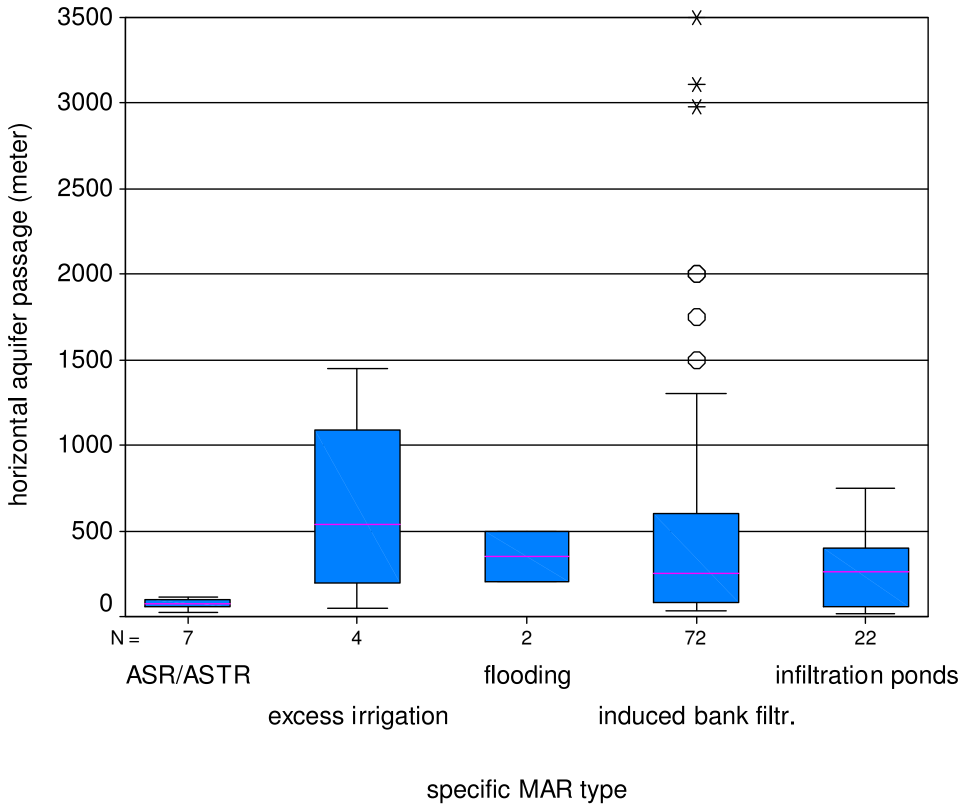

Figure 18: **Box plots showing the distribution of horizontal aquifer passages**

Induced bank filtration sites show a wide range of horizontal aquifer passages from a few tens of meter (e.g. 30 m at Remmerden in The Netherlands) to few kilometers (e.g. 3.5 km at Aalst in The Netherlands). For short distances, bank filtration mainly acts to strain physical and biological particles, whereas chemical transformations commonly require longer travel and/or residence times.

Shares of bank filtrate in the production well (recovered infiltrate) cannot be assessed by the horizontal aquifer passage, although shares of source water increase with shorter distance from the surface water source for a particular site. It is however also dependent on the aquifer thickness, the regional hydraulic gradient and other local hydrogeological properties. BF sites with short aquifer passage e.g. Remmerden (NL) are usually characterized by high shares of bank filtrate (82%), but also BF sites with long aquifer passages e.g. Aalst, Kolff and Druten (horizontal aquifer passage ≥3000 m) may abstract high shares of bank filtrate (29 - 68%) in the production well. Overall, typical horizontal aquifer passage for bank filtration systems (10th to 90th percentile) are between 50 – 1250 m (median 250 m).

Horizontal aquifer passage at ASTR sites included in the catalogue were not longer than 113 m. Dug well, shaft and injection do not have sufficient records to be evaluate horizontal aquifer passage. For infiltration ponds and basins the range in the database for the horizontal aquifer passage is between 20 and 746 m.

During surface spreading the horizontal aquifer passage varies between 1450 m at a sprinkler irrigation site in Finland (Hämeenlinna) and 30 m at an infiltration pond site in Krakow (Poland). Recovery rates for surface spreading sites are often not available. At the Solleveld site (infiltration ponds in dune areas in The Netherlands) the average annual abstracted water volume is lower than the average annual infiltrated volume and the recovery rate can be approximated with 90%.

3.3.3 Hydraulic conductivity, infiltration/injection rates and volumes

The hydraulic conductivity describes the ability for water to move through an aquifer. Among other factors, it relates to the permeability geological media and the water saturation.

Hydraulic conductivity is given for 108 sites and is shown in Figure 19 for the different specific MAR types. As expected, river bank filtration shows the highest density of records compared to the other MAR types with an amount of 68 records (62%). 50% of the sites show a hydraulic conductivity between 10^{-3} and 10^{-2} m/s while 40% are in the range of 10^{-4} and 10^{-3} m/s.

Infiltration ponds and basins provide the second highest amount of records with 16 values (15%). The major range of values for this particular specific MAR type is provided within the amount of 10^{-4} and 10^{-3} m/s (44%).

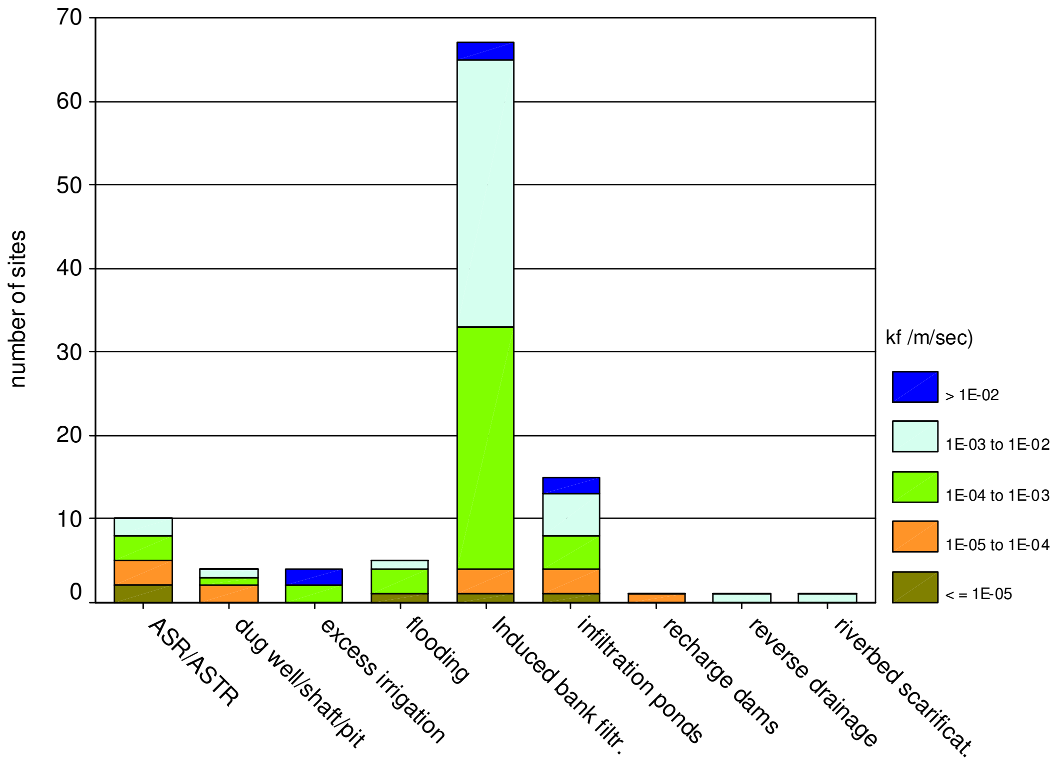

Figure 19: Hydraulic conductivity (k_f values) subdivided into five classes for MAR types

Infiltration rates are obtained from only 22 MAR sites and range from < 1 m/d to maximal 8 m/d. Dune infiltration sites in The Netherlands (e.g. Solleveld) have low infiltration rates < 1 m/d ($k_f = 10^{-4}$ to 10^{-3} m/s). Higher infiltration rates can be found in the Guadix plain (Spain) given with approx. 1-2 m/day and a hydraulic conductivity of 10^{-5} to 10^{-4} m/s. Infiltration rates from some sites decreased during the time of operation. At the Oja River (Spain) e.g. the infiltration rate at infiltration ponds reduced from >10m/d in the beginning to <1m/d after four years of operation. This was explained by clogging effects at the base of the recharge ponds (Diaz Murillo et al., 2002). Highest infiltration rates were found at a sprinkler infiltration site in southern Finland (Hämeenlinna) where between 8 and 10 m/d could be maintained during the snow free period.

3.4 Water quality monitoring

During data acquisition it was tried to obtain information on scheduled frequency of water quality monitoring for the MAR sites. The catalogue allows specifying monitoring frequency for in-situ, bulk chemistry, heavy metals, organic compounds, microbiology and emerging pollutants.

MAR sites which produce water for drinking purposes underlie strict regulations according to EU and national legislations. Most of this sampling and analysis is standard procedure and often not reported in the literature (Figure 19). Therefore, the information included in the MAR catalogue is not representative for monitoring frequency of the European MAR sites.

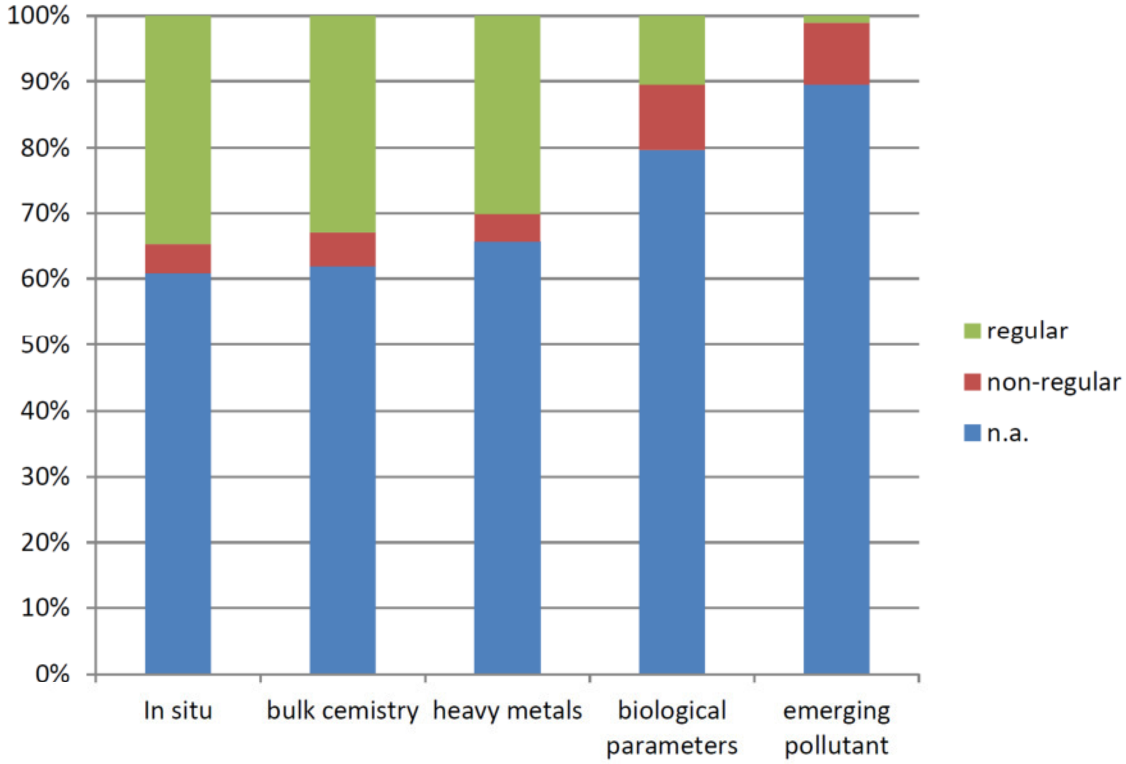

Figure 20: Monitoring frequency for five different water quality parameters ("n.a.": information not available)

3.5 Recommendations for further data generation

For future studies and reports on existing and newly developed MAR sites, it is strongly recommended to explicitly state the main information types of operational aspects types as identified here. To generate a comprehensive and internally robust overview of MAR operations in the EU, site information should at least include values on hydraulic conductivity, the thickness of the aquifer used, the horizontal distance of passage through the aquifer, the number of recovery wells involved and the operational scale at which water is managed within the MAR system.

In addition to these general basic aspects required, a general limited amounts or even a lack of water quality aspects has been documented, particularly for emerging pollutants. Therefore, plans to set up future investigative field tests, should address the issue of emerging pollutants. To set an example within DEMEAU, three sites in France, Poland and The Netherlands are selected for additional sampling within the DEMEAU project (Table 4). These sites allow different approaches for emerging pollutant characterization to be highlighted as they represent a range in operational aspects as well as in their levels of current characterization of emerging pollutants.

Table 4: Selected MAR sites for further investigation

Country	City	Site	Specific MAR type	Source water	Identified knowledge gap
France	Angerville	Beauce area	Infiltration ponds	Reclaimed domestic water	Some data to EP substances available, but no time series
Poland	Krakow	Bielany	Infiltration ponds	River water	no data to EP substances
The Netherlands	The Hague	Dune	Infiltration ponds	River water	Time series, with data on EP substances

4.0 Summary

The present MAR catalogue is a result of DEMEAU´s partner to homogenize and structure existing information of European MAR sites. Information included in the MAR catalogue is used for statistical and geographical analysis and presentation, in order to characterize key parameter of MAR sites. The MAR catalogue is still open for further data entry and is aiming to improve its coverage continually.

The current catalogue contains 214 active and 56 inactive MAR sites and the data indicates an increase of MAR application in Europe over the last decades. For the sites that were shut down reasons were often not reported, but many of those were used as pilot studies for a limited period of time. At other sites, operation has been suspended temporarily or shut down permanently due to economic or political reasons.

More than half of the cataloged MAR sites are induced bank filtration (54%) followed by spreading methods (29%) of which infiltration ponds & basins (23%) make up the largest share. Well, shaft and borehole recharge systems form the third largest group (16%). More than half of all sites are located in Germany and The Netherlands while another 14% can be found in Finland and Spain. However, this ranking is somewhat biased, because it is based on non-representative selection.

River water (78%), lake water (11%) and reclaimed domestic water (4%) are the most common primary influent sources. As induced bank filtration occurs along the banks of rivers and lakes this MAR type has two primary influent sources: river and lake water. Groundwater which is in virtually all cases of bank filtration an influent source water was not evaluated, since it is not intended to be the primary influent water. Reclaimed domestic water is used as an influent source at twelve sites in Europe and in most cases used for agricultural purposes.

The most frequent final use is for domestic purposes (88%) followed by agricultural (8%), industrial and ecological purposes (2% each). Using MAR water for agricultural purposes appears to be very common in Spain than anywhere else in Europe. Ecological uses are common in Germany, Spain and in The Netherlands while most industrial uses can be found in Germany.

During drinking water production, the improvement of water quality is a key target. Water quality management forms therefore, the largest share of all the objective classes (71%) while another 19% of the sites aim at maximizing the natural storage. MAR systems operated to increase the aquifer storage are often concentrated in regions where groundwater extraction rates exceed the natural groundwater recharge while physical aquifer management is mostly used to prevent saltwater intrusion.

Values on operational scale range over four orders of magnitude and are highest for induced bank filtration sites closely followed by infiltration ponds and basins. There is no doubt that MAR plays an important role in the European water supply and induced bank filtration often combined with infiltration ponds produces large water quantities. Large quantities ($> 36.5 \times 10^6$ m^3/a) of MAR water is produced by individual sites in Hungary, Slovakia, The Netherlands, Germany, Poland and France. The share of the MAR produced domestic water to the total public water supply was calculated for various countries. In Hungary i.e. all MAR sites included in the catalogue contributing approx. 59 % to the public water. In Germany this share is about 16 % of the total public water supply. The sum of operational scale for all Slovakian MAR sites (entirely Riverbank Filtration) makes up approx. 55 % of total public water supply. In Finland the MAR contribution to the total water supply was calculated with about 20%. In Switzerland the

MAR contribution was calculated with 13 %. Well/shaft and borehole sites tend to have a lower operational scale between 0.2 – 5.8 Mio m^3/a.

The overwhelming majority of MAR sites are situated in unconsolidated strata. Geological formations such as fluviatile and glacial sediments, but also aeolian deposits (e.g. in The Netherlands) are most commonly utilized. MAR sites realized in consolidated geological media are very rare. Most of the MAR sites are located in unconfined aquifers. Spreading techniques, induced bank filtration and in-channel modifications are obviously applied where the aquifer to be recharged is at or near to the ground surface and the surface consists of permeable material. Well, shaft and borehole recharge schemes are operated more often in confined or semi-confined aquifers. Most of the used aquifers are relatively shallow, 80% of all aquifers have thicknesses between 10 and 50m with only 8% of all entries being larger than 100m. Induced bank filtration and surface spreading methods can be often found at shallow depths, while ASR/ASTR sites also are used at aquifer depths > 100m below ground surface. About 50% of induced bank filtration sites show a hydraulic conductivity between 10^{-3} and 10^{-2} m/s while 40% are in the range of 10^{-4} and 10^{-3} m/s. Common ranges of hydraulic conductivity for spreading methods are between 10^{-5} and 10^{-3} m/s.

Horizontal aquifer passage differs substantially between the various MAR types. Induced bank filtration sites show a wide range of horizontal aquifer passages from a few tens of meters (30 m) to few kilometers (3 km). Typical horizontal aquifer passage for bank filtration systems (10^{th} to 90^{th} percentile) are between 50 – 1250m (median 250 m). During surface spreading the horizontal aquifer passage varies between 1450m at a sprinkler irrigation site and 30m at an infiltration pond site, while the 10^{th} and 90^{th} percentile was calculated with 40 – 690m. Horizontal aquifer passage at well/shaft sites included in the catalogue was not longer than 113m and the 10^{th} and 90^{th} percentile is given with 30 – 110m, but with a low number of cases (n= 7).

Most of the water quality monitoring is standard procedure and often not reported in the literature. Information on water quality monitoring programs applied at the MAR sites was found to be not representative of the European MAR sites.

Characteristic values or ranges of values for the main MAR types induced bank filtration, spreading methods and well/shaft/borehole recharge are summarized in table 5.

Table 5: Summary of characteristic site parameters for three main MAR types (induced bank filtration, spreading methods and well/shaft/borehole methods); the ranges are calculated by the 10th and 90th percentiles of the distributions for numerical parameters (except for aquifer thickness) and by the most common values for the string parameters

Site parameter	Unit	Induced bank filtration	Spreading methods	Well/ shaft/ dam/ borehole
Operational scale	Mio. m^3/a	0.7 – 35 (n=116)	1.5 – 27 (n=57)	0.2 – 5.8 (n=15)
Final use	-	domestic	domestic	domestic, agriculture and ecological
Main objective	-	water quality management	water quality management & maximizing natural storage	water quality management and physical aquifer management
Primary influent source water	-	river water	river & lake water	river water & different sources
Horizontal aquifer passage	m	50 - 1295 (n=72)	40 – 690 (n=28)	30 – 110 (n=7)
Aquifer thickness (min-max)	m	<10 – 100 (n=142)	10 – >100 (n=39)	20 – >100 (n=16)
Aquifer confinement	-	unconfined	unconfined	confined to semi-confined
Hydraulic conductivity	m/s	10^{-2} - 10^{-4} (n=142)	10^{-2} - 10^{-5} (n=46)	10^{-3} - 10^{-5} (n=13)

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Annex a: available informations to the sampled sites in the MAR catalogue (in some cases only the first attribute is announced, e.g. main MAR type, other information with low interest are not displayed, e.g. E-Mail)

site name	country	city	latitude	longitude	Operator	under operation since	shut down since	1. main MAR type	1. specific MAR Type	influent source	final use
Rosenau	Austria	Garsten	47,713	14,393	not specified			spreading methods	infiltration ponds & basins	lake water	
Andritz	Austria	Graz	47,111	15,426	Graz AG Wasser	1980		induced bank filtration	Induced bank filtration	river water	domestic
Hainburg	Austria	Hainburg an der Donau	48,12	16,94	not specified			induced bank filtration	Induced bank filtration		
Höttinger Au	Austria	Innsbruck	47,269	11,404	Innsbrucker Kommunalbetriebe AG			induced bank filtration	Induced bank filtration	river water	domestic
Ulfiswiese	Austria	Innsbruck	47,257	11,344	Innsbrucker Kommunalbetriebe AG			induced bank filtration	Induced bank filtration	river water	domestic
Urfahr	Austria	Linz	48,307	14,286	G.U.T. GmbH (Linz, Austria)			induced bank filtration	Induced bank filtration	river water	domestic
Donauinsel Nord	Austria	Vienna	48,236	16,415	Wiener Wasserwerke			induced bank filtration	Induced bank filtration	river water	domestic
Lobau	Austria	Vienna	48,174	16,5	Wiener Wasserwerke	1966		induced bank filtration	Induced bank filtration	river water	domestic
Grobbendonk	Belgium	Antwerp	51,2	4,7167	PiDPA	1975		spreading methods	infiltration ponds & basins	river water	
Wulpen	Belgium	Koksijde	51,118	2,658	Intermunicipal Water Company of the Veurne	2002		spreading methods	infiltration ponds & basins	reclaimed domestic water	domestic
Torreele/St-Andre´	Belgium	Torreele/St-Andre´	50,69744	5,753059	Intermunicipal Water Company of the Veurne Region	2002		spreading methods	infiltration ponds & basins	reclaimed domestic water	domestic
Karany	Czech Republik	Karany	50,17	14,73	Versorgungsunternehmen PVK (Pražské vodovody a kanalizace)	1914		induced bank filtration	Induced bank filtration	river water	domestic
Dyje river basin	Czech Republik	Southern Moravia	49,115	16,379	not specified			spreading methods	infiltration ponds & basins	river water	
Arrenæs	Denmark	Nordhuse	55,97764	12,01767	Copenhagen Energy	1995		spreading methods	excess irrigation	lake water	domestic
Lohiluoma	Finland	Eura	62,54552	22,29675	JVP-Eura Ltd			induced bank filtration	Induced bank filtration	river water	domestic
Hietakangas	Finland	Evijärvi	63,22992	22,67703	not specified			induced bank filtration	Induced bank filtration	river water	domestic

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site name	objective	no. of infiltration wells	no. of recovery wells	filter depth (m)	horizontal aquifer passage (m)	operational scale (hm³/a)	average infiltrated volume (hm³/a)	residence time	pretreatment	posttreatment	hydraulic conductivity (m/s)	aquifer thickness (m)	aquifer confinement
Rosenau													
Andritz	water quality management		< 10			10.074.000			secondary		1E-03 to 1E-02	20 bis 50	
Hainburg													
Höttinger Au	water quality management				50						1E-03 to 1E-02	10 bis 20	
Ulfiswiese	water quality management				275	18.250.000		days			1E-04 to 1E-03	20 bis 50	
Urfahr	water quality management							months			1E-03 to 1E-02		unconfined aquifer
Donauinsel Nord	water quality management		< 10			15.695.000		days					
Lobau	management of water distribution systems		< 10			29.200.000					1E-03 to 1E-02	10 bis 20	
Grobbendonk			25 to 50	20 to 50	300		547500		secondary			20 bis 50	semi-confined aquifer
Wulpen	water quality management	< 5	>100	< 10	56	3.500.000	2500000	months	tertiary	secondary			unconfined aquifer
Torreele/St-Andre´	water quality management	< 5	>100	< 10	40	3.500.000	2500000	months	tertiary	primary			unconfined aquifer
Karany	water quality management	15 to 30			250	21.535.000		months			1E-04 to 1E-03	< 10	unconfined aquifer
Dyje river basin													
Arrenæs	water quality management	5 to 10				255.000	255000	months	primary			20 bis 50	unconfined aquifer
Lohiluoma	water quality management					704.450	731825						unconfined aquifer
Hietakangas	water quality management					237.250	151110	months					unconfined aquifer

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site name	main aquifer type	specific aquifer type	monitoring in situ	monitoring bulk chemistry	monitoring heavy metals	monitoring organic compounds	monitoring micro biological pollutants	monitoring emerging pollutants	monitored emerging pollutants
Rosenau	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Andritz	unconsolidated materials	fluvio-glacial detrital sediments	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Hainburg	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Höttinger Au	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Ulfiswiese	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Urfahr	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Donauinsel Nord	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Lobau	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Grobbendonk			n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Atrazine
Wulpen	unconsolidated materials	fluvio-glacial detrital sediments	regular	regular	regular	regular	non-regular	non-regular	antibiotic resistance genes, pesticides, herbicides
Torreele/St-Andre´	unconsolidated materials	fluvial deposits	n.a.	regular	regular	regular	regular	non-regular	Carbamazepine; Sulpamethoxazole; Trimethoprim; Ibuprofen; Naproxen; Ioperol; Diatrizoat; Estradiol; Primidon; N-Acetyl-Sulfamethoxazole; Clarythromycin; Diclofenac; Benzotrazole; Iopromid; Estrone; Ethinylestradiol.
Karany	unconsolidated materials	fluvial deposits	n.a.	regular	n.a.	n.a.	n.a.	n.a.	
Dyje river basin	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Arrenæs	unconsolidated materials	fluvio-glacial detrital sediments	regular	regular	n.a.	regular	n.a.	n.a.	
Lohiluoma	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Hietakangas	unconsolidated materials	fluvio-glacial detrital sediments	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	

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site name	country	city	latitude	longitude	Operator	under operation since	shut down since	1. main MAR type	1. specific MAR Type	influent source	final use
Forssa	Finland	Forssa	60,81368	23,62099	Suomen Ekolannoite Oy			induced bank filtration	Induced bank filtration	lake water	domestic
Linikkala	Finland	Forssa	60,81736	23,64708	Forssan Vesihuoltolaitos			induced bank filtration	Induced bank filtration	river water	domestic
Ahvenisto	Finland	Hämeenlinna	61,29572	26,51168	Hämeenlinna Region Water Ltd.	1976		spreading methods	infiltration ponds & basins	river water	domestic
Kankainen	Finland	Hämeenlinna	62,18639	26,25887	HS Vesi			induced bank filtration	Induced bank filtration	river water	domestic
Vuonteenharju	Finland	Jyväskylä	62,244	25,747	Jyväskylän Energia	2000		spreading methods	excess irrigation	river water	domestic
Riku	Finland	Kangasala	61,464	24,072	Kangasalan Vesi -liikelaitos			induced bank filtration	Induced bank filtration	river water	domestic
Kuivala	Finland	Kouvola	60,88	26,92	Kymenlaakson Vesi Oy			spreading methods	infiltration ponds & basins	river water	domestic
Hietasalo	Finland	Kuopio	62,893	27,68	Kuopion Vesi Liikelaitos			induced bank filtration	Induced bank filtration	river water	domestic
BF Plant Nokia - Maatialaharju	Finland	Nokia	61,48072	23,50126	Nokian kaupungin vesilaitoksen	1974		induced bank filtration	Induced bank filtration	river water	domestic
Vehonniemi-Isokangas Esker	Finland	Tampere	61,382	24,2	Tavase Oy	2003		induced bank filtration	Induced bank filtration	lake water	domestic
Jäniksenlinna	Finland	Tuusula	60,49	24,965	Tusulan Seudun Vesilaitos Kuntayhtymä	1979		spreading methods	infiltration ponds & basins	lake water	domestic
Rusutjärvi	Finland	Tuusula	60,433	24,982	Tusulan Seudun Vesilaitos Kuntayhtymä	1997		spreading methods	excess irrigation	lake water	domestic
Beauce area	France	Angerville	48,311	1,998	Suez-Environnement/CIRSEE	2002		spreading methods	infiltration ponds & basins	reclaimed domestic water	
Flins	France	Aubergenville	48,98248	1,860166	Lyonnaise des Eaux	1960		induced bank filtration	Induced bank filtration	river water	domestic
Bas-Quercy	France	Bas-Quercy	44,22	0,99778	Veolia Eau	1976		spreading methods	infiltration ponds & basins	river water	domestic
Capdenac-Gare	France	Capdenac-Gare	44,582	2,082	not specified			induced bank filtration	Induced bank filtration	river water	domestic
Croissy-sur-Seine	France	Croissy-sur-Seine	48,87968	2,142506	Eau de Paris	1959		spreading methods	infiltration ponds & basins	river water	domestic
Geneuille	France	Geneuille	47,32335	5,969782	not specified			induced bank filtration	Induced bank filtration	river water	domestic

the list is sorted by country, then by city and then by site name

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site name	objective	no. of infiltration wells	no. of recovery wells	filter depth (m)	horizontal aquifer passage (m)	operational scale (hm³/a)	average infiltrated volume (hm³/a)	residence time	pretreatment	posttreatment	hydraulic conductivity (m/s)	aquifer thickness (m)	aquifer confinement
Forssa	water quality management					2.365.200		days			1E-03 to 1E-02	10 bis 20	unconfined aquifer
Linikkala	maximise natural storage					3.285.000	1801640						unconfined aquifer
Ahvenisto	maximise natural storage				1150	7.300.000	2836050					20 bis 50	unconfined aquifer
Kankainen	water quality management					157.315							unconfined aquifer
Vuonteenharju	water quality management				340	5.475.000		months			1E-04 to 1E-03		unconfined aquifer
Riku						2.883.500							
Kuivala	maximise natural storage					4.600.000	7804795	weeks				20 bis 50	unconfined aquifer
Hietasalo						5.800.000							
BF Plant Nokia - Maatialaharju	maximise natural storage				650	1.898.000	1437370				< = 1E-05		unconfined aquifer
Vehonniemi-Isokangas Esker	water quality management					25.550.000	24090000	months			1E-03 to 1E-02		unconfined aquifer
Jäniksenlinna	water quality management	< 5			590	6.205.000	3277335	months	tertiary	tertiary	1E-03 to 1E-02	20 bis 50	unconfined aquifer
Rusutjärvi	water quality management				730	3.650.000	2237085	months		tertiary	1E-04 to 1E-03		unconfined aquifer
Beauce area	water quality management	< 5	< 10	10 to 20	1200		320		tertiary		1E-04 to 1E-03	10 bis 20	semi-confined aquifer
Flins	water quality management	5 to 10	25 to 50		80	54.750.000	13000000	days	tertiary	tertiary	1E-04 to 1E-03	20 bis 50	unconfined aquifer
Bas-Quercy	water quality management	< 5											unconfined aquifer
Capdenac-Gare	water quality management		< 10		100	1.209.600						< 10	unconfined aquifer
Croissy-sur-Seine	water quality management	10 to 15	25 to 50			54.750.000	54000000		primary	quarternary			unconfined aquifer
Geneuille	water quality management				175	730.000		years			1E-03 to 1E-02	< 10	unconfined aquifer

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site name	main aquifer type	specific aquifer type	monitoring in situ	monitoring bulk chemistry	monitoring heavy metals	monitoring organic compounds	monitoring micro biological pollutants	monitoring emerging pollutants	monitored emerging pollutants
Forssa	unconsolidated materials	fluvio-glacial detrital sediments	n.a.	n.a.	n.a.	n.a.	regular	n.a.	
Linikkala	unconsolidated materials	fluvio-glacial detrital sediments	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Ahvenisto	unconsolidated materials	fluvio-glacial detrital sediments	regular	regular	n.a.	regular	n.a.	n.a.	
Kankainen	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Vuonteenharju	unconsolidated materials	fluvio-glacial detrital sediments	non-regular	non-regular	n.a.	non-regular	n.a.	n.a.	
Riku	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Kuivala	unconsolidated materials	fluvio-glacial detrital sediments	regular	regular	n.a.	regular	n.a.	n.a.	
Hietasalo			n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
BF Plant Nokia - Maatialaharju	unconsolidated materials	fluvio-glacial detrital sediments	n.a.	n.a.	n.a.	n.a.	regular	n.a.	
Vehonniemi-Isokangas Esker	unconsolidated materials	fluvio-glacial detrital sediments	non-regular	non-regular	non-regular	non-regular	non-regular	non-regular	BAM, DEA, DEDIA, 4-chlor-3-methylphenol
Jäniksenlinna	unconsolidated materials	fluvio-glacial detrital sediments	regular	regular	regular	regular	regular	n.a.	
Rusutjärvi	unconsolidated materials	fluvio-glacial detrital sediments	regular	regular	regular	regular	regular	n.a.	
Beauce area	consolidated materials (rocks)	karstic carbonate terrains	non-regular	non-regular	n.a.	n.a.	non-regular	non-regular	atrazine, simazine, carbamazepine, diclofenac, gemfibrozil, atenolol, metoprolol, iopromide, paracetamol, erythromycin, sulfamethoxazole, bisphenol A
Flins	unconsolidated materials	fluvial deposits	regular	regular	regular	non-regular	n.a.	non-regular	
Bas-Quercy			n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Capdenac-Gare	unconsolidated materials	fluvial deposits	regular	regular	regular	regular	n.a.	n.a.	
Croissy-sur-Seine	unconsolidated materials	fluvial deposits	regular	regular	regular	non-regular	n.a.	non-regular	
Geneuille	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	

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site name	country	city	latitude	longitude	Operator	under operation since	shut down since	1. main MAR type	1. specific MAR Type	influent source	final use
Grisolles	France	Grisolles	43,82889	1,296667	Veolia Eau	1976		spreading methods	infiltration ponds & basins	river water	domestic
Houlle, Moulle	France	Houlle, Moulle	50,79	2,17	Lyonnaise des Eaux	1973		spreading methods	infiltration ponds & basins	river water	domestic
Les Ansereuilles	France	Lille	50,55734	2,94616	Société des Eaux du Nord			induced bank filtration	Induced bank filtration	river water	domestic
Crépieux-Charmy	France	Lyon	45,797	4,905	Veolia Eau			induced bank filtration	Induced bank filtration	river water	domestic
South of Lyon	France	Lyon	45,7684	4,8356	not specified			induced bank filtration	Induced bank filtration	river water	domestic
Mas-Grenier	France	Mas-Grenier	43,89139	1,197222	Veolia Eau	1976		spreading methods	infiltration ponds & basins	river water	domestic
Dollar	France	Mulhouse	47,749	7,334	Service des eaux et de l'assainissement			in-channel modifications	recharge dams	river water	domestic
Verdun-sur-Garonne	France	Verdun-sur-Garonne	43,85389	1,236389	Veolia Eau	1976		spreading methods	infiltration ponds & basins	river water	domestic
Beelitzhof	Germany	Berlin	52,43	13,18	Berliner Wasserbetriebe	1888		induced bank filtration	Induced bank filtration	river water	domestic
Friedrichshagen	Germany	Berlin	52,44	13,64	Berliner Wasserbetriebe	1893		induced bank filtration	Induced bank filtration	lake water	domestic
Johannisthal	Germany	Berlin	52,45	13,5	Berliner Wasserbetriebe	1901	2006	induced bank filtration	Induced bank filtration	river water	domestic
Jungfernheide	Germany	Berlin	52,53	13,25	Berliner Wasserbetriebe	1894	2006	spreading methods	infiltration ponds & basins	river water	domestic
Kladow	Germany	Berlin	52,45	13,143	Berliner Wasserbetriebe	1932		induced bank filtration	Induced bank filtration	river water	domestic
Spandau	Germany	Berlin	52,58	13,17	Berliner Wasserbetriebe	1897		induced bank filtration	Induced bank filtration	river water	domestic
Stolpe	Germany	Berlin	52,66	13,26	Berliner Wasserbetriebe	1911		spreading methods	flooding	river water	domestic
Tegel	Germany	Berlin	52,58	13,27	Berliner Wasserbetriebe	1877		induced bank filtration	Induced bank filtration	lake water	domestic
Tiefwerder	Germany	Berlin	52,52	13,22	Berliner Wasserbetriebe	1916		induced bank filtration	Induced bank filtration	river water	domestic

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site name	objective	no. of infiltration wells	no. of recovery wells	filter depth (m)	horizontal aquifer passage (m)	operational scale (hm³/a)	average infiltrated volume (hm³/a)	residence time	pretreatment	posttreatment	hydraulic conductivity (m/s)	aquifer thickness (m)	aquifer confinement
Grisolles	water quality management												unconfined aquifer
Houlle, Moulle						18.250.000							unconfined aquifer
Les Ansereuilles	water quality management		25 to 50									50 bis 100	
Crépieux-Charmy	maximise natural storage	5 to 10	>100			450.000				none			unconfined aquifer
South of Lyon	water quality management				80	4.745.000					1E-03 to 1E-02	10 bis 20	unconfined aquifer
Mas-Grenier	water quality management												unconfined aquifer
Dollar						12.963.000							
Verdun-sur-Garonne	water quality management												unconfined aquifer
Beelitzhof	water quality management		50 to 100	50 to 100		32.280.000		months			1E-04 to 1E-03	50 bis 100	unconfined aquifer
Friedrichshagen			>100	20 to 50	340	53.710.000		months			1E-04 to 1E-03	20 bis 50	semi-confined aquifer
Johannisthal	water quality management		50 to 100	20 to 50		8.490.000		months			1E-04 to 1E-03	20 bis 50	
Jungfernheide	physical aquifer management		50 to 100	20 to 50		5.470.000		months			1E-04 to 1E-03	20 bis 50	
Kladow	water quality management		10 to 25	50 to 100		5.350.000		months			1E-04 to 1E-03	20 bis 50	
Spandau		>30	25 to 50	20 to 50		26.270.000		months			1E-04 to 1E-03	20 bis 50	
Stolpe	water quality management		50 to 100			22.320.000		months			1E-04 to 1E-03	20 bis 50	
Tegel	water quality management	< 5	>100	20 to 50	130	47.810.000		months	primary		1E-04 to 1E-03	20 bis 50	unconfined aquifer
Tiefwerder			50 to 100	50 to 100		14.600.000		months			1E-04 to 1E-03	20 bis 50	

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site name	main aquifer type	specific aquifer type	monitoring in situ	monitoring bulk chemistry	monitoring heavy metals	monitoring organic compounds	monitoring micro biological pollutants	monitoring emerging pollutants	monitored emerging pollutants
Grisolles			n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Houlle, Moulle	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Les Ansereuilles	consolidated materials (rocks)	karstic carbonate terrains	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Crépieux-Charmy	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
South of Lyon	unconsolidated materials	fluvio-glacial detrital sediments	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Mas-Grenier			n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Dollar	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Verdun-sur-Garonne			n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Beelitzhof	unconsolidated materials	fluvio-glacial detrital sediments	regular	regular	regular	regular	non-regular	non-regular	phenazone
Friedrichshagen	unconsolidated materials	fluvio-glacial detrital sediments	regular	regular	regular	regular	regular	regular	
Johannisthal			regular	regular	regular	regular	regular	regular	
Jungfernheide			regular	regular	regular	regular	regular	regular	
Kladow	unconsolidated materials	fluvio-glacial detrital sediments	regular	regular	regular	regular	regular	regular	
Spandau	unconsolidated materials	fluvio-glacial detrital sediments	regular	regular	regular	regular	regular	regular	
Stolpe	unconsolidated materials	fluvio-glacial detrital sediments	regular	regular	regular	regular	non-regular	non-regular	pharmaceutical compounds (phenazone), dipyrone and human biotransformation AAA and FAA,
Tegel	unconsolidated materials	fluvio-glacial detrital sediments	regular	regular	regular	regular	non-regular	non-regular	estrogenic steroids, human biotransformation AAA and FAA, Carbamazepine, Phenazone, Propyphenazone and AMDOPH, dipyrone, diclofenac, Pyrazolonderivate
Tiefwerder	unconsolidated materials	fluvio-glacial detrital sediments	regular	regular	regular	regular	regular	regular	

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site name	country	city	latitude	longitude	Operator	under operation since	shut down since	1. main MAR type	1. specific MAR Type	influent source	final use
Wuhlheide	Germany	Berlin	52,47	13,53	Berliner Wasserbetriebe	1914		induced bank filtration	Induced bank filtration	river water	domestic
Binsheimer Feld	Germany	Binsheim	51,509	6,702	Wasserverbund Niederrhein GmbH	1985		spreading methods	infiltration ponds & basins	river water	domestic
Stiepel	Germany	Bochum	51,41	7,24	Gelsenwasser AG	1910		induced bank filtration	Induced bank filtration	river water	domestic
Bodenheim	Germany	Bodenheim	49,937	8,325	Wasserversorgung Reinhessen-Pfalz GmbH	1996		induced bank filtration	Induced bank filtration	river water	domestic
Mahlenzien	Germany	Brandenburg	52,326	12,461	BRAWAG GmbH	1972		induced bank filtration	Induced bank filtration	river water	domestic
Steinhof	Germany	Braunschweig	52,2667	10,5167	Abwasserverband Braunschweig	1955		spreading methods		reclaimed domestic water	agricultural
Briesen/Spree	Germany	Briesen	53,305	14,219	FWA Frankfurter Wasser- und Abwassergesellschaft mbH			induced bank filtration	Induced bank filtration	river water	domestic
Meinweggebiet	Germany	Brüggen	52,041	9,78	RWE			well, shaft and borehole recharge	dug well / shaft / pit injection	mine water	ecological
Biebesheim	Germany	Darmstadt	49,77	8,46	Hessenwasser GmbH & Co. KG	1989		well, shaft and borehole recharge	dug well / shaft / pit injection	river water	domestic
Hosterwitz	Germany	Dresden	51,01	13,85	DREWAG	1908		spreading methods	infiltration ponds & basins	river water	agricultural
Saloppe	Germany	Dresden	51,065	13,791	DREWAG	1875		spreading methods	excess irrigation	lake water	domestic
Tolkewitz	Germany	Dresden	51,034	13,824	DREWAG	1898		induced bank filtration	Induced bank filtration	river water	domestic
Baerl	Germany	Duisburg	51,486	6,667	NGW GmbH			induced bank filtration	Induced bank filtration	river water	domestic
Beeckerwerth-Alsum	Germany	Duisburg	51,47	6,7	Gelsenwasser AG	1908		induced bank filtration	Induced bank filtration	river water	industrial
Binsheimer Feld (Brunnengalerie 2)	Germany	Duisburg	51,49	6,71	Wasserverbund Niederrhein GmbH	1980		induced bank filtration	Induced bank filtration	river water	domestic
Mündelheim	Germany	Duisburg	51,369	6,688	RWW (Rheinisch-Westfälische Wasserwerksgesellschaft) GmbH			induced bank filtration	Induced bank filtration	river water	domestic

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site name	objective	no. of infiltration wells	no. of recovery wells	filter depth (m)	horizontal aquifer passage (m)	operational scale (hm³/a)	average infiltrated volume (hm³/a)	residence time	pretreatment	posttreatment	hydraulic conductivity (m/s)	aquifer thickness (m)	aquifer confinement
Wuhlheide	water quality management		50 to 100	20 to 50		8.940.000		months			1E-04 to 1E-03	20 bis 50	
Binsheimer Feld	water quality management		10 to 25			7.767.000				quarternary			
Stiepel	water quality management					16.790.000							
Bodenheim	water quality management		< 10	10 to 20	210	935.000	935000		none	quarternary			
Mahlenzien	water quality management		25 to 50	10 to 20	400	8.723.500		years	none	none	1E-04 to 1E-03	20 bis 50	unconfined aquifer
Steinhof	ecological benefits					12.000.000							
Briesen/Spree	water quality management		50 to 100	10 to 20	300			months	none	none	1E-04 to 1E-03	20 bis 50	unconfined aquifer
Meinweggebiet	ecological benefits	15 to 30											
Biebesheim	maximise natural storage	< 5					35000000		tertiary			>100	
Hosterwitz	management of water distribution systems		50 to 100			29.200.000				tertiary			unconfined aquifer
Saloppe	water quality management	15 to 30	25 to 50		50	4.380.000			secondary	tertiary	> 1E-02	10 bis 20	unconfined aquifer
Tolkewitz	water quality management		50 to 100		50	14.600.000		months	secondary	quarternary	1E-03 to 1E-02	10 bis 20	unconfined aquifer
Baerl	water quality management												
Beeckerwerth-Alsum	water quality management												
Binsheimer Feld (Brunnengalerie 2)	water quality management		10 to 25	10 to 20	4600					tertiary			
Mündelheim	water quality management					2.037.000				tertiary			

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site name	main aquifer type	specific aquifer type	monitoring in situ	monitoring bulk chemistry	monitoring heavy metals	monitoring organic compounds	monitoring micro biological pollutants	monitoring emerging pollutants	monitored emerging pollutants
Wuhlheide			regular	regular	regular	regular	regular	regular	
Binsheimer Feld			regular	regular	regular	regular	n.a.	n.a.	
Stiepel			regular	regular	regular	regular	n.a.	n.a.	
Bodenheim			regular	regular	regular	regular	n.a.	n.a.	
Mahlenzien	unconsolidated materials	fluvial deposits	regular	regular	regular	regular	regular	non-regular	
Steinhof									
Briesen/Spree	unconsolidated materials	fluvial deposits	regular	regular	regular	regular	regular	non-regular	
Meinweggebiet			regular	regular	regular	regular	n.a.	n.a.	
Biebesheim	unconsolidated materials	fluvio-glacial detrital sediments	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Hosterwitz	unconsolidated materials	fluvial deposits	regular	regular	regular	regular	n.a.	n.a.	
Saloppe	unconsolidated materials	fluvial deposits	regular	regular	regular	regular	n.a.	n.a.	
Tolkewitz	unconsolidated materials	fluvial deposits	regular	regular	regular	regular	n.a.	n.a.	
Baerl			regular	regular	regular	regular	n.a.	n.a.	
Beeckerwerth-Alsum			regular	regular	regular	regular	n.a.	n.a.	
Binsheimer Feld (Brunnengalerie 2)	unconsolidated materials	fluvio-glacial detrital sediments	regular	regular	regular	regular	regular	regular	
Mündelheim			regular	regular	regular	regular	n.a.	n.a.	

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site name	country	city	latitude	longitude	Operator	under operation since	shut down since	1. main MAR type	1. specific MAR Type	influent source	final use
Wittlaerer Werth	Germany	Duisburg	51,297	6,738	Stadtwerke Duisburg AG			induced bank filtration	Induced bank filtration	river water	domestic
Auf dem Grind	Germany	Düsseldorf	51,55	6,69	Stadtwerke Düsseldorf AG	1870		induced bank filtration	Induced bank filtration	river water	domestic
Benrath	Germany	Düsseldorf	51,16	6,84	Wuppertaler Stadtwerke AG (WSW)	1879		induced bank filtration	Induced bank filtration	river water	domestic
Flehe	Germany	Düsseldorf	51,295	6,73	Stadtwerke Düsseldorf AG			induced bank filtration	Induced bank filtration	river water	domestic
Essen	Germany	Essen	51,43	7,06	Wassergewinnung Essen GmbH	1872		induced bank filtration	Induced bank filtration	river water	domestic
Ketwig	Germany	Essen	51,364	6,929	RWW (Rheinisch-Westfälische Wasserwerksgesellschaft) GmbH			spreading methods	infiltration ponds & basins	river water	domestic
Frankfurter Stadtwald	Germany	Frankfurt am Main	50,07	8,68	Hessenwasser GmbH & Co. KG	1888		spreading methods	infiltration ponds & basins	river water	domestic
Weinhübel	Germany	Görlitz	51,156	14,986	Stadtwerke Görlitz AG (Veolia Environnement)			induced bank filtration	Induced bank filtration	river water	domestic
Göttwitz	Germany	Göttwitz	51,254	12,918	Versorgungsverband Grimma-Geithain	1976		induced bank filtration	Induced bank filtration	lake water	domestic
Guntersblum	Germany	Guntersblum	49,795	8,355	Wasserversorgung Reinhessen-Pfalz GmbH			induced bank filtration	Induced bank filtration	river water	domestic
Haltern	Germany	Haltern am See	51,73	7,204	Gelsenwasser AG	1908		spreading methods	infiltration ponds & basins	river water	domestic
Böckinger Wiesen	Germany	Heilbronn	49,129	9,165	Stadtwerke Heilbronn			spreading methods	infiltration ponds & basins	lake water	domestic
Baumberg	Germany	Hilden	51,17	7,051	Stadtwerke Hilden	1974		induced bank filtration	Induced bank filtration	river water	domestic
Oberwerth	Germany	Koblenz	50,34	7,59	VWM (Vereinigte Wasserwerke Mittelrhein GmbH)	1956		induced bank filtration	Induced bank filtration	river water	domestic
Urmitz	Germany	Koblenz	50,413	7,521	VWM (Vereinigte Wasserwerke Mittelrhein GmbH)			induced bank filtration	Induced bank filtration	river water	domestic
Hochkirchen	Germany	Köln	51,424	7,04	GEW-Köln AG	1905		induced bank filtration	Induced bank filtration	river water	domestic
Stammheim	Germany	Köln	48,844	9,151	RGW AG			induced bank filtration	Induced bank filtration	river water	industrial

the list is sorted by country, then by city and then by site name

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site name	objective	no. of infiltration wells	no. of recovery wells	filter depth (m)	horizontal aquifer pas-sage (m)	operational scale (hm³/a)	average infilt-rated volume (hm³/a)	residence time	pretreat ment	posttreat ment	hydraulic conductivity (m/s)	aquifer thickness (m)	aquifer confinement
Wittlaerer Werth	water quality management					9.349.000					1E-03 to 1E-02	10 bis 20	
Auf dem Grind	water quality management				250	64.970.000		days			1E-03 to 1E-02	20 bis 50	unconfined aquifer
Benrath	water quality management					6.800.000							
Flehe	water quality management				65	51.100.000		weeks		quarternary	1E-03 to 1E-02	10 bis 20	
Essen	water quality management												
Ketwig	management of water distribution systems	>30				21.430.000	7583000		tertiary	primary			unconfined aquifer
Frankfurter Stadtwald	maximise natural storage	< 5	10 to 25	50 to 100			3000000			tertiary			
Weinhübel	water quality management	5 to 10	25 to 50		100	4.105.520		months			1E-04 to 1E-03	< 10	unconfined aquifer
Göttwitz	water quality management		< 10		200	620.500		years			1E-04 to 1E-03	< 10	
Guntersblum	water quality management		< 10	50 to 100		8.435.000			none	quarternary			
Haltern	water quality management	15 to 30	>100			75.825.000	152843750		secondary	tertiary			
Böckinger Wiesen	water quality management					1.115.000							
Baumberg	water quality management					3.873.000		months		quarternary	1E-05 to 1E-04	10 bis 20	semi-confined aquifer
Oberwerth	water quality management	< 5	< 10	10 to 20	150		5330000			tertiary		10 bis 20	semi-confined aquifer
Urmitz								years			1E-03 to 1E-02	20 bis 50	
Hochkirchen	physical aquifer management												
Stammheim							18980	months			1E-04 to 1E-03		

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site name	main aquifer type	specific aquifer type	monitoring in situ	monitoring bulk chemistry	monitoring heavy metals	monitoring organic compounds	monitoring micro biological pollutants	monitoring emerging pollutants	monitored emerging pollutants
Wittlaerer Werth	unconsolidated materials	fluvio-glacial detrital sediments	regular	regular	regular	regular	non-regular	non-regular	Fluorosurfactants
Auf dem Grind			regular	regular	regular	regular	n.a.	n.a.	
Benrath			regular	regular	regular	regular	n.a.	n.a.	
Flehe	unconsolidated materials	fluvio-glacial detrital sediments	regular	regular	regular	regular	n.a.	n.a.	
Essen			regular	regular	regular	regular	n.a.	n.a.	
Ketwig			regular	regular	regular	regular	n.a.	n.a.	
Frankfurter Stadtwald	unconsolidated materials	fluvio-glacial detrital sediments	regular	regular	regular	regular	regular	regular	
Weinhübel	unconsolidated materials	fluvial deposits	regular	regular	regular	regular	n.a.	n.a.	
Göttwitz			regular	regular	regular	regular	n.a.	n.a.	
Guntersblum			regular	regular	regular	regular	n.a.	n.a.	
Haltern			regular	regular	regular	regular	n.a.	n.a.	
Böckinger Wiesen			regular	regular	regular	regular	n.a.	n.a.	
Baumberg	unconsolidated materials	fluvio-glacial detrital sediments	regular	regular	regular	regular	n.a.	n.a.	
Oberwerth	unconsolidated materials	fluvio-glacial detrital sediments	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Urmitz	unconsolidated materials	fluvio-glacial detrital sediments	regular	regular	regular	regular	n.a.	n.a.	
Hochkirchen			regular	regular	regular	regular	n.a.	n.a.	
Stammheim			regular	regular	regular	regular	n.a.	n.a.	

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site name	country	city	latitude	longitude	Operator	under operation since	shut down since	1. main MAR type	1. specific MAR Type	influent source	final use
Weiler	Germany	Köln	51,02	6,87	GEW-Köln AG	1931		induced bank filtration	Induced bank filtration	river water	domestic
Weißer Bogen	Germany	Köln	50,874	7,037	GEW-Köln AG	1965		induced bank filtration	Induced bank filtration	river water	domestic
Neckaraue	Germany	Leinfelden-Echterdingen	48,693	9,118	Filderwasserversorgung (Fiwa)			spreading methods	infiltration ponds & basins		domestic
Auf dem Werth (WW Süd)	Germany	Leverkusen	51	6,98	Currenta GmbH	1901		induced bank filtration	Induced bank filtration	river water	industrial
Hitdorf	Germany	Leverkusen	51,044	6,987	Bayer AG Leverkusen			induced bank filtration	Induced bank filtration	river water	domestic
Löcknitz-See	Germany	Löcknitz	53,447	14,225	Trink- und Abwasserzweckverband Uecker-Randow, Süd-Ost	1967		induced bank filtration	Induced bank filtration	lake water	domestic
Lübbenau	Germany	Lübbenau/Spreewald	51,868	13,932	Wasser- und Abwasserzweckverband Calau			induced bank filtration	Induced bank filtration	river water	domestic
Eich	Germany	Mainz	49,7554	8,4011	Stadtwerke Mainz AG			induced bank filtration	Induced bank filtration	river water	domestic
Petersaue	Germany	Mainz	50,01	8,264	Stadtwerke Mainz AG			induced bank filtration	Induced bank filtration	river water	domestic
Siebeneichen	Germany	Meissen	51,149	13,485	MSW (Meißener Stadtwerke GmbH)			induced bank filtration	Induced bank filtration	river water	domestic
Halingen	Germany	Menden	51,468	7,72	Wasserwerke Westfalen GmbH	1888		induced bank filtration	Induced bank filtration	river water	domestic
Feuchtgebiete Trietbach, Niers & Schwalm	Germany	Mönchengladbach	51,17	6,44	RWE			well, shaft and borehole recharge	dug well / shaft / pit injection	mine water	ecological
Schloß Wickrath	Germany	Mönchengladbach	51,128	6,41	RWE			well, shaft and borehole recharge	dug well / shaft / pit injection	mine water	ecological
Dohne	Germany	Mülheim an der Ruhr	51,426	6,874	RWW (Rheinisch-Westfälische Wasserwerksgesellschaft) GmbH			induced bank filtration	Induced bank filtration	river water	domestic
Styrium West	Germany	Mülheim an der Ruhr	51,46	6,8	RWW (Rheinisch-Westfälische Wasserwerksgesellschaft) GmbH	1955		spreading methods	infiltration ponds & basins	river water	domestic

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site name	objective	no. of infiltration wells	no. of recovery wells	filter depth (m)	horizontal aquifer pas-sage (m)	operational scale (hm³/a)	average infilt-rated volume (hm³/a)	residence time	pretreat ment	posttreat ment	hydraulic conductivity (m/s)	aquifer thickness (m)	aquifer confinement
Weiler	water quality management	5 to 10	10 to 25			23.200.000							unconfined aquifer
Weißer Bogen	water quality management		10 to 25	20 to 50	7500	16.000.000					1E-03 to 1E-02	20 bis 50	semi-confined aquifer
Neckaraue		< 5				7.641.000	394200		primary	tertiary			
Auf dem Werth (WW Süd)	water quality management		10 to 25	20 to 50			781000			tertiary	1E-03 to 1E-02	10 bis 20	unconfined aquifer
Hitdorf	water quality management					7.369.400							
Löcknitz-See	water quality management		< 10	10 to 20	50	211.700		months	none	none	1E-04 to 1E-03	10 bis 20	semi-confined aquifer
Lübbenau	water quality management		< 10	20 to 50	600			months	none	none	1E-04 to 1E-03	20 bis 50	unconfined aquifer
Eich				< 10						tertiary			unconfined aquifer
Petersaue							4670000		primary	tertiary			
Siebeneichen	water quality management		< 10		100	2.190.000					1E-03 to 1E-02	10 bis 20	
Halingen	water quality management	10 to 15	< 10			25.000.000	16278600	months	primary	tertiary	1E-03 to 1E-02	10 bis 20	
Feuchtgebiete Trietbach, Niers & Schwalm	ecological benefits												
Schloß Wickrath	water quality management	< 5											
Dohne	water quality management						8035000		secondary	secondary			unconfined aquifer
Styrium West	water quality management						5812000		tertiary		1E-04 to 1E-03	50 bis 100	

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site name	main aquifer type	specific aquifer type	monitoring in situ	monitoring bulk chemistry	monitoring heavy metals	monitoring organic compounds	monitoring micro biological pollutants	monitoring emerging pollutants	monitored emerging pollutants
Weiler			regular	regular	regular	regular	n.a.	n.a.	
Weißer Bogen	unconsolidated materials	fluvio-glacial detrital sediments	regular	regular	regular	regular	n.a.	n.a.	
Neckaraue			regular	regular	regular	regular	n.a.	n.a.	
Auf dem Werth (WW Süd)	unconsolidated materials	fluvio-glacial detrital sediments	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Hitdorf			regular	regular	regular	regular	n.a.	n.a.	
Löcknitz-See	unconsolidated materials	fluvial deposits	regular	regular	regular	regular	regular	non-regular	
Lübbenau	unconsolidated materials	fluvial deposits	regular	regular	regular	regular	regular	non-regular	
Eich	unconsolidated materials	fluvio-glacial detrital sediments	regular	regular	regular	regular	regular	regular	
Petersaue			regular	regular	regular	regular	n.a.	n.a.	
Siebeneichen	unconsolidated materials	fluvio-glacial detrital sediments	regular	regular	regular	regular	n.a.	n.a.	
Halingen	unconsolidated materials	fluvio-glacial detrital sediments	regular	regular	regular	regular	regular	n.a.	
Feuchtgebiete Trietbach, Niers & Schwalm			regular	regular	regular	regular	n.a.	n.a.	
Schloß Wickrath			regular	regular	regular	regular	n.a.	n.a.	
Dohne	unconsolidated materials	fluvial deposits	regular	regular	regular	regular	n.a.	n.a.	
Styrium West	unconsolidated materials	fluvio-glacial detrital sediments	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	

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site name	country	city	latitude	longitude	Operator	under opera-tion since	shut down since	1. main MAR type	1. specific MAR Type	influent source	final use
Styrum-Ost	Germany	Mülheim an der Ruhr	51,445	6,839	RWW (Rheinisch-Westfälische Wasserwerksgesellschaft) GmbH	1912		spreading methods	infiltration ponds & basins	river water	domestic
Prenzlau I	Germany	Prenzlau	53,301	13,862	Stadtwerke Prenzlau GmbH			induced bank filtration	Induced bank filtration	river water	domestic
Schmarsow	Germany	Schmarsow	53,47	13,929	Stadtwerke Pasewalk GmbH			induced bank filtration	Induced bank filtration	river water	domestic
Ergste	Germany	Schwerte	51,46	7,63	Wasserwerke Westfalen GmbH	1944	2018	induced bank filtration	Induced bank filtration	river water	domestic
Hengsen	Germany	Schwerte	51,458	7,63	Wasserwerke Westfalen GmbH	1908		spreading methods	infiltration ponds & basins	river water	domestic
Villigst	Germany	Schwerte	51,45192	7,627938	Wasserwerke Westfalen GmbH	1961		spreading methods	infiltration ponds & basins	river water	domestic
Westhofen1	Germany	Schwerte	51,41527	7,53417	Wasserwerke Westfalen GmbH	1955		spreading methods	infiltration ponds & basins	river water	domestic
Westhofen2	Germany	Schwerte	51,4157	7,5182	Wasserwerke Westfalen GmbH	1922	2018	spreading methods	infiltration ponds & basins	river water	domestic
Siegniederung	Germany	Siegburg	50,8	7,207	Wahnbachtalsperrenverband			induced bank filtration	Induced bank filtration	river water	domestic
Torgau-Ost	Germany	Torgau	51,554	13	Fernwasserversorgung Elbaue-Ostharz GmbH			induced bank filtration	Induced bank filtration	river water	domestic
Torgelow	Germany	Torgelow	53,628	14,08	Stadtwerke Torgelow GmbH	1939		induced bank filtration	Induced bank filtration	river water	domestic
Schwalmquelle	Germany	Wegberg	51,11	6,26	RWE			spreading methods	infiltration ponds & basins	mine water	ecological
Wesseling	Germany	Wesseling	50,822	6,993	Wasserbeschaffungsverband Wesseling-Hersel (WBV)			induced bank filtration	Induced bank filtration	river water	domestic
Echthausen	Germany	Wickede (Ruhr)	51,5	7,89	Wasserwerke Westfalen GmbH	1942		induced bank filtration	Induced bank filtration	river water	domestic
Schierstein	Germany	Wiesbaden	50,04	8,19	ESWE	1961		well, shaft and borehole recharge	ASTR	river water	domestic
Witten	Germany	Witten	51,50182	7,893202	Wasserwerke Westfalen GmbH	1886		spreading methods	infiltration ponds & basins	river water	domestic
Giannitsa Plain	Greece	Giannitsa	40,8	22,41	not specified			well, shaft and borehole recharge	dug well / shaft / pit injection	reclaimed industrial water	domestic

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site name	objective	no. of infiltration wells	no. of recovery wells	filter depth (m)	horizontal aquifer pas-sage (m)	operational scale (hm³/a)	average infilt-rated volume (hm³/a)	residence time	pretreat ment	posttreat ment	hydraulic conductivity (m/s)	aquifer thickness (m)	aquifer confinement
Styrum-Ost	water quality management	>30	>100			1.967.700	19677000		none	quarternary	1E-04 to 1E-03	50 bis 100	
Prenzlau I	water quality management		< 10	20 to 50	150	2.555.000		years	none	none	1E-04 to 1E-03	20 bis 50	confined aquifer
Schmarsow	water quality management		10 to 25	10 to 20	50	554.453		months	none	none	1E-04 to 1E-03	20 bis 50	unconfined aquifer
Ergste	water quality management	15 to 30	< 10	50 to 100		20.000.000			primary	tertiary			
Hengsen	physical aquifer management	15 to 30	< 10	50 to 100					primary	tertiary			
Villigst	water quality management	5 to 10	< 10	50 to 100		30.000.000			primary	tertiary			
Westhofen1	water quality management	10 to 15	< 10	50 to 100		21.000.000			primary	tertiary			
Westhofen2	water quality management	10 to 15	< 10	50 to 100		24.000.000			primary	tertiary			
Siegniederung	water quality management					25.820.000							
Torgau-Ost	water quality management	>30			275	21.650.000		months			1E-03 to 1E-02	20 bis 50	
Torgelow	water quality management		< 10	10 to 20	30	1.825.000		months	none	none	1E-04 to 1E-03	20 bis 50	unconfined aquifer
Schwalmquelle	ecological benefits												
Wesseling	water quality management											20 bis 50	
Echthausen	water quality management	5 to 10	< 10			25.000.000			secondary	tertiary			
Schierstein	water quality management	>30	25 to 50	< 10	170	5.852.000			tertiary		1E-03 to 1E-02	< 10	
Witten	water quality management	5 to 10	< 10	50 to 100		7.407.547			primary	quarternary			
Giannitsa Plain	physical aquifer management								tertiary			20 bis 50	unconfined aquifer

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site name	main aquifer type	specific aquifer type	monitoring in situ	monitoring bulk chemistry	monitoring heavy metals	monitoring organic compounds	monitoring micro biological pollutants	monitoring emerging pollutants	monitored emerging pollutants
Styrum-Ost			regular	regular	regular	regular	n.a.	n.a.	
Prenzlau I	unconsolidated materials	fluvial deposits	regular	regular	regular	regular	regular	non-regular	
Schmarsow	unconsolidated materials	fluvial deposits	regular	regular	regular	regular	regular	non-regular	
Ergste			regular	regular	regular	regular	regular	n.a.	
Hengsen			regular	regular	regular	regular	regular	n.a.	
Villigst			regular	regular	regular	regular	regular	n.a.	
Westhofen1			regular	regular	regular	regular	regular	n.a.	
Westhofen2			regular	regular	regular	regular	regular	n.a.	
Siegniederung			regular	regular	regular	regular	n.a.	n.a.	
Torgau-Ost			regular	regular	regular	regular	n.a.	n.a.	
Torgelow	unconsolidated materials	fluvial deposits	regular	regular	regular	regular	regular	non-regular	
Schwalmquelle			regular	regular	regular	regular	n.a.	n.a.	
Wesseling			regular	regular	regular	regular	n.a.	n.a.	
Echthausen			regular	regular	regular	regular	regular	n.a.	
Schierstein	unconsolidated materials	fluvial deposits	regular	regular	regular	regular	non-regular	non-regular	Lindane (γ-HCH)
Witten			regular	regular	regular	regular	regular	n.a.	
Giannitsa Plain	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	

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site name	country	city	latitude	longitude	Operator	under operation since	shut down since	1. main MAR type	1. specific MAR Type	influent source	final use
Tumpa	Greece	Kilkis	41	22,87	NAGREF	2002	2007	well, shaft and borehole recharge	ASR	river water	agricultural
Sindos, Giannitsa Plain	Greece	Sindos	40,67	22,8	not specified	2006	2011	well, shaft and borehole recharge	ASR	reclaimed domestic water	domestic
Vistonida	Greece	Xanthi	41,07	24,98	not specified	1994		in-channel modifications	recharge dams	river water	domestic
Borsodszirak	Hungary	Borsodszirak	48,261	20,768	not specified			spreading methods	infiltration ponds & basins	river water	
Csepel Island	Hungary	Budapest	47,29413	18,94318	Fővárosi Vízművek			induced bank filtration	Induced bank filtration	river water	domestic
Szentendre Island	Hungary	Budapest	47,738	19,092	Fővárosi Vízművek	1995		induced bank filtration	Induced bank filtration	river water	domestic
Esztergom	Hungary	Esztergom	52,22696	6,893921	Északdunántúli Vízmű Zrt.			induced bank filtration	Induced bank filtration	river water	domestic
Nagybajcs-szegoye	Hungary	Gyor	47,69636	17,64816	Pannon-Viz			induced bank filtration	Induced bank filtration	river water	domestic
Koppanymonostor	Hungary	Koppanymonostor	47,75271	18,06084	not specified			induced bank filtration	Induced bank filtration	river water	domestic
Cornedo Vicentino A	Italy	Cornedo Vicentino	45,615	11,337	Consorzio di Bonifica Alta Pianura Veneta & Sinergeo	2009	2012	well, shaft and borehole recharge	dug well / shaft / pit injection	river water	
Prato	Italy	Prato	43,878	11,102	Publiacqua	2002		well, shaft and borehole recharge	ASTR	river water	domestic
Nardò	Italy	Salento Region, south of Bari	40,176	18,028	not specified	1991		well, shaft and borehole recharge	dug well / shaft / pit injection	river water	agricultural
Madonetta E	Italy	Sarcedo	45,698	11,523	Consorzio di Bonifica Alta Pianura Veneta & Sinergeo	2012	2012	well, shaft and borehole recharge	dug well / shaft / pit injection	river water	
Modanetta D	Italy	Sarcedo	45,698	11,523	Consorzio di Bonifica Alta Pianura Veneta & Sinergeo	2010	2012	well, shaft and borehole recharge	dug well / shaft / pit injection	river water	
Monteccio Precalcino	Italy	Sarcedo	45,698	11,523	Consorzio di Bonifica Alta Pianura Veneta & Sinergeo	2010	2012	well, shaft and borehole recharge	dug well / shaft / pit injection	river water	

the list is sorted by country, then by city and then by site name

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site name	objective	no. of infiltration wells	no. of recovery wells	filter depth (m)	horizontal aquifer pas-sage (m)	operational scale (hm³/a)	average infilt-rated volume (hm³/a)	residence time	pretreat ment	posttreat ment	hydraulic conductivity (m/s)	aquifer thickness (m)	aquifer confinement
Tumpa	maximise natural storage	>30	25 to 50	>100		438.000						50 bis 100	confined aquifer
Sindos, Giannitsa Plain	water quality management		>100				48110		tertiary		1E-04 to 1E-03	>100	semi-confined aquifer
Vistonida	maximise natural storage										1E-05 to 1E-04	20 bis 50	semi-confined aquifer
Borsodszirak						7.300.000							
Csepel Island	water quality management				50	146.000.000	91250000	months		none	1E-03 to 1E-02	10 bis 20	unconfined aquifer
Szentendre Island	water quality management		>100		80	219.000.000	109500000	weeks	none	tertiary	1E-03 to 1E-02	10 bis 20	unconfined aquifer
Esztergom	water quality management				30	7.300.000					1E-03 to 1E-02	10 bis 20	unconfined aquifer
Nagybajcs-szegoye	water quality management				65	14.600.000		months			1E-05 to 1E-04	20 bis 50	unconfined aquifer
Koppanymonostor	water quality management					4.272.000		months			1E-03 to 1E-02	< 10	unconfined aquifer
Cornedo Vicentino A			< 10				1750						unconfined aquifer
Prato	maximise natural storage	< 5		20 to 50			3504000		primary			20 bis 50	unconfined aquifer
Nardò	physical aquifer management	< 5			65	4.380.000	4380000	days	seconda ry	secondary		20 bis 50	confined aquifer
Madonetta E		< 5					5361120000						confined aquifer
Modanetta D		< 5					10722240000						confined aquifer
Monteccio Precalcino		< 5					5361120000						unconfined aquifer

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site name	main aquifer type	specific aquifer type	monitoring in situ	monitoring bulk chemistry	monitoring heavy metals	monitoring organic compounds	monitoring micro biological pollutants	monitoring emerging pollutants	monitored emerging pollutants
Tumpa	unconsolidated materials	colluvial-fan deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Sindos, Giannitsa Plain	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Vistonida	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Borsodszirak	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Csepel Island	unconsolidated materials	fluvial deposits	regular	regular	regular	non-regular	non-regular	n.a.	
Szentendre Island	unconsolidated materials	fluvial deposits	regular	regular	regular	non-regular	non-regular	n.a.	
Esztergom	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Nagybajcs-szegoye	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Koppanymonostor	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Cornedo Vicentino A	unconsolidated materials	fluvial deposits	non-regular	non-regular	non-regular	non-regular	non-regular	non-regular	
Prato	unconsolidated materials	colluvial-fan deposits	regular	regular	n.a.	n.a.	n.a.	n.a.	
Nardò	consolidated materials (rocks)	karstic carbonate terrains	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Madonetta E	unconsolidated materials	fluvial deposits	non-regular	non-regular	non-regular	non-regular	non-regular	non-regular	
Modanetta D	unconsolidated materials	fluvial deposits	non-regular	non-regular	non-regular	non-regular	non-regular	non-regular	
Monteccio Precalcino	unconsolidated materials	fluvial deposits	non-regular	non-regular	non-regular	non-regular	non-regular	non-regular	

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site name	country	city	latitude	longitude	Operator	under operation since	shut down since	1. main MAR type	1. specific MAR Type	influent source	final use
Lake Baltezers	Latvia	Riga	56,95471	24,10538	Rigas Udens			induced bank filtration	Induced bank filtration	river water	domestic
Velddriel, Sellik	Netherlands	Aalst	51,7627	5,2955	Vitens	1977		induced bank filtration	Induced bank filtration	river water	domestic
De Hoorn	Netherlands	Alphen a/d rijn	52,133	4,625	Oasen	1903	2000	induced bank filtration	Induced bank filtration	river water	
Castricum AIP	Netherlands	Amsterdam	52,53667	4,623889	Waternet	1975	1977	well, shaft and borehole recharge	ASTR	lake water	domestic
Leiduin	Netherlands	Amsterdam	52,38	4,55	Rioned	1957		spreading methods	infiltration ponds & basins	river water	domestic
Zandvoort	Netherlands	Amsterdam	52,376	4,548	Waternet	1957		spreading methods	infiltration ponds & basins	river water	domestic
C. Rodenhuis	Netherlands	Bergambacht	51,936	4,775	Dunea	1968		induced bank filtration	Induced bank filtration	river water	domestic
Dijklaan	Netherlands	Bergambacht	51,925	4,784	Dunea	1936		induced bank filtration	Induced bank filtration	river water	domestic
Bremerberg dijk	Netherlands	Biddinghuizen	52,442	5,777	Vitens	1962		induced bank filtration	Induced bank filtration	lake water	domestic
Bodegraven	Netherlands	Buitenkerk	52,09111	4,750557	Oasen	1907	1985	induced bank filtration	Induced bank filtration	river water	domestic
Watervlak	Netherlands	Castricum	52,503	4,623	PWN	1990		well, shaft and borehole recharge	ASTR	lake water	domestic
Culemborg	Netherlands	Culemborg	51,948	5,233	Vitens	1911		induced bank filtration	Induced bank filtration	river water	domestic
Bergje Texel	Netherlands	Den Burg	53,033	4,817	PWN	1977	1990	well, shaft and borehole recharge	ASR	distilled water	
Monster	Netherlands	Den Haag	52,02	4,18	Dunea	1886	2002	well, shaft and borehole recharge	ASTR	river water	domestic
Scheveningen CIP	Netherlands	Den Haag	52	4	Dunea	1974	1977	well, shaft and borehole recharge	ASTR	river water	domestic

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site name	objective	no. of infiltration wells	no. of recovery wells	filter depth (m)	horizontal aquifer pas-sage (m)	operational scale (hm^3/a)	average infilt-rated volume (hm^3/a)	residence time	pretreat ment	posttreat ment	hydraulic conductivity (m/s)	aquifer thickness (m)	aquifer confinement
Lake Baltezers	maximise natural storage					29.200.000							unconfined aquifer
Velddriel, Sellik	water quality management			20 to 50	3500	3.599.999							unconfined aquifer
De Hoorn	water quality management			20 to 50	170	1.100.000	1100000	months					semi-confined aquifer
Castricum AIP	water quality management	< 5		50 to 100	70		175200		tertiary				
Leiduin	water quality management				81	57.071.000		months	secondary	quarternary			unconfined aquifer
Zandvoort	water quality management	>30	10 to 25		81	66.000.000	56800000	months	secondary	quarternary	1E-03 to 1E-02	>100	unconfined aquifer
C. Rodenhuis	water quality management			20 to 50	810	11.900.000	8043840	months	tertiary	tertiary		10 bis 20	unconfined aquifer
Dijklaan	water quality management			20 to 50	580	700.000		months				10 bis 20	unconfined aquifer
Bremerberg dijk	maximise natural storage			50 to 100		8.000.000		months			1E-03 to 1E-02	< 10	semi-confined aquifer
Bodegraven	water quality management					9.000.000		months					unconfined aquifer
Watervlak	water quality management	15 to 30	10 to 25	50 to 100	71	5.300.000	4900000		tertiary				confined aquifer
Culemborg	water quality management			>100	2000	1.200.000	1200000		primary	tertiary	1E-05 to 1E-04		unconfined aquifer
Bergje Texel		< 5		20 to 50			131400						
Monster	maximise natural storage	< 5					5000000		tertiary	tertiary			
Scheveningen CIP	water quality management	< 5		20 to 50			315360		tertiary				

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site name	main aquifer type	specific aquifer type	monitoring in situ	monitoring bulk chemistry	monitoring heavy metals	monitoring organic compounds	monitoring micro biological pollutants	monitoring emerging pollutants	monitored emerging pollutants
Lake Baltezers	unconsolidated materials	fluvio-glacial detrital sediments	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Velddriel, Sellik	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
De Hoorn	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Castricum AIP	unconsolidated materials	aeolian deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Leiduin	unconsolidated materials	aeolian deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Zandvoort	unconsolidated materials	aeolian deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
C. Rodenhuis	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Dijklaan	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Bremerberg dijk	unconsolidated materials	fluvio-glacial detrital sediments	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Bodegraven	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Watervlak	unconsolidated materials	aeolian deposits	regular	non-regular	non-regular	non-regular	non-regular	n.a.	
Culemborg	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Bergje Texel	unconsolidated materials	aeolian deposits	regular	regular	regular	regular	n.a.	regular	
Monster	unconsolidated materials	aeolian deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Scheveningen CIP	unconsolidated materials	aeolian deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	

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site name	country	city	latitude	longitude	Operator	under operation since	shut down since	1. main MAR type	1. specific MAR Type	influent source	final use
Scheveningen DIP	Netherlands	Den Haag	52	4	Dunea	1973	1980	well, shaft and borehole recharge	ASTR	river water	domestic
Scheveningen Flip-Flop	Netherlands	Den Haag	52	4	Dunea	1984	1988	well, shaft and borehole recharge	ASTR	river water	domestic
Waalsdorp	Netherlands	Den Haag	52,097	4,312	Dunea	1990		well, shaft and borehole recharge	ASTR	river water	
Doesburg	Netherlands	Doesburg	52,01511	6,134491	Vitens	1914	1945	induced bank filtration	Induced bank filtration	river water	domestic
Druten	Netherlands	Druten	51,872	5,608	Vitens	1953		induced bank filtration	Induced bank filtration	river water	domestic
Enschede	Netherlands	Enschede	52,22696	6,886368	Vitens	1952		spreading methods	infiltration ponds & basins	river water	domestic
Geldermalsen	Netherlands	Geldermalsen	51,88126	5,288029	Vitens	1924	1952	induced bank filtration	Induced bank filtration	river water	domestic
Gouda	Netherlands	Gouda	52,01616	4,710388	Oasen	1883	1968	spreading methods	infiltration ponds & basins	river water	domestic
Haren	Netherlands	Groningen	53,172	6,613	Waterbedrijf Groningen (GWG)	1979	1987	well, shaft and borehole recharge	ASR	brackish water	ecological
Dam 9 Geul 1	Netherlands	Haarlem	52,38	4,64	PWN	1981	1988	well, shaft and borehole recharge	ASR	river water	
T Kromme Gat	Netherlands	Hardinxveld-Giessendam	51,827	4,822	Oasen	1924		induced bank filtration	Induced bank filtration	river water	domestic
Hazerswoude	Netherlands	Hazerswoude	61,00975	28,18268	Oasen	1909	1995	induced bank filtration	Induced bank filtration	river water	domestic
Leiduin IP1-2	Netherlands	Heemstede	52	5	Waternet	1998	2002	well, shaft and borehole recharge	ASTR	river water	domestic
Leiduin WIP	Netherlands	Heemstede	52	5	Waternet	1976	1977	well, shaft and borehole recharge	ASTR	river water	domestic
Crezeepolder	Netherlands	Hendrik-Ido Ambacht	51,86178	4,641638	Oasen	1912	1948	induced bank filtration	Induced bank filtration	lake water	domestic

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site name	objective	no. of infiltration wells	no. of recovery wells	filter depth (m)	horizontal aquifer pas-sage (m)	operational scale (hm³/a)	average infilt-rated volume (hm³/a)	residence time	pretreat ment	posttreat ment	hydraulic conductivity (m/s)	aquifer thickness (m)	aquifer confinement
Scheveningen DIP		< 5		20 to 50			424860						
Scheveningen Flip-Flop	water quality management	< 5		20 to 50			153300		tertiary				
Waalsdorp		15 to 30	10 to 25	20 to 50		2.000.000	175200		tertiary				
Doesburg	water quality management			20 to 50		100.000							unconfined aquifer
Druten	water quality management			10 to 20	2980	6.250.000				tertiary	1E-03 to 1E-02	10 bis 20	unconfined aquifer
Enschede	maximise natural storage				20	5.700.000	5500000	months	seconda ry	tertiary			unconfined aquifer
Geldermalsen	water quality management			20 to 50		250,000					1E-04 to 1E-03	< 10	confined aquifer
Gouda	water quality management			20 to 50							1E-05 to 1E-04		semi-confined aquifer
Haren	physical aquifer management	< 5		50 to 100		4.380.000	219000						
Dam 9 Geul 1		< 5		>100	105		201480		tertiary				
T Kromme Gat	maximise natural storage			20 to 50	350	1.000.000	1173060			tertiary			unconfined aquifer
Hazerswoude	water quality management			20 to 50	50	2.300.000						10 bis 20	unconfined aquifer
Leiduin IP1-2	water quality management	< 5		20 to 50			63072		tertiary				
Leiduin WIP		< 5		20 to 50			262800						
Crezeepolder	water quality management			10 to 20	300	900.000	432320						semi-confined aquifer

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site name	main aquifer type	specific aquifer type	monitoring in situ	monitoring bulk chemistry	monitoring heavy metals	monitoring organic compounds	monitoring micro biological pollutants	monitoring emerging pollutants	monitored emerging pollutants
Scheveningen DIP	unconsolidated materials	aeolian deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Scheveningen Flip-Flop	unconsolidated materials	aeolian deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Waalsdorp	unconsolidated materials	aeolian deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Doesburg	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Druten	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Enschede	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Geldermalsen	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Gouda	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Haren	unconsolidated materials	fluvial deposits	regular	regular	regular	regular	regular	regular	
Dam 9 Geul 1	unconsolidated materials	aeolian deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
T Kromme Gat	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Hazerswoude	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Leiduin IP1-2	unconsolidated materials	aeolian deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Leiduin WIP	unconsolidated materials	aeolian deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Crezeepolder	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	

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site name	country	city	latitude	longitude	Operator	under operation since	shut down since	1. main MAR type	1. specific MAR Type	influent source	final use
Herten	Netherlands	Herten	51,181	5,962	WML (Waterleiding Maatschappij Limburg)	2000	2009	well, shaft and borehole recharge	ASR	groundwater	domestic
Toevoersloot	Netherlands	Hoofddorp	52,299	4,656	Waternet	1994	2001	well, shaft and borehole recharge	ASTR	river water	
Veerdam	Netherlands	Ijsselmonde	51,82423	4,683201	Evides	1903	1944	induced bank filtration	Induced bank filtration	river water	domestic
Ijsselstein	Netherlands	Ijsselstein	52,02166	5,040665	Vitens	1911		induced bank filtration	Induced bank filtration	river water	domestic
Hooge Boom	Netherlands	Kamerik	52,12	4,892	Oasen	1931		induced bank filtration	Induced bank filtration	river water	domestic
s-Gravendeel	Netherlands	Kil	51,78053	4,617949	Evides	1924	1988	induced bank filtration	Induced bank filtration	river water	domestic
De Steeg	Netherlands	Langerak	51,932	4,878	Oasen	1994		induced bank filtration	Induced bank filtration	river water	domestic
Leersum	Netherlands	Leersum	52,012	5,429	Vitens	1983	1988	induced bank filtration	Induced bank filtration	river water	domestic
N. Lekkerland	Netherlands	Lekdijk	51,97304	5,18486	Oasen	1922	1978	induced bank filtration	Induced bank filtration	river water	domestic
Opperduit	Netherlands	Lekkerkerk	51,899	4,716	Oasen			spreading methods	infiltration ponds & basins	river water	
Schuwacht	Netherlands	Lekkerkerk	51,896	4,642	Oasen	1963		induced bank filtration	Induced bank filtration	river water	domestic
Tiendweg	Netherlands	Lekkerkerk	51,902	4,684	Oasen	1969		induced bank filtration	Induced bank filtration	river water	domestic
Elst	Netherlands	Lent	51,92437	5,8461	Vitens	1935		induced bank filtration	Induced bank filtration	river water	domestic
Breehei	Netherlands	Leunen	51,482	6,011	WML (Waterleiding Maatschappij Limburg)	1994	1995	well, shaft and borehole recharge	ASTR	groundwater	domestic
De Laak	Netherlands	Lexmond	51,957	5,036	Oasen	1936		induced bank filtration	Induced bank filtration	river water	domestic
Heel	Netherlands	Limburg	51,1886	5,881119	WML (Waterleiding Maatschappij Limburg)			spreading methods	infiltration ponds & basins	river water	domestic
Middelweg	Netherlands	Nieuw Lekkerland	51,885	4,663	Oasen	1964		induced bank filtration	Induced bank filtration	river water	domestic

the list is sorted by country, then by city and then by site name

Annex a: available informations to the sampled sites in the MAR catalogue (in some cases only the first attribute is announced, e.g. main MAR type, other information with low interest are not displayed, e.g. E-Mail)

site name	objective	no. of infiltration wells	no. of recovery wells	filter depth (m)	horizontal aquifer pas-sage (m)	operational scale (hm³/a)	average infilt-rated volume (hm³/a)	residence time	pretreat ment	posttreat ment	hydraulic conductivity (m/s)	aquifer thickness (m)	aquifer confinement
Herten	maximise natural storage	< 5		< 10			394200						
Toevoersloot	water quality management	< 5					210240						
Veerdam	water quality management			20 to 50		200.000					1E-04 to 1E-03	10 bis 20	semi-confined aquifer
Ijsselstein	water quality management			50 to 100	2000	2.500.000							unconfined aquifer
Hooge Boom	water quality management			20 to 50		3.900.000	3900000			tertiary			unconfined aquifer
s-Gravendeel	water quality management			10 to 20	175	5.200.000							semi-confined aquifer
De Steeg	water quality management	< 5		50 to 100	80,5		306600		tertiary			10 bis 20	unconfined aquifer
Leersum	water quality management	< 5		20 to 50	45	9.636.000	297840		tertiary				
N. Lekkerland	maximise natural storage			20 to 50	630	4.300.000							confined aquifer
Opperduit					675		2260000	months		tertiary		20 bis 50	
Schuwacht	water quality management			20 to 50	205	1.200.000	2260000						unconfined aquifer
Tiendweg	maximise natural storage			20 to 50	1250	2.200.000	2260000						unconfined aquifer
Elst	water quality management			50 to 100	350	1.300.000							
Breehei	water quality management	< 5		20 to 50			227760		tertiary				
De Laak	water quality management			20 to 50	1300	9.400.000				tertiary			unconfined aquifer
Heel	water quality management		25 to 50		40	20.000.000		years		secondary		>100	unconfined aquifer
Middelweg	water quality management			10 to 20	630	4.300.000							unconfined aquifer

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site name	main aquifer type	specific aquifer type	monitoring in situ	monitoring bulk chemistry	monitoring heavy metals	monitoring organic compounds	monitoring micro biological pollutants	monitoring emerging pollutants	monitored emerging pollutants
Herten	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	non-regular	n.a.	trace elements (not specified)
Toevoersloot	unconsolidated materials	aeolian deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Veerdam	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Ijsselstein	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Hooge Boom	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
s-Gravendeel	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
De Steeg	unconsolidated materials	fluvial deposits	regular	n.a.	n.a.	n.a.	non-regular	n.a.	trace elements (not specified)
Leersum	unconsolidated materials	fluvio-glacial detrital sediments	n.a.	n.a.	n.a.	n.a.	non-regular	n.a.	trace elements (not specified)
N. Lekkerland	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Opperduit	unconsolidated materials	aeolian deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Schuwacht	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Tiendweg	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Elst	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Breehei	unconsolidated materials	fluvial deposits	regular	n.a.	n.a.	n.a.	non-regular	n.a.	trace elements (not specified)
De Laak	unconsolidated materials	aeolian deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Heel	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Middelweg	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	

Annex a: available informations to the sampled sites in the MAR catalogue (in some cases only the first attribute is announced, e.g. main MAR type, other information with low interest are not displayed, e.g. E-Mail)

site name	country	city	latitude	longitude	Operator	under operation since	shut down since	1. main MAR type	1. specific MAR Type	influent source	final use
Nieuwegein	Netherlands	Nieuwegein	52,032	5,094	Vitens	1996	1998	well, shaft and borehole recharge	ASTR	river water	domestic
Nieuwe Marktstraat	Netherlands	Nijmegen	51,847	5,855	Vitens	1879	2015	induced bank filtration	Induced bank filtration	river water	domestic
Nootdorp	Netherlands	Nootdorp	52,043	4,396	private	2011	2012	well, shaft and borehole recharge	ASR	storm water	
Dordrecht	Netherlands	Oranjelaan	51,8188	4,665756	Evides	1946	1980	induced bank filtration	Induced bank filtration	river water	domestic
Ossendrecht	Netherlands	Ossendrecht	51,395	4,333	Evides	2005	2005	well, shaft and borehole recharge	ASTR	groundwater	domestic
Ouddorp	Netherlands	Ouddorp	51,809	3,935	Evides	1984	1987	well, shaft and borehole recharge	ASR	brackish water	domestic
Overijssel	Netherlands	Overijssel	52,437	6,501	Vitens	1950		induced bank filtration	Induced bank filtration	river water	domestic
Remmerden	Netherlands	Remmerden	51,97388	5,534663	Vitens	1977	1988	induced bank filtration	Induced bank filtration	river water	agricultural
Kievietsweg	Netherlands	Ridderkerk	52	5	Oasen	1906		induced bank filtration	Induced bank filtration	river water	domestic
Reijerwaard	Netherlands	Ridderkerk	51,88	4,6	Oasen	1961		induced bank filtration	Induced bank filtration	river water	domestic
De Rug	Netherlands	Roosteren	51,081	5,823	WML (Waterleiding Maatschappij Limburg)	1990		induced bank filtration	Induced bank filtration	river water	domestic
Schoonhoven	Netherlands	Schoonhoven	51,948	4,854	not specified	1901		induced bank filtration	Induced bank filtration	river water	domestic
Sint Jansklooster	Netherlands	Sint Jansklooster	52,68	6,009	Vitens	1936		induced bank filtration	Induced bank filtration	lake water	domestic
Sliedrecht	Netherlands	Sliedrecht	51,825	4,773	not specified	1886	1973	induced bank filtration	Induced bank filtration	river water	domestic
Someren DIZON	Netherlands	Someren	51,385	5,712	Brabantwater	1996	1998	well, shaft and borehole recharge	ASTR	river water	domestic
Berkheide	Netherlands	The Hague	52,183	4,383	Dunea	1940		spreading methods	infiltration ponds & basins	river water	domestic

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site name	objective	no. of infiltration wells	no. of recovery wells	filter depth (m)	horizontal aquifer pas-sage (m)	operational scale (hm³/a)	average infilt-rated volume (hm³/a)	residence time	pretreat ment	posttreat ment	hydraulic conductivity (m/s)	aquifer thickness (m)	aquifer confinement
Nieuwegein	water quality management	< 5		>100	113		350400		tertiary				
Nieuwe Marktstraat	water quality management			50 to 100	460	4.015.000				tertiary			unconfined aquifer
Nootdorp	maximise natural storage	< 5		20 to 50	27,5	131.400	109500						
Dordrecht	water quality management			10 to 20		3.500.000						10 bis 20	unconfined aquifer
Ossendrecht	water quality management	< 5	10 to 25	10 to 20	37,5	6.000.000	306600				< = 1E-05		
Ouddorp	physical aquifer management	< 5		20 to 50		3.500.000	109500		tertiary				
Overijssel	maximise natural storage					17.000.000							
Remmerden	water quality management			10 to 20	30	400.000			tertiary				unconfined aquifer
Kievietsweg	water quality management			20 to 50	940	2800000							semi-confined aquifer
Reijerwaard	water quality management			50 to 100	940	2.800.000	1173060						semi-confined aquifer
De Rug	maximise natural storage			10 to 20	145					tertiary		< 10	unconfined aquifer
Schoonhoven	water quality management			20 to 50	310	500.000		months					unconfined aquifer
Sint Jansklooster	water quality management	< 5	< 10	50 to 100		5.600.000			tertiary				unconfined aquifer
Sliedrecht	water quality management			10 to 20		1.100.000		weeks					
Someren DIZON	water quality management	< 5		>100	98	262800	262800		tertiary		1E-04 to 1E-03	20 bis 50	confined aquifer
Berkheide	maximise natural storage			20 to 50		25.000.000	25000000	months	secondary	quarternary	1E-04 to 1E-03	< 10	unconfined aquifer

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site name	main aquifer type	specific aquifer type	monitoring in situ	monitoring bulk chemistry	monitoring heavy metals	monitoring organic compounds	monitoring micro biological pollutants	monitoring emerging pollutants	monitored emerging pollutants
Nieuwegein	unconsolidated materials	fluvial deposits	regular	n.a.	n.a.	n.a.	non-regular	n.a.	trace elements (not specified)
Nieuwe Marktstraat	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Nootdorp	unconsolidated materials	aeolian deposits	n.a.	n.a.	n.a.	n.a.	non-regular	n.a.	trace elements (not specified)
Dordrecht	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Ossendrecht	unconsolidated materials	aeolian deposits	n.a.	n.a.	n.a.	n.a.	non-regular	n.a.	trace elements (As, Ba), heavy metals, Ca, Mg, HCO3-, Nitrate
Ouddorp	unconsolidated materials	aeolian deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Overijssel	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Remmerden	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Kievietsweg	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Reijerwaard	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
De Rug	unconsolidated materials	fluvio-glacial detrital sediments	n.a.	n.a.	n.a.	n.a.	regular	n.a.	
Schoonhoven	unconsolidated materials	fluvio-glacial detrital sediments	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Sint Jansklooster	unconsolidated materials	fluvio-glacial detrital sediments	non-regular	non-regular	non-regular	non-regular	n.a.	n.a.	
Sliedrecht	unconsolidated materials	fluvio-glacial detrital sediments	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Someren DIZON	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	non-regular	n.a.	trace elements (not specified)
Berkheide	unconsolidated materials	aeolian deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	

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site name	country	city	latitude	longitude	Operator	under operation since	shut down since	1. main MAR type	1. specific MAR Type	influent source	final use
Meijendel	Netherlands	The Hague	52,119	4,324	Dunea	1955		spreading methods	infiltration ponds & basins	river water	domestic
Solleveld	Netherlands	The Hague	52,052	4,854	Dunea	1970		spreading methods	infiltration ponds & basins	river water	domestic
Tiel	Netherlands	Tiel	51,89	5,435	Vitens	1890	1993	induced bank filtration	Induced bank filtration	river water	
Kolff	Netherlands	Waardenburg	51,829	5,249	Vitens	1958		induced bank filtration	Induced bank filtration	river water	domestic
Noordhollands Duinreservaat	Netherlands	Wijk an Zee	52,547	4,621	PWN	1974		spreading methods	infiltration ponds & basins	lake water	domestic
Zoelen	Netherlands	Zoelen	51,912	5,402	Vitens	1970		well, shaft and borehole recharge	ASR	groundwater	domestic
Vierakker	Netherlands	Zutphen	52,107	6,235	Vitens	1889		induced bank filtration	Induced bank filtration	river water	domestic
Ringdijk	Netherlands	Zwijndrecht	51,82	4,659	Oasen	1954		induced bank filtration	Induced bank filtration	river water	domestic
Engelsche Werk	Netherlands	Zwolle	52,499	6,072	Vitens	1930		induced bank filtration	Induced bank filtration	river water	domestic
Wasilkow	Poland	Bialystok	53,19352	23,19394	Wodociagi Bialystockie Sp.zoo	1891		spreading methods	infiltration ponds & basins	river water	domestic
Ujęcie Bogucino-Rościęcino	Poland	Kolobrzeg	54,169	15,56	Miejskie Wodociągi i Kanalizacja" Spółka z o.o. w Kołobrzegu			induced bank filtration	Induced bank filtration	river water	domestic
Mosina-Krajkowo	Poland	Krajkowo	52,21203	16,94246	Aquanet SA			induced bank filtration	Induced bank filtration	river water	domestic
Bielany	Poland	Krakow	50,042	19,84	Miejskie Przedsiebiorstwo Wodociagow i Kanalizacji	1921		spreading methods	infiltration ponds & basins	river water	domestic
Ujecie wody Mostowo	Poland	Mostowo	54,076	16,39	Miejskie Wodociägi i Kanalizacja Sp.z.o.o w Koszalinie	1976		induced bank filtration	Induced bank filtration	river water	domestic
Praski "Gruba Kaska"	Poland	Warszawa	52,2238	21,0623	Miejskie Przedsiebiorstwo Wodociagow i Kanalizacji	1964		induced bank filtration	Induced bank filtration	river water	domestic
Ujecie Polnoc	Poland	Warszawa	52,23	21,01	Miejskie Przedsiebiorstwo Wodociagow i Kanalizacji	1986		induced bank filtration	Induced bank filtration	lake water	domestic

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site name	objective	no. of infiltration wells	no. of recovery wells	filter depth (m)	horizontal aquifer pas-sage (m)	operational scale (hm^3/a)	average infilt-rated volume (hm^3/a)	residence time	pretreat ment	posttreat ment	hydraulic conductivity (m/s)	aquifer thickness (m)	aquifer confinement
Meijendel	maximise natural storage			20 to 50	65	53.000.000	53000000	months	seconda ry	quarternar y			unconfined aquifer
Solleveld	maximise natural storage	10 to 15	>100	20 to 50		5.000.000	4500000	months	seconda ry	quarternar y	1E-04 to 1E-03	< 10	unconfined aquifer
Tiel				>100	340	1.000.000							unconfined aquifer
Kolff	water quality management				3110	6.000.000					1E-04 to 1E-03		
Noordhollands Duinreservaat	ecological benefits				40	13.100.000	12300000		tertiary	quarternar y			unconfined aquifer
Zoelen	other benefits	< 5		50 to 100		5.000.000	250000		seconda ry				
Vierakker				20 to 50	1500	2.000.000		months			1E-03 to 1E-02	20 bis 50	
Ringdijk	water quality management			>100	130	3.900.000							
Engelsche Werk	water quality management			>100	815	12.700.000							
Wasilkow	management of water distribution systems	5 to 10	10 to 25									20 bis 50	
Ujęcie Bogucino-Rościęcino	water quality management		10 to 25										
Mosina-Krajkowo	water quality management	10 to 15	25 to 50	10 to 20	600	54.750.000		years			1E-03 to 1E-02	20 bis 50	semi-confined aquifer
Bielany	water quality management	5 to 10	50 to 100		20	7.300.000		days				< 10	
Ujecie wody Mostowo	water quality management		25 to 50		100	22.338.000							semi-confined aquifer
Praski "Gruba Kaska"	water quality management					36.500.000		days					unconfined aquifer
Ujecie Polnoc	water quality management												

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site name	main aquifer type	specific aquifer type	monitoring in situ	monitoring bulk chemistry	monitoring heavy metals	monitoring organic compounds	monitoring micro biological pollutants	monitoring emerging pollutants	monitored emerging pollutants
Meijendel	unconsolidated materials	aeolian deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Solleveld	unconsolidated materials	aeolian deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Tiel	unconsolidated materials	fluvio-glacial detrital sediments	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Kolff	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Noordhollands Duinreservaat	unconsolidated materials	aeolian deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Zoelen	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Vierakker	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Ringdijk	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Engelsche Werk	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Wasilkow	unconsolidated materials	fluvio-glacial detrital sediments	non-regular	non-regular	n.a.	n.a.	n.a.	n.a.	
Ujęcie Bogucino-Rościęcino	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Mosina-Krajkowo	unconsolidated materials	fluvio-glacial detrital sediments	non-regular	non-regular	non-regular	non-regular	non-regular	non-regular	dichloromethane, DDt, PAH, heptachor, its epoxide
Bielany	unconsolidated materials	fluvio-glacial detrital sediments	n.a.	n.a.	regular	n.a.	non-regular	non-regular	lindane (y-HCH)
Ujecie wody Mostowo	unconsolidated materials	fluvio-glacial detrital sediments	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Praski "Gruba Kaska"	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	non-regular	non-regular	lindane (y-HCH)
Ujecie Polnoc	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	

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site name	country	city	latitude	longitude	Operator	under operation since	shut down since	1. main MAR type	1. specific MAR Type	influent source	final use
Na Grobli	Poland	Wroclaw	51,1045	17,058	Miejskie Przedsiebiorstwo Wodociagow i Kanalizacji	1890		spreading methods	infiltration ponds & basins	river water	domestic
Campina de Faro	Portugal	Campina de Faro	37,042	-7,915	LNEC	2006	2009	spreading methods	infiltration ponds & basins	storm water	agricultural
Gheraiesti	Romania	Bacau	46,59933	26,90449	not specified	1961		induced bank filtration	Induced bank filtration	river water	domestic
Cluj	Romania	Cluj	46,7475	23,4908		1935		induced bank filtration	Induced bank filtration	river water	domestic
Iasi	Romania	Iasi	47,1569	27,5903		1911		induced bank filtration	Induced bank filtration	river water	domestic
Kaliningrad	Russian Federation	Kaliningrad	54,711	20,506	not specified			induced bank filtration	Induced bank filtration	river water	domestic
Belgrade	Serbia and Montenegro	Belgrade	44,84321	20,45654	Београдски водовод и канализација (Belgrad Wasserwerke und Kanalisation)			induced bank filtration	Induced bank filtration	river water	domestic
Kraljevo	Serbia and Montenegro	Kraljevo	43,7272	20,6868	not specified	1937		induced bank filtration	Induced bank filtration	river water	domestic
Gabcikovo	Slovakia	Gabcikovo	47,89	17,57	ZsVS (Zapadoslovenska Vodarenska Spolocnost, a.s.)	1992		induced bank filtration	Induced bank filtration	river water	domestic
Kalinkovo	Slovakia	Kalinkovo	48,0611	17,25248	Bratislava Waterworks Company (BVS)			induced bank filtration	Induced bank filtration	river water	domestic
Rusovce	Slovakia	Rusovce	48,06225	17,14485	Bratislava Waterworks Company (BVS)			induced bank filtration	Induced bank filtration	river water	domestic
Samorin	Slovakia	Samorin	48,03218	17,31445	ZsVS (Zapadoslovenska Vodarenska Spolocnost, a.s.)			induced bank filtration	Induced bank filtration	river water	domestic
Maribor	Slovenia	Maribor	46,5567	15,646	Mariborski Vodovod			induced bank filtration	Induced bank filtration	river water	domestic
Alcalá La Real	Spain	Alcalá La Real	37,46	-3,92	not specified	2002	2002	spreading methods	infiltration ponds & basins	groundwater	

the list is sorted by country, then by city and then by site name

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site name	objective	no. of infiltration wells	no. of recovery wells	filter depth (m)	horizontal aquifer passage (m)	operational scale (hm³/a)	average infiltrated volume (hm³/a)	residence time	pretreatment	posttreatment	hydraulic conductivity (m/s)	aquifer thickness (m)	aquifer confinement
Na Grobli	water quality management					22.265.000							
Campina de Faro	maximise natural storage	< 5				9.000.000	300		none		< = 1E-05	50 bis 100	semi-confined aquifer
Gheraiesti	water quality management					7.350.000					1E-04 to 1E-03		unconfined aquifer
Cluj	water quality management		50 to 100	< 10									
Iasi	water quality management											10 bis 20	unconfined aquifer
Kaliningrad						11.680.000					1E-04 to 1E-03	20 bis 50	
Belgrade	water quality management				150			weeks			1E-03 to 1E-02	10 bis 20	unconfined aquifer
Kraljevo	maximise natural storage				400	9.460.800		months			> 1E-02	< 10	unconfined aquifer
Gabcikovo	water quality management				1750	32.850.000		years			1E-03 to 1E-02	50 bis 100	unconfined aquifer
Kalinkovo	maximise natural storage				250	26.645.000		months			> 1E-02	50 bis 100	unconfined aquifer
Rusovce	maximise natural storage				550	78.110.000		months			1E-03 to 1E-02		unconfined aquifer
Samorin	maximise natural storage				750	37.960.000		months			1E-03 to 1E-02	>100	unconfined aquifer
Maribor	maximise natural storage				65	9.490.000		months			1E-03 to 1E-02	10 bis 20	unconfined aquifer
Alcalá La Real			< 10				105120					20 bis 50	unconfined aquifer

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site name	main aquifer type	specific aquifer type	monitoring in situ	monitoring bulk chemistry	monitoring heavy metals	monitoring organic compounds	monitoring micro biological pollutants	monitoring emerging pollutants	monitored emerging pollutants
Na Grobli	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Campina de Faro	consolidated materials (rocks)	karstic carbonate terrains	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Gheraiesti	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Cluj			n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Iasi			n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Kaliningrad	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Belgrade	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Kraljevo	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	non-regular	n.a.	n.a.	
Gabcikovo	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Kalinkovo	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Rusovce	unconsolidated materials	colluvial-fan deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Samorin	unconsolidated materials	fluvio-glacial detrital sediments	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Maribor	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Alcalá La Real	consolidated materials (rocks)	karstic carbonate terrains	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	

Annex a: available informations to the sampled sites in the MAR catalogue (in some cases only the first attribute is announced, e.g. main MAR type, other information with low interest are not displayed, e.g. E-Mail)

site name	country	city	latitude	longitude	Operator	under operation since	shut down since	1. main MAR type	1. specific MAR Type	influent source	final use
Orba	Spain	Alicante	38,78	-0,08	Diputación de Alicante	1994		spreading methods	ditch and furrow	storm water	agricultural
Vergel	Spain	Alicante	38,84	0	Aguas De Alicante	1985		well, shaft and borehole recharge	ASTR	river water	agricultural
Barrera hidraulica del llobregat	Spain	Barcelona	41,33	2,09	ACA (Agencia Calatala de l'Aigua). Regional Water Administration	2007	2011	well, shaft and borehole recharge	ASTR	reclaimed domestic water	ecological
Castellbisbal	Spain	Barcelona	41,47	1,96	CUACSA (Comunitat d'Usuaris d'Aigües de la Cubeta de Sant Andreu de la Barca)	2009	2011	spreading methods	infiltration ponds & basins	river water	industrial
Cornella	Spain	Barcelona	41,35	2,05	SGAB (Sociedad General de Aguas de Barcelona	1969		well, shaft and borehole recharge	ASR	tap water	domestic
Pallejà	Spain	Barcelona	41,42	2,01	SGAB (Sociedad General de Aguas de Barcelona	1960		induced bank filtration	Induced bank filtration	river water	industrial
Sant Vicenç dels Horts	Spain	Barcelona	43,38	2,02	ACA (Agencia Calatala de l'Aigua). Regional Water Administration	2008		spreading methods	infiltration ponds & basins	river water	domestic
Los Sotillos	Spain	Cádiz	36,84	-5,83	IGME	2001	2002	well, shaft and borehole recharge	dug well / shaft / pit injection	river water	agricultural
Belcaire	Spain	Castellón	39,81	0,21	AQUAMED	2008	2009	well, shaft and borehole recharge	ASR	river water	agricultural
Blanes	Spain	Girona	41,67	2,76	Consorci Costa Brava	2004	2011	spreading methods	excess irrigation	reclaimed domestic water	industrial

the list is sorted by country, then by city and then by site name

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site name	objective	no. of infiltration wells	no. of recovery wells	filter depth (m)	horizontal aquifer pas-sage (m)	operational scale (hm³/a)	average infilt-rated volume (hm³/a)	residence time	pretreat ment	posttreat ment	hydraulic conductivity (m/s)	aquifer thickness (m)	aquifer confinement
Orba	ecological benefits	>30	< 10	< 10		200.000	44850000		none		1E-05 to 1E-04	>100	unconfined aquifer
Vergel	ecological benefits	< 5	< 10	10 to 20		1.550.000	1550000				1E-03 to 1E-02	20 bis 50	
Barrera hidraulica del llobregat	physical aquifer management	10 to 15	10 to 25	20 to 50	50	5.500.000	5500000		tertiary		1E-03 to 1E-02	10 bis 20	confined aquifer
Castellbisbal	maximise natural storage	< 5	< 10	20 to 50	5000	2.190.000	2190000	years	none	quarternary	> 1E-02	< 10	semi-confined aquifer
Cornella	maximise natural storage	10 to 15	10 to 25	10 to 20	50	10.000.000	27375000	weeks	quarternary	quarternary	1E-03 to 1E-02	20 bis 50	semi-confined aquifer
Pallejà	maximise natural storage		< 10	20 to 50			14000000	days	none	quarternary	1E-03 to 1E-02	20 bis 50	unconfined aquifer
Sant Vicenç dels Horts	maximise natural storage	< 5	< 10	20 to 50	2000	1.825.000	1825000	years	none	quarternary	> 1E-02	10 bis 20	semi-confined aquifer
Los Sotillos	water quality management	< 5	< 10	20 to 50			1500		primary		1E-04 to 1E-03	20 bis 50	unconfined aquifer
Belcaire ?	maximise natural storage		< 10	50 to 100		3.468.960	7884000		primary	none	1E-04 to 1E-03	>100	unconfined aquifer
Blanes	water quality management		< 10	< 10		2.920.000	2920000		tertiary		> 1E-02	10 bis 20	unconfined aquifer

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site name	main aquifer type	specific aquifer type	monitoring in situ	monitoring bulk chemistry	monitoring heavy metals	monitoring organic compounds	monitoring micro biological pollutants	monitoring emerging pollutants	monitored emerging pollutants
Orba	consolidated materials (rocks)	non-karstic Carbonated materials (limestones-dolostones and marls)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Vergel	unconsolidated materials	fluvial deposits	non-regular	non-regular	n.a.	n.a.	n.a.	n.a.	
Barrera hidraulica del llobregat	unconsolidated materials	fluvial deposits	regular	regular	regular	regular	regular	n.a.	
Castellbisbal	unconsolidated materials	fluvial deposits	regular	n.a.	n.a.	n.a.	n.a.	n.a.	
Cornella	unconsolidated materials	fluvial deposits	regular	regular	regular	regular	regular	non-regular	Drugs of abuse: Benzoylecgonine; Caffeine; Cocaine; Codeine; Cotinine; EDDP; Ketamine; MDMA; Methadone; Nicotine; Norbenzoylecgonine; Norcodeine. Pharmaceuticals: Acetaminophen; Azithromycin; Bezafibrate; Chlorhexidine; Clarythromycin; Clofibric ac.; Diatri
Pallejà	unconsolidated materials	fluvial deposits	regular	n.a.	n.a.	n.a.	n.a.	n.a.	
Sant Vicenç dels Horts	unconsolidated materials	fluvial deposits	regular	non-regular	non-regular	non-regular	non-regular	non-regular	gemfibrozil, carbamazepine, carbamazepine epoxy, sulphametoxazole, atrazine, terbutilazine, simazine
Los Sotillos	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Belcaire	unconsolidated materials	fluvial deposits	non-regular	non-regular	non-regular	non-regular	non-regular	non-regular	DETECTED IN WWTP EFFLUENT: simazine; terbuthylazine; desetil-terbuthylazine; terbutryn; carbendazime; thiabendazol;clorfenvinfos ; propiconazole; desetilterbuthylazine; terbuthylazine; terbutryn; chlorpirifos-ethyl; parathion-ethyl; diazinon; fipronil; pr
Blanes	unconsolidated materials	fluvial deposits	regular	regular	regular	regular	regular	n.a.	

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site name	country	city	latitude	longitude	Operator	under operation since	shut down since	1. main MAR type	1. specific MAR Type	influent source	final use
Castell Platja d'Aro	Spain	Girona	41,8	3,03	Consorci Costa Brava	1989		spreading methods	flooding	reclaimed domestic water	agricultural
Llançà	Spain	Girona	42,38	3,15	Consorci Costa Brava	2008	2011	spreading methods	flooding	reclaimed domestic water	agricultural
Palamos	Spain	Girona	41,88	3,15	Consorci Costa Brava	2005		spreading methods	flooding	reclaimed domestic water	agricultural
Port de la Selva	Spain	Girona	42,33	3,2	Consorci Costa Brava	2001		spreading methods	flooding	reclaimed domestic water	agricultural
Gracia-Morenita	Spain	Gracia-Morenita	42,46	-8,09	not specified	1984	1989	well, shaft and borehole recharge	ASTR	groundwater	
Guadix	Spain	Guadix	37,3	-3,14	not specified	1984	1998	spreading methods	infiltration ponds & basins	groundwater	agricultural
Mancha Real	Spain	Mancha Real	37,79	-3,61	not specified			well, shaft and borehole recharge	ASR		
El Señorío	Spain	Marbella	39,49	-4,96	AQUALOGY AQUAMBIENTE (SEDELAM)	2000		well, shaft and borehole recharge	ASR	storm water	agricultural
river Esgueva	Spain	River Esgueva	41,83	-4,95	not specified	1984	1987	well, shaft and borehole recharge	ASTR	river water	
river Guadalquivir floodplain	Spain	River Guadalquivir	37,04	-6,18	not specified	1991	1991	spreading methods	ditch and furrow	river water	agricultural
river Oja	Spain	River Oja	42,57	-2,91	not specified	1990		spreading methods	infiltration ponds & basins	river water	agricultural
Cubeta de Santiuste de San Juan Bautista	Spain	Segovia	41,08	-4,57	Ministerio de Agricultura (MAPA), Junta de	2002		spreading methods	infiltration ponds & basins	river water	agricultural
Seville	Spain	Seville	37,26	-5,98	not specified		1991	spreading methods	infiltration ponds & basins	river water	agricultural
Carracillo	Spain	Valladolid	41,31	-4,36	Ministerio de Agricultura (MAPA), Junta de	2006		spreading methods	flooding	river water	agricultural
Dösebacke	Sweden	Dösebacke	56,6735	16,3169	Dösebacka Vattenverk			spreading methods	infiltration ponds & basins	river water	domestic
Eksjö	Sweden	Eksjö	57,66	14,995	Eksjö Energi Ltd	1916		spreading methods	infiltration ponds & basins	lake water	domestic

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site name	objective	no. of infiltration wells	no. of recovery wells	filter depth (m)	horizontal aquifer passage (m)	operational scale (hm³/a)	average infiltrated volume (hm³/a)	residence time	pretreatment	posttreatment	hydraulic conductivity (m/s)	aquifer thickness (m)	aquifer confinement
Castell Platja d'Aro	maximise natural storage		< 10	< 10		106.700	106700		tertiary	tertiary	1E-04 to 1E-03	20 bis 50	unconfined aquifer
Llançà	physical aquifer management		< 10	< 10		219.000			secondary		1E-03 to 1E-02	20 bis 50	unconfined aquifer
Palamos	physical aquifer management		< 10	< 10		1.825.000			tertiary		1E-04 to 1E-03	< 10	semi-confined aquifer
Port de la Selva	maximise natural storage		< 10	< 10		219.000	22920		tertiary		< = 1E-05	20 bis 50	semi-confined aquifer
Gracia-Morenita		< 5	< 10	< 10			420480		none		1E-04 to 1E-03	>100	confined aquifer
Guadix	maximise natural storage	5 to 10	< 10	10 to 20		6.350.000	6351000				1E-05 to 1E-04	>100	unconfined aquifer
Mancha Real	maximise natural storage		< 10				264902					50 bis 100	
El Señorío	physical aquifer management	< 5				200.000	200000		none	tertiary		50 bis 100	semi-confined aquifer
river Esgueva		< 5		>100			153300		primary		1E-05 to 1E-04	50 bis 100	confined aquifer
river Guadalquivir floodplain			10 to 25						primary		1E-03 to 1E-02		confined aquifer
river Oja			< 10	< 10		3.750.000					1E-03 to 1E-02	10 bis 20	unconfined aquifer
Cubeta de Santiuste de San Juan Bautista	other benefits	>30	< 10	< 10		8.000.000			none		1E-05 to 1E-04	50 bis 100	unconfined aquifer
Seville												20 bis 50	
Carracillo	water quality management	< 5				6.000.000			none			20 bis 50	unconfined aquifer
Dösebacke	water quality management	5 to 10	10 to 25			2.200.000		months	primary	secondary	1E-04 to 1E-03	10 bis 20	semi-confined aquifer
Eksjö	water quality management		< 10		305		357200		primary				

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site name	main aquifer type	specific aquifer type	monitoring in situ	monitoring bulk chemistry	monitoring heavy metals	monitoring organic compounds	monitoring micro biological pollutants	monitoring emerging pollutants	monitored emerging pollutants
Castell Platja d'Aro	unconsolidated materials	fluvial deposits	regular	regular	regular	n.a.	n.a.	n.a.	
Llançà	unconsolidated materials	fluvial deposits	regular	regular	regular	regular	regular	n.a.	
Palamos	unconsolidated materials	fluvial deposits	regular	regular	n.a.	n.a.	regular	n.a.	
Port de la Selva	unconsolidated materials	fluvial deposits	regular	regular	n.a.	n.a.	regular	n.a.	
Gracia-Morenita	consolidated materials (rocks)	karstic carbonate terrains	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Guadix	consolidated materials (rocks)	karstic carbonate terrains	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Mancha Real	consolidated materials (rocks)	karstic carbonate terrains	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
El Señorío	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
river Esgueva	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
river Guadalquivir floodplain	consolidated materials (rocks)	karstic carbonate terrains	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
river Oja	consolidated materials (rocks)	karstic carbonate terrains	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Cubeta de Santiuste de San Juan Bautista	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Seville	consolidated materials (rocks)	sandstones	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Carracillo	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Dösebacke	unconsolidated materials	fluvio-glacial detrital sediments	non-regular	non-regular	non-regular	n.a.	n.a.	n.a.	
Eksjö	unconsolidated materials	fluvio-glacial detrital sediments	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	

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site name	country	city	latitude	longitude	Operator	under operation since	shut down since	1. main MAR type	1. specific MAR Type	influent source	final use
Hyndevad	Sweden	Eskilstuna	59,323	16,45	Eskilstuna Energi och Miljö	1915		spreading methods	infiltration ponds & basins	lake water	domestic
Örby	Sweden	Helsingborg	55,605	13,006	Sydvatten	1950		spreading methods	infiltration ponds & basins	lake water	domestic
Katrineholm	Sweden	Katrineholm	58,995	16,205	Sörmland Vatten			spreading methods	infiltration ponds & basins	lake water	domestic
Bergsjön	Sweden	Kristinehamn	59,309	14,109	Malmberg	2009		spreading methods	infiltration ponds & basins	lake water	domestic
Landskrona	Sweden	Landskrona	55,87	12,83	Sydvatten			spreading methods	flooding	lake water	domestic
Luleå	Sweden	Luleå	65,583	22,153	Luleå Kommun			spreading methods	infiltration ponds & basins		domestic
Grevie	Sweden	Malmö	55,605	13,006	Sydvatten	1901		spreading methods	infiltration ponds & basins	lake water	domestic
Södertälje	Sweden	Södertälje	59,195	17,625	Telge			spreading methods	infiltration ponds & basins	lake water	domestic
Uppsala	Sweden	Uppsala	59,437	15,974	Uppsala Vatten	1956		spreading methods	infiltration ponds & basins	lake water	domestic
Västerbotten	Sweden	Västeräs	65,333	16,516	not specified			spreading methods	infiltration ponds & basins	lake water	domestic
Lange Erlen	Switzerland	Basel	47,57	7,6	Industrielle Werke Basel (IWB)	1912		spreading methods	flooding	river water	domestic
Muttenzer Hard	Switzerland	Basel	47,532	7,7	Industrielle Werke Basel (IWB)	1955		spreading methods	flooding	river water	domestic
River Thur	Switzerland	Frauenfeld	47,557	8,9	not specified			induced bank filtration	Induced bank filtration	river water	
Vessy	Switzerland	Geneva	46,187	6,166	SIG (Services Industriels de Genève)	1980		spreading methods	reverse drainage method	river water	domestic
Arve	Switzerland	Geneve	46,18	6,15	Service Industriels de Genève	1980		induced bank filtration	Induced bank filtration	river water	domestic
Hardwald	Switzerland	Pratteln	47,532	7,699	Hardwasser AG	1954		spreading methods	infiltration ponds & basins	river water	domestic
Birstal	Switzerland	Reinach	47,493	7,591	WWR (Wasserwerk Reinach und Umgebung)			well, shaft and borehole recharge	ASTR	groundwater	domestic

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site name	objective	no. of infiltration wells	no. of recovery wells	filter depth (m)	horizontal aquifer passage (m)	operational scale (hm³/a)	average infiltrated volume (hm³/a)	residence time	pretreatment	posttreatment	hydraulic conductivity (m/s)	aquifer thickness (m)	aquifer confinement
Hyndevad	water quality management				500		4732900		primary				
Örby	maximise natural storage	5 to 10	25 to 50		305		175400000	weeks	primary				unconfined aquifer
Katrineholm	water quality management				457,5		1428800		primary				
Bergsjön	water quality management				228,75	3.650.000	1071600		primary				
Landskrona	maximise natural storage				200		1786000		primary				
Luleå	maximise natural storage						3304100		primary				
Grevie	management of water distribution systems				746		4743175		primary				semi-confined aquifer
Södertälje					1052		3661300						
Uppsala	water quality management	< 5	< 10			21.000.000	22000000		primary				
Västerbotten	water quality management				351	17.520.000	14555901	weeks	primary				unconfined aquifer
Lange Erlen	water quality management		10 to 25		500	14.370.000	15690000	weeks	primary			< 10	
Muttenzer Hard	water quality management					13.400.000							
River Thur													
Vessy	water quality management					16.000.000	9000000		tertiary		1E-03 to 1E-02	20 bis 50	
Arve	management of water distribution systems		10 to 25	< 10					tertiary			20 bis 50	semi-confined aquifer
Hardwald	maximise natural storage		10 to 25	20 to 50	400	13.848.000	13848000		primary			10 bis 20	unconfined aquifer
Birstal		5 to 10				4.646.500			primary				

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site name	main aquifer type	specific aquifer type	monitoring in situ	monitoring bulk chemistry	monitoring heavy metals	monitoring organic compounds	monitoring micro biological pollutants	monitoring emerging pollutants	monitored emerging pollutants
Hyndevad	unconsolidated materials	fluvio-glacial detrital sediments	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Örby	unconsolidated materials	fluvio-glacial detrital sediments	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Katrineholm	unconsolidated materials	fluvio-glacial detrital sediments	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Bergsjön	unconsolidated materials	fluvio-glacial detrital sediments	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Landskrona	unconsolidated materials	fluvio-glacial detrital sediments	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Luleå	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Grevie	unconsolidated materials	fluvio-glacial detrital sediments	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Södertälje	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Uppsala	unconsolidated materials	fluvio-glacial detrital sediments	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Västerbotten	unconsolidated materials	fluvio-glacial detrital sediments	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Lange Erlen	unconsolidated materials	fluvio-glacial detrital sediments	n.a.	n.a.	n.a.	n.a.	non-regular	n.a.	drug residues, pesticides, EDTA, DHPP
Muttenzer Hard	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
River Thur	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Vessy	unconsolidated materials	fluvio-glacial detrital sediments	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Arve	unconsolidated materials	fluvio-glacial detrital sediments	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Hardwald	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Birstal	consolidated materials (rocks)	karstic carbonate terrains	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	

Annex a: available informations to the sampled sites in the MAR catalogue (in some cases only the first attribute is announced, e.g. main MAR type, other information with low interest are not displayed, e.g. E-Mail)

site name	country	city	latitude	longitude	Operator	under opera-tion since	shut down since	1. main MAR type	1. specific MAR Type	influent source	final use
Schaffhausen	Switzerland	Schaffhausen	47,693	8,63	shpower (Städtische Werke Schaffhausen und Neuhausen)			induced bank filtration	Induced bank filtration	river water	domestic
Linsental	Switzerland	Winterthur	47,468	8,758	Stadtwerke Winterthur	1975		induced bank filtration	Induced bank filtration	river water	domestic
Hardhof	Switzerland	Zurich	47,401	8,48	WVZ-Hardhof	1934		induced bank filtration	Induced bank filtration	river water	domestic
Derby	United Kingdom	Derby	53,19287	-1,678162	Severn Trent Water			induced bank filtration	Induced bank filtration	river water	domestic
Horton Kirby	United Kingdom	East of London	51,39471	0,243673	Thames Water			well, shaft and borehole recharge	ASR	storm water	domestic
Fochabers	United Kingdom	Fochabers	58,0313	-3,1274	not specified			induced bank filtration	Induced bank filtration	river water	domestic
Gatehampton	United Kingdom	Gatehampton	51,52498	-1,131592	not specified			induced bank filtration	Induced bank filtration	river water	domestic
Glasgow	United Kingdom	Glasgow	55,87261	-4,252396	Milngavie Water Treatment Works	1810		induced bank filtration	Induced bank filtration	river water	domestic
Lee Valley and another	United Kingdom	London	51,74744	-0,002747	Three Valleys Water, Veolia Water			induced bank filtration	Induced bank filtration	river water	domestic
Newark	United Kingdom	Newark	53,07529	-0,805027	not specified			induced bank filtration	Induced bank filtration	river water	domestic
Nottingham	United Kingdom	Nottingham	52,94171	-1,132622	Severn Trent Water			induced bank filtration	Induced bank filtration	river water	domestic
Perth	United Kingdom	Perth	56,39928	-3,431511	Schottish Water			induced bank filtration	Induced bank filtration	river water	domestic
Littlehempston	United Kingdom	Totnes	50,444	-3,687	South West Water			induced bank filtration	Induced bank filtration	river water	domestic

the list is sorted by country, then by city and then by site name

Annex a: available informations to the sampled sites in the MAR catalogue (in some cases only the first attribute is announced, e.g. main MAR type, other information with low interest are not displayed, e.g. E-Mail)

site name	objective	no. of infiltration wells	no. of recovery wells	filter depth (m)	horizontal aquifer pas-sage (m)	operational scale (hm³/a)	average infilt-rated volume (hm³/a)	residence time	pretreat ment	posttreat ment	hydraulic conductivity (m/s)	aquifer thickness (m)	aquifer confinement
Schaffhausen						7.335.000							
Linsental	water quality management				120	2.500.000		months			1E-03 to 1E-02	20 bis 50	
Hardhof	water quality management	>30	< 10		85	54.750.000					1E-03 to 1E-02	20 bis 50	unconfined aquifer
Derby	water quality management												unconfined aquifer
Horton Kirby	maximise natural storage										1E-05 to 1E-04	20 bis 50	confined aquifer
Fochabers	water quality management				80	7.300.000		months			1E-04 to 1E-03	< 10	unconfined aquifer
Gatehampton	water quality management		< 10		400	21.900.000		years			> 1E-02	20 bis 50	unconfined aquifer
Glasgow	water quality management												unconfined aquifer
Lee Valley and another	water quality management					5.475.000		days				10 bis 20	unconfined aquifer
Newark	water quality management												unconfined aquifer
Nottingham	water quality management	10 to 15	10 to 25				54750000			none			unconfined aquifer
Perth	water quality management												unconfined aquifer
Littlehempston	water quality management												

Annex a: available informations to the sampled sites in the MAR catalogue (in some cases only the first attribute is announced, e.g. main MAR type, other information with low interest are not displayed, e.g. E-Mail)

site name	main aquifer type	specific aquifer type	monitoring in situ	monitoring bulk chemistry	monitoring heavy metals	monitoring organic compounds	monitoring micro biological pollutants	monitoring emerging pollutants	monitored emerging pollutants
Schaffhausen	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Linsental	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Hardhof	unconsolidated materials	fluvio-glacial detrital sediments	regular	regular	regular	regular	regular	regular	pharmaceuticals, steroids and hormones, surfactants and surfactant metabolites, flame retardants, industrial additives and agents, gasoline additives
Derby	unconsolidated materials	fluvio-glacial detrital sediments	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Horton Kirby	consolidated materials (rocks)	non-karstic Carbonated materials (limestones-dolostones and marls)	regular	regular	regular	n.a.	n.a.	n.a.	
Fochabers	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Gatehampton	consolidated materials (rocks)	karstic carbonate terrains	regular	regular	regular	regular	n.a.	n.a.	
Glasgow	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Lee Valley and another	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Newark	unconsolidated materials	fluvio-glacial detrital sediments	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Nottingham	consolidated materials (rocks)	sandstones	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Perth	unconsolidated materials	fluvial deposits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Littlehempston			n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	

annex b: list of references to the sites in the MAR database

site	country	city	author	published	title	source	availability
Rosenau	Austria	Garsten	Wett	1998	Monitoring clogging after start-up of a RBF-system at the river Enns, Austria	Institute of Environmental Engineering, University of Innsbruck, Austria	soft copy
Rosenau	Austria	Garsten	Schön	2006	Systematic comparison of riverbank filtration sites in Austria and India	Diploma Thesis	soft copy
Andritz	Austria	Graz	Nickl & Schmölzer	2008	Projekt KW Stübing der AHP / SSG. Positionspapier Graz AG Wasser	Graz Ag Wasser	soft copy
Andritz	Austria	Graz	Sharma & Amy	2010	Chapter 15: Natural Treatment Systems.	In: Edzwald (ed.): Water Quality and Treatment: A Handbook on Drinking Water. Sixth Edition, American Water Works Association and McGraw Hill Inc., USA	soft copy
Andritz	Austria	Graz	Umweltbundesamt (UBA)	2008	ALTLAST ST 2: Glasfabrik Gösting	http://www.umweltbundesamt.at/umweltsituation/altlasten/altlasteninfo/altlasten3/steiermark/st2/	online resource
Hainburg	Austria	Hainburg an der Donau	personal infomation		personal information	personal information	unavailable
Höttinger Au	Austria	Innsbruck	Schön	2006	Systematic comparison of riverbank filtration sites in Austria and India	Diploma Thesis	soft copy
Ulfiswiese	Austria	Innsbruck	Grischek et al.	2002	Bank filtration in Europe - An overview of aquifer conditions and hydraulic controls	In: Dillon (ed.) (2002): Management of Aquifer Recharge for Sustainability: Proceedings of the 4th International Symposium on Artificial Recharge of Groundwater, Adelaide, Australia, p. 485-488	soft copy
Ulfiswiese	Austria	Innsbruck	Österreichische Vereinigung für das Gas- und Wasserfach (ÖVGW)		Wasserwerk Innsbruck	http://www.wasserwerk.at/home/wasserwerke/innsbruck	online resource
Urfahr	Austria	Linz	Schön	2006	Systematic comparison of riverbank filtration sites in Austria and India	Diploma Thesis	soft copy
Donauinsel Nord	Austria	Vienna	Meißl	2005	Gebirgwasser in Wien. Die Wasserversorgung der Großstadt im 19. und 20. Jahrhundert.	In: Brunnder & Schneider (eds.) (2005): Umwelt Stadt. Geschichte des Natur- und Lebensraumes Wien. Böhlau	unavailable
Donauinsel Nord	Austria	Vienna	Grischek et al.	2002	Bank filtration in Europe - An overview of aquifer conditions and hydraulic controls	In: Dillon (ed.) (2002): Management of Aquifer Recharge for Sustainability: Proceedings of the 4th International Symposium on Artificial Recharge of Groundwater, Adelaide, Australia, p. 485-488	soft copy

annex b: list of references to the sites in the MAR database

site	country	city	author	published	title	source	availability
Donauinsel Nord	Austria	Vienna	BHG Brechtel GmbH	2005	Bau von acht Horizontalfilterbrunnen auf der Donauinsel in Wien	BBR 2/05	soft copy
Lobau	Austria	Vienna	Orlikowski & Hein	2006	Analyse und Auswertung vorhandener Grundwasserdaten in Abstimmung mit den hydrologischen Bearbeitungen in der Unteren Lobau.	Universität für Bodenkultur Wien – Department für Wasser, Atmosphäre und Umwelt, Institut für Hydrobiologie und Gewässermanagement 58 p.	soft copy
Lobau	Austria	Vienna	BHG Brechtel GmbH	2005	Bau von acht Horizontalfilterbrunnen auf der Donauinsel in Wien	BBR 2/05	soft copy
Lobau	Austria	Vienna	Meißl	2005	Gebirgwasser in Wien. Die Wasserversorgung der Großstadt im 19. und 20. Jahrhundert.	In: Brunnder & Schneider (eds.) (2005): Umwelt Stadt. Geschichte des Natur- und Lebensraumes Wien. Böhlau	unavailable
Grobbendonk	Belgium	Antwerp	Freyen, J.	2001	Site description Grobbendonk, Belgium	Artificial recharge of groundwater, EC project ENV4-CT95-0071	soft copy
Wulpen	Belgium	Koksijde	van Houtte et al.	2005	Sustainable groundwater management of a dune aquifer by re-use of wastewater effluent in Flanders, Belgium	In: Herrier et al. (eds.) (2005): Proceedings 'Dunes and Estuaries 2005': International Conference on nature restoration practices in European coastal habitats, Koksijde, Belgium, p. 327-333	soft copy
Wulpen	Belgium	Koksijde	Wintgens et al.	2009	Reclaim water - managed aquifer recharge for safe indirect potable reuse	In: van den Hoven & Kazner (eds.) (2009): TECHNEAU: Safe Drinking Water for Source to Tap. IWA Publishing, London, UK	hard copy
Wulpen	Belgium	Koksijde	van Houtte et al.	2012	Indirect potable reuse via managed aquifer recharge in the Torreele/St-Andre project	In: Kazner et al. (eds.) (2012): Water Reclamation Technologies for Safe Managed Aquifer Recharge: Reclaim Water. IWA Publishing, p. 33-46	hard copy
Wulpen	Belgium	Koksijde	Intercommunale Waterleidingsmaatschappij van Veurne-Ambacht (IWVA)	2005	Torreele	Intercommunale Waterleidingsmaatschappij van Veurne-Ambacht (IWVA)	soft copy
Wulpen	Belgium	Koksijde	Böckelmann et al.	2008	Quantitative PCR Monitoring of Antibiotic Resistance Genes and Bacterial Pathogens in Three European Artificial Groundwater Recharge Systems	Applied And Environmental Microbiology 75 (1), p. 154–163	soft copy
Wulpen	Belgium	Koksijde	Wintgens et al.	2009	Managed Aquifer Recharge as a component of sustainable water strategies	IWA publishing	soft copy

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site	country	city	author	published	title	source	availability
Torreele/St-Andre´	Belgium	Torreele/St-Andre´	Weemaes & van Houtte	2011	Indirect potable reuse in Europe: R+D initiatives needed for a safe operation & maintenance	Presentation at the WATEReuse conference in Barcelona 2011	soft copy
Torreele/St-Andre´	Belgium	Torreele/St-Andre´	Intercommunale Waterleidingsmaatschappij van Veurne-Ambacht (IWVA)	2005	Torreele	Intercommunale Waterleidingsmaatschappij van Veurne-Ambacht (IWVA)	soft copy
Torreele/St-Andre´	Belgium	Torreele/St-Andre´	Thoeye et al.	2005	Overview and background of water reuse practice in Flanders, Belgium	Technical Workshop: The integration of reclaimed water in water resource management Lloret de Mar, Costa Brava, Girona, 2005	soft copy
Torreele/St-Andre´	Belgium	Torreele/St-Andre´	van Houtte & Verbauwhede	2008	Operational experience with indirect potable reuse Operational experience with indirect potable reuse at the Flemish Coast	Desalination 218, p. 198-207	soft copy
Torreele/St-Andre´	Belgium	Torreele/St-Andre´	van Houtte & Verbauwhede	2008	Torreele's water re-use facility enabled sustainable groundwater management in the Flemish dunes (Belgium)	6th IWA Specialist Conference on Wastewater Reclamation and Reuse for Sustainability (Antwerpen 2007)	unavailable
Karany	Czech Republik	Karany	Grischek et al.	2002	Bank filtration in Europe - An overview of aquifer conditions and hydraulic controls	In: Dillon (ed.) (2002): Management of Aquifer Recharge for Sustainability: Proceedings of the 4th International Symposium on Artificial Recharge of Groundwater, Adelaide, Australia, p. 485-488	soft copy
Karany	Czech Republik	Karany	Radio Prag		Tschechisches Trinkwasser - besser als sein Ruf	http://www.radio.cz/de/rubrik/umwelt/tschechisches-trinkwasser-besser-als-sein-ruf	online resource
Karany	Czech Republik	Karany	Buzek et al.	2003	Nitrate Pollution of a Water Resource - 15N and 18O Study of Infiltrated Surface Water	In: Melin et al. (eds.) (2003): The Second International Riverbank Filtration Conference. RBF: The Future Is NOW!, p.197-202	soft copy
Dyje river basin	Czech Republik	Southern Moravia	Hlavinek & Hlavac	2003	Source Water Protection and Riverbank Filtration in the Dyje River Basin	In: Melin et al. (eds.) (2003): The Second International Riverbank Filtration Conference. RBF: The Future Is NOW!, p.181-186	soft copy

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site	country	city	author	published	title	source	availability
Arrenæs	Denmark	Nordhuse	Lynggaard-Jensen	2005	Introduction, ArtDemo Overview and Demonstration Sites	In: ArtDemo – Artificial Recharge Demonstration, Project Publications Scientific Report, Project - 5th Framework Programme of the EU Environment and sustainable development	hard copy
Arrenæs	Denmark	Nordhuse	Jorgensen & Helleberg	2002	Stable isotopes (^{2}H and 18O) and chloride as environmental tracers in a stud of artifical recharge in Denmark.	In: Dillon (ed) (2002): Management of Aquifer Recharge for Sustainability: Proceedings of the 4th International Symposium on Artificial Recharge of Groundwater, Adelaide, Australia, p. 245-250	hard copy
Arrenæs	Denmark	Nordhuse	Berg et al.	2005	Investigation of introducing water from an artificial recharge plant to an existing groundwater distribution system	Water Science and Technology: Water Supply 5 (1), p. 25-32	soft copy
Lohiluoma	Finland	Eura	Isomäki et al.	2007	Yhdyskuntien vedenhankinnan tulevaisuuden vaihtoehdot	Suomen ympäristökeskus	soft copy
Hietakangas	Finland	Evijärvi	Isomäki et al.	2007	Yhdyskuntien vedenhankinnan tulevaisuuden vaihtoehdot	Suomen ympäristökeskus	soft copy
Forssa	Finland	Forssa	Kivimäki et al.	1998	Removal of organic matter during bank filtration	In: Peters (ed.) (1998): Artificial Recharge of Groundwater: Proceedings of the Third International Symposium - TISAR 98, p. 107-112	hard copy
Linikkala	Finland	Forssa	Isomäki et al.	2007	Yhdyskuntien vedenhankinnan tulevaisuuden vaihtoehdot	Suomen ympäristökeskus	soft copy
Ahvenisto	Finland	Hämeenlinna	Lindroos et al.	2002	Changes in dissolved organic carbon during artificial recharge of groundwater in a forested esker in Southern Finland	Water Research 36 (20), 4951-4958	soft copy
Ahvenisto	Finland	Hämeenlinna	Helmisaari et al.	2005	Artificial recharge in Finland through basin and sprinkling infiltration: soil process, retention time and water quality	In: UNESCO IHP (2006): Recharge systems for protecting and enhancing groundwater resources. Proceedings of the 5th International Symposium on Management of Aquifer Recharge ISMAR5, Berlin, Germany, p. 280-285	soft copy
Ahvenisto	Finland	Hämeenlinna	Isomäki et al.	2007	Yhdyskuntien vedenhankinnan tulevaisuuden vaihtoehdot	Suomen ympäristökeskus	soft copy

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site	country	city	author	published	title	source	availability
Ahvenisto	Finland	Hämeenlinna	Kolehmainen et al.	2007	Natural organic matter (NOM) removal and structural changes in the bacterial community during artificial groundwater recharge with humic lake water	Water Research 41 (12), p. 2715-2725	soft copy
Kankainen	Finland	Hämeenlinna	Isomäki et al.	2007	Yhdyskuntien vedenhankinnan tulevaisuuden vaihtoehdot	Suomen ympäristökeskus	soft copy
Vuonteenharju	Finland	Jyväskylä	Helmisaari et al.	2005	Artificial recharge in Finland through basin and sprinkling infiltration: soil process, retention time and water quality	In: UNESCO IHP (2006): Recharge systems for protecting and enhancing groundwater resources. Proceedings of the 5th International Symposium on Management of Aquifer Recharge ISMAR5, Berlin, Germany, p. 280-285	soft copy
Riku	Finland	Kangasala	Grischek et al.	2002	Bank filtration in Europe - An overview of aquifer conditions and hydraulic controls	In: Dillon (ed.) (2002): Management of Aquifer Recharge for Sustainability: Proceedings of the 4th International Symposium on Artificial Recharge of Groundwater, Adelaide, Australia, p. 485-488	soft copy
Kuivala	Finland	Kouvola	Vallius	2001	Protection of the most important groundwater intake in Finland	Report of Finnish National Road Administration	soft copy
Kuivala	Finland	Kouvola	Kymenlaakso Water Ltd	2001	Fresh water adds to quality of life	http://www.environment.fi/download.asp?contentid=84732&lan=en	soft copy
Kuivala	Finland	Kouvola	Isomäki et al.	2007	Yhdyskuntien vedenhankinnan tulevaisuuden vaihtoehdot	Suomen ympäristökeskus	soft copy
Hietasalo	Finland	Kuopio	Grischek et al.	2002	Bank filtration in Europe - An overview of aquifer conditions and hydraulic controls	In: Dillon (ed.) (2002): Management of Aquifer Recharge for Sustainability: Proceedings of the 4th International Symposium on Artificial Recharge of Groundwater, Adelaide, Australia, p. 485-488	soft copy
BF Plant Nokia - Maatialaharju	Finland	Nokia	Isomäki et al.	2007	Yhdyskuntien vedenhankinnan tulevaisuuden vaihtoehdot	Suomen ympäristökeskus	soft copy
BF Plant Nokia - Maatialaharju	Finland	Nokia	Kivimäki et al.	1998	Removal of organic matter during bank filtration	In: Peters (ed.) (1998): Artificial Recharge of Groundwater: Proceedings of the Third International Symposium - TISAR 98, p. 107-112	hard copy
Vehonniemi-Isokangas Esker	Finland	Tampere	Hukka & Seppäla	2005	D41: WaterTime case study - Tampere, Finland	Institute of Environmental Engineering and Biotechnology Tampere University of Technology, Finland	soft copy

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site	country	city	author	published	title	source	availability
Vehonniemi-Isokangas Esker	Finland	Tampere	Tavase Ltd.	2013	Tampereen ja Valkeakosken	http://www.tavase.fi	online resource
Jäniksenlinna	Finland	Tuusula	Isomäki et al.	2007	Yhdyskuntien vedenhankinnan tulevaisuuden vaihtoehdot	Suomen ympäristökeskus	soft copy
Jäniksenlinna	Finland	Tuusula	Kolehmainen et al.	2007	Natural organic matter (NOM) removal and structural changes in the bacterial community during artificial groundwater recharge with humic lake water	Water Research 41 (12), p. 2715-2725	soft copy
Jäniksenlinna	Finland	Tuusula	Tusulan Seudun Vesilaitos Kuntayhtymä	2013		http://www.tsvesi.fi/	online resource
Jäniksenlinna	Finland	Tuusula	Kortelainen & Karhu	2006	Tracing the decomposition of dissolved organic carbon in artificial groundwater recharge using carbon isotope ratios.	Applied Geochemistry 21 (4), p. 547-562	soft copy
Rusutjärvi	Finland	Tuusula	Isomäki et al.	2007	Yhdyskuntien vedenhankinnan tulevaisuuden vaihtoehdot	Suomen ympäristökeskus	soft copy
Rusutjärvi	Finland	Tuusula	Tusulan Seudun Vesilaitos Kuntayhtymä	2013		http://www.tsvesi.fi/	online resource
Rusutjärvi	Finland	Tuusula	Kolehmainen et al.	2007	Natural organic matter (NOM) removal and structural changes in the bacterial community during artificial groundwater recharge with humic lake water	Water Research 41 (12), p. 2715-2725	soft copy
Beauce area	France	Angerville	Hernandez et al.	2012	Degradation of emerging contaminants in reclaimed water through soil aquifer treatment (SAT)	Journal of Water Reuse and Desalination, 02.3	soft copy
Flins	France	Aubergenville	Lazarova et al.	2011	Water quality management of aquifer recharge using advanced tools	Water Science and Technology 64 (5), p. 1161-1168	soft copy
Flins	France	Aubergenville	Detay & Haeffner	1996	The role of artificial recharge in active groundwater management	Water Supply 15 (2), p. 1-13	soft copy
Flins	France	Aubergenville	Doussan et al.	1997	River bank filtration: modelling of the changes in water chemistry with emphasis on nitrogen species	Journal of Contaminant Hydrology 25, p. 129-156	soft copy
Flins	France	Aubergenville	Haeffner	1999	De la gestion active des aquifères alluviaux: application à la maîtrise de l'azote en conditions de transfert rivière-nappe et de réalimentation artificielle	PhD thesis	soft copy

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site	country	city	author	published	title	source	availability
Flins	France	Aubergenville	Haeffner & Grandguillaume	2007	LE PROCEDE BI'EAU: Une solution innovante pour un traitement in-situ des ressources en Eau	Colloque "Gestion active des eaux" Paris, 12-13 Juin 2007 - Publications de la SHF	unavailable
Flins	France	Aubergenville	Lyonnaise des Eaux	2011	A sustainable management of water resources: The aquifer artificial recharge	internal resource	soft copy
Bas-Quercy	France	Bas-Quercy	Wuilleumier & Seguin	2008	Réalimentation artificielle des aquifères en France. Une synthèse	BRGM/RP-55063-FR	soft copy
Capdenac-Gare	France	Capdenac-Gare	Grischek et al.	2002	Bank filtration in Europe - An overview of aquifer conditions and hydraulic controls	In: Dillon (ed.) (2002): Management of Aquifer Recharge for Sustainability: Proceedings of the 4th International Symposium on Artificial Recharge of Groundwater, Adelaide, Australia, p. 485-488	soft copy
Capdenac-Gare	France	Capdenac-Gare	Bourg & Bertin	1994	Biogeochemical processes during the infiltration of river water into an alluvial aquifer	Environmental Science and Technology 27 (4), p. 661-666	soft copy
Capdenac-Gare	France	Capdenac-Gare	Bourg et al.	1989	Geochemical filtration of riverbank and migration of heavy metals between the Deule River and the Ansereuilles alluvion-chalk aquifer (Nord, France)	Geoderma 44 (2-3), p. 229-244	soft copy
Croissy-sur-Seine	France	Croissy-sur-Seine	Lyonnaise des Eaux	2011	A sustainable management of water resources: The aquifer artificial recharge	internal resource	soft copy
Croissy-sur-Seine	France	Croissy-sur-Seine	Doussan et al.	1997	River bank filtration: modelling of the changes in water chemistry with emphasis on nitrogen species	Journal of Contaminant Hydrology 25, p. 129-156	soft copy
Croissy-sur-Seine	France	Croissy-sur-Seine	Detay & Haeffner	1996	The role of artificial recharge in active groundwater management	Water Supply 15 (2), p. 1-13	soft copy
Croissy-sur-Seine	France	Croissy-sur-Seine	Lazarova et al.	2011	Water quality management of aquifer recharge using advanced tools	Water Science and Technology 64 (5), p. 1161-1168	soft copy
Geneuille	France	Geneuille	Grischek et al.	2002	Bank filtration in Europe - An overview of aquifer conditions and hydraulic controls	In: Dillon (ed.) (2002): Management of Aquifer Recharge for Sustainability: Proceedings of the 4th International Symposium on Artificial Recharge of Groundwater, Adelaide, Australia, p. 485-488	soft copy
Grisolles	France	Grisolles	Wuilleumier & Seguin	2008	Réalimentation artificielle des aquifères en France. Une synthèse	BRGM/RP-55063-FR	soft copy

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site	country	city	author	published	title	source	availability
Houlle, Moulle	France	Houlle, Moulle	Dassonville	1983	L'alimentation artificielle de la nappe de moulle (P de C): Un Exemple de Gestion de la Ressource	Ground Water in Water Resources Planning IAHS Publication	soft copy
Les Ansereuilles	France	Lille	Bourg et al.	1989	Geochemical filtration of riverbank and migration of heavy metals between the Deule River and the Ansereuilles alluvion-chalk aquifer (Nord, France)	Geoderma 44 (2-3), p. 229-244	soft copy
Crépieux-Charmy	France	Lyon	David & Grützmacher	2010	Applications of MAR for water supplies - Experience and Perspectives	Presentation from the 2010 World Water Week, September 5-11, 2010	soft copy
Crépieux-Charmy	France	Lyon	David & Moreau-Le Golvan	2008	MAR Challenges and Opportinities	EU Groundwater Conference, 13-15 November 2008	soft copy
South of Lyon	France	Lyon	Marmonier et al.	1995	Distribution of Dissolved Organic Carbon and Bacteria at the Interface between the Rhone River and its Alluvial Aquifer	Journal of the North American Benthological Society 14 (3), p. 382-392	online resource
Mas-Grenier	France	Mas-Grenier	Wuilleumier & Seguin	2008	Réalimentation artificielle des aquifères en France. Une synthèse	BRGM/RP-55063-FR	soft copy
Dollar	France	Mulhouse	Furrer et al.	2000	Wasserförderung und -aufbereitung im Rheineinzugsgebiet	Internationale Arbeitsgemeinschaft der Wasserwerke im Rheineinzugsgebiet (IAWR). Rheinthemen (2)	soft copy
Verdun-sur-Garonne	France	Verdun-sur-Garonne	Wuilleumier & Seguin	2008	Réalimentation artificielle des aquifères en France. Une synthèse	BRGM/RP-55063-FR	soft copy
Beelitzhof	Germany	Berlin	Zuehlke	2004	Verhalten von Phenazonderivaten, Carbamazepin und estrogenen Steroiden während verschiedener Verfahren der Wasseraufbereitung	http://opus.kobv.de/tuberlin/volltexte/2004/819/pdf/zuehlke_sebastian.pdf	unavailable
Beelitzhof	Germany	Berlin	Klaus Möller & Jens Burgschweiger	2008	Wasserversorgungskonzept für Berlin und das von den BWB versorgte Umfeld (Entwicklung bis 2040)	http://www.stadtentwicklung.berlin.de/umwelt/wasser/grundwasser/de/wvk2040.shtml	soft copy
Beelitzhof	Germany	Berlin	Matthias Zippel & Stephan Hannappel	2004	Hydrologische Berechnungen zum Nachweis des Grundwasserdargebotes für die Wasserwerke Tegel, Spandau, Tiefwerder, Kladow & Beelitzhof der Berliner Wasserbetriebe	HYDOR Consult GmbH	unavailable

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site	country	city	author	published	title	source	availability
Friedrichshagen	Germany	Berlin	Matthias Zippel & Angelika Huber	2007	Hydrologische Berechnungen zum Nachweis des Grundwasserdargebotes für die Wasserwerke Friedrichshagen, Kaulsdorf, Wuhlheide, Johannisthal, Buch, Altglienicke der Berliner Wasserbetriebe	HYDOR Consult GmbH	unavailable
Friedrichshagen	Germany	Berlin	Klaus Möller & Jens Burgschweiger	2008	Wasserversorgungskonzept für Berlin und das von den BWB versorgte Umfeld (Entwicklung bis 2040)	http://www.stadtentwicklung.berlin.de/umwelt/wasser/grundwasser/de/wvk2040.shtml	soft copy
Friedrichshagen	Germany	Berlin	Berliner Wasserbetriebe (BWB)	2008	Wasserwerk Friedrichshagen	Berliner Wasserbetriebe (BWB)	soft copy
Friedrichshagen	Germany	Berlin	Grischek et al.	2002	Bank filtration in Europe - An overview of aquifer conditions and hydraulic controls	In: Dillon (ed.) (2002): Management of Aquifer Recharge for Sustainability: Proceedings of the 4th International Symposium on Artificial Recharge of Groundwater, Adelaide, Australia, p. 485-488	soft copy
Johannisthal	Germany	Berlin	Senatsverwaltung für Stadtentwicklung und Umwelt, Berlin		Wasserwerk Johannisthal	http://www.stadtentwicklung.berlin.de/umwelt/bodenschutz/de/nachsorge/johannisthal.shtml	online resource
Johannisthal	Germany	Berlin	Matthias Zippel & Angelika Huber	2007	Hydrologische Berechnungen zum Nachweis des Grundwasserdargebotes für die Wasserwerke Friedrichshagen, Kaulsdorf, Wuhlheide, Johannisthal, Buch, Altglienicke der Berliner Wasserbetriebe	HYDOR Consult GmbH	unavailable
Johannisthal	Germany	Berlin	Klaus Möller & Jens Burgschweiger	2008	Wasserversorgungskonzept für Berlin und das von den BWB versorgte Umfeld (Entwicklung bis 2040)	http://www.stadtentwicklung.berlin.de/umwelt/wasser/grundwasser/de/wvk2040.shtml	soft copy
Johannisthal	Germany	Berlin	Ziegler	2001	Untersuchungen zur nachhaltigen Wirkung der Uferfiltration im Wasserkreislauf Berlins	PhD thesis	soft copy
Jungfernheide	Germany	Berlin	Matthias Zippel & Stephan Hannappel	2004	Hydrologische Berechnungen zum Nachweis des Grundwasserdargebotes für die Wasserwerke Tegel, Spandau, Tiefwerder, Kladow & Beelitzhof der Berliner Wasserbetriebe	HYDOR Consult GmbH	unavailable

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Jungfernheide	Germany	Berlin	Bienek	2007	Wasserwerk Jungfernheide	http://w3.siemens.de/siemens-stadt/wasserw0.htm	online resource
Jungfernheide	Germany	Berlin	Ziegler	2001	Untersuchungen zur nachhaltigen Wirkung der Uferfiltration im Wasserkreislauf Berlins	PhD thesis	soft copy
Jungfernheide	Germany	Berlin	Klaus Möller & Jens Burgschweiger	2008	Wasserversorgungskonzept für Berlin und das von den BWB versorgte Umfeld (Entwicklung bis 2040)	http://www.stadtentwicklung.berlin.de/umwelt/wasser/grundwasser/de/wvk2040.shtml	soft copy
Kladow	Germany	Berlin	Matthias Zippel & Stephan Hannappel	2004	Hydrologische Berechnungen zum Nachweis des Grundwasserdargebotes für die Wasserwerke Tegel, Spandau, Tiefwerder, Kladow & Beelitzhof der Berliner Wasserbetriebe	HYDOR Consult GmbH	unavailable
Kladow	Germany	Berlin	Klaus Möller & Jens Burgschweiger	2008	Wasserversorgungskonzept für Berlin und das von den BWB versorgte Umfeld (Entwicklung bis 2040)	http://www.stadtentwicklung.berlin.de/umwelt/wasser/grundwasser/de/wvk2040.shtml	soft copy
Spandau	Germany	Berlin	Klaus Möller & Jens Burgschweiger	2008	Wasserversorgungskonzept für Berlin und das von den BWB versorgte Umfeld (Entwicklung bis 2040)	http://www.stadtentwicklung.berlin.de/umwelt/wasser/grundwasser/de/wvk2040.shtml	soft copy
Spandau	Germany	Berlin	Matthias Zippel & Stephan Hannappel	2004	Hydrologische Berechnungen zum Nachweis des Grundwasserdargebotes für die Wasserwerke Tegel, Spandau, Tiefwerder, Kladow & Beelitzhof der Berliner Wasserbetriebe	HYDOR Consult GmbH	unavailable
Stolpe	Germany	Berlin	Klaus Möller & Jens Burgschweiger	2008	Wasserversorgungskonzept für Berlin und das von den BWB versorgte Umfeld (Entwicklung bis 2040)	http://www.stadtentwicklung.berlin.de/umwelt/wasser/grundwasser/de/wvk2040.shtml	soft copy
Stolpe	Germany	Berlin	Zuehlke	2004	Verhalten von Phenazonderivaten, Carbamazepin und estrogenen Steroiden während verschiedener Verfahren der Wasseraufbereitung	http://opus.kobv.de/tuberlin/volltexte/2004/819/pdf/zuehlke_sebastian.pdf	unavailable
Tegel	Germany	Berlin	Fritz et al.	2002	Geochemical and hydraulic investigations of river sediments in a bank filtration system	In: Dillon (ed) (2002): Management of Aquifer Recharge for Sustainability: Proceedings of the 4th International Symposium on Artificial Recharge of Groundwater, Adelaide, Australia, p. 95-100	hard copy

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Tegel	Germany	Berlin	Greskowiak et al.	2005	The impact of variably saturated conditions on hydrogeochemical changes during artificial recharge of groundwater	Applied Geochemistry 20 (7), p. 1409-1426	soft copy
Tegel	Germany	Berlin	Klaus Möller & Jens Burgschweiger	2008	Wasserversorgungskonzept für Berlin und das von den BWB versorgte Umfeld (Entwicklung bis 2040)	http://www.stadtentwicklung.berlin.de/umwelt/wasser/grundwasser/de/wvk2040.shtml	soft copy
Tegel	Germany	Berlin	Matthias Zippel & Stephan Hannappel	2004	Hydrologische Berechnungen zum Nachweis des Grundwasserdargebotes für die Wasserwerke Tegel, Spandau, Tiefwerder, Kladow & Beelitzhof der Berliner Wasserbetriebe	HYDOR Consult GmbH	unavailable
Tegel	Germany	Berlin	Ziegler et al.	2002	Organic Substances in partly closed Water Cycles	In: Dillon (ed) (2002): Management of Aquifer Recharge for Sustainability: Proceedings of the 4th International Symposium on Artificial Recharge of Groundwater, Adelaide, Australia, p. 161-167	hard copy
Tiefwerder	Germany	Berlin	Klaus Möller & Jens Burgschweiger	2008	Wasserversorgungskonzept für Berlin und das von den BWB versorgte Umfeld (Entwicklung bis 2040)	http://www.stadtentwicklung.berlin.de/umwelt/wasser/grundwasser/de/wvk2040.shtml	soft copy
Tiefwerder	Germany	Berlin	Matthias Zippel & Stephan Hannappel	2004	Hydrologische Berechnungen zum Nachweis des Grundwasserdargebotes für die Wasserwerke Tegel, Spandau, Tiefwerder, Kladow & Beelitzhof der Berliner Wasserbetriebe	HYDOR Consult GmbH	unavailable
Wuhlheide	Germany	Berlin	Berliner Wasserbetriebe (BWB)	2008	Wasserwerk Wuhlheide	Berliner Wasserbetriebe (BWB)	soft copy
Wuhlheide	Germany	Berlin	Klaus Möller & Jens Burgschweiger	2008	Wasserversorgungskonzept für Berlin und das von den BWB versorgte Umfeld (Entwicklung bis 2040)	http://www.stadtentwicklung.berlin.de/umwelt/wasser/grundwasser/de/wvk2040.shtml	soft copy
Wuhlheide	Germany	Berlin	Matthias Zippel & Angelika Huber	2007	Hydrologische Berechnungen zum Nachweis des Grundwasserdargebotes für die Wasserwerke Friedrichshagen, Kaulsdorf, Wuhlheide, Johannisthal, Buch, Altglienicke der Berliner Wasserbetriebe	HYDOR Consult GmbH	unavailable

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site	country	city	author	published	title	source	availability
Wuhlheide	Germany	Berlin	Ziegler	2001	Untersuchungen zur nachhaltigen Wirkung der Uferfiltration im Wasserkreislauf Berlins	PhD thesis	soft copy
Binsheimer Feld	Germany	Binsheim	Hunt et al.	2002	Operation and Maintenance Considerations	In: Ray et al. (eds.) (2003): Riverbank Filtration - Improving Source-Water Quality, Kluwer Academic Publishers, p. 61-70	unavailable
Binsheimer Feld	Germany	Binsheim	Furrer et al.	2000	Wasserförderung und -aufbereitung im Rheineinzugsgebiet	Internationale Arbeitsgemeinschaft der Wasserwerke im Rheineinzugsgebiet (IAWR). Rheinthemen (2)	soft copy
Stiepel	Germany	Bochum	delta h Ingenieurgesellschaft mbH	2010	Wasserwerk Bochum Stiepel	delta h Ingeneurgesellschaft mbH	soft copy
Stiepel	Germany	Bochum	Gelsenwasser		Wasserwerk Stiepel	http://www.gelsenwasser.de/index.php?id=stiepel	online resource
Bodenheim	Germany	Bodenheim	WVR (Wasserversorgung Rheinhessen-Pfalz GmbH)		Trinkwasser für Rheinhessen und die Pfalz	http://www.wvr.de/	online resource
Bodenheim	Germany	Bodenheim	Furrer et al.	2000	Wasserförderung und -aufbereitung im Rheineinzugsgebiet	Internationale Arbeitsgemeinschaft der Wasserwerke im Rheineinzugsgebiet (IAWR). Rheinthemen (2)	soft copy
Mahlenzien	Germany	Brandenburg	personal infomation		personal information	personal information	unavailable
Briesen/Spree	Germany	Briesen	personal infomation		personal information	personal information	unavailable
Meinweggebiet	Germany	Brüggen	Naturpark Schwalm-Nette		Tiefenwasser für das Elmpter Schwalmbruch	http://www.npsn.de/index/lang/de/artikel/1348	online resource
Biebesheim	Germany	Darmstadt	Hessenwasser GmbH & Co. KG	2008	Landwirtschaftliche Beregnung Grundwasseranreicherung	Wasserverband Hessisches Ried	soft copy
Hosterwitz	Germany	Dresden	Stadtwerke Dresden GmbH (DREWAG)	2008	Wasserwerk Dresden-Hosterwitz	Stadtwerke Dresden GmbH (DREWAG)	soft copy
Hosterwitz	Germany	Dresden	Grischek	2009	River Bank Filtration Practice in Germany	University of Applied Sciences Dresden	soft copy
Hosterwitz	Germany	Dresden	Umweltamt Dresden	2012	Umweltbericht Grundwasser	Umweltamt Dresden	soft copy
Saloppe	Germany	Dresden	Grischek	2009	River Bank Filtration Practice in Germany	University of Applied Sciences Dresden	soft copy

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Saloppe	Germany	Dresden	Fischer et al.	2005	Sustainabilty of riverbank filtration in Dresden, Germany	In: UNESCO IHP (2006): Recharge systems for protecting and enhancing groundwater resources. Proceedings of the 5th International Symposium on Management of Aquifer Recharge ISMAR5, Berlin, Germany, p. 23-27	soft copy
Saloppe	Germany	Dresden	Umweltamt Dresden	2012	Umweltbericht Grundwasser	Umweltamt Dresden	soft copy
Saloppe	Germany	Dresden	Grischek et al.	2010	Impact of decreasing water demand on bank filtration in Saxony, Germany	Drinking Water Engineering and Science, 3 (1), p. 11-20	soft copy
Tolkewitz	Germany	Dresden	Stadtwerke Dresden GmbH (DREWAG)	2008	Wasserwerk Dresden-Tolkewitz	Stadtwerke Dresden GmbH (DREWAG)	soft copy
Tolkewitz	Germany	Dresden	Hunt et al.	2002	Operation and Maintenance Considerations	In: Ray et al. (eds.) (2003): Riverbank Filtration - Improving Source-Water Quality, Kluwer Academic Publishers, p. 61-70	unavailable
Tolkewitz	Germany	Dresden	Grischek et al.	2002	Bank filtration in Europe - An overview of aquifer conditions and hydraulic controls	In: Dillon (ed.) (2002): Management of Aquifer Recharge for Sustainability: Proceedings of the 4th International Symposium on Artificial Recharge of Groundwater, Adelaide, Australia, p. 485-488	soft copy
Tolkewitz	Germany	Dresden	Environmental Protection Agency (EPA)	2003	Long Term 2 Enhanced Surface Water Treatment Rule. Toolbox Guidance Manual. Review Draft	Environmental Protection Agency (EPA)	soft copy
Tolkewitz	Germany	Dresden	Fischer et al.	2005	Sustainabilty of riverbank filtration in Dresden, Germany	In: UNESCO IHP (2006): Recharge systems for protecting and enhancing groundwater resources. Proceedings of the 5th International Symposium on Management of Aquifer Recharge ISMAR5, Berlin, Germany, p. 23-27	soft copy
Baerl	Germany	Duisburg	Hunt et al.	2002	Operation and Maintenance Considerations	In: Ray et al. (eds.) (2003): Riverbank Filtration - Improving Source-Water Quality, Kluwer Academic Publishers, p. 61-70	unavailable
Beeckerwerth-Alsum	Germany	Duisburg	Rheinwasserwerke Beeckerwerth / Alsum		Rheinwasserwerke Beeckerwerth/Alsum	http://www.gelsenwasser.de/index.php?id=beeckerwerth	online resource

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Binsheimer Feld (Brunnengalerie 2)	Germany	Duisburg	Wasserverbund Niederrhein GmbH		Die Wassergewinnung	http://www.wasserverbund-niederrhein.de/25-0-Die+Wassergewinnung.html	online resource
Binsheimer Feld (Brunnengalerie 2)	Germany	Duisburg	Furrer et al.	2000	Wasserförderung und -aufbereitung im Rheineinzugsgebiet	Internationale Arbeitsgemeinschaft der Wasserwerke im Rheineinzugsgebiet (IAWR). Rheinthemen (2)	soft copy
Mündelheim	Germany	Duisburg	Rheinisch-Westfälische Wasserwerksgesellschaft (RWW)		Wasserwerke Nord und Süd	http://www.rww.de/index.php?id=185	online resource
Mündelheim	Germany	Duisburg	Furrer et al.	2000	Wasserförderung und -aufbereitung im Rheineinzugsgebiet	Internationale Arbeitsgemeinschaft der Wasserwerke im Rheineinzugsgebiet (IAWR). Rheinthemen (2)	soft copy
Mündelheim	Germany	Duisburg	Hunt et al.	2002	Operation and Maintenance Considerations	In: Ray et al. (eds.) (2003): Riverbank Filtration - Improving Source-Water Quality, Kluwer Academic Publishers, p. 61-70	unavailable
Wittlaerer Werth	Germany	Duisburg	Denecke & Schmidt	2007	Langjährige Untersuchungen zur Calcitlösekapazität und Spurenstoffentfernung bei einer aeroben Uferfiltration am Niederrhein bei Wittlaer	Stadtwerke Duisburg AG	unavailable
Wittlaerer Werth	Germany	Duisburg	Hunt et al.	2002	Operation and Maintenance Considerations	In: Ray et al. (eds.) (2003): Riverbank Filtration - Improving Source-Water Quality, Kluwer Academic Publishers, p. 61-70	unavailable
Auf dem Grind	Germany	Düsseldorf	Grischek et al.	2002	Bank filtration in Europe - An overview of aquifer conditions and hydraulic controls	In: Dillon (ed.) (2002): Management of Aquifer Recharge for Sustainability: Proceedings of the 4th International Symposium on Artificial Recharge of Groundwater, Adelaide, Australia, p. 485-488	soft copy
Auf dem Grind	Germany	Düsseldorf	Hunt et al.	2002	Operation and Maintenance Considerations	In: Ray et al. (eds.) (2003): Riverbank Filtration - Improving Source-Water Quality, Kluwer Academic Publishers, p. 61-70	unavailable

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Benrath	Germany	Düsseldorf	Wasserwerk Benrath	2009	130 Jahre Wasserwerk Benrath	http://www.wsw-wuppertal.de/unternehmen/presseservice/view/index.php?page=meldung.php&id=2421	online resource
Benrath	Germany	Düsseldorf	Hunt et al.	2002	Operation and Maintenance Considerations	In: Ray et al. (eds.) (2003): Riverbank Filtration - Improving Source-Water Quality, Kluwer Academic Publishers, p. 61-70	unavailable
Flehe	Germany	Düsseldorf	Grischek et al.	2002	Bank filtration in Europe - An overview of aquifer conditions and hydraulic controls	In: Dillon (ed.) (2002): Management of Aquifer Recharge for Sustainability: Proceedings of the 4th International Symposium on Artificial Recharge of Groundwater, Adelaide, Australia, p. 485-488	soft copy
Flehe	Germany	Düsseldorf	Hunt et al.	2002	Operation and Maintenance Considerations	In: Ray et al. (eds.) (2003): Riverbank Filtration - Improving Source-Water Quality, Kluwer Academic Publishers, p. 61-70	unavailable
Flehe	Germany	Düsseldorf	Sharma & Amy	2010	Chapter 15: Natural Treatment Systems.	In: Edzwald (ed.): Water Quality and Treatment: A Handbook on Drinking Water. Sixth Edition, American Water Works Association and McGraw Hill Inc., USA	soft copy
Flehe	Germany	Düsseldorf	Stadtwerke Düsseldorf	2012	Gutes Tröpfchen. Hausbesuch beim "Wassermann"	http://www.express.de/duesseldorf/gutes-troepfchen-hausbesuch-beim--wassermann-,2858,11491310.html	online resource
Flehe	Germany	Düsseldorf	Furrer et al.	2000	Wasserförderung und -aufbereitung im Rheineinzugsgebiet	Internationale Arbeitsgemeinschaft der Wasserwerke im Rheineinzugsgebiet (IAWR). Rheinthemen (2)	soft copy
Essen	Germany	Essen	Gelsenwasser		Wasserwerk Essen	http://www.gelsenwasser.de/index.php?id=essen	online resource
Ketwig	Germany	Essen	Furrer et al.	2000	Wasserförderung und -aufbereitung im Rheineinzugsgebiet	Internationale Arbeitsgemeinschaft der Wasserwerke im Rheineinzugsgebiet (IAWR). Rheinthemen (2)	soft copy
Ketwig	Germany	Essen	Rheinisch-Westfälische Wasserwerksgesellschaft (RWW)		Wasserwerke Nord und Süd	http://www.rww.de/index.php?id=185	online resource

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Ketwig	Germany	Essen	Rheinisch-Westfälische Wasserwerksgesellschaft (RWW)	2005	Wasseraufbereitung - Wasserwerke	http://www.rww.de/4unser_trinkwasser/wasseraufbereitung_wasserwerke2.htm	online resource
Frankfurter Stadtwald	Germany	Frankfurt am Main	Hessenwasser GmbH & Co. KG	2007	Stellungnahme zum Regionalplan Südhessen/zum Regionalen Flächennutzungsplan	Hessenwasser GmbH & Co. KG	soft copy
Weinhübel	Germany	Görlitz	Grischek et al.	2010	Impact of decreasing water demand on bank filtration in Saxony, Germany	Drinking Water Engineering and Science, 3 (1), p. 11-20	soft copy
Weinhübel	Germany	Görlitz	personal infomation		personal information	personal information	unavailable
Göttwitz	Germany	Göttwitz	Grischek et al.	2010	Impact of decreasing water demand on bank filtration in Saxony, Germany	Drinking Water Engineering and Science, 3 (1), p. 11-20	soft copy
Guntersblum	Germany	Guntersblum	WVR (Wasserversorgung Rheinhessen-Pfalz GmbH)		Trinkwasser für Rheinhessen und die Pfalz	http://www.wvr.de/	online resource
Guntersblum	Germany	Guntersblum	Furrer et al.	2000	Wasserförderung und -aufbereitung im Rheineinzugsgebiet	Internationale Arbeitsgemeinschaft der Wasserwerke im Rheineinzugsgebiet (IAWR). Rheinthemen (2)	soft copy
Haltern	Germany	Haltern am See	Gelsenwasser		Wasserwerk Haltern	Gelsenwasser AG	soft copy
Haltern	Germany	Haltern am See	Furrer et al.	2000	Wasserförderung und -aufbereitung im Rheineinzugsgebiet	Internationale Arbeitsgemeinschaft der Wasserwerke im Rheineinzugsgebiet (IAWR). Rheinthemen (2)	soft copy
Böckinger Wiesen	Germany	Heilbronn	Furrer et al.	2000	Wasserförderung und -aufbereitung im Rheineinzugsgebiet	Internationale Arbeitsgemeinschaft der Wasserwerke im Rheineinzugsgebiet (IAWR). Rheinthemen (2)	soft copy
Böckinger Wiesen	Germany	Heilbronn	Hötzl & Reichert	1996	Schadstoffe im Grundwasser - Band 4: Schadstofftransport und Schadstoffabbau bei der Uferfiltration am Beispiel des Untersuchungsgebietes "Böckinger Wiesen" im Neckartal bei Heilbronn	Schadstoffe im Grundwasser 4, Weinheim	unavailable
Böckinger Wiesen	Germany	Heilbronn	Grischek et al.	2007	What is the appropriate site for RBF?	In: Fox (ed.) (2007): ISMAR 6 Proceedings: Management of aquifer recharge for sustabainibility, p. 466-474	soft copy

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Böckinger Wiesen	Germany	Heilbronn	Brand et al.	1990	Migrationsverhalten ausgewahlter Schadstoffe bei der Uferfiltration in einem naturlichen Testfeld am Neckar.	GWF - Wasser Abwasser 131 (6), p. 311-317	unavailable
Baumberg	Germany	Hilden	Wasserwerk Baumberg	2008	Hilden: Ein Wasserwerk zieht um	http://www.wz-newsline.de/lokales/kreis-mettmann/monheim/hilden-ein-wasserwerk-zieht-um-1.233426	online resource
Baumberg	Germany	Hilden	Hunt et al.	2002	Operation and Maintenance Considerations	In: Ray et al. (eds.) (2003): Riverbank Filtration - Improving Source-Water Quality, Kluwer Academic Publishers, p. 61-70	unavailable
Baumberg	Germany	Hilden	Grombach et al.	1999	Kapitel 4.8.6: Aufbereitungsschemen großer Wasserwerke.	In: Grombach et al. (ed.): Handbuch der Wasserversorgungstechnik. Oldenbourg Wissenschaftlicher Verlag	unavailable
Baumberg	Germany	Hilden	Furrer et al.	2000	Wasserförderung und -aufbereitung im Rheineinzugsgebiet	Internationale Arbeitsgemeinschaft der Wasserwerke im Rheineinzugsgebiet (IAWR). Rheinthemen (2)	soft copy
Oberwerth	Germany	Koblenz	Furrer et al.	2000	Wasserförderung und -aufbereitung im Rheineinzugsgebiet	Internationale Arbeitsgemeinschaft der Wasserwerke im Rheineinzugsgebiet (IAWR). Rheinthemen (2)	soft copy
Oberwerth	Germany	Koblenz	EVM (Energieversorgung Mittelrhein GmbH)	2013	Das Wasserwerk "Oberwerth" mit Trinkwasseraufbereitung	VWM (Vereinigte Wasserwerke Mittelrhein GmbH)	soft copy
Urmitz	Germany	Koblenz	Giebel	1990	Hydrogeologie und Grundwasserhaushalt im Neuwieder Becken.	Besondere Mitteilungen zum Deutschen Gewässerkundlichen Jahrbuch 54, Bundesanstalt für Gewässerkunde, Koblenz, Germany	unavailable
Hochkirchen	Germany	Köln	RheinEnergie	2013	gesund und sicher - Trinkwasser	http://www.rheinenergie.com/de/privatkundenportal/produkte_preise/wasser_2/index.php?accordionindex=6	online resource
Stammheim	Germany	Köln	Hunt et al.	2002	Operation and Maintenance Considerations	In: Ray et al. (eds.) (2003): Riverbank Filtration - Improving Source-Water Quality, Kluwer Academic Publishers, p. 61-70	unavailable
Stammheim	Germany	Köln	Furrer et al.	2000	Wasserförderung und -aufbereitung im Rheineinzugsgebiet	Internationale Arbeitsgemeinschaft der Wasserwerke im Rheineinzugsgebiet (IAWR). Rheinthemen (2)	soft copy

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Weiler	Germany	Köln	Bezirksregierung Köln	1997	Erläuterungsbericht zur Abgrenzung des Wasserschutzgebietes für die Gewässer im Einzugsgebiet der Wassergewinnungsanlagen Weiler und Worringen-Langel der Gas-, und Elektrizitäts- und Wasserwerke Köln AG	Bezirksregierung Köln	soft copy
Weißer Bogen	Germany	Köln	Bezirksregierung Köln	1997	Erläuterungsbericht zur Abgrenzung des Wasserschutzgebietes für die Gewässer im Einzugsgebiet der Wassergewinnungsanlagen Weiler und Worringen-Langel der Gas-, und Elektrizitäts- und Wasserwerke Köln AG	Bezirksregierung Köln	soft copy
Weißer Bogen	Germany	Köln	Hunt et al.	2002	Operation and Maintenance Considerations	In: Ray et al. (eds.) (2003): Riverbank Filtration - Improving Source-Water Quality, Kluwer Academic Publishers, p. 61-70	unavailable
Neckaraue	Germany	Leinfelden-Echterdingen	Furrer et al.	2000	Wasserförderung und -aufbereitung im Rheineinzugsgebiet	Internationale Arbeitsgemeinschaft der Wasserwerke im Rheineinzugsgebiet (IAWR). Rheinthemen (2)	soft copy
Auf dem Werth (WW Süd)	Germany	Leverkusen	Furrer et al.	2000	Wasserförderung und -aufbereitung im Rheineinzugsgebiet	Internationale Arbeitsgemeinschaft der Wasserwerke im Rheineinzugsgebiet (IAWR). Rheinthemen (2)	soft copy
Auf dem Werth (WW Süd)	Germany	Leverkusen	Currenta GmbH & CO. OHG	2012	Erläuterungsbericht zur Abgrenzung des Wasserschutzgebietes für das Einzugsgebiet der Trinkwassergewinnungsanlage "Auf dem Werth" der Currenta GmbH & CO. OHG	Bezirksregierung Köln (Internetauftritt)	soft copy
Hitdorf	Germany	Leverkusen	Fischer et al.	2005	Sustainabilty of riverbank filtration in Dresden, Germany	In: UNESCO IHP (2006): Recharge systems for protecting and enhancing groundwater resources. Proceedings of the 5th International Symposium on Management of Aquifer Recharge ISMAR5, Berlin, Germany, p. 23-27	soft copy
Hitdorf	Germany	Leverkusen	Hunt et al.	2002	Operation and Maintenance Considerations	In: Ray et al. (eds.) (2003): Riverbank Filtration - Improving Source-Water Quality, Kluwer Academic Publishers, p. 61-70	unavailable

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site	country	city	author	published	title	source	availability
Löcknitz-See	Germany	Löcknitz	HYDOR Consult GmbH	2012	Hydrogeologisches Gutachten zur Neubemessung des Wasserschutzgebietes für das Wasserwerk Löcknitz		unavailable
Lübbenau	Germany	Lübbenau/Spreewal d	personal infomation		personal information	personal information	unavailable
Eich	Germany	Mainz	Furrer et al.	2000	Wasserförderung und -aufbereitung im Rheineinzugsgebiet	Internationale Arbeitsgemeinschaft der Wasserwerke im Rheineinzugsgebiet (IAWR). Rheinthemen (2)	soft copy
Petersaue	Germany	Mainz	Furrer et al.	2000	Wasserförderung und -aufbereitung im Rheineinzugsgebiet	Internationale Arbeitsgemeinschaft der Wasserwerke im Rheineinzugsgebiet (IAWR). Rheinthemen (2)	soft copy
Siebeneichen	Germany	Meissen	Grischek et al.	2010	Impact of decreasing water demand on bank filtration in Saxony, Germany	Drinking Water Engineering and Science, 3 (1), p. 11-20	soft copy
Siebeneichen	Germany	Meissen	Hunt et al.	2002	Operation and Maintenance Considerations	In: Ray et al. (eds.) (2003): Riverbank Filtration - Improving Source-Water Quality, Kluwer Academic Publishers, p. 61-70	unavailable
Siebeneichen	Germany	Meissen	Grischek et al.	2002	Bank filtration in Europe - An overview of aquifer conditions and hydraulic controls	In: Dillon (ed.) (2002): Management of Aquifer Recharge for Sustainability: Proceedings of the 4th International Symposium on Artificial Recharge of Groundwater, Adelaide, Australia, p. 485-488	soft copy
Halingen	Germany	Menden	Wasserwerke Westfalen		Trinkwasser	http://www.wasserwerke-westfalen.de/Trinkwasser/index_trinkwasser.html	online resource
Halingen	Germany	Menden	Furrer et al.	2000	Wasserförderung und -aufbereitung im Rheineinzugsgebiet	Internationale Arbeitsgemeinschaft der Wasserwerke im Rheineinzugsgebiet (IAWR). Rheinthemen (2)	soft copy
Feuchtgebiete Trietbach, Niers & Schwalm	Germany	Mönchengladbach	Naturpark Schwalm-Nette		Tiefenwasser für das Elmpter Schwalmbruch	http://www.npsn.de/index/lang/de/artikel/1348	online resource
Schloß Wickrath	Germany	Mönchengladbach	Weinthal & Holtrup	2007	Kapitel 5.2: Grundwasseranreicherung durch Versickerungsanlagen.	http://www.probuerger.de/moenchengladbach/getfile.cfm?id=f434	online resource
Schloß Wickrath	Germany	Mönchengladbach	Naturpark Schwalm-Nette		Wasser für die Schwalmquelle	http://www.npsn.de/index/lang/de/artikel/1345	online resource

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site	country	city	author	published	title	source	availability
Dohne	Germany	Mülheim an der Ruhr	Bundermann	2006	Recent progress in slow sand filtration and alternative biofiltration processes.	In: Gimbel & Collins (eds.): Recent progress in slow sand filtration and alternative biofiltration processes, p. 30-38, IWA publishing	unavailable
Dohne	Germany	Mülheim an der Ruhr	Rheinisch-Westfälische Wasserwerksgesellschaft (RWW)		Wasserwerke Nord und Süd	http://www.rww.de/index.php?id=185	online resource
Styrium West	Germany	Mülheim an der Ruhr	RWW (Rheinisch-Westfälische Wasserwerksgesellschaft mbH)		Wasserwerke Süd	http://www.rww.de/index.php?id=184	online resource
Styrium West	Germany	Mülheim an der Ruhr	Furrer et al.	2000	Wasserförderung und -aufbereitung im Rheineinzugsgebiet	Internationale Arbeitsgemeinschaft der Wasserwerke im Rheineinzugsgebiet (IAWR). Rheinthemen (2)	soft copy
Styrum-Ost	Germany	Mülheim an der Ruhr	Bundermann	2006	Recent progress in slow sand filtration and alternative biofiltration processes.	In: Gimbel & Collins (eds.): Recent progress in slow sand filtration and alternative biofiltration processes, p. 30-38, IWA publishing	unavailable
Styrum-Ost	Germany	Mülheim an der Ruhr	Furrer et al.	2000	Wasserförderung und -aufbereitung im Rheineinzugsgebiet	Internationale Arbeitsgemeinschaft der Wasserwerke im Rheineinzugsgebiet (IAWR). Rheinthemen (2)	soft copy
Styrum-Ost	Germany	Mülheim an der Ruhr	Rheinisch-Westfälische Wasserwerksgesellschaft (RWW)		Wasserwerke Nord und Süd	http://www.rww.de/index.php?id=185	online resource
Styrum-Ost	Germany	Mülheim an der Ruhr	Rheinisch-Westfälische Wasserwerksgesellschaft (RWW)		Das RWW-Wasserwerk Mühlheim-Styrum/Ost	Rheinisch-Westfälische Wasserwerksgesellschaft (RWW)	soft copy
Prenzlau I	Germany	Prenzlau	personal infomation		personal information	personal information	unavailable
Schmarsow	Germany	Schmarsow	personal infomation		personal information	personal information	unavailable
Ergste	Germany	Schwerte	Wasserwerke Westfalen	2012	140 Jahre Trinkwasser aus dem Ruhrtal	Bürgermagazin für die Bürger des Ruhrtals	soft copy

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Hengsen	Germany	Schwerte	Bußmann et al.	2008	Wo kommt eigentlich unser Trinkwasser her?	http://www.derwesten.de/wr/zeusmedienwelten/zeus/fuer-schueler/zeus-regional/schwerte/wo-kommt-eigentlich-unser-trinkwasser-her-id1661864.html	online resource
Hengsen	Germany	Schwerte	Günther & Kettrup	1995	Untersuchung über das Verhalten von Triazin-Herbiziden bei der Untergrundpassage.	Schadstoffe im Grundwasser 3, Weinheim	unavailable
Hengsen	Germany	Schwerte	Schulte-Ebbert	1995	Allgemeine Charakterisierung des Untersuchungsgebietes.	Schadstoffe im Grundwasser 3, Weinheim	unavailable
Hengsen	Germany	Schwerte	Wasserwerke Westfalen		Trinkwasser	http://www.wasserwerke-westfalen.de/Trinkwasser/index_trinkwasser.html	online resource
Villigst	Germany	Schwerte	Wasserwerke Westfalen		Trinkwasser	http://www.wasserwerke-westfalen.de/Trinkwasser/index_trinkwasser.html	online resource
Westhofen1	Germany	Schwerte	Wasserwerke Westfalen		Trinkwasser	http://www.wasserwerke-westfalen.de/Trinkwasser/index_trinkwasser.html	online resource
Westhofen1	Germany	Schwerte	Gelsenwasser		Wasserwerk Stiepel	http://www.gelsenwasser.de/index.php?id=stiepel	online resource
Westhofen2	Germany	Schwerte	Gelsenwasser		Wasserwerk Stiepel	http://www.gelsenwasser.de/index.php?id=stiepel	online resource
Westhofen2	Germany	Schwerte	Wasserwerke Westfalen		Trinkwasser	http://www.wasserwerke-westfalen.de/Trinkwasser/index_trinkwasser.html	online resource
Siegniederung	Germany	Siegburg	Hunt et al.	2002	Operation and Maintenance Considerations	In: Ray et al. (eds.) (2003): Riverbank Filtration - Improving Source-Water Quality, Kluwer Academic Publishers, p. 61-70	unavailable
Siegniederung	Germany	Siegburg	Furrer et al.	2000	Wasserförderung und -aufbereitung im Rheineinzugsgebiet	Internationale Arbeitsgemeinschaft der Wasserwerke im Rheineinzugsgebiet (IAWR). Rheinthemen (2)	soft copy
Torgau-Ost	Germany	Torgau	Hunt et al.	2002	Operation and Maintenance Considerations	In: Ray et al. (eds.) (2003): Riverbank Filtration - Improving Source-Water Quality, Kluwer Academic Publishers, p. 61-70	unavailable
Torgau-Ost	Germany	Torgau	Günther et al.	1992	Erneuerung der Rohrwasserleitung des Wasserwerks Mockritz	FGR 27 Gussrohr-Technik	soft copy

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Torgau-Ost	Germany	Torgau	Grischek et al.	2002	Bank filtration in Europe - An overview of aquifer conditions and hydraulic controls	In: Dillon (ed.) (2002): Management of Aquifer Recharge for Sustainability: Proceedings of the 4th International Symposium on Artificial Recharge of Groundwater, Adelaide, Australia, p. 485-488	soft copy
Torgau-Ost	Germany	Torgau	Grischek et al.	2010	Impact of decreasing water demand on bank filtration in Saxony, Germany	Drinking Water Engineering and Science, 3 (1), p. 11-20	soft copy
Torgau-Ost	Germany	Torgau	Ray et al.	2002	Effect of flood-induced chemical load on filtrate quality at bank filtration sites.	Journal of Hydrology 266 (3-4), p. 235-258	soft copy
Torgelow	Germany	Torgelow	HYDOR Consult GmbH	2006	Hydrogeologisches Gutachten zur Neubemessung des Wasserschutzgebietes für das Wasserwerk Torgelow		unavailable
Schwalmquelle	Germany	Wegberg	Naturpark Schwalm-Nette		Tiefenwasser für das Elmpter Schwalmbruch	http://www.npsn.de/index/lang/de/artikel/1348	online resource
Wesseling	Germany	Wesseling	Hunt et al.	2002	Operation and Maintenance Considerations	In: Ray et al. (eds.) (2003): Riverbank Filtration - Improving Source-Water Quality, Kluwer Academic Publishers, p. 61-70	unavailable
Echthausen	Germany	Wickede (Ruhr)	Gelsenwasser		Wasserwerk Echthausen	http://www.gelsenwasser.de/index.php?id=echthausen	online resource
Echthausen	Germany	Wickede (Ruhr)	Furrer et al.	2000	Wasserförderung und -aufbereitung im Rheineinzugsgebiet	Internationale Arbeitsgemeinschaft der Wasserwerke im Rheineinzugsgebiet (IAWR). Rheinthemen (2)	soft copy
Echthausen	Germany	Wickede (Ruhr)	Wasserwerke Westfalen		Trinkwasser	http://www.wasserwerke-westfalen.de/Trinkwasser/index_trinkwasser.html	online resource
Schierstein	Germany	Wiesbaden	Balke & Zhu	2008	Natural water purification and water management by artificial groundwater recharge	Journal of Zhejiang University SCIENCE B	unavailable
Schierstein	Germany	Wiesbaden	Wiacek	2005	Brunnenmonitoring zur optimalen Brunnennutzung und -pflege	PhD thesis	unavailable

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site	country	city	author	published	title	source	availability
Schierstein	Germany	Wiesbaden	LUBW Baden-Württemberg		Wasserwerk Schierstein	http://www.fachdokumente.lubw.baden-wuerttemberg.de/servlet/is/10053/hch0065.html?COMMAND=DisplayBericht&FIS=161&OBJECT=10053&MODE=BER&RIGHTMENU=null	online resource
Schierstein	Germany	Wiesbaden	Drews & Gerdes	2002	Überprüfung der Möglichkeit zur Gewinnung von Uferfiltrat aus dem Rhein im Bereich der Wassergewinnung Wiesbaden-Schierstein.	GWF, Wasser - Abwasser 143 (2, p. 104-111	unavailable
Witten	Germany	Witten	Furrer et al.	2000	Wasserförderung und -aufbereitung im Rheineinzugsgebiet	Internationale Arbeitsgemeinschaft der Wasserwerke im Rheineinzugsgebiet (IAWR). Rheinthemen (2)	soft copy
Witten	Germany	Witten	Wasserwerke Westfalen		Trinkwasser	http://www.wasserwerke-westfalen.de/Trinkwasser/index_trinkwasser.html	online resource
Giannitsa Plain	Greece	Giannitsa	Ferreira et al.	2007	Groundwater artificial recharge based on alternative sources of water: advanced integrated technologies and management	DELIVERABLE 31, Inventory of alternative water sources for each test site, p. 37	soft copy
Tumpa	Greece	Kilkis	Panagopoulos et al.	2004	Groundwater artificial recharge possibilities at the Tumpa region aquifer system (N. Greece)	NAGRAF - Protection and Restoration of the environment VII	soft copy
Sindos, Giannitsa Plain	Greece	Sindos	Ferreira et al.	2007	Groundwater artificial recharge based on alternative sources of water: advanced integrated technologies and management	DELIVERABLE 31, Inventory of alternative water sources for each test site, p. 37	soft copy
Sindos, Giannitsa Plain	Greece	Sindos	Sanchez-Vila & Barbieri	2007	Deliverable 24, current necessities for artificial recharge in the test sites	Universitat Politècnica de Catalunya	soft copy
Sindos, Giannitsa Plain	Greece	Sindos	Spachos et al.	2011	Preliminary Results of Artificial Recharge via Borehole Using Treated Wastewater in Sindos, Greece	Protection and restoration of the environment XI, Water resources management, p. 326-335	soft copy
Vistonida	Greece	Xanthi	Pliakas et al.	2005	Modeling of Groundwater Artificial Recharge by Reactivating an Old Stream Bed	Water Resources Management 19, p. 279-294	soft copy
Borsodszirak	Hungary	Borsodszirak	Tuinhof & Heederik	2003	Management of Aquifer Recharge and Subsurface Storage: making better use of our largest reservoir	Netherlands National Committee for the IAH. Utrecht, The Netherlands	soft copy

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site	country	city	author	published	title	source	availability
Csepel Island	Hungary	Budapest	Hamuda & Patkó	2011	Variations in Water Quality of Danube River at Budapest City	Óbuda University e-Bulletin	soft copy
Csepel Island	Hungary	Budapest	Fórizs et al.	2005	Origin of shallow groundwater of Csepel Island (south of Budapest, Hungary, River Danube): isotopic and chemical approach	Hydrológical Processes 19 (17), p. 3299-3312	soft copy
Csepel Island	Hungary	Budapest	Grischek et al.	2002	Bank filtration in Europe - An overview of aquifer conditions and hydraulic controls	In: Dillon (ed.) (2002): Management of Aquifer Recharge for Sustainability: Proceedings of the 4th International Symposium on Artificial Recharge of Groundwater, Adelaide, Australia, p. 485-488	soft copy
Csepel Island	Hungary	Budapest	Simonffy	2002	Enhancement of groundwater recharge in Hungary	Management Aquifer recharge and Subsurface storage	soft copy
Szentendre Island	Hungary	Budapest	Hamuda & Patkó	2011	Variations in Water Quality of Danube River at Budapest City	Óbuda University e-Bulletin	soft copy
Szentendre Island	Hungary	Budapest	Kármán et al.	2010	Oxygen isotopic composition in a riverbank iltration system — case study on Szentendre Island, Hungary	http://www.academia.edu/346641/Oxygen_Isotopic_Composition_in_a_Riverbank_Filtration_System_-_Case_Study_on_Szentedre_Island_Hungary	online resource
Szentendre Island	Hungary	Budapest	Rónai	1964	Hydrogeological study of the Quaternary deposits of the Great Hungarian Plain	International Association of Scientific Hydrology, Vol. 9	soft copy
Szentendre Island	Hungary	Budapest	Fórizs et al.	2005	Origin of shallow groundwater of Csepel Island (south of Budapest, Hungary, River Danube): isotopic and chemical approach	Hydrológical Processes 19 (17), p. 3299-3312	soft copy
Szentendre Island	Hungary	Budapest	Grischek et al.	2002	Bank filtration in Europe - An overview of aquifer conditions and hydraulic controls	In: Dillon (ed.) (2002): Management of Aquifer Recharge for Sustainability: Proceedings of the 4th International Symposium on Artificial Recharge of Groundwater, Adelaide, Australia, p. 485-488	soft copy
Szentendre Island	Hungary	Budapest	Simonffy	2002	Enhancement of groundwater recharge in Hungary	Management Aquifer recharge and Subsurface storage	soft copy

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Esztergom	Hungary	Esztergom	Grischek et al.	2002	Bank filtration in Europe - An overview of aquifer conditions and hydraulic controls	In: Dillon (ed.) (2002): Management of Aquifer Recharge for Sustainability: Proceedings of the 4th International Symposium on Artificial Recharge of Groundwater, Adelaide, Australia, p. 485-488	soft copy
Nagybajcs-szegoye	Hungary	Gyor	Grischek et al.	2002	Bank filtration in Europe - An overview of aquifer conditions and hydraulic controls	In: Dillon (ed.) (2002): Management of Aquifer Recharge for Sustainability: Proceedings of the 4th International Symposium on Artificial Recharge of Groundwater, Adelaide, Australia, p. 485-488	soft copy
Koppanymonostor	Hungary	Koppanymonostor	Grischek et al.	2002	Bank filtration in Europe - An overview of aquifer conditions and hydraulic controls	In: Dillon (ed.) (2002): Management of Aquifer Recharge for Sustainability: Proceedings of the 4th International Symposium on Artificial Recharge of Groundwater, Adelaide, Australia, p. 485-488	soft copy
Cornedo Vicentino A	Italy	Cornedo Vicentino	Battistello et al.	2013	Esperienze di Ricarica Artificiale Degli Acquiferi in Provincia di Vicenza	Professione Ingegnere No. 50	soft copy
Prato	Italy	Prato	Landini & Pranzini	2002	Investigations and project for aquifer replenishment in Prato, Italy.	In: Dillon (ed) (2002): Management of Aquifer Recharge for Sustainability: Proceedings of the 4th International Symposium on Artificial Recharge of Groundwater, Adelaide, Australia, p. 279-283	hard copy
Nardò	Italy	Salento Region, south of Bari	Ayuso-Gabella et al.	2011	Quantifying the effect of Managed Aquifer Recharge on the microbiological	Agricultural Water Management 99 (1), p. 93-102	soft copy
Nardò	Italy	Salento Region, south of Bari	Masciopinto & Carrieri	2002	Assessment of water quality after 10 years of reclaimed water injection: The Nardò fractured Aquifer (Southern Italy)	Winter GWMR	soft copy
Nardò	Italy	Salento Region, south of Bari	Masciopinto et al.	2008	Fate and transport of pathogens in a fractured aquifer in the Salento area, Italy	Water Resources Research 44 (1), p. 1-18	soft copy
Nardò	Italy	Salento Region, south of Bari	Wintgens et al.	2009	Managed Aquifer Recharge as a component of sustainable water strategies	IWA publishing	soft copy

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Nardò	Italy	Salento Region, south of Bari	Wintgens et al.	2009	Reclaim water - managed aquifer recharge for safe indirect potable reuse	In: van den Hoven & Kazner (eds.) (2009): TECHNEAU: Safe Drinking Water for Source to Tap. IWA Publishing, London, UK	hard copy
Nardò	Italy	Salento Region, south of Bari	Masciopinto et al.	2012	Managed aquifer recharge of a karstic aquifer in Nardó, Italy	In: Kazner et al. (eds.) (2012): Water Reclamation Technologies for Safe Managed Aquifer Recharge: Reclaim Water. IWA Publishing, p. 47-66	hard copy
Madonetta E	Italy	Sarcedo	Battistello et al.	2013	Esperienze di Ricarica Artificiale Degli Acquiferi in Provincia di Vicenza	Professione Ingegnere No. 50	soft copy
Modanetta D	Italy	Sarcedo	Battistello et al.	2013	Esperienze di Ricarica Artificiale Degli Acquiferi in Provincia di Vicenza	Professione Ingegnere No. 50	soft copy
Monteccio Precalcino	Italy	Sarcedo	Battistello et al.	2013	Esperienze di Ricarica Artificiale Degli Acquiferi in Provincia di Vicenza	Professione Ingegnere No. 50	soft copy
Lake Baltezers	Latvia	Riga	Grischek et al.	2002	Bank filtration in Europe - An overview of aquifer conditions and hydraulic controls	In: Dillon (ed.) (2002): Management of Aquifer Recharge for Sustainability: Proceedings of the 4th International Symposium on Artificial Recharge of Groundwater, Adelaide, Australia, p. 485-488	soft copy
Velddriel, Sellik	Netherlands	Aalst	Stuyfzand & Doomen	2004	The dutch experience with MARS (managed aquifer recharge and storage): a review of facilities, techniques and tools	Kiwa N.V./NWP, The Netherlands	soft copy
Velddriel, Sellik	Netherlands	Aalst	Stuyfzand et al.	2006	Riverbank filtration in the Netherlands: well fields, clogging and geochemical reactions	In: Hubbs (ed.) (2006): Riverbank Filtration Hydrology, Springer, p. 119-153	soft copy
De Hoorn	Netherlands	Alphen a/d rijn	Stuyfzand et al.	2006	Riverbank filtration in the Netherlands: well fields, clogging and geochemical reactions	In: Hubbs (ed.) (2006): Riverbank Filtration Hydrology, Springer, p. 119-153	soft copy
Castricum AIP	Netherlands	Amsterdam	Stuyfzand	1998	Quality changes upon injection into anoxic aquifers in the Netherlands: Evaluation of 11 experirnents	In: Peters (ed.) (1998): Artificial Recharge of Groundwater. Proceedings of the Third International Symposium - TISAR 98, p. 283-291	soft copy
Castricum AIP	Netherlands	Amsterdam	Stuyfzand et al.	2012	Haalbaarheid van ondergrondse berging via A(S/T)R in Hollands kustduinen.	KWR report 2012.082	soft copy
Leiduin	Netherlands	Amsterdam	Stuyfzand & Doomen	2004	The dutch experience with MARS (managed aquifer recharge and storage): a review of facilities, techniques and tools	Kiwa N.V./NWP, The Netherlands	soft copy

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Leiduin	Netherlands	Amsterdam	Meijerink	2009	Determination of infiltration rates in the Amsterdam Water Supply Dunes	MSc Thesis	soft copy
Leiduin	Netherlands	Amsterdam	Stuyfzand et al.	2012	Haalbaarheid van ondergrondse berging via A(S/T)R in Hollands kustduinen.	KWR report 2012.082	soft copy
Leiduin	Netherlands	Amsterdam	Furrer et al.	2000	Wasserförderung und -aufbereitung im Rheineinzugsgebiet	Internationale Arbeitsgemeinschaft der Wasserwerke im Rheineinzugsgebiet (IAWR). Rheinthemen (2)	soft copy
Zandvoort	Netherlands	Amsterdam	Stuyfzand et al.	2012	Haalbaarheid van ondergrondse berging via A(S/T)R in Hollands kustduinen.	KWR report 2012.082	soft copy
Zandvoort	Netherlands	Amsterdam	Karlsen et al.	2012	A post audit and inverse modeling in reactive transport: 50 years of artificial recharge in the Amsterdam Water Supply Dunes	Journal of Hydrology 454-455, p. 7-25	soft copy
Zandvoort	Netherlands	Amsterdam	van Duijvenbode & Olsthoorn	2002	A pilot study of deep-well recharge by Amsterdam Water Supply	In: Dillon (ed) (2002): Management of Aquifer Recharge for Sustainability: Proceedings of the 4th International Symposium on Artificial Recharge of Groundwater, Adelaide, Australia, p. 447-451	hard copy
Zandvoort	Netherlands	Amsterdam	Olsthoorn & Mosch	2002	Fifty years artificial recharge in the Amsterdam dune area	In: Dillon (ed) (2002): Management of Aquifer Recharge for Sustainability: Proceedings of the 4th International Symposium on Artificial Recharge of Groundwater, Adelaide, Australia, p. 29-33	hard copy
Zandvoort	Netherlands	Amsterdam	Stuyfzand & Doomen	2004	The dutch experience with MARS (managed aquifer recharge and storage): a review of facilities, techniques and tools	Kiwa N.V./NWP, The Netherlands	soft copy
Zandvoort	Netherlands	Amsterdam	Stuyfzand & Mosch	2002	Formation and composition of sludges in recharge basins, recovery canals and natural lakes in Amsterdam's Dune Catchment area	In: Dillon (ed) (2002): Management of Aquifer Recharge for Sustainability: Proceedings of the 4th International Symposium on Artificial Recharge of Groundwater, Adelaide, Australia, p. 495-498	hard copy
C. Rodenhuis	Netherlands	Bergambacht	Oasen drinkwater	2012	Hoogste punt pompstation Zwijndrecht bereikt	http://www.oasen.nl/drinkwater-maken/Paginas/Hoogste-punt-pompstation-Zwijndrecht-bereikt-Artikel.aspx	online resource

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C. Rodenhuis	Netherlands	Bergambacht	Stuyfzand & Doomen	2004	The dutch experience with MARS (managed aquifer recharge and storage): a review of facilities, techniques and tools	Kiwa N.V./NWP, The Netherlands	soft copy
C. Rodenhuis	Netherlands	Bergambacht	Furrer et al.	2000	Wasserförderung und -aufbereitung im Rheineinzugsgebiet	Internationale Arbeitsgemeinschaft der Wasserwerke im Rheineinzugsgebiet (IAWR). Rheinthemen (2)	soft copy
C. Rodenhuis	Netherlands	Bergambacht	Stuyfzand et al.	2006	Riverbank filtration in the Netherlands: well fields, clogging and geochemical reactions	In: Hubbs (ed.) (2006): Riverbank Filtration Hydrology, Springer, p. 119-153	soft copy
C. Rodenhuis	Netherlands	Bergambacht	van Beek & Kooper	1980	The Clogging of Shallow Discharge Wells in the Netherlands River Region	Ground Water 18 (6), p. 578-586	soft copy
Dijklaan	Netherlands	Bergambacht	Stuyfzand et al.	2006	Riverbank filtration in the Netherlands: well fields, clogging and geochemical reactions	In: Hubbs (ed.) (2006): Riverbank Filtration Hydrology, Springer, p. 119-153	soft copy
Dijklaan	Netherlands	Bergambacht	Stuyfzand & Doomen	2004	The dutch experience with MARS (managed aquifer recharge and storage): a review of facilities, techniques and tools	Kiwa N.V./NWP, The Netherlands	soft copy
Dijklaan	Netherlands	Bergambacht	Gemeente Bergambacht		Gemeende Bergambacht website	http://www.bergambacht.nl/	online resource
Dijklaan	Netherlands	Bergambacht	Oasen drinkwater	2012	Hoogste punt pompstation Zwijndrecht bereikt	http://www.oasen.nl/drinkwater-maken/Paginas/Hoogste-punt-pompstation-Zwijndrecht-bereikt-Artikel.aspx	online resource
Bremerberg dijk	Netherlands	Biddinghuizen	Stuyfzand et al.	2006	Riverbank filtration in the Netherlands: well fields, clogging and geochemical reactions	In: Hubbs (ed.) (2006): Riverbank Filtration Hydrology, Springer, p. 119-153	soft copy
Bremerberg dijk	Netherlands	Biddinghuizen	Stuyfzand & Doomen	2004	The dutch experience with MARS (managed aquifer recharge and storage): a review of facilities, techniques and tools	Kiwa N.V./NWP, The Netherlands	soft copy
Bremerberg dijk	Netherlands	Biddinghuizen	Vitens	2012	Kwetsbare wingebieden: samen zorgen voor schoon grondwater	http://www.vitens.nl/overvitens/water/projecten/Paginas/Kwetsbare-wingebieden-samen-zorgen-voor-schoon-grondwater.aspx	online resource
Bodegraven	Netherlands	Buitenkerk	Stuyfzand et al.	2006	Riverbank filtration in the Netherlands: well fields, clogging and geochemical reactions	In: Hubbs (ed.) (2006): Riverbank Filtration Hydrology, Springer, p. 119-153	soft copy

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Watervlak	Netherlands	Castricum	Stuyfzand et al.	2012	Haalbaarheid van ondergrondse berging via A(S/T)R in Hollands kustduinen.	KWR report 2012.082	soft copy
Watervlak	Netherlands	Castricum	Stuyfzand & Doomen	2004	The dutch experience with MARS (managed aquifer recharge and storage): a review of facilities, techniques and tools	Kiwa N.V./NWP, The Netherlands	soft copy
Culemborg	Netherlands	Culemborg	Stuyfzand et al.	2006	Riverbank filtration in the Netherlands: well fields, clogging and geochemical reactions	In: Hubbs (ed.) (2006): Riverbank Filtration Hydrology, Springer, p. 119-153	soft copy
Culemborg	Netherlands	Culemborg	Stuyfzand & Doomen	2004	The dutch experience with MARS (managed aquifer recharge and storage): a review of facilities, techniques and tools	Kiwa N.V./NWP, The Netherlands	soft copy
Culemborg	Netherlands	Culemborg	Vitens	2012	Kwetsbare wingebieden: samen zorgen voor schoon grondwater	http://www.vitens.nl/overvitens/water/projecten/Paginas/Kwetsbare-wingebieden-samen-zorgen-voor-schoon-grondwater.aspx	online resource
Bergje Texel	Netherlands	Den Burg	Stuyfzand et al.	2012	Haalbaarheid van ondergrondse berging via A(S/T)R in Hollands kustduinen.	KWR report 2012.082	soft copy
Monster	Netherlands	Den Haag	CONSERF B. V.		Watertoren (Monster)	http://www.conserf.nl/projecten/watertoren-monster	online resource
Monster	Netherlands	Den Haag	Furrer et al.	2000	Wasserförderung und -aufbereitung im Rheineinzugsgebiet	Internationale Arbeitsgemeinschaft der Wasserwerke im Rheineinzugsgebiet (IAWR). Rheinthemen (2)	soft copy
Scheveningen CIP	Netherlands	Den Haag					
Scheveningen DIP	Netherlands	Den Haag					
Scheveningen Flip-Flop	Netherlands	Den Haag					
Waalsdorp	Netherlands	Den Haag	Stuyfzand et al.	2012	Haalbaarheid van ondergrondse berging via A(S/T)R in Hollands kustduinen.	KWR report 2012.082	soft copy
Doesburg	Netherlands	Doesburg	Stuyfzand et al.	2006	Riverbank filtration in the Netherlands: well fields, clogging and geochemical reactions	In: Hubbs (ed.) (2006): Riverbank Filtration Hydrology, Springer, p. 119-153	soft copy
Druten	Netherlands	Druten	Vitens	2012	Kwetsbare wingebieden: samen zorgen voor schoon grondwater	http://www.vitens.nl/overvitens/water/projecten/Paginas/Kwetsbare-wingebieden-samen-zorgen-voor-schoon-grondwater.aspx	online resource
Druten	Netherlands	Druten	Stuyfzand et al.	2006	Riverbank filtration in the Netherlands: well fields, clogging and geochemical reactions	In: Hubbs (ed.) (2006): Riverbank Filtration Hydrology, Springer, p. 119-153	soft copy

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Enschede	Netherlands	Enschede	Stuyfzand & Doomen	2004	The dutch experience with MARS (managed aquifer recharge and storage): a review of facilities, techniques and tools	Kiwa N.V./NWP, The Netherlands	soft copy
Geldermalsen	Netherlands	Geldermalsen	Stuyfzand et al.	2006	Riverbank filtration in the Netherlands: well fields, clogging and geochemical reactions	In: Hubbs (ed.) (2006): Riverbank Filtration Hydrology, Springer, p. 119-153	soft copy
Gouda	Netherlands	Gouda	Stuyfzand et al.	2006	Riverbank filtration in the Netherlands: well fields, clogging and geochemical reactions	In: Hubbs (ed.) (2006): Riverbank Filtration Hydrology, Springer, p. 119-153	soft copy
Haren	Netherlands	Groningen	Stuyfzand et al.	2012	Haalbaarheid van ondergrondse berging via A(S/T)R in Hollands kustduinen.	KWR report 2012.082	soft copy
Dam 9 Geul 1	Netherlands	Haarlem	Stuyfzand et al.	2012	Haalbaarheid van ondergrondse berging via A(S/T)R in Hollands kustduinen.	KWR report 2012.082	soft copy
T Kromme Gat	Netherlands	Hardinxveld-Giessendam	Oasen drinkwater	2012	Hoogste punt pompstation Zwijndrecht bereikt	http://www.oasen.nl/drinkwater-maken/Paginas/Hoogste-punt-pompstation-Zwijndrecht-bereikt-Artikel.aspx	online resource
T Kromme Gat	Netherlands	Hardinxveld-Giessendam	Stuyfzand & Doomen	2004	The dutch experience with MARS (managed aquifer recharge and storage): a review of facilities, techniques and tools	Kiwa N.V./NWP, The Netherlands	soft copy
T Kromme Gat	Netherlands	Hardinxveld-Giessendam	Stuyfzand et al.	2006	Riverbank filtration in the Netherlands: well fields, clogging and geochemical reactions	In: Hubbs (ed.) (2006): Riverbank Filtration Hydrology, Springer, p. 119-153	soft copy
Hazerswoude	Netherlands	Hazerswoude	Stuyfzand et al.	2006	Riverbank filtration in the Netherlands: well fields, clogging and geochemical reactions	In: Hubbs (ed.) (2006): Riverbank Filtration Hydrology, Springer, p. 119-153	soft copy
Leiduin IP1-2	Netherlands	Heemstede					
Leiduin WIP	Netherlands	Heemstede					
Crezeepolder	Netherlands	Hendrik-Ido Ambacht	Hötzl & Reichert	1996	Schadstoffe im Grundwasser - Band 4: Schadstofftransport und Schadstoffabbau bei der Uferfiltration am Beispiel des Untersuchungsgebietes "Böckinger Wiesen" im Neckartal bei Heilbronn	Schadstoffe im Grundwasser 4, Weinheim	unavailable
Crezeepolder	Netherlands	Hendrik-Ido Ambacht	Stuyfzand & Doomen	2004	The dutch experience with MARS (managed aquifer recharge and storage): a review of facilities, techniques and tools	Kiwa N.V./NWP, The Netherlands	soft copy

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Crezeepolder	Netherlands	Hendrik-Ido Ambacht	Stuyfzand et al.	2006	Riverbank filtration in the Netherlands: well fields, clogging and geochemical reactions	In: Hubbs (ed.) (2006): Riverbank Filtration Hydrology, Springer, p. 119-153	soft copy
Crezeepolder	Netherlands	Hendrik-Ido Ambacht	Grischek et al.	2007	What is the appropriate site for RBF?	In: Fox (ed.) (2007): ISMAR 6 Proceedings: Management of aquifer recharge for sustabainibility, p. 466-474	soft copy
Herten	Netherlands	Herten	Stuyfzand et al.	2012	Haalbaarheid van ondergrondse berging via A(S/T)R in Hollands kustduinen.	KWR report 2012.082	soft copy
Toevoersloot	Netherlands	Hoofddorp	Stuyfzand et al.	2012	Haalbaarheid van ondergrondse berging via A(S/T)R in Hollands kustduinen.	KWR report 2012.082	soft copy
Veerdam	Netherlands	Ijsselmonde	Stuyfzand et al.	2006	Riverbank filtration in the Netherlands: well fields, clogging and geochemical reactions	In: Hubbs (ed.) (2006): Riverbank Filtration Hydrology, Springer, p. 119-153	soft copy
Ijsselstein	Netherlands	Ijsselstein	Stuyfzand et al.	2006	Riverbank filtration in the Netherlands: well fields, clogging and geochemical reactions	In: Hubbs (ed.) (2006): Riverbank Filtration Hydrology, Springer, p. 119-153	soft copy
Ijsselstein	Netherlands	Ijsselstein	Stuyfzand & Doomen	2004	The dutch experience with MARS (managed aquifer recharge and storage): a review of facilities, techniques and tools	Kiwa N.V./NWP, The Netherlands	soft copy
Hooge Boom	Netherlands	Kamerik	Stuyfzand & Doomen	2004	The dutch experience with MARS (managed aquifer recharge and storage): a review of facilities, techniques and tools	Kiwa N.V./NWP, The Netherlands	soft copy
Hooge Boom	Netherlands	Kamerik	Oasen drinkwater	2012	Hoogste punt pompstation Zwijndrecht bereikt	http://www.oasen.nl/drinkwater-maken/Paginas/Hoogste-punt-pompstation-Zwijndrecht-bereikt-Artikel.aspx	online resource
Hooge Boom	Netherlands	Kamerik	Stuyfzand et al.	2006	Riverbank filtration in the Netherlands: well fields, clogging and geochemical reactions	In: Hubbs (ed.) (2006): Riverbank Filtration Hydrology, Springer, p. 119-153	soft copy
s-Gravendeel	Netherlands	Kil	Stuyfzand et al.	2006	Riverbank filtration in the Netherlands: well fields, clogging and geochemical reactions	In: Hubbs (ed.) (2006): Riverbank Filtration Hydrology, Springer, p. 119-153	soft copy
De Steeg	Netherlands	Langerak	Brun et al.	1998	Water quality modelling at the Langerak deep-wel1 recharge site.	In: Peters (ed.) (1998): Artificial Recharge of Groundwater. Proceedings of the Third International Symposium - TISAR 98, p. 305-312	hard copy

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De Steeg	Netherlands	Langerak	Timmer & Stuyfzand	1998	Deep well recharge in a polder near the Rhine.	In: Peters (ed.) (1998): Artificial Recharge of Groundwater. Proceedings of the Third International Symposium - TISAR 98, p. 181-186	hard copy
De Steeg	Netherlands	Langerak	Stuyfzand & Timmer	1999	Deep well injection at the Langerak and Nieuwegein sites in the Netherlands : chemical reactions and their modeling	Kiwa-report SWE 99.006, Nieuwegein	hard copy
De Steeg	Netherlands	Langerak	Stuyfzand	1998	Quality changes upon injection into anoxic aquifers in the Netherlands: Evaluation of 11 experirnents	In: Peters (ed.) (1998): Artificial Recharge of Groundwater. Proceedings of the Third International Symposium - TISAR 98, p. 283-291	soft copy
De Steeg	Netherlands	Langerak	Saaltink et al.	1998	Modelling the effects of deep artificial recharge on groundwater quality.	In: Peters (ed.) (1998): Artificial Recharge of Groundwater. Proceedings of the Third International Symposium - TISAR 98, p. 423-425	hard copy
De Steeg	Netherlands	Langerak	Stuyfzand et al.	2012	Haalbaarheid van ondergrondse berging via A(S/T)R in Hollands kustduinen.	KWR report 2012.082	soft copy
Leersum	Netherlands	Leersum	Stuyfzand et al.	2012	Haalbaarheid van ondergrondse berging via A(S/T)R in Hollands kustduinen.	KWR report 2012.082	soft copy
N. Lekkerland	Netherlands	Lekdijk	Stuyfzand et al.	2006	Riverbank filtration in the Netherlands: well fields, clogging and geochemical reactions	In: Hubbs (ed.) (2006): Riverbank Filtration Hydrology, Springer, p. 119-153	soft copy
Opperduit	Netherlands	Lekkerkerk	Stuyfzand	1998	Quality changes upon injection into anoxic aquifers in the Netherlands: Evaluation of 11 experirnents	In: Peters (ed.) (1998): Artificial Recharge of Groundwater. Proceedings of the Third International Symposium - TISAR 98, p. 283-291	soft copy
Opperduit	Netherlands	Lekkerkerk	Furrer et al.	2000	Wasserförderung und -aufbereitung im Rheineinzugsgebiet	Internationale Arbeitsgemeinschaft der Wasserwerke im Rheineinzugsgebiet (IAWR). Rheinthemen (2)	soft copy
Opperduit	Netherlands	Lekkerkerk	Stuyfzand et al.	2012	Haalbaarheid van ondergrondse berging via A(S/T)R in Hollands kustduinen.	KWR report 2012.082	soft copy
Schuwacht	Netherlands	Lekkerkerk	Stuyfzand et al.	2006	Riverbank filtration in the Netherlands: well fields, clogging and geochemical reactions	In: Hubbs (ed.) (2006): Riverbank Filtration Hydrology, Springer, p. 119-153	soft copy
Schuwacht	Netherlands	Lekkerkerk	Oasen drinkwater	2012	Hoogste punt pompstation Zwijndrecht bereikt	http://www.oasen.nl/drinkwater-maken/Paginas/Hoogste-punt-pompstation-Zwijndrecht-bereikt-Artikel.aspx	online resource

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Schuwacht	Netherlands	Lekkerkerk	Stuyfzand & Doomen	2004	The dutch experience with MARS (managed aquifer recharge and storage): a review of facilities, techniques and tools	Kiwa N.V./NWP, The Netherlands	soft copy
Tiendweg	Netherlands	Lekkerkerk	Stuyfzand et al.	2006	Riverbank filtration in the Netherlands: well fields, clogging and geochemical reactions	In: Hubbs (ed.) (2006): Riverbank Filtration Hydrology, Springer, p. 119-153	soft copy
Tiendweg	Netherlands	Lekkerkerk	Stuyfzand & Doomen	2004	The dutch experience with MARS (managed aquifer recharge and storage): a review of facilities, techniques and tools	Kiwa N.V./NWP, The Netherlands	soft copy
Elst	Netherlands	Lent	Stuyfzand & Doomen	2004	The dutch experience with MARS (managed aquifer recharge and storage): a review of facilities, techniques and tools	Kiwa N.V./NWP, The Netherlands	soft copy
Elst	Netherlands	Lent	Stuyfzand et al.	2006	Riverbank filtration in the Netherlands: well fields, clogging and geochemical reactions	In: Hubbs (ed.) (2006): Riverbank Filtration Hydrology, Springer, p. 119-153	soft copy
Elst	Netherlands	Lent	Stuyfzand et al.	2012	Haalbaarheid van ondergrondse berging via A(S/T)R in Hollands kustduinen.	KWR report 2012.082	soft copy
Breehei	Netherlands	Leunen	Stuyfzand et al.	2005	Water quality changes, clogging and pathogen transport during deep well injection in the South-East Netherlands (DIZON)	In: Dillon & Toze (eds.) (2005): Water quality improvements during aquifer storage and recovery, AWWARF-report 91056F 2, p. 77-103	unavailable
Breehei	Netherlands	Leunen	Stuyfzand et al.	2012	Haalbaarheid van ondergrondse berging via A(S/T)R in Hollands kustduinen.	KWR report 2012.082	soft copy
Breehei	Netherlands	Leunen	Stuyfzand	1998	Quality changes upon injection into anoxic aquifers in the Netherlands: Evaluation of 11 experirnents	In: Peters (ed.) (1998): Artificial Recharge of Groundwater. Proceedings of the Third International Symposium - TISAR 98, p. 283-291	soft copy
Breehei	Netherlands	Leunen	Straatman & Brekvoort	1998	Well recharge pilot South-East Netherlands.	In: Peters (ed.) (1998): Artificial Recharge of Groundwater. Proceedings of the Third International Symposium - TISAR 98, p. 331-338	hard copy
De Laak	Netherlands	Lexmond	Stuyfzand et al.	2006	Riverbank filtration in the Netherlands: well fields, clogging and geochemical reactions	In: Hubbs (ed.) (2006): Riverbank Filtration Hydrology, Springer, p. 119-153	soft copy

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site	country	city	author	published	title	source	availability
De Laak	Netherlands	Lexmond	Oasen drinkwater	2012	Hoogste punt pompstation Zwijndrecht bereikt	http://www.oasen.nl/drinkwater-maken/Paginas/Hoogste-punt-pompstation-Zwijndrecht-bereikt-Artikel.aspx	online resource
Heel	Netherlands	Limburg	Juhász-Holterman	1998	Artificial recharge of a lake excavated for gravel extraction	In: Peters (ed.) (1998): Artificial Recharge of Groundwater: Proceedings of the Third International Symposium - TISAR 98, p. 237-242	hard copy
Middelweg	Netherlands	Nieuw Lekkerland	Stuyfzand et al.	2006	Riverbank filtration in the Netherlands: well fields, clogging and geochemical reactions	In: Hubbs (ed.) (2006): Riverbank Filtration Hydrology, Springer, p. 119-153	soft copy
Middelweg	Netherlands	Nieuw Lekkerland	Stuyfzand & Doomen	2004	The dutch experience with MARS (managed aquifer recharge and storage): a review of facilities, techniques and tools	Kiwa N.V./NWP, The Netherlands	soft copy
Middelweg	Netherlands	Nieuw Lekkerland	Oasen drinkwater	2012	Hoogste punt pompstation Zwijndrecht bereikt	http://www.oasen.nl/drinkwater-maken/Paginas/Hoogste-punt-pompstation-Zwijndrecht-bereikt-Artikel.aspx	online resource
Nieuwegein	Netherlands	Nieuwegein	Stuyfzand et al.	2012	Haalbaarheid van ondergrondse berging via A(S/T)R in Hollands kustduinen.	KWR report 2012.082	soft copy
Nieuwegein	Netherlands	Nieuwegein	Timmer & Stuyfzand	1998	Deep well recharge in a polder near the Rhine.	In: Peters (ed.) (1998): Artificial Recharge of Groundwater. Proceedings of the Third International Symposium - TISAR 98, p. 181-186	hard copy
Nieuwegein	Netherlands	Nieuwegein	Stuyfzand	1998	Quality changes upon injection into anoxic aquifers in the Netherlands: Evaluation of 11 experirnents	In: Peters (ed.) (1998): Artificial Recharge of Groundwater. Proceedings of the Third International Symposium - TISAR 98, p. 283-291	soft copy
Nieuwe Marktstraat	Netherlands	Nijmegen	Vitens	2012	Kwetsbare wingebieden: samen zorgen voor schoon grondwater	http://www.vitens.nl/overvitens/water/projecten/Paginas/Kwetsbare-wingebieden-samen-zorgen-voor-schoon-grondwater.aspx	online resource
Nieuwe Marktstraat	Netherlands	Nijmegen	Stuyfzand et al.	2006	Riverbank filtration in the Netherlands: well fields, clogging and geochemical reactions	In: Hubbs (ed.) (2006): Riverbank Filtration Hydrology, Springer, p. 119-153	soft copy

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Nieuwe Marktstraat	Netherlands	Nijmegen	Grischek et al.	2002	Bank filtration in Europe - An overview of aquifer conditions and hydraulic controls	In: Dillon (ed.) (2002): Management of Aquifer Recharge for Sustainability: Proceedings of the 4th International Symposium on Artificial Recharge of Groundwater, Adelaide, Australia, p. 485-488	soft copy
Nootdorp	Netherlands	Nootdorp	Stuyfzand et al.	2012	Haalbaarheid van ondergrondse berging via A(S/T)R in Hollands kustduinen.	KWR report 2012.082	soft copy
Dordrecht	Netherlands	Oranjelaan	Stuyfzand et al.	2006	Riverbank filtration in the Netherlands: well fields, clogging and geochemical reactions	In: Hubbs (ed.) (2006): Riverbank Filtration Hydrology, Springer, p. 119-153	soft copy
Ossendrecht	Netherlands	Ossendrecht	Stuyfzand et al.	2012	Haalbaarheid van ondergrondse berging via A(S/T)R in Hollands kustduinen.	KWR report 2012.082	soft copy
Ossendrecht	Netherlands	Ossendrecht	ARTESIA Water research unlimited	2012	Infiltration Test-Ossdrecht	http://www.artesia-water.nl/projecten/infiltratieproef-huijbergen/	online resource
Ouddorp	Netherlands	Ouddorp	Stuyfzand et al.	2012	Haalbaarheid van ondergrondse berging via A(S/T)R in Hollands kustduinen.	KWR report 2012.082	soft copy
Overijssel	Netherlands	Overijssel	Hoogendoorn	2002	Artificial recharge for sustainability and cost reduction in the eastern Netherlands	In: Dillon (ed) (2002): Management of Aquifer Recharge for Sustainability: Proceedings of the 4th International Symposium on Artificial Recharge of Groundwater, Adelaide, Australia, p. 53-56	hard copy
Remmerden	Netherlands	Remmerden	Stuyfzand et al.	2006	Riverbank filtration in the Netherlands: well fields, clogging and geochemical reactions	In: Hubbs (ed.) (2006): Riverbank Filtration Hydrology, Springer, p. 119-153	soft copy
Kievietsweg	Netherlands	Ridderkerk					
Reijerwaard	Netherlands	Ridderkerk	Oasen drinkwater	2012	Hoogste punt pompstation Zwijndrecht bereikt	http://www.oasen.nl/drinkwater-maken/Paginas/Hoogste-punt-pompstation-Zwijndrecht-bereikt-Artikel.aspx	online resource
Reijerwaard	Netherlands	Ridderkerk	Stuyfzand et al.	2006	Riverbank filtration in the Netherlands: well fields, clogging and geochemical reactions	In: Hubbs (ed.) (2006): Riverbank Filtration Hydrology, Springer, p. 119-153	soft copy
Reijerwaard	Netherlands	Ridderkerk	Stuyfzand & Doomen	2004	The dutch experience with MARS (managed aquifer recharge and storage): a review of facilities, techniques and tools	Kiwa N.V./NWP, The Netherlands	soft copy

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Reijerwaard	Netherlands	Ridderkerk	Furrer et al.	2000	Wasserförderung und -aufbereitung im Rheineinzugsgebiet	Internationale Arbeitsgemeinschaft der Wasserwerke im Rheineinzugsgebiet (IAWR). Rheinthemen (2)	soft copy
De Rug	Netherlands	Roosteren	Stuyfzand et al.	2006	Riverbank filtration in the Netherlands: well fields, clogging and geochemical reactions	In: Hubbs (ed.) (2006): Riverbank Filtration Hydrology, Springer, p. 119-153	soft copy
De Rug	Netherlands	Roosteren	Medema & Stuyfzand	2002	Removal of micro-organisms upon basin recharge, deep well injection and river bank filtration in the Netherlands	In: Dillon (ed.) (2002): Management of Aquifer Recharge for Sustainability: Proceedings of the 4th International Symposium on Artificial Recharge of Groundwater, Adelaide, Australia	soft copy
De Rug	Netherlands	Roosteren	Juhász-Holterman	1998	Artificial recharge of a lake excavated for gravel extraction	In: Peters (ed.) (1998): Artificial Recharge of Groundwater: Proceedings of the Third International Symposium - TISAR 98, p. 237-242	hard copy
De Rug	Netherlands	Roosteren	Grischek et al.	2002	Bank filtration in Europe - An overview of aquifer conditions and hydraulic controls	In: Dillon (ed.) (2002): Management of Aquifer Recharge for Sustainability: Proceedings of the 4th International Symposium on Artificial Recharge of Groundwater, Adelaide, Australia, p. 485-488	soft copy
Schoonhoven	Netherlands	Schoonhoven	Stuyfzand & Doomen	2004	The dutch experience with MARS (managed aquifer recharge and storage): a review of facilities, techniques and tools	Kiwa N.V./NWP, The Netherlands	soft copy
Sint Jansklooster	Netherlands	Sint Jansklooster	de Ruiter & Stuyfzand	1998	An experiment on well recharge of oxic water into an anoxic aquifer	In: Peters (ed.) (1998): Artificial Recharge of Groundwater. Proceedings of the Third International Symposium - TISAR 98, p. 299-304	soft copy
Sint Jansklooster	Netherlands	Sint Jansklooster	Stuyfzand et al.	2012	Haalbaarheid van ondergrondse berging via A(S/T)R in Hollands kustduinen.	KWR report 2012.082	soft copy
Sint Jansklooster	Netherlands	Sint Jansklooster	Tavase Ltd.	2013	Tampereen ja Valkeakosken	http://www.tavase.fi	online resource
Sint Jansklooster	Netherlands	Sint Jansklooster	Stuyfzand & Doomen	2004	The dutch experience with MARS (managed aquifer recharge and storage): a review of facilities, techniques and tools	Kiwa N.V./NWP, The Netherlands	soft copy
Sliedrecht	Netherlands	Sliedrecht	Stuyfzand et al.	2012	Haalbaarheid van ondergrondse berging via A(S/T)R in Hollands kustduinen.	KWR report 2012.082	soft copy

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site	country	city	author	published	title	source	availability
Someren DIZON	Netherlands	Someren	Stuyfzand	1998	Quality changes upon injection into anoxic aquifers in the Netherlands: Evaluation of 11 experirnents	In: Peters (ed.) (1998): Artificial Recharge of Groundwater. Proceedings of the Third International Symposium - TISAR 98, p. 283-291	soft copy
Someren DIZON	Netherlands	Someren	Straatman & Brekvoort	1998	Well recharge pilot South-East Netherlands.	In: Peters (ed.) (1998): Artificial Recharge of Groundwater. Proceedings of the Third International Symposium - TISAR 98, p. 331-338	hard copy
Someren DIZON	Netherlands	Someren	Stuyfzand et al.	2002	Hydrogeochemistry of prolonged deep well injection and subsequent aquifer storage in pyritiferous sands; DIZON pilot, Netherlands	In: Dillon (ed) (2002): Management of Aquifer Recharge for Sustainability: Proceedings of the 4th International Symposium on Artificial Recharge of Groundwater, Adelaide, Australia, p. 107-110	hard copy
Someren DIZON	Netherlands	Someren	Stuyfzand et al.	2005	Water quality changes, clogging and pathogen transport during deep well injection in the South-East Netherlands (DIZON)	In: Dillon & Toze (eds.) (2005): Water quality improvements during aquifer storage and recovery, AWWARF-report 91056F 2, p. 77-103	unavailable
Someren DIZON	Netherlands	Someren	Stuyfzand et al.	2012	Haalbaarheid van ondergrondse berging via A(S/T)R in Hollands kustduinen.	KWR report 2012.082	soft copy
Berkheide	Netherlands	The Hague	Kortleve et al.	2002	Optimisation Groot Berkheide. Integration of artificial recharge and nature in practice	In: Dillon (ed) (2002): Management of Aquifer Recharge for Sustainability: Proceedings of the 4th International Symposium on Artificial Recharge of Groundwater, Adelaide, Australia, p. 471-477	hard copy
Berkheide	Netherlands	The Hague	Stuyfzand & Doomen	2004	The dutch experience with MARS (managed aquifer recharge and storage): a review of facilities, techniques and tools	Kiwa N.V./NWP, The Netherlands	soft copy
Berkheide	Netherlands	The Hague	de Jonge et al.	2002	Sustainable use of aquifers for artificial recharge in South-Holland	In: Dillon (ed) (2002): Management of Aquifer Recharge for Sustainability: Proceedings of the 4th International Symposium on Artificial Recharge of Groundwater, Adelaide, Australia, p. 41-48	hard copy
Meijendel	Netherlands	The Hague	Stuyfzand & Doomen	2004	The dutch experience with MARS (managed aquifer recharge and storage): a review of facilities, techniques and tools	Kiwa N.V./NWP, The Netherlands	soft copy

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site	country	city	author	published	title	source	availability
Meijendel	Netherlands	The Hague	de Jonge et al.	2002	Sustainable use of aquifers for artificial recharge in South-Holland	In: Dillon (ed) (2002): Management of Aquifer Recharge for Sustainability: Proceedings of the 4th International Symposium on Artificial Recharge of Groundwater, Adelaide, Australia, p. 41-48	hard copy
Solleveld	Netherlands	The Hague	de Jonge et al.	2002	Sustainable use of aquifers for artificial recharge in South-Holland	In: Dillon (ed) (2002): Management of Aquifer Recharge for Sustainability: Proceedings of the 4th International Symposium on Artificial Recharge of Groundwater, Adelaide, Australia, p. 41-48	hard copy
Solleveld	Netherlands	The Hague	Kortleve et al.	2002	Ecological engineering of the artificial recharge site Solleveld	In: Dillon (ed) (2002): Management of Aquifer Recharge for Sustainability: Proceedings of the 4th International Symposium on Artificial Recharge of Groundwater, Adelaide, Australia, p. 489-493	hard copy
Solleveld	Netherlands	The Hague	Kortleve et al.	2002	Optimisation Groot Berkheide. Integration of artificial recharge and nature in practice	In: Dillon (ed) (2002): Management of Aquifer Recharge for Sustainability: Proceedings of the 4th International Symposium on Artificial Recharge of Groundwater, Adelaide, Australia, p. 471-477	hard copy
Tiel	Netherlands	Tiel	Stuyfzand et al.	2012	Haalbaarheid van ondergrondse berging via A(S/T)R in Hollands kustduinen.	KWR report 2012.082	soft copy
Kolff	Netherlands	Waardenburg	Stuyfzand & Doomen	2004	The dutch experience with MARS (managed aquifer recharge and storage): a review of facilities, techniques and tools	Kiwa N.V./NWP, The Netherlands	soft copy
Kolff	Netherlands	Waardenburg	Stuyfzand et al.	2012	Haalbaarheid van ondergrondse berging via A(S/T)R in Hollands kustduinen.	KWR report 2012.082	soft copy
Noordhollands Duinreservaat	Netherlands	Wijk an Zee	Stuyfzand & Doomen	2004	The dutch experience with MARS (managed aquifer recharge and storage): a review of facilities, techniques and tools	Kiwa N.V./NWP, The Netherlands	soft copy
Zoelen	Netherlands	Zoelen	Stuyfzand et al.	2012	Haalbaarheid van ondergrondse berging via A(S/T)R in Hollands kustduinen.	KWR report 2012.082	soft copy

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Vierakker	Netherlands	Zutphen	Stuyfzand & Doomen	2004	The dutch experience with MARS (managed aquifer recharge and storage): a review of facilities, techniques and tools	Kiwa N.V./NWP, The Netherlands	soft copy
Ringdijk	Netherlands	Zwijndrecht	Oasen drinkwater	2012	Hoogste punt pompstation Zwijndrecht bereikt	http://www.oasen.nl/drinkwater-maken/Paginas/Hoogste-punt-pompstation-Zwijndrecht-bereikt-Artikel.aspx	online resource
Ringdijk	Netherlands	Zwijndrecht	Stuyfzand et al.	2012	Haalbaarheid van ondergrondse berging via A(S/T)R in Hollands kustduinen.	KWR report 2012.082	soft copy
Ringdijk	Netherlands	Zwijndrecht	Stuyfzand & Doomen	2004	The dutch experience with MARS (managed aquifer recharge and storage): a review of facilities, techniques and tools	Kiwa N.V./NWP, The Netherlands	soft copy
Engelsche Werk	Netherlands	Zwolle	Vitens	2012	Kwetsbare wingebieden: samen zorgen voor schoon grondwater	http://www.vitens.nl/overvitens/water/projecten/Paginas/Kwetsbare-wingebieden-samen-zorgen-voor-schoon-grondwater.aspx	online resource
Engelsche Werk	Netherlands	Zwolle	Stuyfzand et al.	2012	Haalbaarheid van ondergrondse berging via A(S/T)R in Hollands kustduinen.	KWR report 2012.082	soft copy
Engelsche Werk	Netherlands	Zwolle	Stuyfzand & Doomen	2004	The dutch experience with MARS (managed aquifer recharge and storage): a review of facilities, techniques and tools	Kiwa N.V./NWP, The Netherlands	soft copy
Engelsche Werk	Netherlands	Zwolle	Stuyfzand	1998	Quality changes upon injection into anoxic aquifers in the Netherlands: Evaluation of 11 experirnents	In: Peters (ed.) (1998): Artificial Recharge of Groundwater. Proceedings of the Third International Symposium - TISAR 98, p. 283-291	soft copy
Wasilkow	Poland	Bialystok	Wodociągi Białostockie		Wodociągi Białostockie	http://www.wobi.pl/index.php?pid=Obiekty_32	online resource
Wasilkow	Poland	Bialystok	Piekutin	2008	Uzdatnianie wod infiltracyjnych	http://www.infraeco.pl/pl/art/a_15234.htm?plik=418	online resource
Ujęcie Bogucino-Rościęcino	Poland	Kolobrzeg	Biuletyn informacji publicznej (bip)	2013	Pogotowie Wodociagowe	http://www.bip.mwik.kolobrzeg.pl/70,dane-adresowe.html	online resource
Mosina-Krajkowo	Poland	Krajkowo	Pawula	1993	Historyczne i sozologicznemodelación matemática - Aspekty eksploatacji komunalnych ujec wody m. Poznania	Materiały IV Konferencji Sozologicznej: Problemy ujmowania i ochrony wód podziemnych	soft copy
Mosina-Krajkowo	Poland	Krajkowo	Kowal	1999	Wykorzystanie infiltracji w oczyszczaniu wody	Ochrona Srodowiska	soft copy

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site	country	city	author	published	title	source	availability
Mosina-Krajkowo	Poland	Krajkowo	Górski & Przybylek	2005	Qualitiy of bank filtrated water in different locations of wells	Adam Mickiewicz University, Institute of Geology, Department ot Hydrology and Water Protection	soft copy
Mosina-Krajkowo	Poland	Krajkowo	RZGW	2012	UZASADNIENIE DO ROZPORZĄDZENIA DYREKTORA REGIONALNEGO ZARZĄDU GOSPODARKI WODNEJ W POZNANIU	http://rzgw.poznan.ibip.pl/public/get_file_contents.php?id=222909	online resource
Bielany	Poland	Krakow	Blazejewski	1983	Perspektywy wykorzystania sztucznej infiltracji w uzdatnianiu zanieczyszczen wod powierzchniowych w Polsce w swietle dotychczasowych badan	Sztuczna infiltracja w uzdatnianiu WOD powierzchniowych	soft copy
Bielany	Poland	Krakow	MPWIK		Zakład Uzdatniania Wody Bielany	http://www.mpwik.krakow.pl/21/Zaklad-Uzdatniania-Wody-Bielany	online resource
Bielany	Poland	Krakow	Olko		Analiza zmian jakosci wody w sieci wodociagowej miasta Krakowa	Akademia Górniczo-Hutnicza im. Stanislawa Staszica	soft copy
Bielany	Poland	Krakow	ZUW Bielany		Krakowskie Zaklady Uzdatniania Wody	http://www.sni.edu.pl/proj/wodadlakrak/zuw.htm	online resource
Ujecie wody Mostowo	Poland	Mostowo	Wodociagi Koszalin		ZANIECZYSZCZENIE WÓD PODZIEMNYCH A EKSPLOATACJA I OCHRONA UJĘĆ KOMUNALNYCH	http://www.staff.amu.edu.pl/~pawula/PZITS71.htm	online resource
Ujecie wody Mostowo	Poland	Mostowo	Wodociagi Koszalin			http://www.mwik.koszalin.pl/index.php?id=2	online resource
Praski "Gruba Kaska"	Poland	Warszawa	Blazejewski	1983	Perspektywy wykorzystania sztucznej infiltracji w uzdatnianiu zanieczyszczen wod powierzchniowych w Polsce w swietle dotychczasowych badan	Sztuczna infiltracja w uzdatnianiu WOD powierzchniowych	soft copy
Praski "Gruba Kaska"	Poland	Warszawa	Kowal	1999	Wykorzystanie infiltracji w oczyszczaniu wody	Ochrona Srodowiska	soft copy
Ujecie Polnoc	Poland	Warszawa	Blazejewski	1983	Perspektywy wykorzystania sztucznej infiltracji w uzdatnianiu zanieczyszczen wod powierzchniowych w Polsce w swietle dotychczasowych badan	Sztuczna infiltracja w uzdatnianiu WOD powierzchniowych	soft copy
Ujecie Polnoc	Poland	Warszawa	Kowal	1999	Wykorzystanie infiltracji w oczyszczaniu wody	Ochrona Srodowiska	soft copy
Na Grobli	Poland	Wroclaw	MPWIK		Dostarczamy Źródło Zycia. Dbamy o Nature.	http://www.mpwik.wroclaw.pl/	online resource
Na Grobli	Poland	Wroclaw	Asano	1985	Artificial Recharge of Groundwater	Butterworth Publishers, Stoneham, USA	hard copy

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Campina de Faro	Portugal	Campina de Faro	Ferreira et al.	2007	Groundwater artificial recharge based on alternative sources of water: advanced integrated technologies and management	DELIVERABLE 31, Inventory of alternative water sources for each test site, p. 37	soft copy
Campina de Faro	Portugal	Campina de Faro	personal infomation		personal information	personal information	unavailable
Campina de Faro	Portugal	Campina de Faro	Ferreira	2006	First Year Achievements of Gabardine Project in Portugal	Associação Portuguesa dos Recursos Hídricos, p. 1-10	soft copy
Campina de Faro	Portugal	Campina de Faro	Sanchez-Vila & Barbieri	2007	Deliverable 24, current necessities for artificial recharge in the test sites	Universitat Politècnica de Catalunya	soft copy
Gheraiesti	Romania	Bacau	Grischek et al.	2002	Bank filtration in Europe - An overview of aquifer conditions and hydraulic controls	In: Dillon (ed.) (2002): Management of Aquifer Recharge for Sustainability: Proceedings of the 4th International Symposium on Artificial Recharge of Groundwater, Adelaide, Australia, p. 485-488	soft copy
Cluj	Romania	Cluj	Rojanschi, V., Mlenajek, L.	2002	Riverbank filtration in water supply - old solutions, new problems	Riverbank filtration: Understanding contaminant biogeochemistry and pathogen removal	soft copy
Iasi	Romania	Iasi	Rojanschi, V., Mlenajek, L.	2002	Riverbank filtration in water supply - old solutions, new problems	Riverbank filtration: Understanding contaminant biogeochemistry and pathogen removal	soft copy
Kaliningrad	Russian Federation	Kaliningrad	Grischek et al.	2002	Bank filtration in Europe - An overview of aquifer conditions and hydraulic controls	In: Dillon (ed.) (2002): Management of Aquifer Recharge for Sustainability: Proceedings of the 4th International Symposium on Artificial Recharge of Groundwater, Adelaide, Australia, p. 485-488	soft copy
Belgrade	Serbia and Montenegro	Belgrade	Ray et al.	2003	Introduction	In: Ray et al. (eds.) (2003): Riverbank Filtration - Improving Source-Water Quality, Kluwer Academic Publishers, p. 1-15	unavailable
Kraljevo	Serbia and Montenegro	Kraljevo	Grischek et al.	2002	Bank filtration in Europe - An overview of aquifer conditions and hydraulic controls	In: Dillon (ed.) (2002): Management of Aquifer Recharge for Sustainability: Proceedings of the 4th International Symposium on Artificial Recharge of Groundwater, Adelaide, Australia, p. 485-488	soft copy
Kraljevo	Serbia and Montenegro	Kraljevo	United Nations Environmental Programme (UNEP)	2003	Phenol spills in Sitnika and Ibar river system	UNEP/OCHA Assessment Mission	soft copy

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Gabcikovo	Slovakia	Gabcikovo	Grischek et al.	2002	Bank filtration in Europe - An overview of aquifer conditions and hydraulic controls	In: Dillon (ed.) (2002): Management of Aquifer Recharge for Sustainability: Proceedings of the 4th International Symposium on Artificial Recharge of Groundwater, Adelaide, Australia, p. 485-488	soft copy
Kalinkovo	Slovakia	Kalinkovo	Grischek et al.	2002	Bank filtration in Europe - An overview of aquifer conditions and hydraulic controls	In: Dillon (ed.) (2002): Management of Aquifer Recharge for Sustainability: Proceedings of the 4th International Symposium on Artificial Recharge of Groundwater, Adelaide, Australia, p. 485-488	soft copy
Rusovce	Slovakia	Rusovce	Grischek et al.	2002	Bank filtration in Europe - An overview of aquifer conditions and hydraulic controls	In: Dillon (ed.) (2002): Management of Aquifer Recharge for Sustainability: Proceedings of the 4th International Symposium on Artificial Recharge of Groundwater, Adelaide, Australia, p. 485-488	soft copy
Samorin	Slovakia	Samorin	Grischek et al.	2002	Bank filtration in Europe - An overview of aquifer conditions and hydraulic controls	In: Dillon (ed.) (2002): Management of Aquifer Recharge for Sustainability: Proceedings of the 4th International Symposium on Artificial Recharge of Groundwater, Adelaide, Australia, p. 485-488	soft copy
Maribor	Slovenia	Maribor	Grischek et al.	2002	Bank filtration in Europe - An overview of aquifer conditions and hydraulic controls	In: Dillon (ed.) (2002): Management of Aquifer Recharge for Sustainability: Proceedings of the 4th International Symposium on Artificial Recharge of Groundwater, Adelaide, Australia, p. 485-488	soft copy
Alcalá La Real	Spain	Alcalá La Real	Diaz et al.	2002	Lessons from groundwater recharge projects in Spain	In: Dillon (ed) (2002): Management of Aquifer Recharge for Sustainability: Proceedings of the 4th International Symposium on Artificial Recharge of Groundwater, Adelaide, Australia, p. 393-398	hard copy
Orba	Spain	Alicante	Cachero et al.	2000	Recarga artificial mediante construcción sobre El cauce del Río Girona de Pequeños diques y represas acuífero de Orba (Alicante)	Instituto Geológico y Minero de España (IGME)	soft copy

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Orba	Spain	Alicante	Mejuto et al.	2009	Propuesta de plan Constructivo de Presas de Recarga (PCPR) en la Provincia de Alicante	International Workshop on Artificial Recharge of Groundwater Management. Palma de Mallorga, Spain, 20 - 23 October 2009	soft copy
Orba	Spain	Alicante	Instituto Geológico y Minero de España (IGME)	2004	Recarga artificial en el Acuífero de Orba	Instituto Geológico y Minero de España (IGME)	soft copy
Vergel	Spain	Alicante	De la Orden-Gomez & Diaz	2003	La recarga artificial en el acuífero de Vergel (Alicante) como técnica paliativa de los efectos de la intrusión marina y su evaluación mediante modelación matemática	In: IGME (2003), TECNOLOGÍA DE LA INTRUSIÓN DE AGUA DE MAR EN ACUÍFEROS COSTEROS: PAÍSES MEDITERRÁNEOS, Madrid, p. 767-774	soft copy
Vergel	Spain	Alicante	De la Orden-Gomez & Murillo	2002	Recharge enhancement to prevent saltwater intrusion in coastal Spain	In: Dillon (ed) (2002): Management of Aquifer Recharge for Sustainability: Proceedings of the 4th International Symposium on Artificial Recharge of Groundwater, Adelaide, Australia, p. 353-356	hard copy
Barrera hidraulica del llobregat	Spain	Barcelona	Ortuño et al.	2012	Seawater injection barrier recharge with advanced reclaimed water at Llobregat delta aquifer (Spain).	SWIM21 - 21st Salt Water Intrusion Meeting	soft copy
Barrera hidraulica del llobregat	Spain	Barcelona	Agencia Catalana de l'Aigua (Catalan Water Agency) (ACA)	2013	WFD Implementation	http://aca-web.gencat.cat/aca/appmanager/aca/aca?_nfpb=true&_pageLabel=P1205854461208200574455	unavailable
Castellbisbal	Spain	Barcelona	Hernandez et al.	2011	Aquifer recharge for securing water resources: the experience in Llobregat river	Water Science & Technology 63 (2), p. 220-226	soft copy
Cornella	Spain	Barcelona	Boleda et al.	2011	Behavior of pharmaceuticals and drugs of abuse in a drinking water treatment plant (DWTP) using combined conventional and ultrafiltration and reverse osmosis (UF/RO) treatments	Environmental Pollution 159 (6), p. 1584-1591	soft copy
Cornella	Spain	Barcelona	Radjenovic et al.	2008	Rejection of pharmaceuticals in nanofiltration and reverse osmosis membrane drinking water treatment	Water Research 42 (14), p. 3601-3610	soft copy

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site	country	city	author	published	title	source	availability
Cornella	Spain	Barcelona	Diaz et al.	2002	Lessons from groundwater recharge projects in Spain	In: Dillon (ed) (2002): Management of Aquifer Recharge for Sustainability: Proceedings of the 4th International Symposium on Artificial Recharge of Groundwater, Adelaide, Australia, p. 393-398	hard copy
Cornella	Spain	Barcelona	Hernandez et al.	2011	Aquifer recharge for securing water resources: the experience in Llobregat river	Water Science & Technology 63 (2), p. 220-226	soft copy
Pallejà	Spain	Barcelona	Hernandez et al.	2011	Aquifer recharge for securing water resources: the experience in Llobregat river	Water Science & Technology 63 (2), p. 220-226	soft copy
Sant Vicenç dels Horts	Spain	Barcelona	CETaqua et al.	2012	Enhancement of Soil Aquifer Treatment	ENSAT Life	soft copy
Sant Vicenç dels Horts	Spain	Barcelona	Hernandez et al.	2011	Aquifer recharge for securing water resources: the experience in Llobregat river	Water Science & Technology 63 (2), p. 220-226	soft copy
Los Sotillos	Spain	Cádiz	Pachón et al.	2001	La Instalación piloto de recarga artificial de "Los Sotillos" (Cadiz)	Instituto Geológico y Minero de España (IGME)	soft copy
Belcaire ⍰	Spain	Castellón⍰	Poveda	2009	Recarga Artificial de Acuíferos con excedentes invernales del río Belcaire (Castellon)	International Workshop on Artificial Recharge of Groundwater Management. Palma de Mallorga, Spain, 20 - 23 October 2009	soft copy
Belcaire ⍰	Spain	Castellón⍰	Morell et al.	1996	Application of principal components analysis to the study of salinization on the Castellon Plain (Spain)	The Science of the Total Environment 177 (1-3), p.161-171	soft copy
Blanes	Spain	Girona	Sala	2011	Leading Issues in Water Supply Sustainability in Catalonia (NE Spain)	Meeting Centre for Integrated Water Research - Prince Khaled Chair for Water Research – Universitat Politècnica de Catalunya – CCB Girona, 30 September 2011	soft copy
Blanes	Spain	Girona	personal infomation		personal information	personal information	unavailable
Blanes	Spain	Girona	Borràs et al.	2007	Summary of data concerning the quality of the reclaimed water produced at the Blanes Reclamation Plant (Costa Brava, Girona, Catalonia)	6th IWA Conference on Wastewater Reclamation and Reuse for Sustainability Antwerp	soft copy
Blanes	Spain	Girona	Consorci Costa Brava 2013	2013	Reuse Blanes	http://www.ccbgi.org/reutilitzacio_fitxa.php?id_municipi=3	online resource
Castell Platja d'Aro	Spain	Girona	Borràs & Sala	2006	La regeneració i la reutilització d'aigües a Catalunya: El que hem après	Consorci de la Costa Brava	soft copy

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site	country	city	author	published	title	source	availability
Castell Platja d'Aro	Spain	Girona	Consorci Costa Brava 2013	2013	Reuse Castell Platja d'Aro	http://www.ccbgi.org/reutilitzacio_fitxa.php?id_municipi=7	online resource
Castell Platja d'Aro	Spain	Girona	Sala & Sala	2003	Estudi de l'evolució dels recursos d'Aigua de la Conca del Ridaura i qualitat ecològica del Riu	Consorci de la Costa Brava	soft copy
Llançà	Spain	Girona	personal infomation		personal information	personal information	unavailable
Llançà	Spain	Girona	Consorci Costa Brava 2013	2013	Reuse Llança	http://www.ccbgi.org/reutilitzacio_fitxa.php?id_municipi=10	online resource
Palamos	Spain	Girona	Consorci Costa Brava 2013	2013	Reuse Palamos	http://www.ccbgi.org/reutilitzacio_fitxa.php?id_municipi=14	online resource
Port de la Selva	Spain	Girona	Consorci Costa Brava 2013	2013	Reuse El Port de la Selva	http://www.ccbgi.org/reutilitzacio_fitxa.php?id_municipi=18	online resource
Gracia-Morenita	Spain	Gracia-Morenita	Diaz et al.	2002	Lessons from groundwater recharge projects in Spain	In: Dillon (ed) (2002): Management of Aquifer Recharge for Sustainability: Proceedings of the 4th International Symposium on Artificial Recharge of Groundwater, Adelaide, Australia, p. 393-398	hard copy
Guadix	Spain	Guadix	Diaz et al.	2002	Lessons from groundwater recharge projects in Spain	In: Dillon (ed) (2002): Management of Aquifer Recharge for Sustainability: Proceedings of the 4th International Symposium on Artificial Recharge of Groundwater, Adelaide, Australia, p. 393-398	hard copy
Mancha Real	Spain	Mancha Real	Diaz et al.	2002	Lessons from groundwater recharge projects in Spain	In: Dillon (ed) (2002): Management of Aquifer Recharge for Sustainability: Proceedings of the 4th International Symposium on Artificial Recharge of Groundwater, Adelaide, Australia, p. 393-398	hard copy
El Señorío	Spain	Marbella	Bueso et al.	2005	Dispositivo de recarga artificial en el acuífero plioceno de la unidad hidrogeológica Marbella-Estepona. Marbella (Málaga) (Abstract in English)	Publicaciones del Instituto Geológico y Minero de España. Serio: Hidrogeología y Aguas Subterráneas 17, p. 439-444	unavailable
river Esgueva	Spain	River Esgueva	Diaz et al.	2002	Lessons from groundwater recharge projects in Spain	In: Dillon (ed) (2002): Management of Aquifer Recharge for Sustainability: Proceedings of the 4th International Symposium on Artificial Recharge of Groundwater, Adelaide, Australia, p. 393-398	hard copy

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river Guadalquivir floodplain	Spain	River Guadalquivir	Diaz et al.	2002	Lessons from groundwater recharge projects in Spain	In: Dillon (ed) (2002): Management of Aquifer Recharge for Sustainability: Proceedings of the 4th International Symposium on Artificial Recharge of Groundwater, Adelaide, Australia, p. 393-398	hard copy
river Oja	Spain	River Oja	Diaz et al.	2002	Lessons from groundwater recharge projects in Spain	In: Dillon (ed) (2002): Management of Aquifer Recharge for Sustainability: Proceedings of the 4th International Symposium on Artificial Recharge of Groundwater, Adelaide, Australia, p. 393-398	hard copy
Cubeta de Santiuste de San Juan Bautista	Spain	Segovia	Escalante & Ovejero		Cinco años de recarga artificial en el acuífero de la Cubeta de Santiuste (Segovia)	DINA-MAR	soft copy
Cubeta de Santiuste de San Juan Bautista	Spain	Segovia	Escalante & Gutierrez	2002	Hydrogeological studies preceding artificial recharge at Los Arenales. Duero basin, Spain.	In: Dillon (ed) (2002): Management of Aquifer Recharge for Sustainability: Proceedings of the 4th International Symposium on Artificial Recharge of Groundwater, Adelaide, Australia, p. 533-536	hard copy
Seville	Spain	Seville	Diaz et al.	2002	Lessons from groundwater recharge projects in Spain	In: Dillon (ed) (2002): Management of Aquifer Recharge for Sustainability: Proceedings of the 4th International Symposium on Artificial Recharge of Groundwater, Adelaide, Australia, p. 393-398	hard copy
Carracillo	Spain	Valladolid	Lopez et al.		Recarga artificial del acui fero de los arenales en la comarca d "eEl Carracillo" (Segovia)"	DINA-MAR	soft copy
Carracillo	Spain	Valladolid	Escalante & Gutierrez	2002	Hydrogeological studies preceding artificial recharge at Los Arenales. Duero basin, Spain.	In: Dillon (ed) (2002): Management of Aquifer Recharge for Sustainability: Proceedings of the 4th International Symposium on Artificial Recharge of Groundwater, Adelaide, Australia, p. 533-536	hard copy
Dösebacke	Sweden	Dösebacke	Kuster et al.	2010	Fate of selected pesticides, estrogens, progestogens and volatile organic compounds during artificial aquifer recharge using surface waters	Chemosphere 79 (8), p. 880-886	soft copy

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Dösebacke	Sweden	Dösebacke	Lundh et al.	2005	Hydrogeology and water treatment perfomance of the Dösebacka artificial recharge plant - the basis for an efficient system for early warning	In: UNESCO IHP (2006): Recharge systems for protecting and enhancing groundwater resources, Proceedings of the 5th International Symposium on Management of Aquifer Recharge ISMAR5, Berlin, Germany, p. 825-832	soft copy
Dösebacke	Sweden	Dösebacke	Lynggaard-Jensen	2005	Introduction, ArtDemo Overview and Demonstration Sites	In: ArtDemo – Artificial Recharge Demonstration, Project Publications Scientific Report, Project - 5th Framework Programme of the EU Environment and sustainable development	hard copy
Eksjö	Sweden	Eksjö	Eksjö Energi Ltd.	2004	Vatten & Avlopp	http://www.eksjoenergi.se/template1.asp?gid=5	online resource
Eksjö	Sweden	Eksjö	Bowen	1986	Groundwater, 2. Edition	Elsevier Aplied Science Publishers	unavailable
Hyndevad	Sweden	Eskilstuna	Bowen	1986	Groundwater, 2. Edition	Elsevier Aplied Science Publishers	unavailable
Hyndevad	Sweden	Eskilstuna	Eskilstuna Energi & Miljö		Hyndevads Vattenverk	http://www.eem.se/privat/vatten-avlopp/hyndevads-vattenverk/	online resource
Örby	Sweden	Helsingborg	Bowen	1986	Groundwater, 2. Edition	Elsevier Aplied Science Publishers	unavailable
Örby	Sweden	Helsingborg	Gramstadt	2004	What are the benefits of the Örby recharge activity to the western region of Scania?	Interreg III B project - "Decision Support", Lund University	soft copy
Katrineholm	Sweden	Katrineholm	Kristinehamns Kommun		Vatten & avlopp	http://www.kristinehamn.se/boende-miljo/vatten-avlopp	online resource
Katrineholm	Sweden	Katrineholm	Bowen	1986	Groundwater, 2. Edition	Elsevier Aplied Science Publishers	unavailable
Katrineholm	Sweden	Katrineholm	Malmberg water treatment		Water treatment from offering to commissioning	http://www.malmberg.se/en/water_treatment_1/water_treatment_waste_water_treatment	online resource
Bergsjön	Sweden	Kristinehamn	Malmberg water treatment		Water treatment from offering to commissioning	http://www.malmberg.se/en/water_treatment_1/water_treatment_waste_water_treatment	online resource
Bergsjön	Sweden	Kristinehamn	Bowen	1986	Groundwater, 2. Edition	Elsevier Aplied Science Publishers	unavailable
Bergsjön	Sweden	Kristinehamn	Kristinehamns Kommun		Vatten & avlopp	http://www.kristinehamn.se/boende-miljo/vatten-avlopp	online resource
Landskrona	Sweden	Landskrona	Bowen	1986	Groundwater, 2. Edition	Elsevier Aplied Science Publishers	unavailable
Luleå	Sweden	Luleå	Todd	1954	Annoted bibliography on artificial recharge of groundwater through 1954	Geological survey water-supply	soft copy
Luleå	Sweden	Luleå	Bowen	1986	Groundwater, 2. Edition	Elsevier Aplied Science Publishers	unavailable
Grevie	Sweden	Malmö	Bowen	1986	Groundwater, 2. Edition	Elsevier Aplied Science Publishers	unavailable

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Grevie	Sweden	Malmö	Johannson et al.	2006	Groundwater model, Mike She, of the salt water distribution in Analpsströmmen, southern Sweden	SWIM-SWICA Joint Saltwater Intrusion Conference	soft copy
Södertälje	Sweden	Södertälje	Bowen	1986	Groundwater, 2. Edition	Elsevier Aplied Science Publishers	unavailable
Uppsala	Sweden	Uppsala	Hjerpe	2005	Sustainable Development and Urban Water Management: Linking Theory and Practice of Economic Criteria	Linköping Studies in Arts and Science (322)	soft copy
Uppsala	Sweden	Uppsala	Sidenvall		Fossil groundwater of marine origin in the Uppsala area, Sweden	Salt Water Intrusion Meeting (SWIM)	soft copy
Västerbotten	Sweden	Västeräs	Svensson	2007	Mobilisation of geogenic arsenic into groundwater in Västerbotten County, Sweden	UPTEC W07 025	online resource
Västerbotten	Sweden	Västeräs	Bowen	1986	Groundwater, 2. Edition	Elsevier Aplied Science Publishers	unavailable
Lange Erlen	Switzerland	Basel	Cabane et al.	2005	Ein weltweit einzigartiges System. Die Grundwasseranreicherungsanlage in der Langen Erlen	Klassenpartnerschaft Kooperative Gesamtschule Wilhelm von Humboldt und Gymnasium Oberwil	soft copy
Lange Erlen	Switzerland	Basel	Rüetschi & Wülser	1999	Die künstliche Grundwasseranreicherung der Wasserversorgung Basel	GeoServe GmbH	soft copy
Lange Erlen	Switzerland	Basel	Rüetschi	2004	Basler Trinkwassergewinnung in den Langen Erlen : biologische Reinigungsleistungen in den bewaldeten Wässerstellen	Universität Basel	soft copy
Lange Erlen	Switzerland	Basel	Industrielle Werke Basel (IWB)	2012	Untersuchungsergebnisse Trinkwasserqualität im Jahre 2012 Einzelparameter Trinkwasserqualität im Jahre 2012Untersucch	Industrielle Werke Basel (IWB)	soft copy
Lange Erlen	Switzerland	Basel	Industrielle Werke Basel (IWB)		Trinkwasser-Versorgung	http://www.iwb.ch/de/privatkunden/trinkwasser/trinkwasser-versorgung/	online resource
Lange Erlen	Switzerland	Basel	GEOServe GmbH	2012	Das Basler System. Nachhaltige und ökologische Trinkwassergewinnung	GeoServe GmbH	soft copy
Muttenzer Hard	Switzerland	Basel	Hardwasser AG		rheinwasser hardwasser trinkwasser	http://www.hardwasser.ch/index.php?id=11	online resource
Muttenzer Hard	Switzerland	Basel	GEOServe GmbH	2012	Das Basler System. Nachhaltige und ökologische Trinkwassergewinnung	GeoServe GmbH	soft copy
Muttenzer Hard	Switzerland	Basel	Industrielle Werke Basel (IWB)	2008	Vom Rohwasser zum Trinkwasser	http://www.iwb.ch/de/wasser/versorgung/produktion.php	unavailable

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River Thur	Switzerland	Frauenfeld	Hoehn & Scholtis	2010	Exchange between a river and groundwater, assessed with hydrochemical data	Hydrology and Earth System Sciences Discussions 7, p. 9023-9042	soft copy
Vessy	Switzerland	Geneva	de los Cobos	2002	The aquifer recharge system of Geneva, Switzerland: a 20 year successful experience	In: Dillon (ed) (2002): Management of Aquifer Recharge for Sustainability: Proceedings of the 4th International Symposium on Artificial Recharge of Groundwater, Adelaide, Australia, p. 49-52	hard copy
Vessy	Switzerland	Geneva	de los Cobos	2007	Impacts of a long-term shutting down on the aquifer recharge management. Case of the aquifer recharge of geneva, Switzerland.	In: Fox (ed.) (2007): ISMAR 6 Proceedings: Management of aquifer recharge for sustabainibility, p. 296-306	soft copy
Arve	Switzerland	Geneve	Furrer et al.	2000	Wasserförderung und -aufbereitung im Rheineinzugsgebiet	Internationale Arbeitsgemeinschaft der Wasserwerke im Rheineinzugsgebiet (IAWR). Rheinthemen (2)	soft copy
Hardwald	Switzerland	Pratteln	Hardwasser AG		rheinwasser hardwasser trinkwasser	http://www.hardwasser.ch/index.php?id=1 1	online resource
Hardwald	Switzerland	Pratteln	Furrer et al.	2000	Wasserförderung und -aufbereitung im Rheineinzugsgebiet	Internationale Arbeitsgemeinschaft der Wasserwerke im Rheineinzugsgebiet (IAWR). Rheinthemen (2)	soft copy
Birstal	Switzerland	Reinach	Furrer et al.	2000	Wasserförderung und -aufbereitung im Rheineinzugsgebiet	Internationale Arbeitsgemeinschaft der Wasserwerke im Rheineinzugsgebiet (IAWR). Rheinthemen (2)	soft copy
Birstal	Switzerland	Reinach	Wasserwerke Reinach und Umgebung (WWR)		Wasserwerke Reinach und Umgebung	http://www.wwr.ch/angebot-und-qualitaet/der-w eg-des-trinkwassers/	online resource
Schaffhausen	Switzerland	Schaffhausen	Furrer et al.	2000	Wasserförderung und -aufbereitung im Rheineinzugsgebiet	Internationale Arbeitsgemeinschaft der Wasserwerke im Rheineinzugsgebiet (IAWR). Rheinthemen (2)	soft copy
Linsental	Switzerland	Winterthur	Stadtwerk Winterthur	2013	Wasserversorgung	http://stadtwerk.winterthur.ch/angebot/w asser/wasserversorgung/	online resource

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Linsental	Switzerland	Winterthur	Grischek et al.	2002	Bank filtration in Europe - An overview of aquifer conditions and hydraulic controls	In: Dillon (ed.) (2002): Management of Aquifer Recharge for Sustainability: Proceedings of the 4th International Symposium on Artificial Recharge of Groundwater, Adelaide, Australia, p. 485-488	soft copy
Hardhof	Switzerland	Zurich	Gelsenwasser		Wasserwerk Stiepel	http://www.gelsenwasser.de/index.php?id=stiepel	online resource
Hardhof	Switzerland	Zurich	Wasserversorgung Zürich	2008	Das Grundwasserwerk Hardhof - Wie Grundwasser zu Trinkwasser wird.	Wasserversorgung Zürich	soft copy
Hardhof	Switzerland	Zurich	Wasserversorgung Zürich	2011	Jahresbericht 2011 Grudnwasser Hardhof	Wasserversorgung Zürich	soft copy
Hardhof	Switzerland	Zurich	Grischek et al.	2002	Bank filtration in Europe - An overview of aquifer conditions and hydraulic controls	In: Dillon (ed.) (2002): Management of Aquifer Recharge for Sustainability: Proceedings of the 4th International Symposium on Artificial Recharge of Groundwater, Adelaide, Australia, p. 485-488	soft copy
Derby	United Kingdom of Great Britain and Northern Ireland	Derby	Ray et al.	2003	Introduction	In: Ray et al. (eds.) (2003): Riverbank Filtration - Improving Source-Water Quality, Kluwer Academic Publishers, p. 1-15	unavailable
Horton Kirby	United Kingdom of Great Britain and Northern Ireland	East of London	British Geological Survey	2002	ASR UK: Elucidating the Hydrogeological Issues associated with Aquifer Storage and Recovery in the UK	British Geological Survey, Report No. CR/02/156/N, p. 54	soft copy
Horton Kirby	United Kingdom of Great Britain and Northern Ireland	East of London	Riches et al.	2008	Hydrogeochemistry of Aquifer Storage and Recovery in the Lower Greensand (London, UK) for Seasonal and Drought Public Supply	In: Fox (ed.) (2007): ISMAR 6 Proceedings: Management of aquifer recharge for sustabainibility, p. 198-208	soft copy
Fochabers	United Kingdom of Great Britain and Northern Ireland	Fochabers	Grischek et al.	2002	Bank filtration in Europe - An overview of aquifer conditions and hydraulic controls	In: Dillon (ed.) (2002): Management of Aquifer Recharge for Sustainability: Proceedings of the 4th International Symposium on Artificial Recharge of Groundwater, Adelaide, Australia, p. 485-488	soft copy

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Gatehampton	United Kingdom of Great Britain and Northern Ireland	Gatehampton	Grischek et al.	2002	Bank filtration in Europe - An overview of aquifer conditions and hydraulic controls	In: Dillon (ed.) (2002): Management of Aquifer Recharge for Sustainability: Proceedings of the 4th International Symposium on Artificial Recharge of Groundwater, Adelaide, Australia, p. 485-488	soft copy
Gatehampton	United Kingdom of Great Britain and Northern Ireland	Gatehampton	Bao Son	2010	Role of Riverbank Filtration in the Attenuation of Herbicides	PhD thesis	soft copy
Glasgow	United Kingdom of Great Britain and Northern Ireland	Glasgow	Ray et al.	2003	Introduction	In: Ray et al. (eds.) (2003): Riverbank Filtration - Improving Source-Water Quality, Kluwer Academic Publishers, p. 1-15	unavailable
Lee Valley and another	United Kingdom of Great Britain and Northern Ireland	London	Schijven et al.	2002	Removal of Pathogens, Surrogates, Indicators and Toxins using Riverbank Filtration	In: Ray et al. (eds.) (2003): Riverbank Filtration - Improving Source-Water Quality, Kluwer Academic Publishers, p. 73-116	hard copy
Newark	United Kingdom of Great Britain and Northern Ireland	Newark	Ray et al.	2003	Introduction	In: Ray et al. (eds.) (2003): Riverbank Filtration - Improving Source-Water Quality, Kluwer Academic Publishers, p. 1-15	unavailable
Nottingham	United Kingdom of Great Britain and Northern Ireland	Nottingham	Barrett et al.	1999	Marker Species for Identifying Urban Groundwater Recharge Sources: A Review and Case Study in Nottingham, UK	Water Resources 33 (14): p. 3083-3097	soft copy
Nottingham	United Kingdom of Great Britain and Northern Ireland	Nottingham	Ray et al.	2003	Introduction	In: Ray et al. (eds.) (2003): Riverbank Filtration - Improving Source-Water Quality, Kluwer Academic Publishers, p. 1-15	unavailable
Perth	United Kingdom of Great Britain and Northern Ireland	Perth	Ray et al.	2003	Introduction	In: Ray et al. (eds.) (2003): Riverbank Filtration - Improving Source-Water Quality, Kluwer Academic Publishers, p. 1-15	unavailable
Littlehempston	United Kingdom of Great Britain and Northern Ireland	Totnes	Schijven et al.	2002	Removal of Pathogens, Surrogates, Indicators and Toxins using Riverbank Filtration	In: Ray et al. (eds.) (2003): Riverbank Filtration - Improving Source-Water Quality, Kluwer Academic Publishers, p. 73-116	hard copy