

Development of a European MAR catalogue

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INTRODUCTION

The European Managed Aquifer Recharge (MAR) catalogue is developed to:

- provide information platform of key parameters during MAR
- improve trust in the performance of MAR for stakeholder
- identify knowledge gaps
- identify characteristic performance paramter for different MAR types

Materials and Methods

- The catalogue is a relational database (MS ACCESS)
- Data entry, display and modification by graphical user interfaces
- Information acquired from more than 250 research paper, reports or web sites (data entry by DEMEAU partner)
- Quality assured by logical and statistical checks

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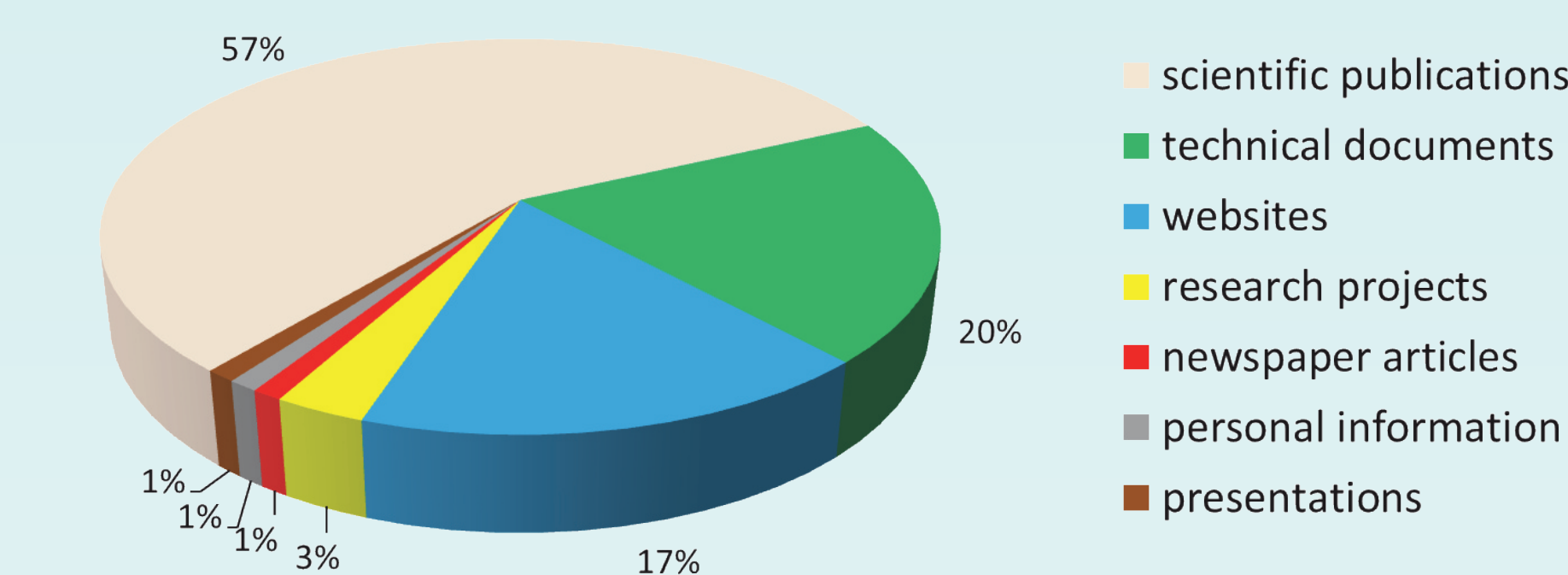


Figure 1: Relative distribution of information sources used in the MAR catalogue

- The MAR catalogue includes 5 main MAR types (subdivided into specific types)
- About 300 MAR sites, 6200 entries and 43 parameter (with different degree of record completeness)
- Parameter include general site information, operational information, water quality, references

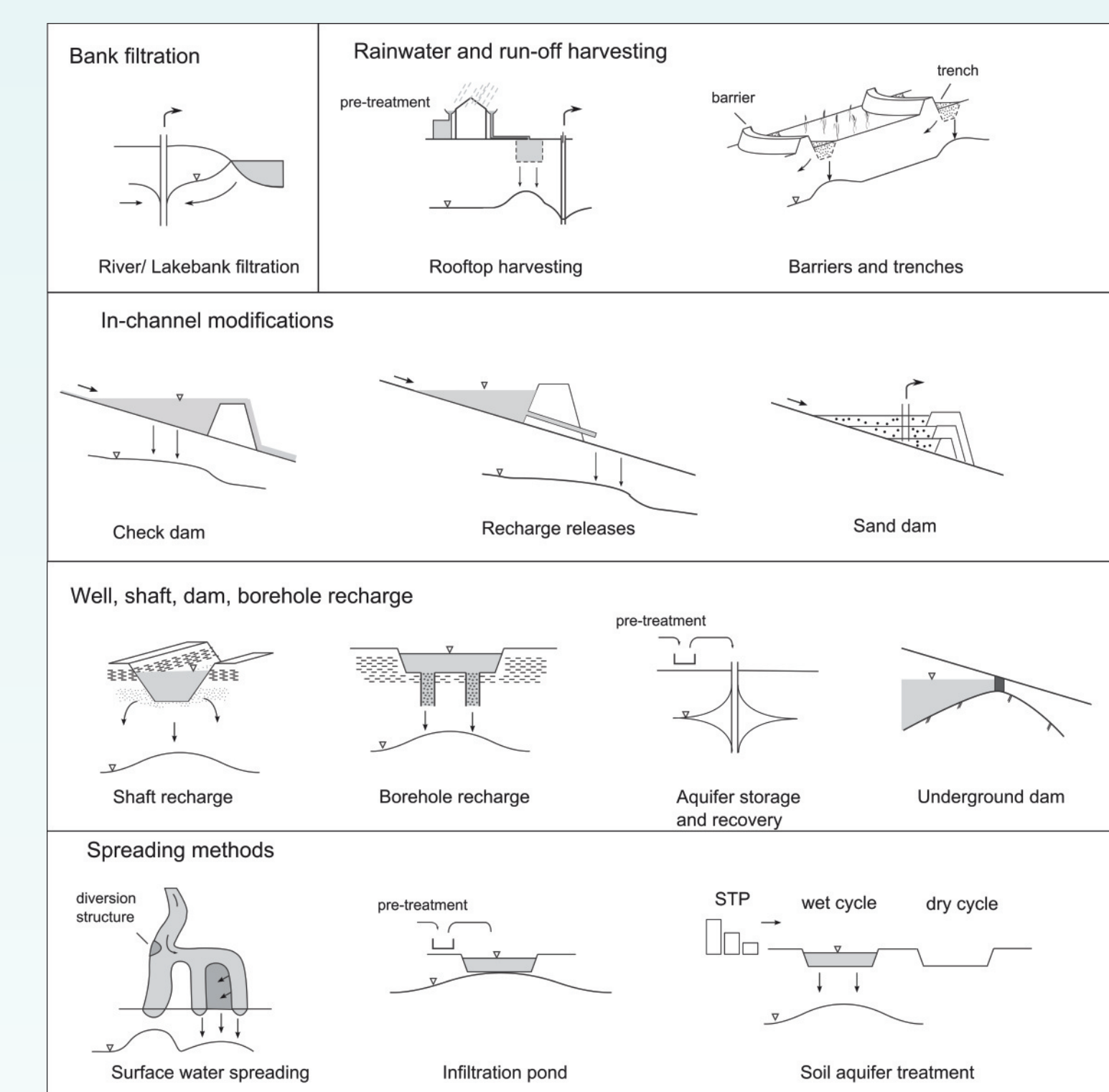
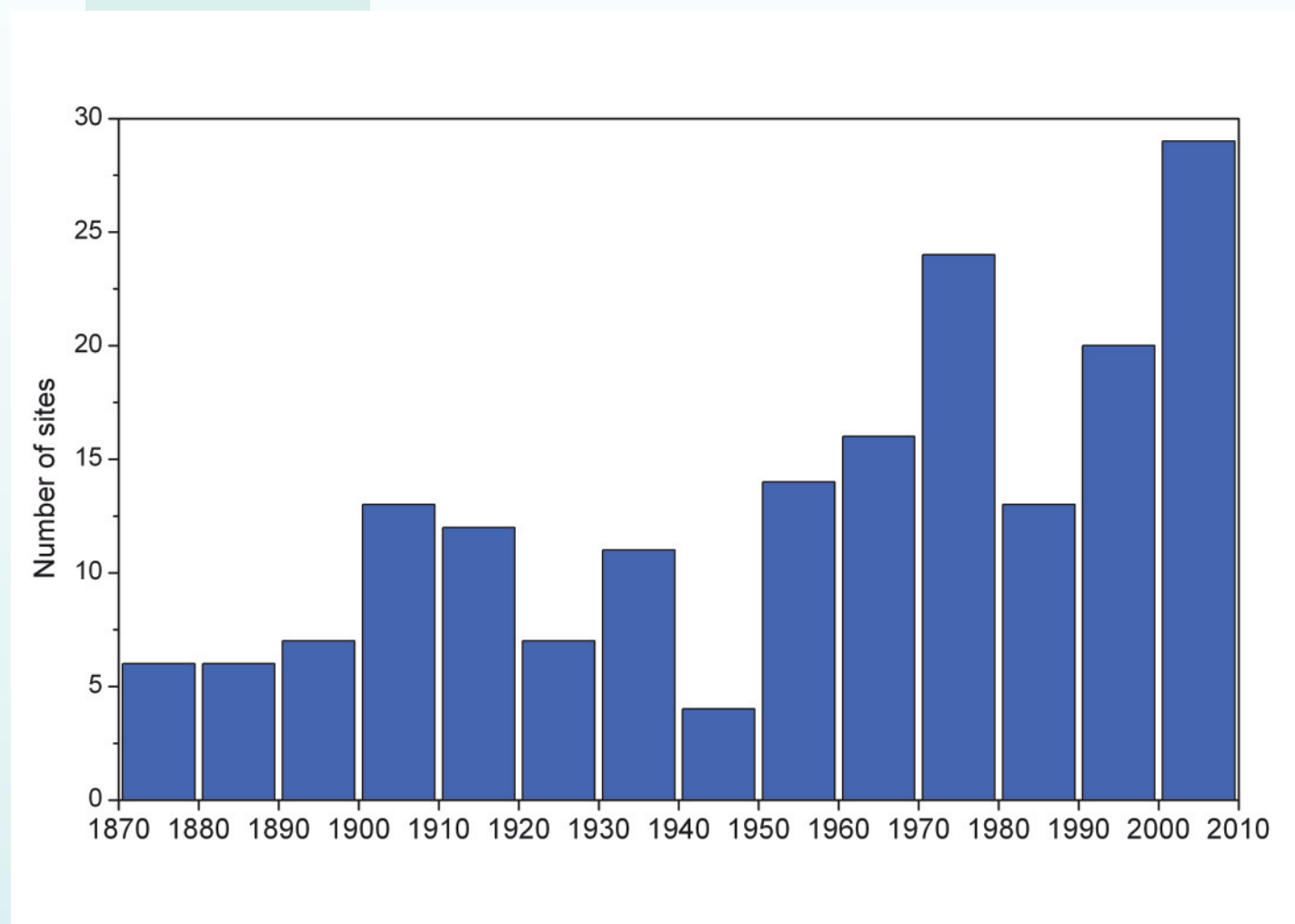


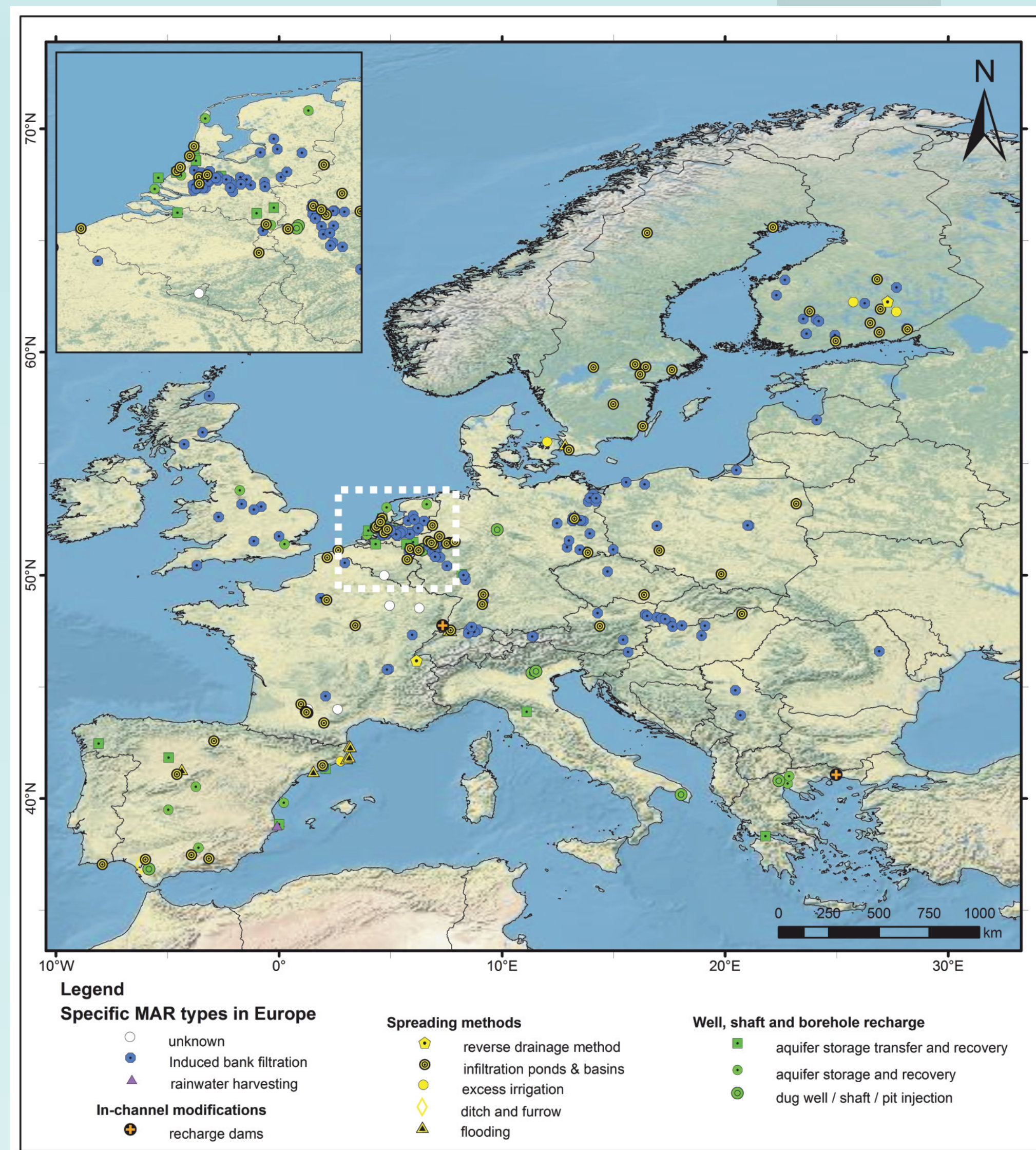
Figure 2: Sketches of MAR types included in the MAR database (modified after Dillon 2005)

RESULTS



- First water works using Bankfiltration and Infiltration ponds in 1870's (mostly in Germany and Netherlands)
- Increasing number of new sites in last decades

Figure 3: Historical development of MAR sites in Europe



- Induced BF (51%), Infiltration ponds (23%)
- BF at Rivers and Lakes in central, east and north Europe
- Infiltration ponds and injection in south Europe (mostly Spain)

Figure 4: Spatial distribution of MAR types in Europe

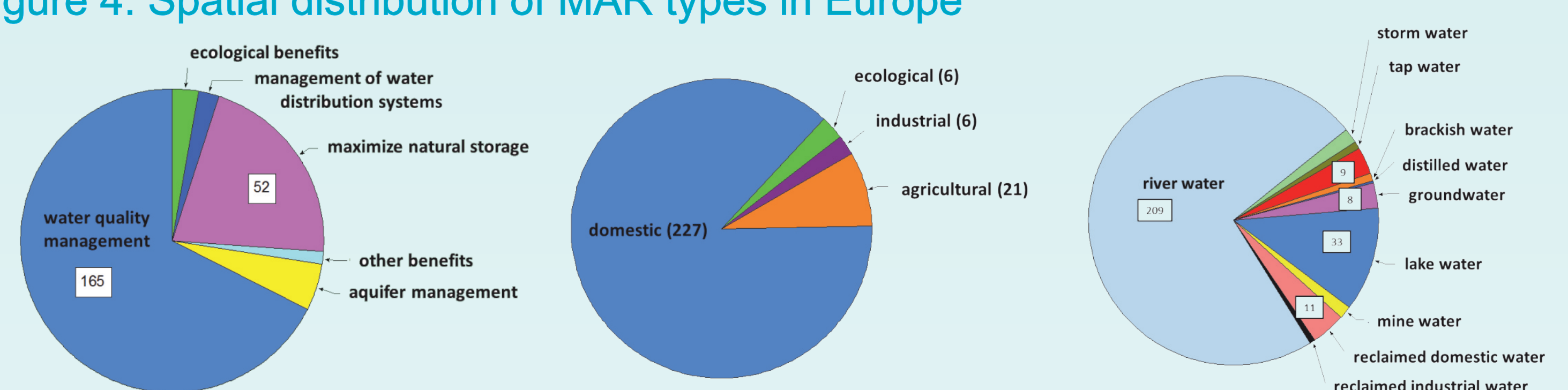


Figure 5: Distribution of objectives (left), final use (middle), source water type (right)

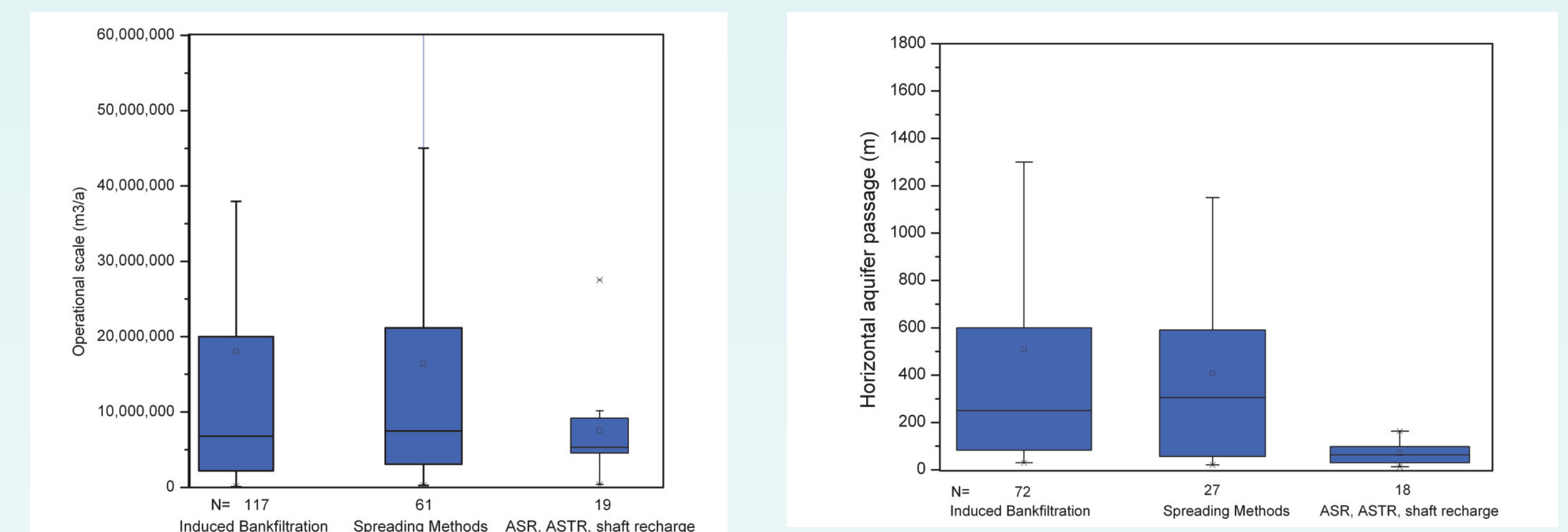


Figure 6: Operational scale (left) and horizontal aquifer passage (right) for main MAR types

If your MAR site is not included, please contribute to the MAR catalogue Entry form available at:
http://demeau-fp7.eu/MAR_database_test or email to hannappel@hydor.de