	EUROPEAN COMMISSION RESEARCH AND INNOVATION DG	Final Report

Project No: 282656

Project Acronym: REFORM

Project Full Name: REstoring rivers FOR effective catchment Management

Final Report

Period covered: from 01/11/2011 **to** 31/10/2015

Start date of project: 01/11/2011

Project coordinator name:
Dr. Tom Buijse

Version: 1

Date of preparation: 20/12/2015

Date of submission (SESAM): 28/12/2015

Project coordinator organisation name:
STICHTING DELTARES

Final Report

PROJECT FINAL REPORT

Grant Agreement number:	282656
Project acronym:	REFORM
Project title:	REstoring rivers FOR effective catchment Management
Funding Scheme:	FP7-CP-IP
Project starting date:	01/11/2011
Project end date:	31/10/2015
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Final Report

Please note that the contents of the Final Report can be found in the attachment.

4.1 Final publishable summary report

Executive Summary

The assessment of the 1st River Basin Management Plans indicated that 40% of European rivers are affected by hydromorphological (HYMO) pressures caused predominantly by hydropower, navigation, agriculture, flood protection and urban development. Against this background, REFORM (REstoring rivers FOR effective catchment Management, http://reformrivers.eu/) has generated substantial outputs to support WFD implementation: over 30 deliverables and 60 scientific publications. For application in river management relevant results are summarised user-friendly in the REFORM wiki. Furthermore, the outcomes of REFORM has been discussed and disseminated through stakeholder workshops, an international scientific conference, a summer school, numerous presentations, newsletters, policy briefs and discussion papers. In summary the key results and conclusions are:
Hydromorphological assessment should consider physical processes and appropriate temporal and spatial aspects beyond river restoration project boundaries and project life span. For this, REFORM developed an open-ended hydromorphology framework incorporating multi-scale spatial and temporal aspects. It aids users in developing understanding of the morphology and dynamics of river reaches and their causes. The Morphological Quality Index (MQI) is the method recommended by REFORM for assessing river condition. The method is extremely useful for analysing and interpreting critical problems and causes of alteration.
Vegetation and plants can play a cost-effective and significant role as physical ecosystem engineers for river restoration. Riparian and floodplain ecosystems are not subject to extensive monitoring but are crucial to river morphodynamics and ecology. Direct measurements of hydromorphological processes and riparian vegetation are likely to be better in assessing hydromorphological degradation than in-stream biota.
Current biological sampling methods are not appropriate to capture HYMO impacts and they underestimate the influence of HYMO on biota. There is a need to develop new biota sampling methods that are more sensitive to HYMO impacts. This includes sampling of habitats (e.g. the riparian) that are in particular impacted by HYMO degradation. Hydromorphological assessment covering the entire range from high to bad should be a quality element in its own right in the WFD status assessment.
Restoration projects should adopt a synergistic approach with other resource users to secure win-win scenarios and have well-defined quantitative success criteria e.g. ranging from hydromorphological improvements to the expected beneficial impact on biota and ecosystem services. Application of existing planning and management tools such as PDCA (Plan-Do-Check-Act), DPSIR, setting SMART objectives and BACI monitoring, can substantially enhance the efficiency and effectiveness of restoration.
Cost-benefit analysis can help in prioritizing restoration measures and plans. At present, cost data are too scarce hampering cost-benefit analysis of restoration measures. There is a need to gather and incorporate cost information in a more systematic way.
Restoration had positive effects even in small restoration projects. However, other studies indicate that exceptionally large projects indeed have higher effects. Restoration pays - it increases ecosystem services, which should be considered in the assessment of river restoration projects. River restoration benefits not only aquatic biota. Terrestrial and semi-aquatic species benefit and should be considered in assessments. It is important to select measures that restore specific limiting habitats at relevant scales. Hydromorphological restoration has an overall positive effect on biota, but effects vary. It is thus essential to monitor and adjust restoration projects.

Summary description of project context and objectives

Europe is characterized by a dense network of rivers that provide essential ecosystem services. From an ecological perspective, rivers and their floodplains form some of the most diverse ecosystems worldwide. Over time, use of rivers by humans has led to severe degradation of water quality and

ecosystem functions. In the 20th century water quality in major European rivers was so poor they could no longer support higher life. Huge investment in waste water treatment followed improving water quality across the continent. However, rivers remain degraded; notably hydrology and habitats have been altered, while eutrophication, toxic substances and emerging stressors contribute to the complex of pressures affecting our rivers. Thus there is a great need to better understand and predict the costs and benefits of future river restoration

In 2000, the EU Water Framework Directive (WFD, EC 2000) was established as the principal legal instrument to manage and restore aquatic ecosystems. It fundamentally changed water management in all EU states by using ecosystem health as the basis for decisions. “Biological Quality Elements” BQE (e.g. fish, benthic invertebrates or aquatic flora), which integrate the effects of all stressors, are now used to assess the status of rivers. Initial WFD implementation and monitoring showed that the majority of rivers still suffer from degradation, despite successful efforts to tackle pollution. Based on these findings, EU states have drafted River Basin Management Plans with restoration measures focusing on restoring river hydrology and morphology. The assessment of the 1st River Basin Management Plans indicated that 40% of European rivers are affected by hydromorphological (HYMO) pressures caused predominantly by hydropower, navigation, agriculture, flood protection and urban development. As a consequence, there is increasing emphasis in Europe on river restoration driven by demands of the Water Framework Directive (WFD). The programmes of measures of EU Member States focus, among other issues, on restoring river hydrology and morphology. Their implementation requires substantial investment in these measures, but there still remains a great need to better understand and predict the costs and benefits of future river restoration. The benefits of wastewater treatment were based on well understood system responses. In contrast, ecological response to hydromorphological restoration is complex and poorly understood for the following reasons:

• Characterisation of HYMO status focuses on pattern not processes: data collected represent small spatial scales, with relevant larger spatial scales or long term impacts neglected.
• How HYMO change affects Biological Quality Elements (BQE; fish, invertebrates, macrophytes) and ecological functioning is poorly understood and is particularly challenging for multi-pressure systems.
• Exploitation of knowledge is weak between scientists and restoration practitioners.
• Unlike water quality improvement, HYMO restoration implies a demand for either space or resources, i.e. land or water. Mutual interactions and benefits for ecosystems and their goods and services are not sufficiently understood.
• Restoration projects have failed to achieve their objectives. This alienates public opinion and limits future participation and support. Risk analysis approaches are required in which objectives are explicit and used to assess project success.

Against this background, REFORM (REstoring rivers FOR effective catchment Management, http://reformrivers.eu/) brought together 26 renowned research institutes and applied partners from 15 European countries to generate tools for cost-effective restoration of river ecosystems, and for improved monitoring of the biological effects of physical change by investigating natural, degradation and restoration processes in a wide range of river types across Europe (Figure 3). This with the aim to support member status with drafting the 2nd and future River Basin Management Plans (RMBPs) for the implementation of the WFD. To allow full use, all results of REFORM will be made available online in the public domain of the project website.
The consortium of partners in REFORM represents a wide range of disciplines: hydrology; hydraulics; geomorphology; ecology; socio-economics; and water management. The project consortium is supported by an Advisory Board of 8 independent representatives of international and national stakeholders, including river basin managers, representatives of the economic sectors relevant to river restoration and lead scientists in river ecosystem restoration.
Aims of REFORM are (1) to provide a framework for improving the success of hydromorphological restoration measures and (2) to assess more effectively the state of rivers, floodplains and connected groundwater systems. The restoration framework addresses the relevance of dynamic processes at various spatial and temporal scales, the need for setting end-points, analysis of risks and benefits, integration with other societal demands (e.g. flood protection and water supply), and resilience to climate change. The workplan is organized in three modules: (1) natural processes, (2) degradation, (3) restoration (Figure 2). Data from monitoring programmes and restoration projects will be pooled

and linked with landscape-scale hydromorphological and physiographic data and catchment models. Targeted field and experimental studies using common protocols will fill data gaps on the role of scale in restoration success. A wide range of statistical modeling approaches will improve indicators for hydromorphological change and factors determining restoration success. All work packages are multidisciplinary and will feed into products for application in river basin management, e.g. guidelines for successful restoration and a web-based tool for exchanging experiences with river restoration measures facilitated and enhanced through consultation with stakeholders (Figure 2). In addition to its impact on the RBMPs, REFORM will provide guidance to other EU directives (groundwater, floods, energy from renewable resources, habitats) to integrate their objectives into conservation and restoration of rivers as sustainable ecosystems. REFORM's objectives are grouped into three categories: application, research and dissemination.

APPLICATION
• To select WFD compliant hydromorphological and biological indicators for cost-effective monitoring that characterise the consequences of physical degradation and restoration in rivers and their services.
• To evaluate and improve practical tools and guidelines for the design of cost-effective hydromorphological restoration and mitigation measures for practitioners and end-users.

RESEARCH
• To review existing data and information on hydromorphological river degradation andrestoration, underlying physical and ecological processes, their interactions and ecosystem services.
• To develop a process-based, multi-scaled hydromorphological framework on European rivers and floodplains and connected groundwaters that is relevant to river ecology and suitable for hydromorphological monitoring.
• To understand how hydromorphological pressures interact with other pressures that may constrain successful restoration.
• To assess the significance of scaling effects on the effectiveness of different adaptation, mitigation and restoration measures to improve ecological status or potential of rivers, floodplains and connected groundwaters.
• To develop instruments to analyse risk and assess benefits of successful river restoration, including resilience to climate change and relations to other socio-economic activities.

DISSEMINATION
• To increase awareness and appreciation for the need, potential and benefits of river restoration through active involvement of and dissemination of project outputs to policymakers, practitioners and stakeholders.

REFORM ambition was to give strong emphasis from its outset on directly engaging with stakeholders at different levels to receive feedback on its research programme as well as the applications and tools to be ultimately delivered. Key bodies are the ECOSTAT working group of the WFD Common Implementation Strategy, the European Centre for River Restoration (http://www.ecrr.org/) and the LIFE+ project RESTORE (https://restorerivers.eu), but at the same time planning was open to take advantage of new opportunities such as national stakeholder workshops. Interaction was scheduled throughout the whole duration of the project. The plans and initial outcomes of REFORM are to be discussed and disseminated through an EU-wide stakeholder workshop. The final outcome of REFORM to be presented through an international scientific conference, a summer school and a final EU-wide stakeholder workshop. To inform interested audience a project website to be launched to give all project results and 6-monthly newsletters, policy briefs and policy discussion papers were scheduled to present new results both from REFORM and other relevant projects.

Relevance to EU policy
REFORM specifically seeks to support the River Basin Management Plans (RBMPs) for implementation of the WFD. WFD implementation will benefit from a better understanding of ecological-hydromorphological linkages and processes in order to improve river basin characterisation, status assessment, monitoring and the selection and assessment of measures and their effectiveness.
In planning flood protection measures to implement the Floods Directive, restoration measures

through improved retention, storage and discharge (e.g. retention in tributaries and upstream wetlands, storage in enlarged active floodplains, discharge through side channels) may play a significant role in lowering flood risks. In measure selection, it is important to consider synergies between restoration and flood protection.
In 2013, the Commission issued a Communication aiming to promote green infrastructure in water and adaptation policy, and called upon planners to use natural measures or a combination of engineered structures and natural solutions more proactively. River restoration is particularly relevant to green infrastructures for reducing flood risk, especially in terms of floodplain restoration measures.
REFORM's results are also relevant to the EU Biodiversity Strategy whose targets include restoring at least 15% of degraded ecosystems by 2020, by integrating green infrastructure into land-use planning. Restoration measures can play a significant role in the achievement of biodiversity protection objectives for specific habitats and species (according to the Birds and Habitats Directives).

Description of main S & T results/foregrounds

The main S&T results are presented in line with the various phases of river basin management planning (RBMP). They are presented as the key conclusions and recommendations of the REFORM project, which are relevant for policy-makers involved in river basin management planning. Illustrations are given in a separate document with supporting information. References to figures refer to this supporting document.
CHARACTERISATION "HOW DOES MY RIVER WORK?"
Knowing how a river works is essential for achieving success in river restoration. It should be the first step in any restoration process, and the basis for any future river basin management plan. Important aspects are hydromorphology, the role of vegetation, and ecosystem services.
• Hydromorphological assessment
o Hydromorphology Framework
o Hydromorphological assessment methods
o Use of Remote sensing
• Role of vegetation and floodplain ecosystems

STATUS MONITORING AND ASSESSMENT: "WHAT'S WRONG?"
The second stage of river basin planning is to assess what is wrong. REFORM researched methods for assessing the hydromorphology (HYMO) and biological elements. REFORM focused on linking hydromorphology to biology, notably water plants, macro-invertebrates (aquatic insects) and fish
• Impact of hydromorphological pressures;
• Improved coupling between hydromorphology and biota;
• Groundwater – river interactions

PROGRAMMES AND MEASURES, INDIVIDUAL RESTORATION PROJECTS "HOW TO IMPROVE?"
An integrated planning framework supports the design of river restoration measures. This framework is cyclic for both entire river basins (catchments) and individual projects.
• Planning stream and river restoration
• Cost-benefit analysis of restoration measures
• Risk and uncertainties in river rehabilitation
• Linking e-flows to sediment dynamics
• Restoration measures at project level and their effects
• Fact sheets for restoration projects

Hydromorphological assessment

Effective river restoration calls for an understanding of how rivers work. A key step for this is hydromorphological characterization, looking at rivers from a perspective that discloses the relevant processes and forms. Hydromorphology is a matter of water and sediment, but also of vegetation interacting with water and sediment. This makes both geomorphological and ecological processes relevant.
• REFORM developed an open-ended Hydromorphology Framework incorporating multi-scale spatial and temporal aspects into river assessment and management. It aids users in developing

understanding of the morphology and dynamics of river reaches and their causes.
• The Morphological Quality Index (MQI) is the method recommended by REFORM for assessing river conditions. The method is extremely useful for analysing and interpreting critical problems and causes of alteration.
• The use of MQI should be implemented for the entire gradient of morphological conditions (not only for high status water bodies).
• Remote sensing data has large potential to support hydromorphological assessment and monitoring of European rivers. Hydromorphological characterisations based on remote sensing are objective, repeatable through time and support large scale planning according to the WFD.
• Hydromorphological assessment should consider physical processes and appropriate temporal and spatial aspects beyond river restoration project boundaries and project life span.

In most EU Member States, the consideration of physical processes remains the main gap in hydromorphological assessment methods. The integrated use of different components of the assessment is limited but is recently increasing. There is a need for more comprehensive process-based hydromorphological assessments that consider the character and dynamics of river reaches and how these are affected by present and past natural and human-induced changes within the catchment as well as the reach (Belletti et al 2015). The core of hydromorphological evaluation should be represented by the morphological and hydrological components. Physical, riparian, and longitudinal fish continuity assessments should provide a further characterisation of the overall stream conditions at selected sites (Figure 10). The REFORM wiki gives a full overview of all reviewed assessment methods.
Within REFORM, two complementary approaches have been proposed for hydromorphological assessment: an open-ended approach - the REFORM Hydromorphology Framework, and a set of more specific hydromorphological assessment procedures, which incorporates a set of clearly defined stages and steps – the REFORM Hydromorphological Assessment Methods.

REFORM Hydromorphology Framework

To date, there has been too strong a reliance on the reach scale in assessing hydromorphology. For sustainable solutions, it is crucial to develop understanding of the functioning of river reaches in a wider spatial context and of the ways in which river reaches have responded to changes in the past. This process-based approach provides understanding of the current and past condition of river reaches and their causes and thus crucial information for forecasting how reaches may change in the future. Hydromorphological conditions need to be placed in a catchment context (to capture the way in which natural influences and human pressures and interventions at their relevant spatial scales influence river reaches) and need to be evaluated over time (to capture impacts of past changes in influences on reaches demonstrated by reach dynamics, trajectories of temporal change, and thus their sensitivity to imposed changes). The REFORM hydromorphology framework allows users to assemble available information, associate it with relevant spatial units and time periods, and so build a process-based understanding of the spatial and temporal influences on reach hydromorphology and dynamics. This understanding can be built into river assessment and management, including consideration of future scenarios (Gurnell et al. 2014a, Gurnell et al. 2015; Figure 7).
The benefits of this framework to WFD implementation include the provision of indicators of hydromorphological conditions which can be derived from commonly measured or freely available datasets, as well as the improved understanding of multi-scale process-based linkages between hydrology, the transfer of sediment, channel and floodplain morphodynamics, and ecology. Furthermore, the delineation of WFD water body boundaries can be integrated into the REFORM framework at the segment scale. The water bodies can be further subdivided into ‘reaches’ using additional geomorphological criteria such as the identification of river (morphological) types.
The REFORM river reach typology is designed for assessing the hydromorphological functioning of individual river reaches and is as such highly relevant for river restoration (Rinaldi et al. 2015b). The relation with the European broad typology (ETC/ICM, 2015), which refers to the (sub)catchment setting of a river in terms of altitude, size and geology, is not straightforward, because that setting does not change in time. In contrast, REFORM river reach types may change in time because they represent the response of the river reaches to processes of flow, sediment and vegetation. Thus the European broad types may contain several reaches of different REFORM types.

REFORM Hydromorphological Assessment Methods

The hydromorphological assessment methods proposed by REFORM combine to provide a specific, comprehensive and synergic morphological assessment based on the integration of three tools, originally developed in Italy and then expanded to other European countries (Rinaldi et al. 2013; Rinaldi et al.2015a; Figure 11).
• The Morphological Quality Index (MQI) is a tool designed to assess the overall morphological condition of a stream reach and to classify its current morphological state.
• The Morphological Quality Index for monitoring (MQIm) is a specific tool for monitoring the tendency of morphological conditions (enhancement or deterioration) in the short term.
• The Geomorphic Units survey and classification System (GUS) is used to characterise the typical assemblage of geomorphic units within the reach.
The three tools, used in concert, can provide an overall assessment of stream reaches which helps to understand their morphological functioning and condition, and thereby guide the identification of appropriate management and restoration actions. The MQI and MQIm assessment includes those hydrological aspects having significant effects on geomorphological processes, whereas the overall changes in the hydrologic regime can be analysed separately by a specific index of hydrological alteration.
Furthermore, most of current hydromorphological methods define reference conditions in terms of a precise channel morphology or a set of channel forms. However, recognising that fluvial systems are dynamic and follow a complex evolutionary trajectory with time implies that a static, well-defined channel geometry is not suitable for defining reference conditions. In the case of the MQI, reference conditions are defined in terms of processes and functions that are expected for a specific morphological typology.
The Morphological Quality Index (MQI) can also be used in a multi-purpose way. The MQI does not only serve hydromorphological assessment to fulfil WFD requirements but it can also support assessments related to the implementation of the Floods and the Habitats Directives.

Remote sensing for river hydromorphological investigation

Over the last decade, technological progress of remote sensing techniques (among others satellite, airplane and UAV (unmanned areal vehicle)) has opened the opportunity to monitor many hydromorphological components of our river systems in a way that is unprecedented. Remote sensing technology is transforming our capacity to analyze river systems by increasing the spatial coverage of the morphological information gathered by field campaigns.
Remote sensing data are integrative and do not substitute traditional river surveys based on expert interpretations, field surveys and historical analysis. Remote sensing data will support conclusions drawn from these sources providing objective, repeatable and comparable information.
The amount of high-resolution remote sensing data on river systems will soon blur further with the coming new satellites (e.g. missions SWOT and Sentinel 3) and the growing availability of flexible acquisition tools such as drones. Remote sensing data over large areas, such as regions and entire countries, will be systematically acquired by satellites of new generation with planned re-acquisition times. Quantitative investigation on typology and diversity of river systems at large scale such as catchment and beyond regional scales will be feasible. Sequential acquisitions of the same area will soon be available opening the way to systematic historical analysis of hydromorphological processes.
Remote sensing data is already available but has been so far too scarcely exploited by water authorities in most Member States. However, it has become obvious that remote sensing data has notable potential to support the hydromorphological assessment and monitoring of European rivers as well as requirements of the WFD (e.g. water body definition, classification of ecological status, definition of heavily modified water bodies) (Bizzi et al., 2015).

Role of vegetation and floodplain ecosystems

Vegetation does not just depend on hydromorphology. It influences hydromorphology too and plays an active role in shaping a river. REFORM carried our research on the reciprocal relations between hydromorphology and vegetation. Understanding these relations can be a major factor in the success or failure of restoration projects
• Existing EU Directives provide a too limited legislative framework for riparian zones and floodplains. Riparian and floodplain ecosystems are not subject to extensive monitoring but are crucial to river morphodynamics and ecology.

• Findings suggest that direct measurements of hydromorphological processes and riparian vegetation are likely to be better in assessing hydromorphological degradation than in-stream biota.
• Vegetation and plants can play a cost-effective and significant role as physical ecosystem engineers for river restoration.

A crucial aspect of hydromorphology that is too often neglected is the influence of vegetation on river channel form and dynamics (Gurnell 2014; O'Hare et al. 2015; Figure 8). Furthermore, riparian vegetation is not included as a biological quality element in WFD status assessment and riparian and floodplain ecosystems are thus not subject to extensive monitoring. Yet research conducted over the last 20 years has clearly shown that riparian vegetation has a fundamental influence on the hydromorphology of rivers and their floodplains. REFORM research has presented new scientific concepts and analyses that clearly demonstrate the importance of riparian and aquatic vegetation as a key physical control on river form and dynamics and a crucial component of river restoration (Gurnell et al. 2014b).

Moreover, the current focus on in-stream biota that are routinely monitored ignores that many of the pronounced effects of degraded hydromorphology relate to the riparian zones and the wider floodplain. Riparian zones are especially important as they influence in-stream processes as well as providing a very diverse habitat for both aquatic and terrestrial organisms. Like the river channel, a healthy riparian zone reflects the dynamic processes to which it is subject, and thus interactions between riparian vegetation and physical processes provide a complex, dynamic physical habitat mosaic across the river channel and its riparian margins. Overall, findings suggest that direct measurements of hydromorphological processes and riparian vegetation are likely to be better in assessing hydromorphological degradation than in-stream biota (Friberg et al, 2015).

REFORM scientists have developed a conceptual model of vegetation- hydromorphological process interactions within river corridors. These interactions drive the development and dynamics of naturally-functioning river channels and their corridors (Gurnell et al., 2014b; Gurnell et al. 2015b). This model links closely to the REFORM hydromorphological framework (Gurnell et al., 2014a) considering interactions laterally as different physical processes dominate from the river channel to the floodplain (e.g. erosion, sediment deposition, inundation), from river source to mouth, and in association with different river types (e.g. braided, meandering). The conceptual model helps recognise features indicative of natural river-floodplain function that may guide restoration and can support our understanding of how rivers may change in response to modification of hydromorphological processes. The model has been tested on several example rivers showing different levels of degradation (Baattrup-Pedersen et al., 2015).

Impact of hydromorphological pressures

European rivers have been altered by means of changing their morphology (straightening and canalisation, disconnecting channels from flood plains, occupying riparian lands, building dams, weirs, bank reinforcements, etc.) to facilitate agriculture and urbanisation, to enable energy production and protection against flooding (Figure 12). Also, water has been abstracted from rivers and their natural flow regime to be used as a resource for irrigation and to supply urban and industrial needs. All these human activities have damaged fluvial habitats and have had severe and significant impacts on the status of the aquatic ecosystems.

A bibliographic review identified the most significant HYMO pressures as well as relevant hydromorphological effects of the different pressure types on fluvial systems across spatial and temporal scales and in particular those that have a significant impact on aquatic biological elements. This review further provided a tool to identify gaps in present HYMO knowledge, which is needed to improve our understanding of the mechanisms that control degradation-restoration processes. To illustrate relevant gaps conceptual schemes have been developed of the interactions between HYMO pressures, the main processes affected and the resulting quantified changes on HYMO variables (Garcia de Jalon 2013; Figures 13 and 14).

The quantitative variables provide the measures of the intensity of the processes and are useful to monitor river changes and to evaluate pressure effects. Whilst the biotic communities typically respond to the status of the variables, sustainable and successful river restoration should address the processes behind which determine the variables' state. Therefore, all pressure specific conceptual schemes developed have been incorporated into one single effect matrix and analyzed using Fuzzy Logic Cognitive Maps (FCM) to identify the most relevant HYMO pressures as well as the most affected processes and variables (Lorenz et al. 2015).

Dynamics of flowing water emerged as the most important hydromorphological process. This was

not surprising, but it still underlines the necessity to rehabilitate a more natural flow regime to improve the hydromorphological status of the rivers and the related biological communities. Vegetation encroachment emerged as second most important process which seems well in line with the natural river typology developed in WP2 and the identified importance of riparian vegetation in shaping riverine landscapes. The next important processes were all related to sediments underlining the key role of bedload transport and sediment dynamics in forming fluvial habitats.
In the wiki fact sheets for 19 different pressures belonging to either water abstractions, flow regulations, River fragmentation or morphological alterations are given.

Improved coupling of hydromorphology to biotic responses

Once we know how our river works, we can assess what is wrong. This regards both hydromorphological quality and biological quality. Based on the outcomes of the REFORM project, we recommend using the hydromorphological assessment method for ecological class assessment directly, circumventing the use of biological indicators. Degradation of quality can be due to hydromorphological pressures, although it is often very difficult to single out the effects of these pressures compared to other pressures in a multi-stressor environment (Figure 15).
• Hydromorphological impacts can take years to fully manifest themselves.
• Fish is the most sensitive biological quality element (BQE) with regard to hydromorphology.
• Macrophytes can be used for assessing hydromorphological degradation in lowland rivers, if a trait-based metric is developed e.g. plants with high overwintering capacity of their vegetative parts showed higher resistance to HYMO stress.
• Current sampling methods are not appropriate to capture HYMO impacts and they underestimate the influence of HYMO on biota. There is a need to develop new biota sampling methods that are more sensitive to HYMO impacts.
• Alternative/new methods using biota (not standardised; not intercalibrated) can be used in investigative monitoring already now to assess HYMO impacts. This includes sampling of habitats (e.g. the riparian) that are in particular impacted by HYMO degradation.
• The proposed REFORM hydromorphological assessment should be a quality element in its own right in the WFD status assessment as BQEs cannot differentiate between different degrees of HYMO degradation with sufficient precision. It should cover the entire range from high to bad ecological status, rather than using BQEs as indicators of HYMO degradation.
Existing metrics have been evaluated for their strength to distinguish the impact of HYMO pressures on the mandatory biological quality elements (BQEs) of the WFD from other stressors (Friberg et al 2013). This showed that fish and macrophytes appear better suited to assess HYMO degradation than diatoms and macroinvertebrates.
Algae appear to be the least suitable of the biological quality elements. As a biological quality element, they primarily relate to very small scales and substrate-specific sampling. Moreover, most methods in Europe use only the algae group of diatoms, and not algae with larger growth forms such as for instance filamentous green algae.
Macroinvertebrates are slightly better as indicators of hydromorphological degradation, but they appear sensitive to multiple stressors. It is thus almost impossible to single out the effects of hydromorphological conditions on community composition. As was the case for algae, macroinvertebrates are usually sampled at a relatively small scale and often on specific substrates, making any linkages to hydromorphological degradation on larger scales spurious.
Macroinvertebrates represent the only biological quality element for which specific metrics have been developed that are sensitive to hydromorphological and hydrological degradation. However, these metrics have not been intercalibrated and tend to respond in manner similar to the response of metrics sensitive to other stressors. Thus macroinvertebrates should be used with care with the majority of currently used metrics and sampling methods: They are good indicators for general river degradation, but most cannot indicate HYMO stress with a necessary degree of certainty. However, there was evidence that traits as macroinvertebrate metrics held some potential to indicate HYMO degradation. Some countries are using related macroinvertebrate metrics, in particular traits related to habitat preferences, for their national assessment systems (e.g. Germany) (Lorenz et al. 2004; http://www.fliessgewaesserbewertung.de/).
Macrophytes show more potential. For certain river types it must be possible to develop robust metrics that will be sensitive to hydromorphological degradation. Additionally, the key role of aquatic and riparian vegetation in shaping hydromorphological processes offers an additional argument for increased focus on this biological quality element in indicator development.

Fish appears to be the most promising biological quality element. It can be used to detect hydromorphological stress, although a need remains to develop more stressor-specific metrics. So even for fish, the BQE which showed most promise, there is a significant amount of work to do before sensitive metrics to HYMO stress can be applied in water management (Figure 9).
The overall lack of clear linkages between the currently used assessment systems (sampling, numeration, identification and metrics) based on the WFD defined BQEs and hydromorphological degradation should initiate a targeted development within the EU on innovative methods and indicators that are sensitive to changes in HYMO conditions (both degradation and restoration).
Current sampling methods are not appropriate to capture HYMO impacts and they underestimate the influence of HYMO on biota. There is a need to develop new biota sampling methods that are more sensitive to HYMO impacts, especially in the interface of rivers and lakes with their floodplain.
Monitoring data are designed to detect change at individual sites through time and can miss some crucial hydromorphological impacts. Revision of some of the monitoring methodologies can help, however adherence to monitoring data alone will not supply knowledge and system understanding (O'Hare et al. 2015).
Water managers therefore still face a significant challenge when diagnosing the reason for not obtaining good ecological status in a water body (Friberg 2014). BQEs with the current sampling methods can primarily inform on the impact of other stressors, in particular organic pollution and eutrophication, which are relevant in multiple stress scenarios. It appears from the analysis undertaken that e.g. eutrophication is a stronger driver of community changes. This is, however, most likely also related to the quality of the HYMO assessments, which in most of the larger data sets were fairly superficial.
Another inherent problem is that dispersal mechanisms are likely to be highly influential, especially in relation to colonisation of physical features and biotopes (Heino, 2013). In many cases, this may de-couple any direct link between local hydromorphology and biota, or at least ensure that any biotic response may lag significantly behind changes in hydromorphology. Previous detailed field studies have shown that habitats that are assessed as being similar can differ markedly with regard to biota and that suitable habitats might not be colonized or colonisation may be severely delayed due to dispersal limitations.
In conclusion, with the current level of knowledge, it remains difficult to use biological quality elements for detecting hydromorphological degradation. Therefore REFORM recommends using the hydromorphological method directly for ecological class assessment, circumventing the use of biological indicators.
Which central HYMO processes need to be addressed? How does biota respond to HYMO degradation and restoration? The dynamics of flowing water emerged as the most important HYMO process in the HYMO pressure/impact system (Wolter et al. 2013). This underlines the necessity to reinstate a more natural flow regime to improve the HYMO status of the rivers and related biological communities. The next most important processes were related to vegetation encroachment (in line with the importance of riparian vegetation in shaping riverine landscapes) and to sediments underlining the key role of bedload transport and sediment dynamics in forming fluvial habitats. Coarse gravels maintained by stream power and flow velocity emerged as key indicators for HYMO integrity with relevance to aquatic organisms. Species preferring or depending on coarse substrates provide specific indicators for HYMO degradation, rehabilitation and integrity (Wolter et al. 2013). A second, rather unspecific, response of biota to hydromorphology emerged from the limitation of species by stream power, i.e. by physical forces of flows. Indirectly related to that is a positive response of species to habitat diversity and habitat complexity providing shelter from high flow velocities, and resources. In addition, river zones encompass a characteristic set of HYMO processes and patterns, thus, species preferences for specific zones are of indicative value for assessing HYMO integrity and have been developed accordingly for European fish species. Highly promising results have been obtained using the Fish Region Index, whose applicability and sensitivity will be further tested and improved. Ongoing work comprises the improvement of the newly proposed indices and indicators.

Groundwater-river interactions

One of the recommendations at the REFORM stakeholder workshop in Brussels (26-27 February 2013) was to take further into consideration the interaction between groundwater and surface water. As response to this stakeholder demand, REFORM made a first step in combining groundwater characteristics and pressures with stresses on rivers, floodplains and wetland ecosystems (Hendriks et

al., 2015). This work which was conceived at a REFORM expert workshop on the role of groundwater for river ecosystems (Poland, September 2014) is currently being continued in the FP7 projects MARS (www.mars-project.eu/) and GlobAqua (www.globaqua-project.eu/).
• Groundwater is the main factor supporting Eflows in streams during low flow conditions in dry seasons.
• Groundwater will play a crucial role in maintaining the resilience of the water system and aquatic environment during projected increasingly dry periods in the future and more ecosystems will become groundwater-dependent.
• Groundwater is the main provider of high quality water that supports groundwater-dependent ecosystems (ecosystem service).
• Successful mitigation and adaptation of groundwater-river connectivity to restore groundwater-dependent ecosystems requires strategies for solutions at catchment scale.
River restoration measures may not be successful if streams run dry or water quality is poor due to decreased connectivity with the groundwater. Policy-makers and water managers should enhance their knowledge of issues related to groundwater-river interactions and ecosystems response.
Groundwater is not only a key factor in supporting ecological flows, determining both the quantity and quality of surface waters, it is also a very important aspect in enhancing the resilience of water systems necessary to prepare for future climate conditions (Hendriks et al. 2015).
Secondly, close cooperation between the relevant fields of expertise (groundwater and Eflows) should be promoted (e.g. Hendriks et al. 2014). Available knowledge needs to be combined and it should be made clear how this knowledge can be applied in RBMPs and the practice of local water management.
Finally, river basin-wide strategies rather than isolated mitigation and adaptation measures should be developed because groundwater bodies extend mostly beyond the scale of individual water bodies or beyond surface catchment boundaries. For example, pressures that affect upstream infiltration and groundwater recharge (e.g. groundwater abstraction, soil compaction, intensive drainage and changes in vegetation) can have major impacts on groundwater conditions across the whole catchment. Catchment-wide measures may require land use changes and/or reduction of groundwater abstraction in upstream parts of the catchment.

Planning stream and river restoration

Despite the rapid increase in river restoration projects, little is known about the effectiveness of these efforts and many practitioners do not follow a systematic approach for planning restoration projects. REFORM has developed a planning protocol that incorporates benchmarking and setting specific and measurable targets for restoration and mitigation measures (Cowx et al. 2013; Figure 17). The approach uses project management techniques, such as the PDCA cycle (Plan – Do – Check – Act, the DPSIR approach, setting SMART project objectives, BACI monitoring) to solve problems and produce a strategy for the execution of appropriate projects to meet specific environmental and social objectives. Using this strategy, it is important to recognise that each restoration scheme proposal should be treated on an individual basis, as no two situations are alike. The decision support tool allows proposals to be evaluated at different levels and stages and will effectively curtail a proposal at an early stage should it be impractical or unviable.
• Restoration projects should have well-defined quantitative success criteria e.g. ranging from hydrological and morphological improvements to the expected beneficial impact on biota and ecosystem services.
• Application of existing planning and management tools such as PDCA (Plan-Do-Check-Act), DPSIR, setting SMART objectives and BACI monitoring, can substantially enhance the efficiency and effectiveness of restoration.
• Restoration planning should adopt a synergistic approach with other resource users to secure win-win scenarios for improving ecological quality of rivers.
Development sectors such as water resource management, flood protection, inland navigation and hydropower have led to the replacement of naturally occurring and functioning systems with highly modified and human-engineered systems, resulting in a number of pressures on the freshwater ecosystem. However, multiple benefits can be achieved by integrating management across these sectors and win-win, approaches are now emerging in river restoration from such cross-sectoral interactions. These interactions are, however, limited at present because of both weak governance and technical capabilities. Technical barriers to integrated cross-sectoral planning are substantial, related partly to limited data and poor understanding of drivers of each sector and thus cross-sectoral

threats as well as indirect effects of actions, and partly to the inadequacies of decision support tools. REFORM provides guidance and tools to assist project managers with decision making, problem solving and planning strategies to identify suitable Programme of Measures (PoM) to support future RBMP that integrate cross-sectoral interactions. These include techniques to optimise benefits between cross-sectoral river services and ecological requirements whilst considering climate change effects (Angelopoulos et al. 2015a). Identification of the drivers, synergies and trade-offs allows policymakers to better understand the hidden benefits from working with other sectors to support restoration activities and maximize outcomes.

Cost-benefit analysis of restoration measures

A review of case studies and literature on costs and benefits of river restoration in Europe showed that cost data are quite variable and usually not available in a form appropriate for further assessments (Ayres et al. 2014). On this basis, it is also difficult to determine ecosystem benefits and services from restoration projects both individually and as a whole. Thus, investing efforts in standards and protocols to gather and incorporate cost information in a more systematic way will benefit decision-making on restoration measures.
• Cost data are too scarce hampering cost-benefit analysis of restoration measures. There is a need to invest efforts in standards and protocols to gather and incorporate cost information in a more systematic way.
• Cost-benefit analysis can help in prioritizing restoration measures and plans.
In Europe, prioritization of restoration measures in the context of the WFD based on cost-effectiveness or cost-benefit analyses is still very limited. Cost-benefit analysis (CBA) can help in prioritizing restoration measures and plans. The challenges for river restoration with CBAs concern in particular defining the baseline scenario, identifying exogenous developments and valuing project impacts. Manuals and guidelines for the economic analysis of river restoration projects do not yet exist. Yet important guidelines on the economics of water management in general offer valuable advice (Brouwer et al. 2015).

Risks and Uncertainty in River Rehabilitation

Analyses of costs and benefits require the prediction of the effects of restoration measures and the quantification of societal values. Both of these estimates are uncertain. Key issues related to the assessment, description and quantification of uncertainty are discussed and guidelines are provided for considering uncertainty and in more detail, how uncertainty can be considered in CEA/CBA and in MCDA (Reichert et al. 2015a). There are two important sources of uncertainty to consider in environmental management in general and in particular for river restoration:
• Uncertainty about scientific predictions of outcomes.
• Uncertainty about the preferences of the society elicited from inquiries or stakeholders.
This resulted in the following policy recommendations:
• Communication of uncertainty is a key element of any communication of scientific predictions.
• Clearly separating scientific predictions and societal valuations is an essential element of any decision support procedure (Reichert et al. 2015b). In particular if there are disagreements among experts about scientific predictions and of stakeholder groups about preferences.
• Uncertainty about scientific predictions can be addressed by probability distributions and scenarios, while uncertainty about societal preferences are often better addressed by sensitivity analyses of the ranking of the alternatives resulting from combining predictions of the outcomes of decision alternatives with preferences.

Linking e-flows to sediment dynamics

One of the recommendations at the REFORM stakeholder workshop in Brussels (26-27 February 2013) was to contribute to the development of guidance on the definition of environmental flows. As response to this stakeholder demand, REFORM organised expert exchange on the linkage of e-flows to sediment dynamics (Garcia de Jalon et al, 2015).
• E-flows are mainly set with focus on the hydrologic regime in anticipation of promoting ecological response. A broader approach to estimating e-flows is to identify those flows required to maintain certain geomorphic processes and forms that directly contribute to aquatic habitat and ecosystem functioning.

• This broader approach includes other types of actions beyond specifying flows alone, such as focusing on the sediment transport regime or directly manipulating channel morphology.
• Monitoring the outcomes of e-flows including sediments is needed because our understanding of water and sediment requirements by key aquatic biota and ecosystem functions is not precise. Often critical decisions are made with relatively weak ecological evidence.
Water and sediments are intrinsically interconnected in natural river systems. Fluvial communities have evolved to be adapted to this interaction, and thus their habitat requirements depend on hydromorphological dynamics.
The estimation of e-flows is not straightforward, as the quantitative links between hydromorphology and biology are not yet well known, due to the insufficient number of consistent data and to the weak response of current biological metrics to hydromorphological pressures.
The current strategy for setting e-flows is to focus on the hydrologic regime in anticipation of promoting some ecological response. In the same time, geomorphic dynamics of a river and the functioning of natural physical processes are essential to create and maintain habitats and ensure ecosystem integrity and the links between hydrology and geomorphology are generally well known. On this basis, a broader approach to estimating e-flows is to identify those flows required to maintain certain geomorphic processes and forms that directly contribute to aquatic habitat and ecosystem functioning.
Elements of this broadened approach include other types of actions beyond specifying flows alone, such as focusing on the sediment transport regime (e.g. releasing sediments downstream of dams or other obstructions), or directly manipulating channel morphology (i.e. morphological reconstruction). Any of these actions (hydromorphology-based measures) may induce morphological channel changes, therefore promoting habitat recovery and diversity.
The choice of the best option to be considered in combination with changes in the hydrologic regime (i.e. sediment transport vs. morphological reconstruction) depends on the specific context, for example the reach sensitivity and morphological potential. Selecting the appropriate measures requires setting the river reach within a wider spatial-temporal framework (see REFORM Hydromorphology Framework presented in this Policy Brief).
E-flows including sediments should be implemented and monitored within an adaptive management framework. Monitoring the outcomes of e-flows is needed because our understanding of water and sediment requirements by key aquatic biota and ecosystem functions is not precise and often critical decisions are made with relatively weak ecological evidence to support them (Garcia de Jalon et al, 2015).

Restoration measures at project level and effects on river morphology and biota

In the REFORM project, two types of analysis were carried out to reach conclusions on general principles and aspects that have to be considered when selecting restoration measures in restoration projects. First, the scientific peer-reviewed literature and unpublished databases were reviewed to summarize existing knowledge (120 projects included in the review of Kail & Angelopoulos 2014; Kail et al. 2015). Second, 20 restoration projects were investigated in more detail, including a broad range of abiotic and biotic variables (different organism groups, hydromorphology, ecosystem services) and using a standardized monitoring design, to fill some knowledge gaps (e.g. the role of restoration extent for river restoration effects in Hering et al. 2015, Kail et al. 2014; Figure 16).
The reviewed literature as well as the case-studies mainly covered small to medium-sized rivers in Northern, Eastern and Central Europe, reflecting the relatively long tradition in river restoration in these regions. Furthermore, common restoration techniques were planform measures like remeandering and widening as well as in-channel measures like the removal of bank fixation and addition of large wood and boulders. Regional differences have to be considered when applying these results to other river types and regions (e.g. large or Mediterranean rivers) or restoration techniques.
• Hydromorphological restoration has an overall positive effect on biota, but effects are highly variable and even negative. It is thus essential to monitor and adjust restoration projects.
• Restoration pays - it increases ecosystem services, especially cultural and regulating services. This should be considered in the assessment of river restoration projects
• River restoration benefits not only aquatic biota. Terrestrial and semi-aquatic species benefit most (e.g. floodplain vegetation, ground beetles) and hence, should be considered in assessments.
• There is no single “best measure” for restoration. Widening of water courses to restore a more natural planform generally has a high effect (especially on macrophytes and ground beetles).

Instream measures have the highest effect on fish and macroinvertebrates. Overall, measures should be selected taking consideration of the targeted organism group.
• It is important to select measures that restore specific limiting habitats at relevant scales and not necessarily mere habitat diversity. For instance, macroinvertebrates need substrate diversity at the microscale. Surprisingly, restoration measures which enhance mesoscale habitat conditions and hence, are visually pleasing, do not necessarily improve microscale habitat conditions, which may explain a low effect on invertebrates.
• Restoration results in a higher number of individuals (abundance) but few new species (richness). For this it is important to bear in mind the re-colonization potential which might be limited if source populations are missing particularly in extensively degraded river basins.
• Restoration had positive effects even in small restoration projects. Effects did not increase with project size, most probably because even the largest projects investigated in REFORM were still relatively small. However, other studies indicate that exceptionally large projects indeed have higher effects.

Fact sheets for river restoration

For 13 different types of river across Europe a synthesis of pressures, restoration experiences and variables suited for monitoring restoration is compiled (Verdonschot et al. 2015b). It is meant to give insight into the diversity and similarities of restoration techniques for different types of rivers in terms of present practice and promising but to date little used approaches. Each fact sheet gives information on river type name, pressure categories/pressures, measure categories/measures and monitoring scheme. Per river type the valley- and planform, hydrology, morphology, chemistry, riparian zone are briefly described. Major pressures, problems and constraints for river restoration, common restoration practice with their problems and constraints and promising and new measures are given for each type. The river typology adopted for the factsheets differs from the river reach typology developed in REFORM and refers to the (sub)catchment setting of a river in terms of altitude, size and geology and as such links to the European broad river types (ETC/ICM, 2015. The setting of these types does not change in time. In contrast, the REFORM river reach typology is designed for assessing the hydromorphological functioning of individual river reaches. REFORM river reach types may change in time because they represent the response of the river reaches to processes of flow, sediment and vegetation. Furthermore, river (sub-)catchments of a single type according to the types presented in these factsheets may and often will contain different REFORM reach types. Thus when identifying the most appropriate restoration techniques it is even for apparently similar river types i.e. covered by the same factsheet not a ‘one size fits all’ approach, but a tailor-made approach acknowledging the governing hydrological and morphological conditions and the interaction with vegetation. The factsheets drawn by regional experts are thus meant to support decision making, and should not be used as cookbooks.

In the wiki fact sheets for over 40 different measures belonging to following categories are given.
• Water flow quantity improvement
• Sediment flow quantity improvement
• Flow dynamics improvement
• Longitudinal connectivity improvement
• River bed depth and width variation improvement
• In-channel structure and substrate improvement
• Riparian zone improvement
• Floodplains/off-channel/lateral connectivity habitats improvement
An important observation is, however, that measures are mostly taken in concert i.e. restoration projects comprise multiple measures. Next, the effectiveness of measures strongly depends on the wider setting in which they are realised. As a consequence general descriptions of measures such as given in these fact sheets are of use, but how measures actually contribute in projects to improve ecological status can vary considerably.

Final conference 'Novel Approaches to Assess and Rehabilitate Modified Rivers'

The conference is addressed as a separate topic, because it covers all aspects of the REFORM project. The much appreciated and successful scientific conference was organized to highlight the importance of the benefits of river restoration. 170 participants from 26 countries shared experiences,

aspirations, challenges, analytical frameworks and new approaches to enhance the success of river restoration and to come to a better understanding of the consequences of hydro-morphological changes to the ecological status of running waters (Figure 19). The conference attracted universities and research institutes, environmental management organisations, NGOs and consulting firms in the field of river restoration. 15 keynote lectures from Europe, North America and New Zealand, 58 oral presentations in breakout sessions and 38 posters provided the ingredients and inspiration for animated conversations during the breaks.
Among others, evidence outlined by the conference speakers and participants gave fundamental insights into how rivers work, and presented a wide span of research from global to catchment and all the way down to the species level. It became evident that attention is shifting towards reflecting on the river in its full scope including the role of the riparian zone and the floodplain for ecosystem functioning. Keynote and oral presentations made a case for the need to develop more process-oriented restoration measures, and to consider hydromorphological changes and their evolution both in terms of space and time. A lot of inspiration for further work was given by presentations on the application of biotic indices for the assessment of river ecological conditions as well as by a multitude of case studies presented on the achievements by restoration and mitigation practices in Europe and beyond. The conference also provided a platform for exchanging experiences and ongoing work on the challenging issues of socioeconomic assessments related to river restoration, tools and strategies for more closely linking science to the practitioner level.
The proceedings contain the extended summaries of nearly all keynotes and oral presentations as well as several poster presentations (Angelopoulos et al 2015b). They are preceded by a description of the scope, objectives and topics of the conference, feedback from the advisory and a visual impression of conference. The contributions are grouped within the six conference topics:
• Assessment and rehabilitation of hydromorphological processes in rivers
• Discerning the impact of hydromorphological modification from other stressors
• Achievements by restoration and mitigation practices
• How to improve the (cost-)effectiveness of river rehabilitation?
• Benefits of river rehabilitation and synergies with other uses (flood protection, navigation, agriculture, hydropower)
• Linking science to practice: tools to assess river status and guide rehabilitation to optimize river basin management

Scientific publications

At the end of the project there are already more than 60 peer-reviewed scientific publications. Besides individual publications, several special issues have been prepared or are under preparation:
• In the journal Aquatic Sciences: research across boundaries, 10 papers are published in a special issue: “A multi-scale framework for supporting river assessment and management” (Gurnell et al., 2015a).
• In the journal River Research and Applications, 6 papers are published in a special issue: “Hydrogeomorphology – ecology interactions in river systems” (Grabowski & Gurnell, 2015).
• In the journal Hydrobiologia, a special issue regarding the “Effects of large- and small -scale river restoration on hydromorphology and ecology” is under preparation and should be available soon (Muhar et al. 2015). It will contain 9 papers on restoration effects on hydromorphology, fish, benthic invertebrates, aquatic macrophytes, floodplain vegetation, riparian ground beetles, food webs, ecosystem services and a synthesis. The integrating paper of this study has already been published (Hering et al., 2015).
The complete overview of all published scientific papers is given at the REFORM website (Results -> Scientific Publications). For each publication the full reference, abstract and DOI (Digital Object Identifier) is given.

Further reading

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Wolter et al. (2013) Review on ecological response to hydromorphological degradation and restoration. REFORM deliverable 1.3.

Potential impact and main dissemination activities and exploitation results

Dissemination has been an essential part of the REFORM project, as it is widely recognized that results of the research need to be communicated to all relevant stakeholders to enable the project to leave a long-lasting legacy and impact. A specific work package has been dedicated to dissemination; in addition, several of the tools produced are part of the project's dissemination strategy. The main target group for dissemination activities have been and still are public authorities, water managers and citizens and the organisations involved in the formulation, implementation, monitoring and evaluation of river restoration policies at the European, national and catchment levels. A detailed communication and dissemination strategy has been designed at the start of the project to maximize on the coverage and uptake of the outputs (Figure 6).
First an overview is given what REFORM has done to communicate its results and to obtain feedback from stakeholders and end-users. Thereafter its future relevance and socio-economic impact are described.

Main dissemination activities and exploitation of results

The partners of the REFORM project have used a wide range of communication forms to interact with and inform people about its objectives, results and final outcome.

FACE-TO-FACE communication

Face-to-face communication of the knowledge and experience gained in the project occurred predominantly at the national and European level:
• At the national level, the results have been presented during three national stakeholder workshops (Netherlands, Spain, Italy), one special session at the RRC annual conference (UK) and keynote presentations at river restoration seminars (Norway). Participation of the applied partners (ISPRA, CEDEX, EA) and members of the Advisory Board, who are also national government agencies in close connection to authorities in charge of implementing EU policy, has facilitated and still will the uptake and direct application of the project findings.
• At the European level, the project results have been presented to policy makers and European level working groups during multiple occasions (CIS ECOSTAT 2012, 2015; CIS PoM 2014, 2015; CIS Floods 2012). REFORM organised a stakeholder workshop in the early phase of the project (Brussels February 2013) to present initial results, but much more to gain feedback on its work programme. Uptake of data, information and policy assessments from the project by the European Environment Agency will be ensured through the participation of partners such as Ecologic in the European Topic Centre in Water.
• To inform and interact with the international scientific world presentations by numerous partners of REFORM have been given (see the overview of dissemination activities for further details). The most prominent being Ecohydraulics (Vienna 2012; Trontheim 2014), ERRC (Vienna 2013), Aquatic Plants (Edinburgh 2015) IS.Rivers (Lyon 2015) and German Limnological Society (Essen 2015). Moreover, REFORM organised its own scientific conference ‘Novel approaches to Assess and Rehabilitate Modified Rivers’ attended by 170 participants (Wageningen 2015). Connected to the conference a summer school for young scientists and Ph.D. students was organised.

Stakeholder Workshop on River Restoration

At the interactive Stakeholder Workshop on River Restoration to Support Effective Catchment Management (Brussels, February 2013), ca. 110 participants from 23 European countries and various stakeholder groups were in-formed about the first results of REFORM and gave their feed-back and recommendations on the outputs and plans for the next stages of the project. The workshop was the main external event in the first phase of the REFORM project, providing a platform for consultation and exchange between REFORM scientists, European technical experts working on river degradation and restoration, and members of the Working Group A Ecological Status (ECOSTAT) of the Common Implementation Strategy of the WFD. The workshop’s format was very interactive, with parallel sessions addressing different types of European rivers (e.g., highland/midland, lowland, and Mediterranean river systems), as well as the impact of hydromorphological pressures in multiple-pressure settings, designing programmes of measures, and heavily modified water bodies (Figure 18). The REFORM stakeholder workshop provided a very good model of early two-way communication between an EU research project and water managers. The findings are documented in the summary report of the workshop (Kampa et al. 2013)

National stakeholder workshops

In total three national stakeholder workshops have been organised by different partners of the REFORM project. The first has been held in the Netherlands (Zutphen, November 2013), the second in Spain (Seville, June 2014) and the third in Italy (Rome, September 2015). In Spain and Italy the advantage having several key people from REFORM together was taken to organise back-to-back a national stakeholder workshop. To improve the two-way communication and tackle language barriers both events were supplied by simultaneous translation into respectively Spanish and Italian. The stakeholder workshop in the Netherlands was organised jointly with the Dutch platform for stream and river restoration. All events not only helped to inform people on REFORM’s objectives and results, but also stimulated the internal national discussion how to better assess the hydromorphological status of rivers and plan and evaluate river restoration. Impressions of these

workshops are covered in various newsletter items.

Final conference “Novel Approaches to Assess and Rehabilitate Modified Rivers”

The REFORM Final Conference on “Novel Approaches to Assess and Rehabilitate Modified Rivers” was successfully organised on 30 June to 2 July 2015 in Wageningen (Netherlands). 170 participants from 26 countries shared experiences, aspirations, challenges, analytical frameworks and new approaches to enhance the success of river restoration and to come to a better understanding of the consequences of hydro-morphological changes to the ecological status of running waters (Figure 19). The conference offered 15 keynote lectures from Europe, North America and New Zealand, 58 oral presentations in breakout sessions and 38 posters. The conference closed with a field excursion, attended by 100 people, to two 'Room for the river' projects. The proceedings of the International Conference on River and Stream Restoration “Novel Approaches to Assess and Rehabilitate Modified Rivers” were published in August 2015 and are online available (Angelopoulos et al. 2015).

Summer school “Restoring regulated streams linking theory and practise”

The REFORM Summer School was successfully organised on 27 to 29 June 2015 and was held in Wageningen (Netherlands) back-to-back to the REFORM Final Conference. The topic of the Summer School was “Restoring regulated streams linking theory and practise” and in total, 12 participants attended the event. The 3 day programme was interactive, it encouraged group discussions and participants applied theory to practice by drafting a restoration strategy. The complete PowerPoint presentations and the video-recorded lectures of the Summer School are available online (see Summer Course | REFORM Rivers | 2015) and can be used for teaching and training purposes. The lecture notes of the summer school were published in July 2015 (Cowx et al. 2015).

CIS ECOSTAT workshops

CIS ECOSTAT organised two workshops dedicated to hydromorphology during the project life span of REFORM. The first took place when REFORM had just started (June 2012) and created to opportunity to inform representatives of EU member states on the ambitions and scope of the REFORM project and to announce the REFORM stakeholder workshop in 2013. By organising a regular meeting back-to-back CIS ECOSTAT enlarged the possibility of people to attend REFORM’s stakeholder workshop.
In October 2015, the CIS working group ECOSTAT and REFORM jointly organised a workshop on “Hydromorphology and WFD classification” hosted by the Norwegian Environment Agency in Oslo, Norway (70 participants). This workshop on hydromorphology was timely organised in the final month of the REFORM project. The workshop was held back-to-back with the 30th ECOSTAT meeting. The outcome of the REFORM project was one of the main motivations for the working group ECOSTAT to organise this workshop. The findings of the workshop are covered by an item in final newsletter.
It can be concluded that the back-to-back approach for meetings has been extremely effective to meet and interact with national representatives. In particular, because these representatives do less frequently have the opportunity to attend scientific conferences or prefer or require another set up of events (more demand-driven, practical or interactive). For research projects it is therefore essential to organise other events besides scientific symposia to get into contact with stakeholders and end-users.

Policy briefs and policy discussion papers

REFORM has prepared three policy briefs. The first was meant to inform river managers how the initial results of REFORM could be used immediately to support drafting the 2nd river basin management plans, which had to be ready by December 2015. The REFORM project had planned and organised its work in the first phase that those results became available on time (November 2013). The overview of these initial results is given in Mosselman et al. (2013). The second brief presented the next set of results in particular the hydromorphological assessment framework (September 2014). The third and final brief summarised the key results, conclusions and recommendations over the whole project (December 2015). All policy briefs are available online on

the project website.

In total three policy discussion papers have been produced. The first was the discussion paper prepared as input for the stakeholder workshop (February 2013). The topics for the two other discussion papers were selected following the feedback of the participants attending this stakeholder workshop. Participants generally were very pleased by the scope and ambitions of REFORM covering their needs and expectations, but were also asked to prioritise additional topics. From these topics groundwater and environmental flows were selected and addressed in two specific workshops. The outcome of these workshops has been documented in these discussion papers. The 2nd policy discussion paper 'Bringing Groundwater to the Surface' makes a first step in combining groundwater characteristics and pressures with stresses on rivers, floodplains and wetland ecosystems and was published in August 2015. Its content is based on discussions held at a REFORM expert workshop on the role of groundwater for river ecosystems (Poland, September 2014). The 3rd policy discussion paper 'Linking e-Flows to sediment dynamics' and was published in December 2015. Its content is based on discussions held at a REFORM expert workshop on the linkage of e-flows to sediment dynamics (Italy, September 2015). The REFORM project strongly recommends that e-flow rehabilitation measures are accompanied by sediment management plans.

Project website and wiki

The REFORM project website became online mid 2012 in the first year of the project (www.reformrivers.eu). Since then it served as a knowledge platform for the target audiences and as a place to provide open access to REFORM deliverables, scientific publications, case studies and project related news. Documents have been uploaded throughout the course of REFORM. Furthermore, the website has been used to announce and prepare the REFORM end-user event (stakeholder workshop) in 2013 and the final conference and summer school in 2015. The content of the REFORM project website has been regularly updated and its structure improved based on the needs of the project outcomes.
Next to the project website a wiki on hydromorphology, ecology and restoration of rivers supports the dissemination of knowledge and know-how (http://wiki.reformrivers.eu/index.php/Main_Page; Figure 5). The Water Framework Directive commits European Union member states to achieve good ecological and chemical status of all water bodies. Hydromorphological degradation is one of the causes why many rivers do not achieve this status, thus necessitating river restoration. This has promoted restoration activities and scientific research across Europe. Practitioners, however, face the difficulty of finding information on the experiences from restoration and the findings from research. That is why REFORM developed a web-based information system or “wiki”. The contents of REFORM’s wiki can support the planning process and design of cost-effective and hydromorphologically relevant restoration and its benefits. It has been structured around the phases of the river basin management planning cycle (Figure 4). A prerequisite of planning is a good understanding of how a river works and an evaluation of status by asking, “What’s wrong?” An integrated planning framework supports the design of river restoration measures and addresses the question, “How can we improve?”, including risk analysis, the wider benefits of restoration and the restoration potential of other human interventions. This framework is cyclic for both programmes of measures in entire river basins and the planning and evaluation of individual projects.
Both the website and the wiki will remain active up to three years after the end of the project (2018) allowing everybody to explore and use the results of REFORM for a number of years after the project’s lifespan. To update or expand the present contents of the wiki in the future connection with new projects have already been established (FP7 MARS - http://www.mars-project.eu ; Freshwater Information Platform - http://www.freshwaterplatform.eu) and new opportunities will be looked for. The Freshwater Information Platform aims to overcome the problem that the outcome of research projects is no longer available once projects have ended. Several REFORM partners support this initiative.

General Dissemination: newsletter and leaflets

In total eight newsletters has been produced. The newsletters covered new results of REFORM, interviews with key persons regarding river management, restoration or research, REFORM case studies, related projects and REFORM or external events. All newsletters are online available at the REFORM website (Kampa et al. 2015).

The REFORM project leaflet has been made available in 11 languages (English, French, German, Italian, Spanish, Czech, Danish, Dutch, Finnish, Polish and Swedish) and has been used throughout the project to support dissemination at European, national and regional levels.

Social media

REFORM has used Linkedin to inform relevant groups when results were available and to announce its final conference and summer school. The main Linkedin target groups with the present number of members were
• Stream Restoration Professionals - 4,169 members
• River Restoration Professionals – 2,444 members
• Restoring Europe's Rivers – 409 members
• EU Water Framework Directive (WFD) Implementation – 408 members

Future relevance and socio-economic impact

Providing input for future River Basin Management Plans

REFORM places strong emphasis on making its results available in various forms to support both practitioners and scientists. To this end, REFORM developed a wiki (http://wiki.reformrivers.eu) populated throughout the course of the project with information relevant for various phases of River Basin Management Planning to meet this need . The logical framework of the wiki systematically guides practitioners through two main planning stages of river restoration: catchment planning and the project cycle. Both the REFORM website and the wiki will remain available online after the end of REFORM.
More specifically REFORM recommends using its outcome for the following aspects of river basin management:
• Hydromorphological assessment should consider physical processes and appropriate temporal and spatial aspects beyond river restoration project boundaries and project life span. The methods developed by REFORM (open-ended hydromorphology framework; Morphological Quality Index (MQI) are extremely useful for understanding river dynamics, analysing and interpreting critical problems and causes of alteration. Such diagnosis is the basis to identify to most appropriate restoration and mitigation measures.
• Current biological sampling methods are not appropriate to capture HYMO impacts and they underestimate the influence of HYMO on biota. There is a need to develop new biota sampling methods that are more sensitive to HYMO impacts. This includes sampling of habitats (e.g. the riparian) that are in particular impacted by HYMO degradation. Hydromorphological assessment covering the entire range from high to bad should be a quality element in its own right in the WFD status assessment.
• Much more attention should be given how vegetation and plants can help to improve river ecosystems. They can play a cost-effective and significant role as physical ecosystem engineers.
• Rivers are more than main channels and restoration benefits not only aquatic biota. Riparian and floodplain ecosystems crucial to river morphodynamics and ecology are too much ignored. Direct measurements of hydromorphological processes and riparian vegetation are likely to be better in assessing hydromorphological degradation than in-stream biota. Terrestrial and semi-aquatic species benefit and should be considered in assessments. This adaptation will contribute to connect the ambitions of Floods directive, Natura 2000 network and the WFD.
• Restoration projects should adopt a synergistic approach with other resource users to secure win-win scenarios and have well-defined quantitative success criteria e.g. ranging from hydromorphological improvements to the expected beneficial impact on biota and ecosystem services. Application of existing planning and management tools such as PDCA (Plan-Do-Check-Act), DPSIR, setting SMART objectives and BACI monitoring, can substantially enhance the efficiency and effectiveness of restoration.
• Improvement of ecological status and ecosystem services of streams and rivers may benefit from both small and large projects. There is no single best measure. It is important to select measures that restore specific limiting habitats at relevant scales. As the outcome is often still too uncertain it is essential to monitor and adjust restoration projects.
• Rehabilitating rivers is expensive and public opinion is of course critical. Regularly there are disagreements among experts about scientific predictions and of stakeholder groups about

preferences. Clearly separating scientific predictions and societal valuations is an essential element of any decision support procedure and cost-benefit analysis can help in prioritizing restoration measures and plans. There is a need to gather and incorporate information on costs and uncertainties in a more systematic way to widen public support for the need and benefits of restoration. REFORM considers the CIS working groups as the most important bodies to disseminate the outcome of REFORM and the need to adapt current approaches for hydromorphological assessment and planning and evaluation restoration of rivers and associated wetlands. It is clear that a bulk of information has been generated, which might feel as an obstacle to filter the relevant content. To this end the wiki should be the guide for end-users.

Improving the science policy interface

With its dissemination activities and its close cooperation with policy groups, decision makers, and stakeholders, REFORM has performed targeted and policy relevant scientific research. Over 60 scientific publications have significantly expanded the knowledge base for assessing and improving river ecosystems in Europe. Feedback from policy and decision makers and stakeholders at several strategic times in the project helped to validate the methodology and the envisaged results against experience and knowledge needs of the end-users. The involvement of partners directly responsible for river management has greatly contributed to the applicability of REFORM's results. It facilitated the communication at the European level through CIS and at the national level through stakeholder workshops.

Contributing to capacity building

REFORM has enlarged the capacity for appropriate assessment and successful river restoration by compiling existing knowledge and filling identified knowledge gaps with targeted research. With its results being available as a complementary package of guidelines, models, interactive web-tools, and evaluation tools, it will enable water managers to add to their existing methodologies and instruments if necessary and arrive at the state-of-the-art successful and cost-effective river restoration. The recorded lectures and lecture notes resulting from the summer school can be directly used to train not only young scientist and students, but also water managers and consultants.

Added value to national monitoring programmes

The conclusions of REFORM are clear regarding present monitoring. Monitoring approaches require adaptation to assess the hydrological and morphological status adequately. This is a prerequisite to identify the appropriate measures to improve the ecological status. Furthermore the intercalibrated biological assessment methods do give insight in the overall status, but lack the resolution to pinpoint the causes for deterioration. Thus to diagnose river ecosystems new methods need to be developed. REFORM recommends to improve and develop trait-based approaches and in various European countries experience does already exists. CIS in its future work programmes could consider fulfilling a role to share experiences on diagnostic tools besides status assessment.

Balancing socio-economic functions and ecological functioning

Rivers and streams have been regulated and floodplains reclaimed to support socio-economic functions for centuries and decades. Improving ecosystem services and conserving biodiversity do not necessarily go hand in hand and may even have conflicting demands. It thus was and still is a significant challenge to balance the use of river ecosystems with achieving good ecological status. There has been excellent progress to tune Floods directive with environmental objectives of the WFD and Natura 2000: nature-based solutions to retain and store water. Challenges are larger and solutions in an infant's stage for managing reservoirs used for water storage and energy production. Not only to design effective environmental flows, but in particular because the consequences for sediment transport are insufficiently acknowledged and addressed. REFORM has clearly demonstrated that hydromorphology is the interplay between water, sediment and vegetation. Ignoring one of these components may give a wrong diagnosis and choosing ineffective restoration measures. The next aspect, which to date has received too little attention are the riparian zones and floodplains i.e. riverine wetlands. Tree on riparian zones provide shelter and shadow and enlarge habitat diversity in streams. Floodplains are spawning and nursery areas for fish and of great importance for the Natura

2000 network in Europe. WFD assessment based on the biological quality elements in main channels of rivers and streams only gives insufficient guidance how to improve unconfined rivers with floodplains. Riparian zones and floodplains can function as the ideal buffer zones i.e. green infrastructure between agriculture and rivers. REFORM has produced many results to support to take this to the next stage. Thus more effort is needed to tune demands of agriculture and river ecosystems and WFD and Natura 2000 assessment should consider to develop status indicators for riverine wetlands. The results of REFORM are thus of particular relevance to support the debate how to define the ecological potential of heavily modified water bodies. We recommend that this topic remains in the CIS ECOSTAT work programme for a considerable number of years.

Changing the focus for planning and evaluating restoration

What may be known to few, but will be a surprise to many is that the majority of restoration projects meant to improve hydromorphological conditions comprise more than one measure. The extensive reviews in REFORM have demonstrated this. The consequence is that generic information about individual measures has its value, but much more emphasis is needed on the benefits of restoration programmes in the catchment or basin context. REFORM did address this only in a limited way. Another unbalance with present restoration practice is the general lack of explicit and measurable goals and of proper monitoring design to conclude whether the project does what it is supposed to do: improved ecological status. There are too many projects realised of which we know too little. This jeopardises future programmes because not being able to show the benefits may seriously undermine public support.

The way forward

The interdisciplinary team of REFORM has made significant advances in clearly presenting fundamental concepts to look at hydrology, geomorphology, vegetation and aquatic biological communities in an integrated framework. The strength of REFORM also lies in the development of guidelines for measurement and conceptual frameworks to understand why restoration might succeed or fail and how restoration can be improved.
In parallel to REFORM, much work on hydromorphology and its links to biology has taken place and is ongoing in individual European countries. The challenge remains in creating a European exchange network and a platform for sharing knowledge on issues related to hydromorphology and biological reaction to hydromorphological pressures. There is also still potential to strengthen capacity building and training of experts and practitioners on hydromorphological assessment methods. We hope that the fundamental concepts and framework laid out by REFORM will provide a foundation for water managers, practitioners, scientists and trainers to take the next steps beyond REFORM towards a better approach to river restoration.

Further reading

Angelopoulos, N., T. Buijse, M. van Oorschot & E. Kampa (2015) Proceedings of the International Conference on River and Stream Restoration “Novel Approaches to Assess and Rehabilitate Modified Rivers”. REFORM deliverable 7.5
Cowx, I.G. et al. (2015) Lecture notes of the summer school ‘Restoring regulated streams linking theory and practice’. REFORM deliverable 7.4
Kampa, E. et al. (2013) Summary report REFORM stakeholder workshop. REFORM deliverable 7.3
Kampa, E. et al. (2015) REFORM newsletters and leaflets. REFORM deliverable 7.6
Mosselman, E. et al. (2013) Synthesis of interim results for practical application to support the compilation of the 2nd RBMPs. REFORM deliverable 6.1

Address of project public website and relevant contact details

http://www.reformrivers.eu

4.2 Use and dissemination of foreground

Section A (public)

Publications

LIST OF SCIENTIFIC PUBLICATIONS, STARTING WITH THE MOST IMPORTANT ONES										
No.	Title / DOI	Main author	Title of the periodical or the series	Number, date or frequency	Publisher	Place of publication	Date of publication	Relevant pages	Is open access provided to this publication ?	Type
1	A multi-scale hierarchical framework for developing understanding of river behaviour to support river management.	Gurnell, A. M., M. Rinaldi, B. Belletti, S. Bizzi, B. Blamauer , G. Braca, A. D. Buijse, M. Bussettini, B. Camenen, F. Comiti, L. Demarchi , D. García de Jalón, M. González del Tánago, R. C. Grabowski, D. M. Gunn, H. Habersack , D. Hendriks , A. J. Henshaw, M. Klösch, B. Lastoria , A. Latapie, P. Marcinkowski, V. Martínez-Fernánde z, E.	Aquatic Sciences	n/a	Birkhauser Verlag Basel		22/09/2015	n/a-n/a	Yes	Peer reviewed

		Mosselman, J. O. Mountford , L. Nardi, T. Okruszko , M. T. O'Hare, M. Palma, C. Percopo, N. Surian, W. van de Bund, C. Weisstein er, L. Ziliani								
2	Contrasting the roles of section length and instream habitat enhancement for river restoration success: a field study of 20 European restoration projects http://dx.doi .org/10.1111/1365-2664.12 531	Daniel Hering , Jukka Aroviita , Annette Baattrup-Pedersen , Karel Brabec , Tom Buijse , Frauke Ecke , Nikolai Friberg , Marek Gielczewski , Kathrin Januschke , Jan Köhler , Benjamin Kupilas , Armin W. Lorenz , Susanne Muhar , Amael Paillex , Michaela Poppe , Torsten Schmidt , Stefan Schmutz , Jan Vermaat , Piet F. M. Verdonschot , Ralf C. M. Verdonschot , Christian W olter , Jochem Kail	Journal of Applied Ecology	n	Blackwell Publishing	United Kingdom	23/09/2015	n/a-n/a	Yes	Peer reviewed
3	Hydrogeomorphology–ecology interactions in river systems	Grabowski , R.C., Gurnell,	River Research and Applications	n/a	John Wiley and Sons Ltd		01/12/2015	n/a-n/a	Yes	Peer reviewed

		A.M.								
4	The effect of river restoration on fish, macr oinverteb rates and aquatic macrophytes: A meta-analysis http://dx.doi .org/10.1016/j.ecolind.20 15 .06.011	Jochem Kail , Karel Brabec , Michaela Po ppe , Kathrin Januschk e	Ecological Indicators	Vol. 58	Elsevier	Netherlands	23/06/2015	311-321	No	Peer revie wed
5	Plants as River System Engineers 10.1002/esp.3 397	A.M. Gurnell	Earth Surface Processes and Landforms	39	John Wiley and Sons Ltd		16/04/2013	4-25	Yes	Peer revie wed
6	Impacts and indicators of change in lotic ecosystems http://dx.doi .org/10.1002/wat2.1040	Nikolai Fr iberg	WIREs Water	Vol. 1/Iss ue 6	WILEY	United States	20/08/2014	513-531	Yes	Peer revie wed
7	A review of assessment methods for river hydromorpholo gy http://dx.doi .org/10.1007/s12665-014-3 55 8-1	B. Belletti , M . Rinaldi , A. D. Buijse , A. M. Gurnell , E. Mosselman	Environmental Earth Sciences	73	Springer Verlag	Germany	02/08/2014	2079–2100	No	Peer revie wed
8	Plant Traits Relevant To Fluvial Geomorp hology and Hydrological Interactions http://dx.doi .org/10.1002/rra.2940	M. T. O'Hare , J. O. Moun tford , J. Maro to , I. D. M. G unn	River Research and Applications	n/a	John Wiley and Sons Ltd	United Kingdom	20/08/2015	n/a-n/a	No	Peer revie wed
9	Classificatio n of river morphology and h ydrology to support management and resto ration.	Rinaldi, M., Gurnell, A.M ., González del Tánago, M ., Bussetti ni, M., Hendriks , D.	Aquatic Sciences	n/a	Birkhauser Verlag Ba sel		22/10/2015	n/a-n/a	No	Peer revie wed
10	Indicators of river system hydromorpholo gical character and dynamics: understandin g current conditions and guiding sustainabl e river management http://dx.doi .org/10.1007/s00027-015-0 42 9-0	M. González del Tánago , A. M. Gurnell , B. Belletti , D. García de Jalón	Aquatic Sciences	n/a	Birkhauser Verlag Ba sel	Switzerland	24/09/2015	n/a-n/a	Yes	Peer revie wed
11	Structural and functional responses of f loodplain vegetation to stream ecosystem restoration http://dx.doi .org/10.1007/s10750-015-2 40 1-3	Emma Göthe , Allan Timmer ma nn , Kat hrin Januschk e , Annette Baattrup -P	Hydrobiologia	n/a	Springer Netherlands	Netherlands	24/07/2015	n/a-n/a	No	Peer revie wed

		ederse n								
12	The conceptual foundation of environment a l decision support http://dx.doi .org/10.1016/j.jenvman.20 15 .01.053	Peter Reichert , Simone D. Langhans , Ju dit Lienert , N ele Schuwirt h	Journal of Environmental Management	Vol. 154	Academic Press Inc.	United States	01/05/2015	316-332	No	Peer revie wed
13	Advances on Modelling Riparian Vegetatio n-Hy dromorpholog y Interactions http://dx.doi .org/10.1002/rra.2910	L. Solari , M. Van Oorschot , B. Belletti , D. Hendriks , M. Rinaldi , A. Vargas-L una	River Research and Applications	n/a	John Wiley and Sons Ltd	United Kingdom	22/05/2015	n/a-n/a	No	Peer revie wed
14	Challenges to barbel population resilience due to hydrological alteration http://dx.doi .org/10.1080/15715124.201 4. 908895	Carolina G allo , Carlos A lonso , Diego García de J alón	International Journal of River Basin Man agement	12	International Associ ation of Hydraulic E ngineering Research	Spain	25/04/2014	135-144	Yes	Peer revie wed
15	Distinct patterns of interaction between vegetation and morphodynamic s http://dx.doi .org/10.1002/esp.3864	Mijke van Oorschot , Maarten K leinhan s , Gertjan Geerli ng , Hans Middelko op	Earth Surface Processes and Landforms	n/a	John Wiley and Sons Ltd	United Kingdom	01/11/2015	n/a-n/a	No	Peer revie wed
16	Functional trait composition of aquatic plants can serve to disentangle multiple interacting stressors in lowland streams http://dx.doi .org/10.1016/j.scitotenv. 20 15.11.027	Annette Ba attrup -Ped ersen , Emma Göthe , Tenna Riis , Matthe w T. O'Hare	Science of the Total Environment	Vol. 543	Elsevier	Netherlands	01/02/2016	230-238	Yes	Peer revie wed
17	A Conceptual Model of Vegetation-hy drogeomorpho logy Interactions Within River Corridors http://dx.doi .org/10.1002/rra.2928	A. M. Gurnell , D. Corenbli t , D. García de Jalón , M. González del Tánago , R. C. Grabowsk i , M. T. O'Hare , M. Szewczyk	River Research and Applications	n/a	John Wiley and Sons Ltd	United Kingdom	27/07/2015	n/a-n/a	Yes	Peer revie wed
18	The use of remote sensing to characterise hydromorpholo gical properties of Europ ean rivers	S. Bizzi , L. D emarchi , R. C. Grabowski	Aquatic Sciences	n/a	Birkhauser Verlag Ba sel	Switzerland	23/09/2015	n/a-n/a	No	Peer revie wed

	http://dx.doi .org/10.1007/s00027-015-0 430-7	, C. J. Weisst ei ner , W. Van de Bund								
19	Assessing the societal benefits of river rest oration using the ecosystem services app roach http://dx.doi .org/10.1007/s10750-015-2 482-z	Jan E. Ver maat , Alfred J. Wagtendo nk , Roy B rouwer , Oleg Sheremet , Erik Ansink , Tim Brockhof f , Maarten Pl ug , Seppo Hellsten , Juk ka Aroviita , Luiza Tylec , Marek Gie#cz ew ski , Lukas Kohut , Karel Brabec , Jan tine Haver kam p , Mic haela Poppe , Kerstin Böck , Matthijs Co erssen , Joel S egerste n , Daniel Hering	Hydrobiologia	n/a	Springer Netherlands	Netherlands	17/09/2015	n/a-n/a	Yes	Peer revie wed
20	Response of fish assemblages to hydromor pholo gical restoration in central and no rthern European rivers http://dx.doi .org/10.1007/s10750-015-2 354-6	Stefan Sch mutz , Pavel Jurajda , Si mon Kaufma nn , Armin W. Lorenz , Su sanna Muhar , Amael Paillex , Michaela P oppe , Christia n Wolter	Hydrobiologia	n/a	Springer Netherlands	Netherlands	25/07/2015	n/a-n/a	Yes	Peer revie wed
21	Hydromorpholo gical frameworks: emer ging trajectories http://dx.doi .org/10.1007/s00027-015-0 436-1	A. M. Gurnell , M. Rinaldi , A. D. Buijse , G. Brierley , H. Piégay	Aquatic Sciences	n/a	Birkhauser Verlag Ba sel	Switzerland	08/10/2015	n/a-n/a	No	Peer revie wed
22	Temporal and Spatial Patterns of Fish Re	C. Wolter , A.	River Research and Applications	n/a	John Wiley and Sons	United Kingdom	01/01/2015	n/a-n/a	No	Peer revie

	sponse to Hydromorphol ogical Processes http://dx.doi .org/10.1002/rra.2980	D. Buijse , P. Parasiew icz			Ltd					wed
23	Fuzzy cognitive mapping for predicting h ydromorphol ogical responses to multiple pressures in rivers http://dx.doi .org/10.1111/1365-2664.12 56 9	Stefan Lorenz , Vanesa Ma rtinez -Fer nánde z , C arlos Alonso , Erik Mosse lma n , Diego García de Ja lón , Marta González del Tánago , B arbara Belletti , Dimmie Hendriks , Christian Wolter	Journal of Applied Ecology	n/a	Blackwell Publishing	United Kingdom	01/11/2015	n/a-n/a	No	Peer revie wed
24	The role of benthic microhabitat s in det ermining the effects of hydromorphol ogic al river restoration on macroinverte brates http://dx.doi .org/10.1007/s10750-015-2 57 5-8	Ralf C. M. Verdonsch ot , Jochem Kail , Brendan G. McKie , Piet F. M. Verdon sc hot	Hydrobiologia	n/a	Springer Netherlands	Netherlands	20/11/2015	n/a-n/a	Yes	Peer revie wed
25	Groundwater impact on environmental flow needs of streams in sandy catchments in the Netherlands http://dx.doi .org/10.1080/02626667.201 4. 892601	D.M.D. Hen driks , M.J.M. Kuijper , R. van Ek	Hydrological Sciences Journal/Journ al des Sciences, Hydrologiques	59	Taylor and Francis L td.	United Kingdom	10/04/2014	562–577	No	Peer revie wed
26	Did you say reference conditions? Ecolog ical and socio-econom ic perspectives on the European Water Framework Directive http://dx.doi .org/10.1016/j.envsci.201 4. 10.012	Gabrielle Bouleau , Didier Pont	Environmental Science and Policy	Vol. 47	Elsevier BV	Netherlands	20/11/2014	32-41	Yes	Peer revie wed
27	The effects of increased flow and fine s ediment on hyporheic invertebrates and n utrients in stream mesocosms http://dx.doi .org/10.1111/fwb.12536	Iwan Jones , Ivor Growns , Amanda A rnold , St ephani e Mc Call , Mike Bowes	Freshwater Biology	n/a	Blackwell Publishing	United Kingdom	16/01/2015	n/a-n/a	No	Peer revie wed

28	On the estimation of the bed-material transport and budget along a river segment: application to the Middle Loire River, France http://dx.doi .org/10.1007/s00027-015-0 442-3	B. Camenen , R. C. Grabowsk i , A. Latapie , A. Paquier , L. Solari , S. Rodrigues	Aquatic Sciences	n/a	Birkhauser Verlag Basel	Switzerland	28/10/2015	n/a-n/a	No	Peer revie wed
29	Effects of stream flooding on the distribution and diversity of groundwater- dependent vegetation in riparian areas 10.1111/fwb.1 2088	ANNETTE BAATTRUP-PEDERSEN , KAREN M. B. JENSEN , HANS THODSEN , HANS E. ANDERSEN , PETER M. ANDERSEN , SØREN E. LARSEN , TENNA RIIS , DAGMAR K. ANDERSEN , JOACHIM AUDET , BRIAN KRONVANG	Freshwater Biology	Vol. 58/Issue 4	Blackwell Publishing	United Kingdom	01/04/2013	817-827	No	Peer revie wed
30	Assessing restoration effects on hydromorphology in European mid-sized rivers by key hydromorphol ogical parameters http://dx.doi .org/10.1007/s10750-015-2 468-x	Michaela Poppe , Jochem Kail , Jukka Aroviita , Mateusz Stelmaszc zyk , Marek Gie #czewski , Susanne Muhar	Hydrobiologia	n/a	Springer Netherlands	Netherlands	30/10/2015	n/a-n/a	No	Peer revie wed
31	The River Gelså restoration revisited: Habitat specific assemblages and persistence of the macroinverteb rate community over an 11-year period http://dx.doi .org/10.1016/j.ecoleng.20 13 .09.069	N. Friberg , A. Baattrup-Pedersen , E.A. Kristensen , B. Kronvang , S.E. Larsen , M.L. Pedersen , J. Skriver , H. T	Ecological Engineering	66	Elsevier	Netherlands	01/11/2013	150-157	Yes	Peer revie wed

		hodsen , P. Wiberg-L arsen								
32	The response of hydrophyte growth forms and plant strategies to river restoration http://dx.doi .org/10.1007/s10750-015-2 60 5-6	Frauke Ecke , Seppo Hells ten , Jan Köhler , A rmin W. Lo renz , Jaana Rääpysjä rvi , Sabine S cheunig , Joel Segerste n , Annette Baatt rup -Pederse n	Hydrobiologia	n/a	Springer Netherlands	Netherlands	16/12/2015	n/a-n/a	Yes	Peer revie wed
33	Constructing, evaluating and visualizing value and utility functions for decision sup port http://dx.doi .org/10.1016/j.envsoft.20 13 .01.017	Peter Reichert , Nele Sch uwirth , S imone Lang hans	Environmental Modelling and Software	Vol. 46	Elsevier BV	Netherlands	21/03/2013	283-291	Yes	Peer revie wed
34	10 years after the largest river restoration project in Northern Europe: Hydromorphol ogical changes on multiple scales in River Skjern http://dx.doi .org/10.1016/j.ecoleng.20 13 .10.001	E.A. Kristens en , B. Kron vang , P. Wiberg-L ar sen , H. T hodsen , C. Nielsen , E. Amor , N. Friberg , M.L. Pedersen , A. Baattrup -Pe dersen	Ecological Engineering	66	Elsevier	Netherlands	01/10/2013	141–149	Yes	Peer revie wed
35	Vegetation-Hy drogeomorphology Inter actions in a Low-Energy, Human-Impact ed River http://dx.doi .org/10.1002/rra.2922	A. M. Gurnell , R. C. Gra bowski	River Research and Applications	n/a	John Wiley and Sons Ltd	United Kingdom	06/07/2015	n/a-n/a	No	Peer revie wed
36	Effects of river restoration on riparian grou nd beetles (Coleoptera: Carabidae) in Eu rope http://dx.doi .org/10.1007/s10750-015-2 53 2-6	Kathrin Ja nuschk e , Ralf C. M. Verdonsch ot	Hydrobiologia	n/a	Springer Netherlands	Netherlands	30/10/2015	n/a-n/a	No	Peer revie wed
37	Ecological effects of rehabilitatio n mea	Stefan Sch	Hydrobiologia	Vol. 729/I	Springer Netherlands	Netherlands	14/04/2013	49-60	No	Peer revie

	sures at the Austrian Danube: a meta-analysis of fish assemblages http://dx.doi .org/10.1007/s10750-013-1 511-z	mutz , Helga Kremser , Andreas Melcher , Mathias Jungwirth , Susanne Muhar , Herwig Waidbacher , Gerald Zauner		ssue 1						wed
38	Automatic procedures for river reach delineation: Univariate and multivariate approaches in a fluvial context http://dx.doi .org/10.1016/j.geomorph.2 015.09.029	V. Martínez-Fernández , J. Solana-Gutiérrez , M. González del Tánago , D. García de Jalón	Geomorphology	Vol. 253	Elsevier	Netherlands	03/10/2015	38-47	No	Peer reviewed
39	Impacts of habitat degradation and stream spatial location on biodiversity in a disturbed riverine landscape http://dx.doi .org/10.1007/s10531-015-0 865-0	Emma Göthe , Peter Wiberg-Larsen , Esben Astrup Kristensen , Annette Baattrup-Pedersen , Leonard Sandin , Nikolai Friberg	Biodiversity and Conservation	Vol. 24/Issue 6	Springer Netherlands	Netherlands	31/01/2015	1423-1441	No	Peer reviewed
40	Fish community responses and the temporal dynamics of recovery following river habitat restorations in Europe http://dx.doi .org/10.1086/681820	Gregor Thomas , Armin W. Lorenz , Andrea Sunderman n , Peter Haase , Armin Peter , Stefan Stoll	Freshwater Science	Vol. 34/Issue 3	The Society for Freshwater Science	United States	06/05/2015	975-990	Yes	Peer reviewed
41	Diagnosing problems induced by past gravel mining and other disturbances in Southern European rivers: the Magra River, Italy http://dx.doi .org/10.1007/s00027-015-0 440-5	B. Belletti , L. Nardi , M. Rinaldi	Aquatic Sciences	n/a	Birkhauser Verlag Basel	Switzerland	19/10/2015	n/a-n/a	No	Peer reviewed
42	Do adult and YOY fish benefit from river restoration measures? http://dx.doi .org/10.1016/j.ecoleng.20 13	Armin W. Lorenz , Stefan Stoll , Andrea Sunderma nn ,	Ecological Engineering	Vol. 61	Elsevier	Netherlands	31/10/2013	174-181	Yes	Peer reviewed

	.09.027	Peter Haase								
43	The geomorpholog ical context and impact of the linear emergent macrophyte, Sparg anium erectum L.: a statistical analysis of o bservations from British rivers http://dx.doi .org/10.1002/esp.3473	Angela M. Gurnell , Matthew T. O'Hare , Judit h M. O'Hare , Peter Scarlett , Thomas M.R. Liffen	Earth Surface Processes and Landforms	Vol. 38/Is sue 15	John Wiley and Sons Ltd	United Kingdom	03/10/2013	1869-1880	Yes	Peer revie wed
44	Assessing channel response of a long river influenced by human disturbance http://dx.doi .org/10.1016/j.catena.201 4. 04.017	A. Latapie , B. Camenen , S. Rodrigue s , A. Paquier , J.P. Bouchard , F. Moatar	Catena	Vol. 121	Elsevier	Netherlands	01/10/2014	1-12	Yes	Peer revie wed
45	Mountain river restoration measures and their success(ion): Effects on river mor phology, local species pool, and functional composition of three organism groups http://dx.doi .org/10.1016/j.ecolind.20 13 .10.031	Kathrin Ja nuschk e , Sonja C. J ähnig , Armin W. Lorenz , Daniel Hering	Ecological Indicators	Vol. 38	Elsevier	Netherlands	01/03/2014	243-255	No	Peer revie wed
46	Characterizin g geomorpholog ical change t o support sustainable river restoration and management http://dx.doi .org/10.1002/wat2.1037	Robert C. Grabowsk i , Nicola Surian , Angela M. Gurnell	WIREs Water	Vol. 1/Iss ue 5	WILEY	United States	24/07/2014	483-512	Yes	Peer revie wed
47	River restoration and the trophic structure o f benthic invertebrate communities across 16 European restoration projects http://dx.doi .org/10.1007/s10750-015-2 56 9-6	Benjamin K upilas , Nikola i Friberg , Bre ndan G. Mc Kie , Maik A. Jochmann , Armin W. L orenz , Daniel Hering	Hydrobiologia	n/a	Springer Netherlands	Netherlands	17/11/2015	n/a-n/a	No	Peer revie wed
48	Environmental controls of plant species richness in riparian wetlands: Implications for restoration http://dx.doi .org/10.1016/j.baae.2015. 04 .013	Joachim Au det , Annette Baattrup -Pe dersen , Hans E. Andersen , Peter M. And ersen , Carl C. Hoffmann ,	Basic and Applied Ecology	Vol. 16/Is sue 6	Urban und Fischer Ve rlag Jena	Germany	11/05/2015	480-489	No	Peer revie wed

		Charlotte Kjaergaard , Brian Kronvang								
49	Alternate bars in a sandy gravel bed river: generation, migration and interactions with superimposed dunes http://dx.doi .org/10.1002/esp.3657	Stephane Rodrigues , Erik Mosselman , Nicolas Claude , Coraline L. Wintenberger , Philippe Juge	Earth Surface Processes and Landforms	Vol. 40/Issue 5	John Wiley and Sons Ltd	United Kingdom	01/04/2015	610-628	Yes	Peer reviewed
50	Biogeomorphic responses to flow regulation and fine sediment supply in Mediterranean streams (the Guadalete River, southern Spain) http://dx.doi .org/10.1016/j.jhydrol.2015.06.065	M. González del Tánago , M.D. Bejarano , D. García de Jalón , J.C. Schmidt	Journal of Hydrology	Vol. 528	Elsevier	Netherlands	02/07/2015	751-762	Yes	Peer reviewed
51	Plant trait characteristics vary with size and eutrophication in European lowland streams http://dx.doi .org/10.1111/1365-2664.12509	Annette Battrup -Pedersen , Emma Göthe , Søren E. Larsen , Matthew O'Hare , Sebastian Birk , Tenna Riis , Nikolai Friberg	Journal of Applied Ecology	n/a	Blackwell Publishing	United Kingdom	21/08/2015	n/a-n/a	Yes	Peer reviewed
52	Reconstructing temporal changes and prediction of channel evolution in a large Alpine river: the Tagliamento river, Italy http://dx.doi .org/10.1007/s00027-015-0431-6	Luca Ziliani , Nicola Surian	Aquatic Sciences	n/a	Birkhauser Verlag Basel	Switzerland	19/09/2015	n/a-n/a	No	Peer reviewed
53	Field experiment on alternate bar development in a straight sand-bed stream 10.1002/2013WR014259	J. P. C. Eekhout , A. J. F. Hoitink , E. Mosselman	Water Resources Research	Vol. 49/Issue 12	American Geophysical Union	United States	01/12/2013	8357-8369	Yes	Peer reviewed
54	Diagnosing problems of fine sediment delivery and transfer in a lowland catchment http://dx.doi .org/10.1007/s00027-015-0426-3	R. C. Grabowski , A. M. Gurnell	Aquatic Sciences	n/a	Birkhauser Verlag Basel	Switzerland	14/09/2015	n/a-n/a	No	Peer reviewed

55	Diagnosing problems produced by flow regulation and other disturbances in Southern European Rivers: the Porma and Curueño Rivers (Duero Basin, NW Spain) http://dx.doi .org/10.1007/s00027-015-0 428-1	M. González del Tánago , V. Martínez -Fernánde z , D. García de Jalón	Aquatic Sciences	n/a	Birkhauser Verlag Basel	Switzerland	21/09/2015	n/a-n/a	No	Peer reviewed
56	Comparing stressor-spe cific indices and general measures of taxonomic compositio n for assessing the status of boreal lacustri ne macrophyte communities http://dx.doi .org/10.1016/j.ecolind.20 12 .11.012	A. Kanninen , S. Hellsten & H. Hämäläin en	Ecological Indicators	27	Elsevier		01/04/2013	29-34	Yes	Peer reviewed
57	The role of species functional traits in distributiona l patterns of lowland stream ve getation http://www.bi oone.org/doi/full/10.1086 /678048	Giulia Cavalli , Annette Baattrup -P ederse n , Tenna Riis	Freshwater Science	Vol. 33/Issue 4	The Society for Freshwater Science	United States	01/12/2014	1074-1085	No	Peer reviewed
58	Climate change effects on lowland stream flood regimes and riparian rich fen vegetation communities in Denmark http://dx.doi .org/10.1080/02626667.201 4. 990965	Hans Thodsen , Annette Ba attrup -Ped ersen , Hans Estrup Ander sen , Karen Marie Brask J ensen , Peter Mejlhede An dersen , K arsten Bolding , Niels Bering Ovesen	Hydrological Sciences Journal/Journ al des Sciences, Hydrologiques	n/a	Taylor and Francis L td.	United Kingdom	22/05/2015	n/a-n/a	No	Peer reviewed
59	Species sorting drives variation of boreal la ke and river macrophyte communities http://dx.doi .org.ezproxy.library.wur. nl /10.1556/168.2015.16.1. 9	J. Alahuhta , J . Rääpysjärvi , S. Hellsten , M. Kuoppala , J. Aroviita	Community Ecology	Vol. 16/Issue 1	Akademiai Kiado Rt.	Hungary	18/05/2015	76-85	Yes	Peer reviewed
60	The effect of weirs on nutrient concentr ation s http://dx.doi .org/10.1016/j.scitotenv. 20 15.10.064	I. Cisowska , M.G. Hutchi ns	Science of the Total Environment	Vol. 542	Elsevier	Netherlands	01/01/2016	997-1003	No	Peer reviewed
61	Nutrient availability and nutrient use effici ency in plants growing in the transition	Giulia Cavalli , Annette	Plant Biology	n/a	Blackwell Publishing	United Kingdom	01/09/2015	n/a-n/a	No	Peer reviewed

	zone between land and water http://dx.doi .org/10.1111/plb.12397	Baattrup -P ederse n , Tenna Riis								
62	Nutrient availability and nutrient use effici ency in plants growing in the transition zone between land and water http://dx.doi .org/10.1111/plb.12397	G. Cavalli , A. Baattrup-Pedersen , T. Riis	Plant Biology	n/a	Blackwell Publishing	United Kingdom	23/10/2015	n/a-n/a	No	Peer revie wed
63	Bundles of stream restoration measures and their effects on fish communities http://dx.doi .org/10.1016/j.limno.2015 .10.001	John P. Si maika , Stefan Stoll , Armin W. Lorenz , Gregor Th omas , Andrea Sunderma nn , Peter Haase	Limnologica	Vol. 55	Urban und Fischer Ve rlag Jena	Germany	01/11/2015	1-8	No	Peer revie wed
64	The applicabilit y of macrophyte composit ional metrics for assessing eutrophication in European lakes 10.1016/j.eco lind.2014.04.049	Agnieszka Kolada , Nigel Willby , B ernard Dudley , Peeter Nõges , Martin Sø nderga ard , Seppo Hellste n , Marit Mjelde , Ellis Penning , Gerben van Geest , V incent Bertrin , Frauke Ecke , Helle Mäe mets , Katrit Karus	Ecological Indicators	Vol. 45	Elsevier	Netherlands	01/10/2014	407-415	No	Peer revie wed
	A Method for Characterizing the Stream F low Regime in Europe 10.1007/978-3 -319-09054-2_67	Bussettin i Martina , Perc opo Carlo , Lastoria Barb ara , Mariani Stefano	Engineering Geology for Society and Terr itory - Volume 3		Springer Internationa l Publishing	Cham	22/08/2014	323-326	No	Article
	Development and Application of a Multi-s cale Process-Base d Framework for the Hydromorpholo gical Assessment of Europ ean Rivers	A. M. Gurnell , M. González del Tánago , M. Rinaldi , R . Grabowski ,	Engineering Geology for Society and Terr itory - Volume 3	3	Springer Internationa l Publishing	Cham	22/08/2014	339 - 342	No	Article

	http://dx.doi .org/10.1007/978-3-319-09 054-2_71	A. Henshaw , M. O'Hare , B . Belletti , A. D. Buijse								

LIST OF DISSEMINATION ACTIVITIES								
No.	Type of activities	Main Leader	Title	Date	Place	Type of audience	Size of audience	Countries addressed
1	Organisation of Conference	STICHTING DELTARES	Novel Approaches to Assess and Rehabilitate Modified Rivers	30/06/2015	Wageningen (NL)	Scientific community (higher education, Research) - Policy makers	170	worldwide
2	Organisation of Workshops	ECOLOGIC INSTITUT gemeinnützige GmbH	REFORM Stakeholder Workshop	26/02/2013	Brussels	Scientific community (higher education, Research) - Policy makers	120	European countries
3	Organisation of Workshops	JRC -JOINT RESEARCH CENTRE-EUROPEAN COMMISSION	ECOSTAT workshop ‘Hydromorphology and WFD classification’	12/10/2015	Oslo (Norway)	Scientific community (higher education, Research) - Policy makers	70	Europe
4	Organisation of Workshops	UNIVERSIDAD POLITECNICA DE MADRID	Restauracion de Rios: Experiencias Y Avances Metodologicos	02/06/2014	Seville	Scientific community (higher education, Research) - Policy makers	50	Spain
5	Organisation of Workshops	Istituto Superiore per la Protezione e la Ricerca Ambientale	REFORM 4th National Stakeholder Workshop "Elementi di novità a supporto dell'attuazione della Direttiva Quatro Acque"	10/09/2015	Rome (Italy)	Scientific community (higher education, Research) - Policy makers	150	Italy
6	Organisation of Workshops	STICHTING DELTARES	Transboundary stream and river restoration (Beek- en rivierherstel over de grens)	14/11/2013	Zutphen, the Netherlands	Scientific community (higher education, Research) - Policy makers	70	Netherlands, Germany, Belgium
7	Organisation of Workshops	Istituto Superiore per la Protezione e la Ricerca Ambientale	REFORM stakeholder workshop "Linking E-flows to sediment dynamics"	09/09/2015	Rome (Italy), 8 - 10 September 2015	Scientific community (higher education, Research) - Policy makers	15	Italy, Spain, Finland, Netherlands, Portugal, France, Norway, UK, USA
8	Organisation of Workshops	FORSCHUNGSVERBUND BERLIN E.V.	Summer School " RESTORING REGULATED STREAMS LINKING THEORY	27/06/2015	Wageningen (NL)	Scientific community (higher education, Research)	12	worldwide

			AND PRACTICE"					
9	Oral presentation to a wider public	SUOMEN YMP ARISTOKESKUS	'Restoring rivers for effective catchment management -- resu lts from REFORM -project, and beyond	19/03/2014	Oulu (Finland) How to improve resource effective i mplementation of WFD in Nordic countries?	Scientific comm unity (higher educat ion, Research) - Pol icy makers	65	Nordic countries (Sweden, Finland, Norway, Iceland)
10	Organisation of Workshops	SZKOLA GLO WNA GOSPOD ARSTWA WIE JSKIEGO	Groundwater - River interaction as driver for ecology	15/09/2014	Raszyn (Poland)	Scientific comm unity (higher educat ion, Research) - Pol icy makers	18	UK, Poland, Den mark, Spain, Ne therlands, Germ any, Sweden
11	Organisation of Workshops	STICHTING DELTARES	CIS-SPI	07/11/2011	Brussels	Scientific comm unity (higher educat ion, Research) - Pol icy makers	50	EU
12	Presentations	STICHTING DELTARES	REFORM	12/06/2012	Brussels - ECOS TAT HYMO w orkshop	Scientific comm unity (higher educat ion, Research) - Pol icy makers	100	Member states of the European Union
13	Posters	STICHTING DELTARES	REFORM	24/05/2012	Brussels - 3rd European Water Conference	Scientific comm unity (higher educat ion, Research) - Ind ustry - Policy makers - Medias	1000	Member states of the European Union
14	Presentations	STICHTING DELTARES	REFORM	06/02/2012	Utrecht - Deltares	Scientific comm unity (higher educat ion, Research)	40	Netherlands
15	Presentations	Istituto Superiore p er la Protezione e la Ricerca Ambientale	REFORM	19/04/2012	Buchares - CIS WG F Floods	Scientific comm unity (higher educat ion, Research) - Pol icy makers		Member states of the European Union
16	Articles published in the popular press	DIENST LAN DELIJK GEBIED	REFORM - REstor ing rivers FOR effec tive catchment Management -sta rted	15/03/2012	ECRR Newsletter 2012-1	Scientific comm unity (higher educat ion, Research) - Pol icy makers	500	Europe
17	Presentations	CENTRO DE ESTUDIOS Y EXPERIMEN TACION DE OBRAS PUBL	REFORM to repre sentatives of the Wa ter Directorate of the Ministry	20/01/2012	Madrid - CEDEX	Policy makers		Spain

		ICAS - CEDEX						
18	Web sites/Applications	ECOLOGIC INSTITUT gemeinnützige GmbH	REFORM Website Launch	11/06/2012	Berlin	Scientific community (higher education, Research) - Policy makers		Europe
19	Publication	ECOLOGIC INSTITUT gemeinnützige GmbH	Launch of the 1st Newsletter	03/07/2012	Berlin	Scientific community (higher education, Research) - Policy makers		Europe
20	Publication	ECOLOGIC INSTITUT gemeinnützige GmbH	Deliverable 7.1: Dissemination Strategy	23/03/2012	Berlin	Policy makers		Europe
21	Flyers	ECOLOGIC INSTITUT gemeinnützige GmbH	Reform leaflet	30/08/2012	Berlin	Scientific community (higher education, Research) - Civil society - Policy makers - Medias		Europe
22	Presentations	NATURAL ENVIRONMENT RESEARCH COUNCIL	REFORM	25/09/2012	Dunkeld (Scotland) - RESTORE Workshop Scotland	Scientific community (higher education, Research) - Policy makers	75	Scotland
23	Presentations	STICHTING DELTARES	REFORM - REstoring rivers FOR effective catchment Management	05/10/2012	Columbus (OH, USA) - 4th International Ecosummit	Scientific community (higher education, Research)	15	worldwide
24	Flyers	STICHTING DELTARES	REFORM - REstoring rivers FOR effective catchment Management	03/10/2012	Columbus (OH, USA) - 4th International Ecosummit	Scientific community (higher education, Research)	30	worldwide (e.g. Italy, Canada, USA, Denmark, Sweden)
25	Posters	STICHTING DELTARES	Interactions among ecological and hydromorphological processes in river floodplains etc.	04/10/2012	Arnhem - NCR days	Scientific community (higher education, Research) - Policy makers	60	Netherlands
26	Publication	ECOLOGIC INSTITUT gemeinnützige GmbH	Launch of the 2nd Newsletter	18/12/2012	Berlin	Scientific community (higher education, Research) - Policy makers		Europe
27	Flyers	ECOLOGIC INSTITUT gemeinnützige GmbH	REFORM leaflet German version	07/12/2012	Berlin	Scientific community (higher education, Research) - Civ		Europe

						il society - Policy makers - Medias		
28	Flyers	ECOLOGIC INSTITUT gemeinnützige GmbH	REFORM leaflet French version	16/10/2012	Berlin	Scientific community (higher education, Research) - Civil society - Policy makers - Medias		Europe
29	Flyers	CENTRO DE ESTUDIOS Y EXPERIMENTACION DE OBRAS PUBLICAS - CEDEX	REFORM leaflet Spanish version	16/10/2012	Berlin	Scientific community (higher education, Research) - Civil society - Policy makers - Medias		Europe
30	Flyers	Istituto Superiore per la Protezione e la Ricerca Ambientale	REFORM leaflet Italian version	16/10/2012	Berlin	Scientific community (higher education, Research) - Civil society - Policy makers - Medias		Europe
31	Interviews	STICHTING DELTARES	'Facelift for European Rivers' - Interview Tom Buijse in Deltarespons	01/12/2012	Delft	Scientific community (higher education, Research)	800	Netherlands
32	Flyers	INSTITUTUL NATIONAL DE CERCETARE-DEZVOLTARE DELTA DUNARII	Reform leaflet	14/09/2012	Tulcea, Romania	Scientific community (higher education, Research)	100	France, Turkey, Japan, Austria, Hungary, Denmark, Spain, Finland, Serbia, Russia, Spain
33	Posters	ECOLOGIC INSTITUT gemeinnützige GmbH	REFORM Poster at EU Water Blueprint Conference	26/11/2012	Nicosia, Cyprus	Policy makers	200	European Union
34	Presentations	UNIVERSITAET DUISBURG-ESSEN	Introduction to REFORM	27/11/2012	Berlin - meeting of expert group "rivers" of "Working Group of the Federal States on Water Problems"	Industry - Policy makers	25	Germany
35	Organisation of Conference	UNIVERSITAET DUISBURG-ESSEN	Does river restoration effect more than just hydromorphological improvement?	07/05/2013	Kiel, Ecosystem Service Workshop	Scientific community (higher education, Research) - Industry	60	Germany

36	Organisation of Conference	UNIVERSITAET DUISBURG-ESSEN	Restoration and assessment of urban rivers	26/03/2013	Essen - conference "urban biodiversity" (see www.urbane-biodiversitaet.de)	Scientific community (higher education, Research) - Industry - Civil society - Policy makers	150	Germany, Netherlands
37	Organisation of Conference	UNIVERSITAET FUER BODENKULTUR WIEN	Special Session - REFORM at the 9th International Symposium on Ecohydraulics	21/09/2012	University of Natural Resources and Life Sciences, Vienna	Scientific community (higher education, Research) - Industry - Policy makers	100	approx. 40 countries worldwide
38	Press releases	Istituto Superiore per la Protezione e la Ricerca Ambientale	Progetto REFORM: Riqualificazione ecologica dei corsi d'acqua	03/05/2012	Rome - PRU€ quaterly bulletin on research funding in the field of water protection n. 2/2012	Scientific community (higher education, Research) - Industry - Civil society - Policy makers - Medias		Italy
39	Press releases	Istituto Superiore per la Protezione e la Ricerca Ambientale	Il punto sul progetto REFORM	26/10/2012	Rome - PRU€ quaterly bulletin on research funding in the field of water protection n. 4/2012	Scientific community (higher education, Research) - Industry - Civil society - Policy makers - Medias		Italy
40	Presentations	ECOLOGIC INSTITUT gemeinnützige GmbH	Inventory of river restoration measures: effects, costs and benefits?Current Progress DEL 1.4	03/06/2013	Brussels, First workshop: Support Policy Development for Integration of Ecosystem Services Approach	Scientific community (higher education, Research) - Policy makers		European Union
41	Presentations	ECOLOGIC INSTITUT gemeinnützige GmbH	REFORM project presentation	18/05/2013	Leipzig, BioFresh Workshop on Science-Policy Interface	Scientific community (higher education, Research)	50	European Union
42	Organisation of Conference	NATURAL ENVIRONMENT RESEARCH COUNCIL	The structuring influences on the riparian flora of lowland UK rivers	11/09/2012	Poznan	Scientific community (higher education, Research)	150	worldwide
43	Publication	NATURAL ENVIRONMENT RESEARCH COUNCIL	The structuring influences on the riparian flora of lowland UK rivers	20/12/2012	Edinurgh	Scientific community (higher education, Research)		worldwide
44	Media briefings	STICHTING DELTARES	Outcome of REFORM's Stakeholder Workshop on River	10/07/2013	LinkedIn Group "Stream Restoration Professionals"	Scientific community (higher education, Research)	3000	worldwide

			Restoration (Brussels, February 2013)		(internet)			
45	Media briefings	STICHTING DELTARES	Outcome of REFORM's Stakeholder Workshop on River Restoration (Brussels, February 2013)	10/07/2013	LinkedIn Group "River Restoration Professionals" (internet)	Scientific community (higher education, Research)	1500	worldwide
46	Media briefings	STICHTING DELTARES	Outcome of REFORM's Stakeholder Workshop on River Restoration (Brussels, February 2013)	10/07/2013	LinkedIn Group "Restoring Europe's Rivers" (internet)	Scientific community (higher education, Research) - Policy makers	215	Europe
47	Oral presentation to a scientific event	STICHTING DELTARES	Hydromorphology of European rivers: impacts of regulation and benefits of rehabilitation	06/06/2013	Koblenz (Germany) ICWRER conference	Scientific community (higher education, Research)	40	worldwide
48	Articles published in the popular press	DIENST LANDELIJK GEBIED	REFORM Stakeholder Workshop on River Restoration, Brussels	12/04/2013	ECRR Newsletter 2013-01	Scientific community (higher education, Research) - Policy makers	500	Europe
49	Oral presentation to a wider public	STICHTING DELTARES	European River Restoration Conference - REFORM side event	12/09/2013	Vienna - Austria	Scientific community (higher education, Research) - Industry - Policy makers	80	Europe
50	Media briefings	STICHTING DELTARES	Interim results of European FP7 project REFORM (Restoring rivers for Effective Catchment Management) available online	03/12/2013	LinkedIn group "EU Water Framework Directive (WFD) Implementation"	Scientific community (higher education, Research) - Policy makers	92	Europe
51	Media briefings	STICHTING DELTARES	Interim results of European FP7 project REFORM (Restoring rivers for Effective Catchment Management) available online	03/12/2013	LinkedIn group "River Restoration Professionals"	Scientific community (higher education, Research) - Industry - Policy makers	1723	Worldwide
52	Media briefings	STICHTING DELTARES	Interim results of European FP7 project	03/12/2013	LinkedIn group "Stream Restora	Scientific community (higher educat	3265	Worldwide

			REFORM (Restoring rivers for Effective Catchment Management) available online		tion Professionals"	ion, Research) - Industry - Policy makers		
53	Media briefings	STICHTING DELTARES	Interim results of European FP7 project REFORM (Restoring rivers for Effective Catchment Management) available online	03/12/2013	LinkedIn group "Restoring Europe's Rivers"	Scientific community (higher education, Research) - Policy makers	261	Europe
54	Media briefings	STICHTING DELTARES	Online presentations REFORM project, the UK River Restoration Centre and International Rhine Commission	03/12/2013	LinkedIn group "EU Water Framework Directive (WFD) Implementation"	Scientific community (higher education, Research) - Policy makers	92	Europe
55	Media briefings	STICHTING DELTARES	Online presentations REFORM project, the UK River Restoration Centre and International Rhine Commission	03/12/2013	LinkedIn group "Restoring Europe's Rivers"	Scientific community (higher education, Research) - Policy makers	261	Europe
56	Media briefings	STICHTING DELTARES	Online presentations REFORM project, the UK River Restoration Centre and International Rhine Commission	03/12/2013	LinkedIn group "River Restoration Professionals"	Scientific community (higher education, Research) - Industry - Policy makers	1723	Worldwide
57	Media briefings	STICHTING DELTARES	Online presentations REFORM project, the UK River Restoration Centre and International Rhine Commission	03/12/2013	LinkedIn group "Stream Restoration Professionals"	Scientific community (higher education, Research) - Industry - Policy makers	3265	Worldwide
58	Press releases	Istituto Superiore per la Protezione e la Ricerca Ambientale	THE EU FP7 PROJECT REFORM REstoring rivers FOR effective catchment Management	17/12/2013	EU - Water JPI Newsletter	Scientific community (higher education, Research) - Policy makers		EU
59	Web sites/Appli	Istituto Superiore p	REFORM webpage	17/03/2014	Rome - ISPRA we	Scientific comm		Italy

	cations	er la Protezione e la Ricerca Ambientale	on ISPRA website for dissemination at Italian level		bsite	unity (higher education, Research) - Civil society - Policy makers - Medias		
60	Oral presentation to a scientific event	STICHTING DELTARES	Hydromorphology of rivers and flood plains – What is at stake and how will REFORM contribute?	26/03/2014	Brussels - CIS Working group on Programmes of Measures	Scientific community (higher education, Research) - Policy makers	60	EU member states
61	Organisation of Workshops	UNIVERSITY OF HULL	Can river restoration help achieve synergies between flood risk mitigation, urban development, renewable energy and climate change?	08/05/2014	Sheffield (UK)	Scientific community (higher education, Research) - Policy makers	40	United Kingdom
62	Media briefings	ECOLOGIC INSTITUT gemeinnützige GmbH	Launch of 4th newsletter	28/01/2014	Berlin	Scientific community (higher education, Research) - Policy makers		Europe
63	Media briefings	ECOLOGIC INSTITUT gemeinnützige GmbH	Launch of 3rd newsletter	01/07/2013	Berlin	Scientific community (higher education, Research) - Policy makers		Europe
64	Oral presentation to a scientific event	STICHTING DELTARES	The REFORM programme and restoration measures in the Lower Rhine	22/05/2014	Chinon (F) - River Sciences 2014 – an international workshop	Scientific community (higher education, Research)	10	Italy, France, Spain, Germany, Netherlands
65	Oral presentation to a scientific event	STICHTING DELTARES	DISTINCT PATTERNS OF INTERACTIONS BETWEEN VEGETATION AND RIVER MORPHOLOGY	23/06/2014	Trondheim (Norway) 10th International Symposium on Ecohydraulics	Scientific community (higher education, Research)	100	Worldwide
66	Oral presentation to a scientific event	UNIVERSIDAD POLITECNICA DE MADRID	Exploring the influence of sediment size on river corridor changes downstream from dams (Spain)	26/06/2014	Trondheim (Norway) 10th International Symposium on Ecohydraulics	Scientific community (higher education, Research)	100	Worldwide
67	Oral presentation to	UNIVERSIDAD	FLOW REGUL	26/06/2014	Trondheim (Norw	Scientific comm	100	Worldwide

	a scientific event	POLITECNICA DE MADRID	ATION AND VEGETATION CHANGES IN GRA VEL BED RIVERS (UPPER ESLA BAS IN, NW SPAIN)		ay) 10th Internation al Symposium on Ecohydraulics	unity (higher educat ion, Research)		
68	Oral presentation to a scientific event	FORSCHUNGS VERBUND BE RLIN E.V.	BIOTIC RES PONSE TO H YDROMORPHO LOGIC CHANGES - WHAT TO A DDRESS?	26/06/2014	Trondheim (Norw ay) 10th Internation al Symposium on Ecohydraulics	Scientific comm unity (higher educat ion, Research)	100	Worldwide
69	Oral presentation to a scientific event	UNIVERSITAET FUER BODENKU LTUR WIEN	Characterising Hydromorphological Pressures to Assess Human Impacts - A Valuation Techniqu e	26/06/2014	Trondheim (Norw ay) 10th Internation al Symposium on Ecohydraulics	Scientific comm unity (higher educat ion, Research)	100	Worldwide
70	Oral presentation to a scientific event	STICHTING DELTARES	Hydromorphology of rivers and flood plains – What is at stake and how will REFORM contribut e?	25/09/2014	Lyon (France) PhD defence Bertrand Morandi	Scientific comm unity (higher educat ion, Research)	15	France
71	Flyers	ECOLOGIC I NSTITUT gemeinn ützige GmbH	REFORM Leaflet translations into CZ, DK, FI, NL, PL, SE	01/11/2014	Berlin	Scientific comm unity (higher educat ion, Research) - Ind ustry - Civil society - Policy makers - Medias		Czech Republic, Denmark, Finland, Netherlands, Pol and, Sweden
72	Oral presentation to a scientific event	QUEEN MARY UNIVERSITY OF LONDON	DEVELOPMENT AND APPLICATI ON OF A MU LTISCALE P ROCESS-BASED FRAMEWORK FO R THE HYDR OMORPHOLOG ICAL ASSES SMENT OF E UROPEAN RI VERS	07/05/2014	River Restoration Centre 14th Annual Network Confe rence, Sheffield, UK	Scientific comm unity (higher educat ion, Research) - Ind ustry - Policy makers	200	mainly UK
73	Oral presentation to a scientific event	QUEEN MARY UNIVERSITY OF	Development and Application of a Mu	18/09/2014	IAEG XII Congre ss, Torino, Italy	Scientific comm unity (higher educat	100	EU and Internat ional

		LONDON	lti-scale Process-Based Framework for the Hydromorphological Assessment of European Rivers			ion, Research)		
74	Oral presentation to a scientific event	QUEEN MARY UNIVERSITY OF LONDON	MULTI-SCALE PROCESS-BASED FRAMEWORK FOR RIVER CHARACTERISATION AND RESTORATION	02/06/2014	Workshop: Restauracion de Rios: Experiencias Y Avances Metodologicos, Seville, Spain	Scientific community (higher education, Research) - Policy makers	50	Spain
75	Oral presentation to a scientific event	UNIVERSITAET DUISBURG-ESSEN	Biodiversity, WFD and restoration	12/09/2013	Potsdam, Germany - Annual Meeting of the German Limnological Society	Scientific community (higher education, Research)	50	Germany
76	Posters	UNIVERSITAET DUISBURG-ESSEN	Sampling methods for restored reaches	11/09/2013	Potsdam, Germany - Annual Meeting of the German Limnological Society	Scientific community (higher education, Research)	50	Germany
77	Oral presentation to a scientific event	UNIVERSITAET DUISBURG-ESSEN	Experiences with restoration projects	22/11/2013	Liechtenstein	Scientific community (higher education, Research) - Civil society - Policy makers	60	Switzerland, Liechtenstein, Austria
78	Oral presentation to a scientific event	UNIVERSITAET DUISBURG-ESSEN	Pioneer colonization and succession in restored river sections	29/09/2014	Magdeburg, Germany - Annual Meeting of the German Limnological Society	Scientific community (higher education, Research)	50	Germany
79	Oral presentation to a scientific event	UNIVERSITAET DUISBURG-ESSEN	Pioneer colonization and temporal processes in restored river sections	05/07/2013	Muenster, Germany - Syposium for European Freshwater Sciences	Scientific community (higher education, Research)	200	Europe
80	Oral presentation to a scientific event	UNIVERSITAET DUISBURG-ESSEN	Effects of river restorations on carabid beetles and vegetation in floodplains	03/04/2014	Dessau, Germany - Floodplain ecology workshop	Scientific community (higher education, Research) - Civil society - Policy makers	60	Germany
81	Oral presentation to a scientific event	UNIVERSITAET DUISBURG-ESSEN	"River restoration in Europe - General principles and approa	02/06/2013	Sevilla, Spain - REFORM National Stakeholder Works	Civil society - Policy makers	60	Spain

			ches, restoration measures, effects on river biota "		hop "Restoring Rivers: Experiences & methodologies			
82	Media briefings	UNIVERSITAET DUISBURG-ESSEN	REFORM newsletter No. 5 - Learning from the past to improve river restoration in the future	01/09/2014	EU	Scientific community (higher education, Research) - Industry - Civil society - Policy makers - Medias		all EU member states
83	Oral presentation to a wider public	STICHTING DELTARES	The REFORM project: increasing the success of restoration	17/11/2014	Oslo - Norge Nasjonalt Restaureringsseminar 2014	Scientific community (higher education, Research) - Industry - Policy makers	75	Norway
84	Oral presentation to a scientific event	STICHTING DELTARES	REFORM & RiverCare Research Programs	05/11/2014	Koblenz - Erfahrungsaustausch Renaturierungsmaßnahmen an großen Flüssen	Scientific community (higher education, Research)	20	Germany, Netherlands
85	Oral presentation to a scientific event	UNIVERSITA DEGLI STUDI DI FIRENZE	Hydromorphological assessment aimed to river management and restoration of European streams within the context of the REFORM project	18/09/2013	Pisa, IX Forum Italiano di Scienze della Terra “Geoitalia 2013”	Scientific community (higher education, Research)	50	Italy
86	Oral presentation to a scientific event	UNIVERSITA DEGLI STUDI DI FIRENZE	Nuove conoscenze e nuovi strumenti per la gestione e la riqualificazione fluviale in europa: il progetto REFORM	30/05/2013	Milano, Symposium "The Fluvial System 1.0".	Scientific community (higher education, Research)	30	Italy
87	Oral presentation to a wider public	UNIVERSITA DEGLI STUDI DI FIRENZE	Assessing and predicting the effects of hydromorphological alteration and restoration	17/12/2013	Udine - Seminar WaterDiss2.0	Scientific community (higher education, Research) - Policy makers	60	Italy
88	Organisation of Conference	SZKOLA GLOWNA GOSPODARSTWA WIEJSKIEGO	XXIV National School of Water Management "Hydromorphological aspects in water ma	24/09/2014	Cracow, Poland	Scientific community (higher education, Research) - Policy makers	40	Poland

			nagement"					
89	Oral presentation to a scientific event	SZKOLA GLOWNA GOSPODARSTWA WIEJSKIEGO	Hierarchical hydromorfological assessment of rivers - Upper Narew river case study	25/09/2014	Cracow, Poland, XXIV National School of Water Management	Scientific community (higher education, Research) - Policy makers	40	Poland
90	Oral presentation to a scientific event	SZKOLA GLOWNA GOSPODARSTWA WIEJSKIEGO	Review and evaluation of methods for assessment and monitoring of hydromorphological elements applied in Europe and US - results of REFROM project	25/09/2014	Cracow, Poland, XXIV National School of Water Management	Scientific community (higher education, Research) - Policy makers	40	Poland
91	Oral presentation to a scientific event	SZKOLA GLOWNA GOSPODARSTWA WIEJSKIEGO	Comparison of hydromorphological assessment methods applied in valleys of mountainous and lowland river	25/09/2014	Cracow, Poland, XXIV National School of Water Management	Scientific community (higher education, Research) - Policy makers	40	Poland
92	Oral presentation to a scientific event	UNIVERSITAET DUISBURG-ESSEN	Effects of river restoration on trophic patterns in streams	29/09/2014	Magdeburg, Germany - Annual Meeting of the German Limnological Society	Scientific community (higher education, Research)	40	Germany
93	Posters	UNIVERSITAET DUISBURG-ESSEN	13C and 15N isotopes as possible indicators of food-web changes related to river restoration	15/10/2014	Munich, Germany - Annual Meeting of Stable Isotope Group	Scientific community (higher education, Research)		Germany
94	Oral presentation to a scientific event	INSTITUTUL NATIONAL DE CERCETARE-DEZVOLTARE DELTA DUNARII	Danube flood risk and floodplain restoration	23/04/2014	Tulcea-DDNI	Scientific community (higher education, Research)	60	Romania
95	Posters	Istituto Superiore per la Protezione e la Ricerca Ambientale	A method for characterizing the stream flow regime in Europe	18/09/2014	Turin (Italy) - XII IAEG Congress	Scientific community (higher education, Research) - Industry - Civil society - Policy makers	1000	worldwide
96	Oral presentation to	Istituto Superiore p	Struttura generale d	08/05/2014	Rome (Italy) -	Scientific comm	50	Italy

	a wider public	er la Protezione e la Ricerca Ambientale	el sistema IDRAIM		Workshop "Sistema di valutazione id romorfologica, analisi e monit oraggio ..."	unity (higher educat ion, Research) - Pol icy makers		
97	Organisation of Workshops	ENVIRONMENT AGENCY	EA workshop to share outputs of the REFORM project	24/02/2015	Birmingham (UK)	Scientific comm unity (higher educat ion, Research) - Pol icy makers	31	England
98	Web sites/Appli cations	Istituto Superiore p er la Protezione e la Ricerca Ambientale	Update of the R EFORM webpage o n ISPRA website for dissemination at Ita lian level	02/03/2015	Rome - ISPRA we bsite	Scientific comm unity (higher educat ion, Research) - Civ il society - Policy makers - Medias		Italy
99	Oral presentation to a wider public	QUEEN MARY UNIVERSITY OF LONDON	Hydromorphology and ecology of rive rs and floodplains:? the contribution of REFORM	18/03/2015	Brussels - ECOS TAT meeting	Policy makers	40	Europe
100	Oral presentation to a scientific event	QUEEN MARY UNIVERSITY OF LONDON	REFORM hydromor phological fram ework	26/03/2015	Warrington (UK) - UK TAG (Tech nical Advisory Group) on Hydro morphology	Scientific comm unity (higher educat ion, Research) - Pol icy makers	13	United Kingdom
101	Oral presentation to a scientific event	QUEEN MARY UNIVERSITY OF LONDON	Conceptualising Hydrogeomorpho logy – Vegetation In teractions along Riv er Corridors	25/06/2015	Lyon (F)	Scientific comm unity (higher educat ion, Research) - Pol icy makers	450	worldwide
102	Oral presentation to a scientific event	UNIVERSITA DEGLI STUDI DI FIRENZE	New tools for the hy dromorphological assessment of Euro pean streams	23/06/2015	Lyon (F)	Scientific comm unity (higher educat ion, Research) - Pol icy makers	450	worldwide
103	Oral presentation to a scientific event	STICHTING DELTARES	Hydromorphology of European rivers: impacts of regulati on and benefits of r ehabilitation	24/06/2015	Lyon (F)	Scientific comm unity (higher educat ion, Research) - Pol icy makers	450	worldwide
104	Oral presentation to a scientific event	JRC -JOINT RESE ARCH CENTRE-EUROPEAN COM MISSION	The use of remote se nsing data for regio nal hydromorpho logical characteriza	23/06/2015	Lyon (F)	Scientific comm unity (higher educat ion, Research) - Pol icy makers	450	worldwide

			tion					
105	Posters	UNIVERSITA DEGLI STUDI DI FIRENZE	The Geomorphic Units survey and classification System (GUS)	23/06/2015	Lyon (F)	Scientific community (higher education, Research) - Policy makers	450	worldwide
106	Oral presentation to a scientific event	STICHTING DELTARES	Hydromorphology of rivers and flood plains – What is at stake and how does REFORM contribute?	01/10/2015	Nijmegen - NCR days 2015	Scientific community (higher education, Research)	60	Netherlands
107	Oral presentation to a scientific event	STICHTING DELTARES	Key results? of the REFORM project	23/09/2015	Vienna - ICPDR Technical workshop "WFD methodological aspects regarding hydromorphology"	Scientific community (higher education, Research) - Policy makers	25	12 countries from the Danube River Basin
108	Oral presentation to a scientific event	QUEEN MARY UNIVERSITY OF LONDON	Linking ecology and hydrogeomorphology: the role of plants at multiple scales	21/09/2015	Essen - Annual Meeting of the German Limnological Society	Scientific community (higher education, Research) - Policy makers	300	Germany
109	Media briefings	ECOLOGIC INSTITUT gemeinnützige GmbH	Launch of the 7th REFORM newsletter	28/08/2015	Berlin	Medias		Europe
110	Media briefings	ECOLOGIC INSTITUT gemeinnützige GmbH	Launch of the 6th REFORM newsletter	10/03/2015	Berlin	Medias		Europe
111	Oral presentation to a scientific event	QUEEN MARY UNIVERSITY OF LONDON	Hydrology - Geomorphology - Vegetation Interactions along River Corridors: A Conceptual Framework (Keynote lecture)	16/09/2015	Edinburgh - International conference 'Aquatic Plants 2015'	Scientific community (higher education, Research)	200	worldwide
112	Organisation of Conference	ENVIRONMENT AGENCY	Teleconference to disseminate and discuss, amongst other topics, the REFORM framework and the REFORM river typology	18/06/2015	United Kingdom	Scientific community (higher education, Research) - Policy makers	18	United Kingdom

113	Oral presentation to a scientific event	QUEEN MARY UNIVERSITY OF LONDON	The importance of plants for river restoration	04/06/2015	Wallingford - Environment Agency's Fisheries, Biodiversity and Geomorphology Network	Scientific community (higher education, Research) - Policy makers	40	United Kingdom
114	Media briefings	ECOLOGIC INSTITUT gemeinnützige GmbH	Launch of the 5th REFORM newsletter	08/09/2014	Berlin	Medias		Europe
115	Oral presentation to a scientific event	NORSK INSTITUTT FOR VANNFORSKNING	Potential and limitations of BQE methods indicators for hydromorphological pressures	12/10/2015	Oslo (Norway)	Scientific community (higher education, Research) - Policy makers	70	Europe
116	Oral presentation to a scientific event	UNIVERSITA DEGLI STUDI DI FIRENZE	New tools for an integrated hydromorphological assessment of European streams	13/10/2015	Oslo (Norway)	Scientific community (higher education, Research) - Policy makers	70	Europe
117	Oral presentation to a scientific event	JRC -JOINT RESEARCH CENTRE-EUROPEAN COMMISSION	Use of remote sensing information in hydromorphological assessment	13/10/2015	Oslo (Norway)	Scientific community (higher education, Research) - Policy makers	70	Europe
118	Oral presentation to a scientific event	STICHTING DELTARES	Hydromorphology of rivers and flood plains – What is at stake and how does REFORM contribute?	12/10/2015	Oslo (Norway)	Scientific community (higher education, Research) - Policy makers	70	Europe
119	Oral presentation to a scientific event	UNIVERSITA DEGLI STUDI DI FIRENZE	New tools for the hydromorphological assessment of European streams	23/06/2015	Lyon (France)	Scientific community (higher education, Research)		worldwide
120	Oral presentation to a wider public	UNIVERSITA DEGLI STUDI DI FIRENZE	Gli indici morfologici a supporto degli indici biologivi per la classificazione dello stato ecologico dei corpi idrici superficiali	10/12/2014	Bologna	Scientific community (higher education, Research)		Italy
121	Posters	UNIVERSITA DEGLI STUDI DI	The Geomorphic Units survey and cla	23/06/2015	Lyon (France)	Scientific community (higher educat		worldwide

		FIRENZE	ssification System (GUS)			ion, Research)		
122	Oral presentation to a wider public	UNIVERSITA DEGLI STUDI DI FIRENZE	REFORM: New too ls for an integrated hydromorphological assessment of E uropean streams	13/10/2015	Oslo (Norway)	Scientific comm unity (higher educat ion, Research)		Member States of the European Union
123	Oral presentation to a wider public	UNIVERSITA DEGLI STUDI DI FIRENZE	L'Idromorfologia e i l suo ruolo nella ge stione dei corsi d'a cqua	10/07/2015	Rome (Italy)	Scientific comm unity (higher educat ion, Research)		Italy
124	Media briefings	ECOLOGIC I NSTITUT gemeinn ützige GmbH	Launch of 1st Policy Brief	28/06/2013	Berlin	Policy makers		EU
125	Media briefings	ECOLOGIC I NSTITUT gemeinn ützige GmbH	Launch of 2nd P olicy Brief	26/09/2014	Berlin	Policy makers		EU
126	Articles published in the popular press	ECOLOGIC I NSTITUT gemeinn ützige GmbH	REFORM Final Co nference & Summer School	30/09/2015	ECRR Newsletter September 2015	Scientific comm unity (higher educat ion, Research) - Civ il society - Policy makers - Medias		EU
127	Oral presentation to a scientific event	Istituto Superiore p er la Protezione e la Ricerca Ambientale	Conoscere i corsi d? acqua per gestirli in modo integrato e s ostenibile: indirizzi strategici dal pro getto REFORM	28/10/2015	Reggio Calabria (IT) - III Convegno Italiano sulla Riqu alificazione Fluvial e #RF2015	Scientific comm unity (higher educat ion, Research) - Pol icy makers		Italy
128	Media briefings	Istituto Superiore p er la Protezione e la Ricerca Ambientale	Research Highlights on "REFORM stak eholder workshop Linking E-flows to sediment dynamics"	30/10/2015	Rome - Water JPI Newsletter, Issue of November 2015	Scientific comm unity (higher educat ion, Research) - Pol icy makers		EU
129	Web sites/Appli cations	Istituto Superiore p er la Protezione e la Ricerca Ambientale	2nd update of the REFORM webpage on ISPRA website for dissemination at Italian level	30/10/2015	Rome - ISPRA we bsite	Scientific comm unity (higher educat ion, Research) - Civ il society - Policy makers - Medias		Italy
130	Oral presentation to a scientific event	UNIVERSITA DEGLI STUDI DI FIRENZE	A new system for the classification and the survey of f	15/06/2015	Padova (Italy), 3rd Symposium on Ri ver Systems	Scientific comm unity (higher educat ion, Research)		Italy

			luvial geomorphic units (B.Belletti)					
131	Posters	INSTITUT NATIONAL DE RECHERCHE EN SCIENCES ET TECHNOLOGIES POUR L'ENVIRONNEMENT ET L'AGRICULTURE	On the estimation of the bed-material transport and budget along a river segment : application to the Middle Loire River, France by B. Camenen et al.	01/07/2015	Wageningen	Scientific community (higher education, Research)	200	Worldwide
132	Oral presentation to a scientific event	INSTITUT NATIONAL DE RECHERCHE EN SCIENCES ET TECHNOLOGIES POUR L'ENVIRONNEMENT ET L'AGRICULTURE	A qualitative Cross-Impact Balance analysis of the hydrological impacts of land use change on channel morphology and the provision of stream channel services by D. Slawson	01/07/2015	Wageningen, The Netherlands	Scientific community (higher education, Research)	200	Worldwide
133	Oral presentation to a wider public	INSTITUT NATIONAL DE RECHERCHE EN SCIENCES ET TECHNOLOGIES POUR L'ENVIRONNEMENT ET L'AGRICULTURE	Analysis of Stream Channel Geometry Temporal and Spatial Evolution after Historic Dam Removal - two French case studies by Slawson D., L. Manière, and F. Marchandeau	14/05/2014	Vienna, Austria (EGU)	Scientific community (higher education, Research)		Worldwide
134	Oral presentation to a scientific event	UNIVERSITAET DUISBURG-ESSEN	Selection of restoration measures	28/06/2015	Wageningen - REFORM Summer School	Scientific community (higher education, Research)		worldwide
135	Oral presentation to a scientific event	UNIVERSITAET DUISBURG-ESSEN	The effect of river restoration on fish, macroinvertebrates and aquatic macrophytes: a meta-analysis	30/06/2015	Wageningen - REFORM Conference	Scientific community (higher education, Research) - Policy makers	170	worldwide
136	Posters	UNIVERSITAET DUISBURG-ESSEN	Effects of river restoration on riparian ground beetles (Coleoptera: Carabidae) in Europe	30/06/2015	Wageningen - REFORM Conference	Scientific community (higher education, Research) - Policy makers	170	worldwide
137	Oral presentation to	UNIVERSITAET	Effects of river res	01/07/2015	Wageningen - RE	Scientific comm	170	worldwide

	a scientific event	DUISBURG-ESSEN	toration on 13c and 15n isotope composition in river and floodplain food webs - an approach on 20 European restoration projects		FORM Conference	unity (higher education, Research) - Policy makers		
138	Oral presentation to a scientific event	UNIVERSITAET DUISBURG-ESSEN	Contrasting the role of section length and instream habitat enhancement for river restoration success: a field study on 20 European restoration projects	01/07/2015	Wageningen - REFORM Conference	Scientific community (higher education, Research) - Policy makers	170	worldwide
139	Oral presentation to a scientific event	UNIVERSITAET DUISBURG-ESSEN	Top oder Flop? Die Wirkung von Fließgewässer-Renaturierungen auf Fische, Makroinvertebraten und Makrophyten - eine globale Meta-Analyse	21/09/2015	Essen - German Limnological Society Annual Conference	Scientific community (higher education, Research) - Policy makers	400	Germany
140	Oral presentation to a scientific event	UNIVERSITAET DUISBURG-ESSEN	Der Faktor Zeit bei Fließgewässerrenaturierungen	22/09/2015	Essen - German Limnological Society Annual Conference	Scientific community (higher education, Research) - Policy makers	400	Germany
141	Oral presentation to a scientific event	UNIVERSITAET DUISBURG-ESSEN	Auenmonitoring - ein (Daten-)Fass ohne Boden?	22/09/2015	Essen - German Limnological Society Annual Conference	Scientific community (higher education, Research) - Policy makers	400	Germany
142	Oral presentation to a scientific event	UNIVERSITAET DUISBURG-ESSEN	Du bist was du frisst - Veränderungen im Nahrungsnetz als Folge von Renaturierungen	22/09/2015	Essen - German Limnological Society Annual Conference	Scientific community (higher education, Research) - Policy makers	400	Germany
143	Posters	UNIVERSITAET DUISBURG-ESSEN	Die Ruhr bekennt Farbe - Renaturierungseffekte auf den Stofftransport und die Hydromorphologie der Ruhr	22/09/2015	Essen - German Limnological Society Annual Conference	Scientific community (higher education, Research) - Policy makers	400	Germany
144	Oral presentation to	UNIVERSITAET	Fließgewässerre	25/11/2014	Münster	Scientific comm	60	Germany

	a scientific event	DUISBURG-ESSEN	naturierungen - Effekte, Mythen und der Mensch			unity (higher education, Research)		
145	Oral presentation to a scientific event	UNIVERSITAET DUISBURG-ESSEN	Effects of river restoration on aquatic and riparian organism groups	26/01/2015	Christchurch	Scientific community (higher education, Research)	12	New Zealand
146	Oral presentation to a scientific event	UNIVERSITAET DUISBURG-ESSEN	Species assemblages in the Ruhr river and floodplain: timescales in restoration effects	26/08/2015	Manchester - World Conference of Restoration	Scientific community (higher education, Research) - Policy makers		worldwide
147	Oral presentation to a scientific event	SVERIGES LANTBRUKSUNIVERSITET	Lecture on river restoration and exemplified by REFORM in the Master Course "Nature Conservation"	11/09/2015	Uppsala, Sweden	Scientific community (higher education, Research)	11	Sweden
148	Oral presentation to a scientific event	SZKOLA GLOWNA GOSPODARSTWA WIEJSKIEGO	Conservation of anabranching river system of Narew National Park. HydroEco 2015, 5th International Multidisciplinary Conference on Hydrology and Ecology: Advances in Monitoring, Predicting and Managing Hydroecological Processes	13/04/2015	Vienna, Austria - HydroEco2015	Scientific community (higher education, Research)		worldwide
149	Oral presentation to a scientific event	SZKOLA GLOWNA GOSPODARSTWA WIEJSKIEGO	The use of Hierarchical Framework tool and hydraulic modeling for anastomosing rivers restoration on the example of the river Narew	01/06/2015	Water Centre WULS-SGGW, Warsaw, Poland	Scientific community (higher education, Research)	30	Poland
150	Oral presentation to a scientific event	SZKOLA GLOWNA GOSPODARSTWA WIEJSKIEGO	Quantifying responses of biota to floods and droughts in Europe: A systematic review from a hydrological persp	14/04/2015	Vienna, Austria - HydroEco2015	Scientific community (higher education, Research)		worldwide

			ective.					
151	Oral presentation to a scientific event	JRC -JOINT RESEARCH CENTRE-EUROPEAN COMMISSION	Alpine Space in Movement Final Transnational Seminar - presentation Monitoring and characterizing hydromorphology for the WFD in Europe: current status and future perspectives"	25/11/2014	Mestre, Italy	Scientific community (higher education, Research) - Civil society - Policy makers	100	Italy, Switzerland, France, Austria, Slovenia, Germany
152	Oral presentation to a scientific event	STICHTING DIENST LANDBOUWKUNDIG ONDERZOEK	Hydromorphological monitoring	02/10/2014	Wageningen (NL) - Dutch annual meeting on Water Quality	Scientific community (higher education, Research)	120	Netherlands
153	Oral presentation to a scientific event	STICHTING DIENST LANDBOUWKUNDIG ONDERZOEK	Management implications of global change impacts on stream ecosystems	06/05/2015	Malmö, Sweden - International conference WATERS - Tools for assessing the ecological status of Europ	Scientific community (higher education, Research)	250	Europe
154	Oral presentation to a scientific event	NORSK INSTITUTT FOR VANNFORSKNING	River Restoration: separating the myths from realities	23/07/2015	London, UK - British Ecological Society Aquatic Group Annual Meeting	Scientific community (higher education, Research)	40	UK, US, Norway, Spain
155	Organisation of Workshops	Masarykova univerzita	Regional workshop for water managers	22/10/2015	Brno and Velke Karlovice	Scientific community (higher education, Research) - Policy makers	8	Czech Republic
156	Oral presentation to a scientific event	Masarykova univerzita	8th Central European Dipterological Conference	28/09/2015	Vysoke Tatry, Slovakia	Scientific community (higher education, Research)	50	Slovakia, Czech Republic, Poland, Hungary, Croatia, Denmark
157	Oral presentation to a scientific event	FORSCHUNGSVERBUND BERLIN E.V.	Auswirkungen hydromorphologischer Renaturierung von Fließgewässern auf Wasserpflanzen	22/09/2015	Essen (Germany) - Annual Conference of the German association for limnology	Scientific community (higher education, Research) - Policy makers	180	Germany, Austria, Switzerland
158	Oral presentation to a scientific event	FORSCHUNGSVERBUND BERLIN E.V.	Response of aquatic macrophytes to river restoration	15/09/2015	Edinburgh (UK) - 14th International Symposium on Aquatic Plants	Scientific community (higher education, Research)	100	worldwide

Section B (Confidential or public: confidential information marked clearly)

LIST OF APPLICATIONS FOR PATENTS, TRADEMARKS, REGISTERED DESIGNS,UTILITY MODELS, ETC.					
Type of IP Rights	Confidential	Foreseen embargo date dd/mm/yyyy	Application reference(s) (e.g. EP123456)	Subject or title of application	Applicant(s) (as on the application)

OVERVIEW TABLE WITH EXPLOITABLE FOREGROUND								
Type of Exploitable Foreground	Description of Exploitable Foreground	Confidential	Foreseen embargo date dd/mm/yyyy	Exploitable product(s) or measure(s)	Sector(s) of application	Timetable for commercial use or any other use	Patents or other IPR exploitation (licences)	Owner and Other Beneficiary(s) involved

ADDITIONAL TEMPLATE B2: OVERVIEW TABLE WITH EXPLOITABLE FOREGROUND	
Description of Exploitable Foreground	Explain of the Exploitable Foreground

4.3 Report on societal implications

B. Ethics

1. Did your project undergo an Ethics Review (and/or Screening)?	No
If Yes: have you described the progress of compliance with the relevant Ethics Review/Screening Requirements in the frame of the periodic/final reports?	

2. Please indicate whether your project involved any of the following issues :

RESEARCH ON HUMANS

Did the project involve children?	No
Did the project involve patients?	No
Did the project involve persons not able to consent?	No
Did the project involve adult healthy volunteers?	No
Did the project involve Human genetic material?	No
Did the project involve Human biological samples?	No
Did the project involve Human data collection?	No

RESEARCH ON HUMAN EMBRYO/FOETUS

Did the project involve Human Embryos?	No
Did the project involve Human Foetal Tissue / Cells?	No
Did the project involve Human Embryonic Stem Cells (hESCs)?	No
Did the project on human Embryonic Stem Cells involve cells in culture?	No
Did the project on human Embryonic Stem Cells involve the derivation of cells from Embryos?	No

PRIVACY

Did the project involve processing of genetic information or personal data (eg. health, sexual lifestyle, ethnicity, political opinion, religious or philosophical conviction)?	No
Did the project involve tracking the location or observation of people?	No

RESEARCH ON ANIMALS

Did the project involve research on animals?	No
Were those animals transgenic small laboratory animals?	No
Were those animals transgenic farm animals?	No
Were those animals cloned farm animals?	No
Were those animals non-human primates?	No

RESEARCH INVOLVING DEVELOPING COUNTRIES

Did the project involve the use of local resources (genetic, animal, plant etc)?	No
Was the project of benefit to local community (capacity building, access to healthcare, education etc)?	No

DUAL USE

Research having direct military use	No
Research having potential for terrorist abuse	No

C. Workforce Statistics

3. Workforce statistics for the project: Please indicate in the table below the number of people who worked on the project (on a headcount basis).

Type of Position	Number of Women	Number of Men
Scientific Coordinator	0	1
Work package leaders	2	5
Experienced researchers (i.e. PhD holders)	34	100
PhD student	14	5
Other	30	21

4. How many additional researchers (in companies and universities) were recruited specifically for this project?	17
Of which, indicate the number of men:	9

D. Gender Aspects

5. Did you carry out specific Gender Equality Actions under the project ?	No

6. Which of the following actions did you carry out and how effective were they?	
Design and implement an equal opportunity policy	Not Applicable
Set targets to achieve a gender balance in the workforce	Not Applicable
Organise conferences and workshops on gender	Not Applicable
Actions to improve work-life balance	Not Applicable
Other:	

7. Was there a gender dimension associated with the research content - i.e. wherever people were the focus of the research as, for example, consumers, users, patients or in trials, was the issue of gender considered and addressed?	No
If yes, please specify:	

E. Synergies with Science Education

8. Did your project involve working with students and/or school pupils (e.g. open days, participation in science festivals and events, prizes/competitions or joint projects)?	Yes
If yes, please specify:	Summer school

9. Did the project generate any science education material (e.g. kits, websites, explanatory booklets, DVDs)?	Yes
If yes, please specify:	WIKI (http://wiki.reformrivers.eu); summer school (lectures on YouTube)

F. Interdisciplinarity

10. Which disciplines (see list below) are involved in your project?	
Main discipline:	1.4 Earth and related environmental sciences (geology, geophysics, mineralogy, physical geography and other geosciences, meteorology and other atmospheric sciences including climatic research, oceanography, vulcanology, palaeoecology, other allied sciences)
Associated discipline:	1.5 Biological sciences (biology, botany, bacteriology, microbiology, zoology, entomology, genetics, biochemistry, biophysics, other allied

	sciences, excluding clinical and veterinary sciences)
Associated discipline:	5.2 Economics

G. Engaging with Civil society and policy makers

11a. Did your project engage with societal actors beyond the research community? (if 'No', go to Question 14)	Yes
11b. If yes, did you engage with citizens (citizens' panels / juries) or organised civil society (NGOs, patients' groups etc.)?	Yes, in communicating /disseminating / using the results of the project
11c. In doing so, did your project involve actors whose role is mainly to organise the dialogue with citizens and organised civil society (e.g. professional mediator; communication company, science museums)?	No
12. Did you engage with government / public bodies or policy makers (including international organisations)	Yes, in communicating /disseminating / using the results of the project
13a. Will the project generate outputs (expertise or scientific advice) which could be used by policy makers?	Yes - as a primary objective (please indicate areas below multiple answers possible)
13b. If Yes, in which fields?	
Agriculture	Yes
Audiovisual and Media	No
Budget	No
Competition	No
Consumers	No
Culture	No
Customs	No
Development Economic and Monetary Affairs	No
Education, Training, Youth	No
Employment and Social Affairs	No
Energy	Yes
Enlargement	No
Enterprise	No
Environment	Yes
External Relations	No
External Trade	No
Fisheries and Maritime Affairs	No

Food Safety	No
Foreign and Security Policy	No
Fraud	No
Humanitarian aid	No
Human rightsd	No
Information Society	No
Institutional affairs	No
Internal Market	No
Justice, freedom and security	No
Public Health	No
Regional Policy	Yes
Research and Innovation	No
Space	No
Taxation	No
Transport	Yes
13c. If Yes, at which level?	European level

H. Use and dissemination

14. How many Articles were published/accepted for publication in peer-reviewed journals?	66
To how many of these is open access provided?	28
How many of these are published in open access journals?	5
How many of these are published in open repositories?	23
To how many of these is open access not provided?	38
Please check all applicable reasons for not providing open access:	
publisher's licensing agreement would not permit publishing in a repository	Yes
no suitable repository available	No
no suitable open access journal available	Yes
no funds available to publish in an open access journal	Yes
lack of time and resources	Yes
lack of information on open access	No
If other - please specify	
15. How many new patent applications	0

('priority filings') have been made? ("Technologically unique": multiple applications for the same invention in different jurisdictions should be counted as just one application of grant).	

16. Indicate how many of the following Intellectual Property Rights were applied for (give number in each box).	
Trademark	0
Registered design	0
Other	0

17. How many spin-off companies were created / are planned as a direct result of the project?	0
Indicate the approximate number of additional jobs in these companies:	0

18. Please indicate whether your project has a potential impact on employment, in comparison with the situation before your project:	Difficult to estimate / not possible to quantify, In large companies

19. For your project partnership please estimate the employment effect resulting directly from your participation in Full Time Equivalent (FTE = one person working fulltime for a year) jobs:	0Difficult to estimate / not possible to quantify

I. Media and Communication to the general public

20. As part of the project, were any of the beneficiaries professionals in communication or media relations?	No

21. As part of the project, have any beneficiaries received professional media / communication training / advice to improve communication with the general public?	No

22. Which of the following have been used to communicate information about your project to the general public, or have resulted from your project?	
Press Release	No
Media briefing	Yes
TV coverage / report	No
Radio coverage / report	No
Brochures /posters / flyers	Yes
DVD /Film /Multimedia	No
Coverage in specialist press	No
Coverage in general (non-specialist) press	No

Coverage in national press	No
Coverage in international press	No
Website for the general public / internet	Yes
Event targeting general public (festival, conference, exhibition, science café)	No

23. In which languages are the information products for the general public produced?	
Language of the coordinator	No
Other language(s)	No
English	Yes

Attachments	Supporting information final report REFORM GA282656.pdf
Grant Agreement number:	282656
Project acronym:	REFORM
Project title:	REstoring rivers FOR effective catchment Management
Funding Scheme:	FP7-CP-IP
Project starting date:	01/11/2011
Project end date:	31/10/2015
Name of the scientific representative of the project's coordinator and organisation:	Dr. Tom Buijse STICHTING DELTARES
Name	
Date	28/12/2015

This declaration was visaed electronically by Tom BUIJSE (ECAS user name nbuijsto) on 28/12/2015