



Ecosystem Science for Policy & Practice



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D1.2: Research Implementation Plan

Prepared under contract from the European Commission

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Collaborative project

FP7 Environment

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Project website: operas-project.eu

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Partner responsible: UEDIN

Other partners involved: VU-IVM, WCMC, EFI

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Introduction to the Research Implementation Plan

The OPERAs Description of Work (DoW) outlines the contractual responsibilities and provides a brief description of the formal project deliverables, but does not provide the detailed information required for successful project management. For example, tasks descriptions are succinct and time and staff allocation are not specified at the task level. The Research Implementation Plan (RIP) provides the necessary detail to ensure appropriate project management by the coordinator and the WP leaders, as well as providing guidance to the project researchers on their specific contributions. It will also be useful to the project review team and the project officer, by summarising the overall project management and planning.

Successful project management will require flexibility and should be able to respond to unforeseen challenges or changing circumstances. The RIP is therefore designed to be a flexible, living document that will be reviewed, updated and amended by the project management team (PMT) as the project develops. There is a formal requirement to update the RIP at each reporting period (D1.3 in M18; D1.4 in M36; D1.5 in M54), but there may also be intermediate revisions to the document if this is seen as useful by the PMT.

The main part of the RIP consists of six sections, one per Work Package, specifying tasks, objectives, deliverables, partners' contributions and an overview of linkages to other Work Packages. Two appendices have been added to summarize the project's Quality Assurance strategy (Appendix 1) and to outline the project management structure (Appendix 2), detailing tasks and responsibilities within the project team. The completed dissemination strategy (D6.1, to be completed in Month 12) will also be included as an appendix to the RIP, to be updated at each reporting period.

Work package 1: Project Management

Task 1.1 Compiling project documents

Lead: Mark Rounsevell

Overall task objective

1. To effectively start up the project
2. Prepare a number of documents, including contracts and the Consortium Agreement
3. Produce a detailed Research Implementation Plan

Link to deliverable/milestone (number and title)

D1.2 OPERAs Research Implementation Plan (Month 6)

Partner contributions

- UEDIN: Mark Rounsevell, Marc Metzger, Jess Bryson

Task 1.2 Regularly update the OPERAs Research Implementation Plan (RIP)

Lead: Mark Rounsevell

Overall task objective:

1. The Project Management Team (PMT) will regularly discuss the progress of the project on the basis of the OPERAs Work Plan, and adjust the specifications where necessary.
2. In the case of inappropriate performance of one of the partners the Project Management Team (PMT) will react immediately and advise on measures to ensure proper functioning.
3. An updated RIP will always be available on the OPERAs intranet.

Link to deliverable / milestone (number and title)

D1.3 Updated OPERAs Research Implementation Plan (Month 18)

D1.4 Updated OPERAs Research Implementation Plan (Month 36)

D1.5 Updated OPERAs Research Implementation Plan (Month 54)

Partner contributions:

- UEDIN: Mark Rounsevell, Marc Metzger, Jess Bryson, Meriwether Wilson
- VU-IVM: Peter Verburg, Astrid van Teeffelen

D1.2: Research Implementation Plan

- KIT: Almut Arneth, Anita Bayer
- Prospex: Martin Watson, Katharina Zellmer

D1.2: OPERAs Research Implementation Plan

- UP: Ariane Walz
- ULUND: Kim Nicholas, Paul Weaver
- EFI: Marcus Lindner, Diana Tuomasjukka
- WCMC: Claire Brown

Task 1.3 Project Coordinating and Reporting

Lead: Mark Rounsevell

Overall task objective:

1. Throughout the project lifetime progress will be monitored, the quality of the project deliverables reviewed and financial and administrative resources managed by experienced staff.
2. The modular project structure and regular meetings of the Project Management Team (PMT) will ensure effective interaction between the various work packages.
3. Project reports will be prepared every 18 months.

Link to deliverable / milestone (number and title)

D1.1 Management of project dissemination: Strategy for managing project dissemination (Task 1.3) Month 3

Partner contributions:

- UEDIN: Mark Rounsevell, Marc Metzger, Jess Bryson, Meriwether Wilson
- VU-IVM: Peter Verburg, Astrid van Teeffelen
- KIT: Almut Arneth, Anita Bayer
- Prospex: Martin Watson, Katharina Zellmer
- UP: Ariane Walz
- ULUND: Kim Nicholas, Paul Weaver
- EFI: Marcus Lindner, Diana Tuomasjukka
- WCMC: Claire Brown

Links to other work packages

D1.1 will provide guidelines for the overall dissemination plan (D6.1)

Task 1.4 External Contacts

Lead: Mark Rounsevell

Overall task objective:

1. This task includes the organisation and implementation of the communication with the Commission, the Advisory Council, parallel projects (OpenNESS), and other external actors, if and as appropriate.

Partner contributions:

- UEDIN: Mark Rounsevell, Marc Metzger, Jess Bryson, Meriwether Wilson
- VU-IVM: Peter Verburg, Astrid van Teeffelen
- KIT: Almut Arneth, Anita Bayer
- Prospex: Martin Watson, Katharina Zellmer
- UP: Ariane Walz
- ULUND: Kim Nicholas, Paul Weaver
- EFI: Marcus Lindner, Diana Tuomasjukka
- WCMC: Claire Brown

Work package 2: Practice

Task 2.1 Meta-analysis

Lead: ALU, Carsten Dormann

Task Objectives

1. Set-up a database to characterise ES/NC assessments based on published case studies (Subtask 2.1.1), (UFZ, ALU, UBO, PU)
2. Assess the evidence-base for methods used in ES/NC assessments (Subtasks 2.1.2) (UFZ, ALU, UBO, PU)
3. Develop efficiency indicators for the instruments used in ES/NC assessments (Subtask 2.1.3) (UFZ, ALU, UBO)
4. Conduct a meta-analysis of existing case studies (Subtask 2.1.4) (UFZ, ALU, UBO)
5. Identify the knowledge gaps based on the analysis of the database (Subtask 2.1.5) (UFZ, ALU, UBO)

Link to Milestones and Deliverables

MS 2.1 Review of existing ES/NC assessment protocols with input from T 2.3 (DS). (May 2013)

MS 2.3 a) Preliminary report on knowledge gaps and demand for instruments reported to WPs 3+4, gaps b) work of existing exemplars, and c) results on gaps (July 2013)

D2.1 Description of Study Design: exemplars, SH needs, tools, instruments (All WP2) (Feb 2014)

D2.2 Report on standardized metrics/indicators for monitoring the efficiency of ES/NC based measures Nov 2014

MS 2.7 Ranking of effectiveness of ES/NC based measures as valued in the scientific literature (Mar 2014)

Methods to achieve objectives:

Quantitative literature review with a statistical meta-analysis of the data base. If necessary, interviews with main investigators of case studies will be conducted as an additional source of information.

Partner contributions:

- (ALU) Albert-Ludwigs Universitaet Freiburg, Germany: Carsten Dormann
- UFZ Helmholtz-Centre for Environmental Research: Ralf Seppelt, Martin Volk

- UBO Rheinische Friedrich-Wilhelms-Universitats Bonn, Sven Lautenbauch
- PU, University of Potsdam, Arianne Walz

Exemplars potentially involved:

Meta-analysis provides baseline information for all Exemplars, and links with specific exemplars and investigators around particular sites and issues will develop through the project.

Link to WP Instruments:

The meta-analysis will be the base for an analysis of the use of instruments in the Exemplars that will be a part of sub task 4.1.2 "Bottom up analysis: demands and needs for ES/NC instruments by key stakeholders".

Results for Resource Hub

- The results of the meta-analysis (2.1.4), the knowledge gap identification (2.1.5), as well as the assessment of the evidence base for methods used (2.1.2) and the efficiency indicators (2.1.3) will be made accessible to the community of excellence via the Resource Hub.
- The design of the database will build on the BluePrint Protocol (2.3) designed to ensure consistency in reporting.

Task 2.2 Exemplars- Testing Ground for Instruments and Tools

Lead: ULUND, Kimberly Nicholas

Task Objectives:

1. Launch of OPERAS cooperation, identification of stakeholder needs for different tools and instruments in each exemplar and optimisation of study design (*Subtask 2.2.1*) (UP, ULUND, UEDIN, VU-IVN, KIT, UCD, CNRS, ETH, WWF Bulgaria, WWF Romania, SGM, FFCUL, CIFOR, CSIC)
2. Regular reporting and evaluation of the process of tool and instrument testing (*Subtask 2.2.2*) (UP, ULUND, UEDIN, VU-IVN, KIT, UCD, CNRS, ETH, WWF Bulgaria, WWF Romania, SGM, FFCUL, CIFOR, CSIC)
3. Iterative learning processes between end-users, stakeholders, researchers and developers of tools and instruments. (*Subtask 2.2.3*) (UP, ULUND, UEDIN, VU-IVN, KIT, UCD, CNRS, ETH, WWF Bulgaria, WWF Romania, SGM, FFCUL, Denkstatt, CIFOR, CSIC)
4. Final reporting and critical evaluation of the process as a contribution to the Resource Hub (*Subtask 2.2.4*) (UP, ULUND, UEDIN, VU-IVN, KIT, UCD, CNRS, ETH, WWF Bulgaria, WWF Romania, SGM, FFCUL, CIFOR, CSIC)

Link to Deliverables and Milestones:

MS 2.6: Draft description of exemplars study design, stakeholder needs and tested tools/instruments (Nov 2013)

D2.1: Description of Study Design: exemplars, SH needs, tools, instruments (All WP2) (Feb 2014)

MS 2.11: Exemplars Interim report (Jun 2015)

MS 2.14: Evaluation of processes in each exemplar with potential adaptation to the work plan (Jan 2016)

MS 2.19: Final Operas Exemplar Conference (Jan 2017)

D2.3: Compilation of reporting of all exemplars for further evaluation and synthesis (Feb 2017)

Methods to achieve objectives

Exemplars will follow the study design set out in the Blueprint Protocol to develop research projects in collaboration with key stakeholders. At least two instruments will be implemented in each Exemplar, based on needs identified by stakeholders and the instruments available or ready to be developed in WP4. Exemplar leads will stay in regular contact with each other through reporting and conference calls, to develop synergies between exemplars, and with their “point person” from the WP leadership team to ensure adequate progress is being made. The interim report will identify further opportunities for collaboration between Exemplars, which will be highlighted with lessons learned in the final report and conference.

Partner contributions and Involved Researchers:

- ULUND - Lund University Centre for Sustainability Studies, Kimberly Nicholas
- UP - Univ. of Potsdam, Ariane Walz
- UEDIN - University of Edinburgh: Meriwether Wilson, Marc Metzger
- VU-IVN - Institute for Environmental Studies, VU University Amsterdam: Peter Verberg, Roy Brouwer, Jan Vermantt, Astrid van Teeffele
- KIT - Karlsruhe Institut für Technologie, Almut Arneth
- UCD - University College Dublin, Marcus Collier, Craig Bullock, Louise Dunne, Zorica Nedovic-Budic, Dierdre Joyce
- CNRS - Centre National de la Recherche Scientifique, Sandra Lavorel
- ETH - Eidgenössische Technische Hochschule Zurich: Adrenne Gret Regamey, Ulrike Wissen, Christian Hirschi

- WWF Bulgaria - World Wildlife Fund Bulgaria: Vesselina Kavrakova, Stoyan Mihov, Ivan Hristov, Yulia Grigorova, Maya Todorova, Konstantiv Ivanov
- WWF Romania - World Wildlife Fund Romania: Orieta Hulea, Cristian Tetelea, Monia Martini, Raluca Dan, Ioana Betieanu
- SGM – Consultadora de Servicios Globales Medioambientales SL: Jose Lasurain, Anna Feres, Gloria Feiu
- FFCUL - University of Lisbon: Margarida Santos-Reis, Cristina Maguas, Rui Rebelo
- CIFOR - Centre for International Forestry Research: Bruno Locatelli
- CSIC - Agencia Estatal Consejo Superior de Investigaciones Cientificas: Carlos Duarte, Nuria Marba, Stefan Gelich

Exemplars involved (All)

- i. Urban-rural fringe of the Greater Dublin Region:**
 - UCD - University College Dublin: Marcus Collier, Craig Bullock, Louise Dunne, Zorica Nedovic-Budic, Deidre Joyce
- ii. Urban dunes in Barcelona:**
 - SGM - Jose Lasurain, Anna Feres, Gloria Feiu
- iii. Conservation of cultural landscapes in the LTER region of Montado in Portugal:**
 - FFCUL - University of Lisbon, Margarida Santos-Reis, Cristina Maguas, Rui Rebelo
- iv. Co-beneficiary management of marine/coastal ecosystems for Blue Carbon on the Balearic Islands:**
 - CSIC - Agencia Estatal Consejo Superior de Investigaciones Cientificas: Carlos Duarte, Nuria Marba, Stefan Gelich
- v. Trans-boundary River and Wetland Management of the Lower Danube:**
 - WWF Bulgaria - World Wildlife Fund Bulgaria: Vesselina Kavrakova, Stoyan Mihov, Ivan Hristov, Yulia Grigorova, Maya Todorova, Konstantiv Ivanov
 - WWF Romania - World Wildlife Fund Romania: Orieta Hulea, Cristian Tetelea, Monia Martini, Raluca Dan, Ioana Betieanu
- vi. Effects of landscape management and infrastructure development on rural and peri-urban areas of the central Alps:**
 - CNRS - Centre National de la Recherche Scientifique, Sandra Lavorel
- vii. Wine production and cultural landscapes in Europe:**
 - ULUND Kimberly Nicholas

viii. Multi-scale implementation of environmental policy in Scotland:

- UEDIN - University of Edinburgh, Meriwether Wilson, Marc Metzger

ix. Circum-Mediterranean agricultural land abandonment:

- CNRS/IMBE – Institut Méditerranéen de Biodiversité et d'Ecologie marine et continentale, Wolfgang Cramer, Alberte Bondeau, Emilie Egea

x. Pan-European regulatory Directives:

- ETH - Eidgenössische Technische Hochschule Zurich: Adrienne Gret Regamey, Ulrike Wissen, Christian Hirschi
- VU-IVN - Institute for Environmental Studies, VU University Amsterdam: Peter Verberg, Roy Brouwer, Jan Vermaat, Astrid van Teeffele

xi. Mechanisms for Climate Protection and Habitat Conservation at the global scale:

- UP - University of Postdam, Ariane Walz
- KIT - Karlsruhe Institut für Technologie, Almut Arneth
- CIFOR - Centre for International Forestry Research: Bruno Locatelli

Link to WP Instruments:

Exemplar leads will work with the developers of Instruments to ensure that the most relevant Instruments are developed and selected for implementation, based on stakeholder needs.

Results for Resource Hub:

Each Exemplar will nominate one key stakeholder to participate in the User Board and give feedback on the early design of the Resource Hub. Stakeholders from the Exemplars are the key target for the Resource Hub, and will be linked with the Hub throughout the project, both in contributing to it and receiving information from it.

Task 2.3: Practice Design and Synthesis

Lead: UEDIN, Genevieve Patenaude

Task Objectives:

1. Elaboration of the Blue Print Protocol (*Sub task 2.3.1*) UEDIN, UFZ, ALU, UBO, VU-IVN, UP, ULUND
2. Synthesis of Lessons Learned (*Sub task 2.3.2*) UEDIN, UFZ, ALU, UBO, VU-IVN, UP, ULUND, WCMC)
3. Design of a suite of decision trees (*Sub task 2.3.3*) UEDIN, UFZ, ALU, UBO, VU-IVN, UP, ULUND, WCMC)

Link to Deliverables and Milestones

MS 2.2: Draft Blue Print Protocol for systematic reporting of Exemplars and Meta Analysis (May 2013)

MS 2.4: Discuss draft BluePrint (Nov 2013)

MS 2.5: First Reporting Blue Print Protocol (1.0) revisit each 18 month reporting period) (Nov 2013)

D2.1: Description of Study Design: exemplars, SH needs, tools, instruments (All WP2) (Feb 2014)

MS 2.8: Database designed to compile lessons learned across WP (May 2104)

MS 2.9: Report on Second Blue Print (2.0) revisit each 18 month reporting period. (May 2014)

MS 2.10: Interim decision trees for selecting instruments for maintaining and protecting ES (April 2015)

MS 2.12: Workshops to elaborate iteratively lessons learned from Meta Analysis and Exemplars (Aug 2015)

MS 2.13: Report on Third Blue Print (3.0) (Sept 2015)

MS 2.15: Final decision trees for selecting instruments for maintaining and protecting ES/NC (Jan 2016)

MS 2.16: Decision tree workshops in collaboration with MA and EX (March 2015)

MS 2.17: Report on Fourth Blue Print (Oct 2016)

MS 2.18: Contributions to the Resource Hub (Jan 2017)

D2.4: Targeted Synthesis: Lessons Learned from Meta Analysis and Exemplars (April 2017)

D2.5: Suite of decision trees to assist users to decide on ES/NC based on instruments and tools (April 2017)

Partner contributions and Researchers Involved:

- UEDIN - University of Edinburgh, Meriwether Wilson, Marc Metzger
- UFZ - Helmholtz-Centre for Environmental Research: Ralf Seppelt, Martin Volk
- ALU - Albert-Ludwigs Universitaet Freiburg, Germany: Carsten Dormann
- UBO- Rheinische Friedrich-Wilhelms-Universitaet Bonn, Sven Lautenbach
- VU-IVN - Institute for Environmental Studies, VU University Amsterdam: Peter Verberg, Roy Brouwer, Jan Vermantt
- UP - University of Postdam, Ariane Walz
- ULUND - Lund University Centre for Sustainability Studies, Kimberly Nicholas
- WCMC - World Conservation Monitoring Centre, Claire Brown

Exemplars involved

Through Task 2.2 (Exemplars), all exemplars will be involved in contributing to the Synthesis) as per researchers listed in Task 2.2., above.

- i. Urban-rural fringe of the Greater Dublin Region
- ii. Urban dunes in Barcelona
- iii. Conservation of cultural landscapes in the LTER region of Montado in Portugal
- iv. Co-beneficiary management of marine/coastal ecosystems for Blue Carbon on the Balearic Islands
- v. Trans-boundary River and Wetland Management of the Lower Danube
- vi. Effects of landscape management and infrastructure development on rural and peri-urban areas of the central Alps
- vii. Wine production and cultural landscapes in Europe
- viii. Multi-scale implementation of environmental policy in Scotland
- ix. Circum-Mediterranean agricultural land abandonment
- x. Pan-European regulatory Directives
- xi. Mechanisms for Climate Protection and Habitat Conservation at the global scale

Link to WP Instruments:

- The development of the decision-tree platform which aims to provide contextual guidance on the best tools and instruments to adopt for the governance and maintenance of any given ecosystem service project. Sub task 2.3.3 therefore requires close collaboration with the range and structure of the instruments available as well as evaluation data, which are necessary for the efficacy of the decision-tree platform.
- WP4 should also provide feedback and guidance on the development of the blueprint protocol through the forthcoming discussions on the blueprint drafts.

Results for Resource Hub:

- The sub-task “Synthesis of the Lessons Learned” will be made accessible to the community of excellence via the Resource Hub.
- The blueprint is designed to ensure consistency of reporting from the research efforts of the Instruments and Exemplar Work Packages and is crucial for the efficient dissemination of information in the Resource Hub.

Work Package 3: Knowledge

Task 3.1: Ecosystem function and quantification

Lead: Almut Arneth

Overall task objective:

1. Provide operational means to link ecosystem function, biodiversity and ES provision (T 3.1.1)
2. Apply process-based modelling frameworks to derive metrics usable in the operational ES/NC domain (T 3.1.2). Explore the temporal and spatial dimensions of the ES/NC concept (T 3.1.3)
3. Evaluate methods and metrics to assess uncertainty in EC/NC quantification (T 3.1.4)

Link to deliverable / milestone (number and title)

D3.1 Transferable geo-referenced metrics and GIS based quantification functions, M18

M3.1 Set strategy for first applications and identify development needs, WP meeting, M3

M3.13 Paper submitted: Framework for model-based quantification of ES and their uncertainty M36

M3.20 Final report of task 3.1, M60

Methods to achieve objectives:

- Exploration of biodiversity and functional traits databases and their link with ES/NC maps (T 3.1.1).
- Use process-based modelling frameworks to quantify ecosystem responses to changes in the environment on regional and global scales and translate these into ES/NC metrics (T 3.1.2).
- Design and implementation of simulation sensitivity studies to explore temporal and spatial effects on ES/NC quantification (T 3.1.3).
- Explore how published methods for assessment of uncertainty could be translated into metrics for trade-off analysis and decision making (T 3.1.4).

Partner contributions:

- CNRS/IMBE - WolfgangCramer T 3.1.2, T 3.1.3
- CNRS/LECA - Sandra Lavorel
- Exploit biodiversity and functional traits databases to address how patterns align with those of ES/NC (T 3.1.1). Also input to T 3.1.4

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- KIT - Almut Arneth, Anita Bayer.
 - i. Utilize process-based modelling frameworks to account for multiple ecosystem function responses to changes in the environment (T 3.1.2). Transfer simulation results into metrics usable in ES/NC instruments. T 3.1.3, T 3.1.4
- VU-IVM - Astrid van Teeffelen, Peter Verburg.
 - ii. Methods and metrics to assess uncertainty in ES/NC quantification (T 3.1.4). A comparison of alternative quantification models and metrics for a number of selected ecosystem services where alternative models are available. The analysis will quantify the range of outcomes and use, wherever available, measured and observation data to validate the range of predictions with the observations. Regions of larger uncertainty and regions where different approaches yield robust results will be identified. The analysis will be applied to the Europe Exemplar and/or the Scotland Exemplar, depending on data availability. T 3.1.1, T 3.1.2, T 3.1.3
- UFZ - Ralf Seppelt, Martin Volk; UBO - Sven Lautenbach; ALU - Carsten Dormann
 - iii. T 3.1.1, T 3.1.3: Design database for capturing case studies on ecosystem service studies, including indicators for ES/NC, instruments as well as characteristics on uncertainty, evidence and efficiency; Develop draft for blueprint on ecosystem service assessments.
- CSIC - Nuria Marba, Carlos M. Duarte, Inés Mazarrasa, Stefan Gelcich
 - iv. T 3.1.1, T 3.1.2 Explore available datasets on seagrass structure and functional traits to address patterns for ES/NC provision. Multiple ecosystem function responses to (present and projected) changes in the environment will be assessed using modelling frameworks

Exemplars potentially addressed:

Scotland: (KIT, VU-IVM)

Central French Alps (CNRS/LECA)

Regional (Mediterranean) (CNRS/IMBE, CNRS/LECA) Europe (KIT, VU-IVM)

Global (KIT)

Balearic Islands (CSIC)

Link to WP Instruments:

Account for needs in exemplars

Deliver practical recommendations for use in WP2 and WP4

Results for resource hub:

(Jointly with Task 3.5): Results from 3.1.2 and 3.1.3 will be summarized and examples provided on present-day and future (range of scenarios) climate regulation services (C, H₂O), especially how

response to climate change/land use change affects these over a time period of years-decade vs. decade-century. Product to be provided: Sums, tables, maps; Domain: Europe; possibly globe; resolution: at least 0.5 degree, if higher resolution climate/land use change driver is available, then higher.

T3.1.4 will provide examples of how uncertainty in ES/NC quantification can be measured and visualized for the domain of Scotland and/or Europe at 1 km².

Task 3.2: Social and cultural values of ES/NC

Lead: Marcus Collier, Craig Bullock

Overall task objective:

1. To develop new methods to measure social and cultural values attached to ES especially in cases where existing economic valuation methods are less effective. To demonstrate the relationship with economic and individual values/motivations.
2. To integrate values with ES function quantification and economic valuation to support the development of new instruments.

Link to deliverable / milestone

D3.5 Strategies and methods for social valuation of ES/NC

MS 3.4 Discussion paper on establishing definitions for social and cultural values (re D3.2)

MS 3.10 Coordinated plan for the application of social valuation in selected exemplars (re D3.2)

MS 3.21 Paper on application of novel social valuation methods.

Methods to achieve objectives:

- Review the literature in relation to social and cultural values and their expression in resource management, including contributions from sociology, psychology, human geography and economics.
- Apply methods such as deliberative participatory approaches and scenario analysis to examine stakeholder/public perceptions of ES and NC.
- Develop and test within selected exemplars new methods for social and cultural valuation, maximizing consistency and transferability of the approach and outcomes where possible.
- Examine the temporal and spatial dimensions of ES and NC values, the implications for existing and potential management and sustainability, and realization of benefits by different stakeholders.

Partner contributions:

- VU-IVM - Samantha Scholte, Astrid van Teeffelen, Peter Verburg.

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- i. Overlaying social/cultural values onto maps of ES. Strategies for relating ideal selection/distribution of ecosystem functions with social/cultural values. Landscape ecology.
- UP - Ariane Walz
 - ii. Landscape management, green infrastructure, modelling the spatial representation of social and cultural values derived from deliberative approaches. Exemplar 2+ (below)
 - WWF Bulgaria Maya Todorova
 - iii. Integration of social and cultural values into relevant economic and policy tools. Exemplar 3+.
 - ULUND - Lennart Olson
 - iv. Institutional context, user and property rights, relationship with social, cultural and economic value of ES and their sustainable management, role of security in ES values.

In addition, close coordination with Mark Koetse and colleagues via D3.2 (economic values)

Exemplars potentially addressed:

1. Urban-rural fringe of Greater Dublin

Characteristics and relationships between urban and rural ES including the role of green infrastructure. Issues related to pressures on ES and use of ES such as fragmentation, waste water, recreation, environmental quality. Perceptions of ES in a changing and more urbanized environment.

2. Wine production. Realisation of provisioning and cultural service values associated with this cultural landscape

Maximising potential, including realization of benefits through both the market and policy. Minimising adverse trade-offs.

3. Transboundary river and wetland management in the Lower Danube

Capacity to realize social, cultural and economic value of ES and NC in maintaining agricultural, fisheries and cultural goods together with identification of appropriate participatory methods and policy. Restoration of functioning ecosystems.

4. Cultural landscapes in Montado Portugal

Realisation of provisioning and cultural services provided by traditional cork woods, their appreciation by local community, and their capture within existing and potential market values and agri-environmental policy.

5. Landscape management in central Alps

Realisation of the provisioning and cultural services provided by land management for traditional agriculture and forestry and for recreation.

6. Implementation of environmental policy in Scotland.

Changing role and perception of the rural and wilderness environment, the ES it delivers and the capacity to maximize this value. Restoration of functioning ecosystems.

Link to WP Instruments:

To contribute to the development of tools that take account of social and cultural values and which integrate where possible with economic valuation, provide meaningful incentives for sustainable management of NC, and maximize public acceptance of relevant policies.

Results for resource hub:

- Definition and description of social and cultural values,
- Methods for quantification of valuation
- Methods for integration with economic valuation approaches.

Task 3.3: Market and non-market valuation of ES and NC

Lead: Mark Koetse

Overall task objective:

We use state-of-the-art valuation methods to improve estimates and transferability of economic values for environmental services. This will be achieved by (1) providing a state-of-the-art review of environmental valuation techniques (Sub task 3.3.1), (2) expanding existing meta-analysis databases with socio-economic and biophysical data, and testing and validating the improved environmental value functions in several of the exemplars (Sub task 3.3.2), (3) providing a critical review of existing accounting techniques and ways to integrate economic ES values in accounting frameworks (Sub task 3.3.3), and (4) comparing ES value estimates with existing ES payments and assessing the effectiveness and efficiency of mixing different policy instruments (Sub task 3.3.4).

Link to deliverable / milestone (number and title)

D 3.2: Monetary and social valuation: State-of-the-art

MS 3.3: Discussion paper on the design of a conceptual framework on incorporating spatial complexity in value transfer functions

MS 3.4: Discussion paper on establishing definitions for social and cultural values and how they relate to changes in the environment

MS 3.9: Coordinated plan for the application of monetary valuation in selected exemplars

MS 3.10: Coordinated plan for the application of social valuation in selected exemplars

MS 3.11: Minutes of a teleconference or workshop with exemplars to discuss the application of value transfer, based on spatially explicit ES value functions resulting from the meta-analyses

(M3.17 and M3.22), to one or more of the relevant ES. Also discuss the application of economic valuation methods (e.g., contingent valuation, choice experiment) to exemplar-specific ES, to be able to validate and test value transfer.

MS 3.17: Expanded meta-analysis database made available to the Resource Hub, under restricted access

MS 3.22: Paper submitted on the meta-analysis database

Methods to achieve objectives

Various methods will be used in this task. We will use GIS and GIS databases to expand existing meta-analysis databases with spatial data. State-of-the-art models for meta-analysis will be estimated to improve existing environmental value functions. Validation and testing of the improved value functions will be done both in-sample, using so-called jack-knifing, and out-of-sample, using the exemplars and various WP instruments. Although meta-analysis databases exist for many of the ecosystem services that are not traded on markets, they are certainly not exhaustive. State-of-the-art environmental valuation techniques, among which choice modelling and revealed preference models, will be employed to improve insights into, and estimates of, specific ES values, preferably within the context of one or more of the exemplars. Finally, a critical review of the literature will be part of most of the research effort.

Partner contributions

- Partner 1: IVM, Involved researchers: Mark Koetse
- Partner 2: UEA, Involved researchers: Ian Bateman
- Partner 3: IEEP, Involved researchers: Patrick ten Brink, Marianne Kettunen
- Partner 4: UCD, Involved researchers: Craig Bullock, Marcus Collier

Exemplars potentially addressed

Many exemplars have indicated an interest in this work, so the exemplars to be addressed will be the result of ongoing research developments in this task as well as in the exemplars. Given the partners involved in this task, and realizing that testing the validity of ES value transfer should address multiple geographical scales, the following exemplars are likely to be taken forward:

Exemplar. 1. Urban-rural fringe of the Greater Dublin Region.

Exemplar. 5. Trans-boundary River and Wetland Management of the Lower Danube.

Exemplar. 8. Multi-scale implementation of environmental policy in Scotland.

Exemplar. 10. Pan-European regulatory Directives.

Exemplar. 11. Mechanisms for Climate Protection and Habitat Conservation at the global scale.

Task 3.4: Institutional structure and governance systems

Lead: Lennart Olsson

Overall task objective:

This task will provide insights into how ES and NC can and should be governed. This will be done by first providing a theoretically informed typology of governance modes of ES/NC based on the nature of the services (subtask 3.4.1); second to make a more detailed investigation of the role of property rights in relation to selected ES/NC in the context of the exemplars (subtask 3.4.2); third to study existing and potential policy integration examples in the EU (subtask 3.4.3); and fourth to analyse cross-scale and cross-jurisdiction aspects of selected ES/NC governance (subtask 3.4.4).

Link to deliverable / milestone

D3.3 Report on the existing and potential governance modes for various ES/NC (month 24)

MS3.7 Identification of knowledge and policy gaps in the context of exemplars and instruments (month 12, IEEP, Marianne Kettunen, Leonardo Mazza, Patrick ten Brink).

D3.6 A portfolio of ideal types of (public and private) governance modes for selected ES/NC

MS3.6 list of questions sent to selected exemplars regarding salient characteristics of ES/NC and stakeholders. (month 10, ULUND)

MS3.24 Identification of policy integration needs, cross jurisdiction issues, PR arrangements. (month 17, LUND: Lennart Olsson)

MS3.14, First test of the portfolio of ideal types in some exemplars in conjunction with T3.2.2 and T4.1. (Nov 2015, ETH),

MS3.19, Joint publication on use of the governance typology to assess existing EU or other policies for harnessing ES. (month 54, IEEP)

Methods to achieve objectives:

The point of departure will be the exemplars and instruments. Ecosystem services to cover in this task will be selected from the exemplars and/or instruments reflecting the exemplars. A set of questions will be compiled and sent to WP2 in order to ensure that the exemplars will be adequately described from a governance point of view. The exemplar (i.e. practise) based analysis will be complemented by an assessment of the current and potential integration to operationalise ES/NC into existing policies and their governance at a general level. The subtasks of 3.4 will make use of the exemplars in order to create a typology of ideal types, to investigate property rights, to analyse policy integration and to understand the cross-scale and cross-jurisdiction issues. Methods will be qualitative and empirically grounded in the exemplars, reflecting also the selection of instruments under WP4.

Partner contributions:

- Partner 1: ULUND, Involved researchers: Lennart Olsson, Torsten Krause ULUND will coordinate the work in Task 3.4 and be responsible for two sub-tasks: 3.4.1 and 3.4.2. The work will mainly be based on linking the real-world cases of the selected exemplars to a theoretical understanding of how various ES/NC might best be governed. Understanding of ecosystem functions of ES/NC and corresponding socio-economic conditions will be essential to take into consideration. Property (and user) rights have been selected as the most salient institution, hence a special sub-task on this.
- Partner 2: IEEP, Involved researchers: Patrick ten Brink, Marianne Kettunen and Leonardo Mazza. IEEP will be responsible for sub-task 3.4.3. The work will focus on assessing the current level of integration of ES / NC into policies and governance, with a focus on identifying gaps in integration, synergies and trade-offs between different policies and their governance. In addition to the literature-based analysis of existing policy and governance frameworks, the work will draw from / reflect on the insights from the exemplars under WP2. Furthermore, the analysis will be closely linked to support the work on instruments under WP4, especially the assessment of gaps and needs assessment for integration of EC/NC concepts under Task 4.1.1.
- Partner 3: ETH, Involved researchers: Adrienne Gret Regamey, Ulrike Wissen, Christian Hirschi

Task 3.5: Trade-offs and synergies in ES/NC and alternative valuation perspectives

Lead: Astrid van Teeffelen

Overall task objective:

1. Coordination of knowledge transfer across WP3 and to/from WP2 and WP4 (Task 3.5.1).
2. Assess and enhance the operational potential of methods for assessing trade-offs and synergies in ES/NC quantification (T3.5.2).
3. Develop novel assessment methods that integrate various ES valuation methods (T3.5.3)
4. Analyse patterns of synergies/trade-offs across exemplars (T3.5.4)

Link to deliverable / milestone

- **D3.7 Synthesis, documentation and user guidance for new methods and decision trees**

- MS3.5 Discussion paper on a full methodological/conceptual framework for WP3 and a plan for application in the Scotland exemplar. (Aug. 2013) o MS3.8 Summary table exemplars needs from WP3 (Feb 2014)
- MS3.15 Discussion paper reporting on the trade-off analysis performed for at least 3 different exemplars (input for MS3.16) (Nov. 2015)
- MS3.16 Synthesis workshop for documentation and user guidance for new methods and the decision trees (Dec. 2015)
- MS3.23 Synthesis paper on task 3.5 results submitted (Nov 2017)

Methods to achieve objectives:

- Methods for assessing trade-offs and synergies, existing methods (that follow from T2.1 meta-analysis) will be tested and enhanced and developed, tailored towards operational instruments (T3.5.2)
- Development of assessment methods reconciling the functional, monetary and social values of ES/NC (T3.5.3).
- Decision tree (and associated arguments) for applicability of the different perspectives (T3.5.3)
- Simulation experiments / management option evaluation (T3.5.4)
- Optimization of ES/NC management (T3.5.4) seeking trade-offs and synergies between different objectives (ecological, economic, social).

Partner contributions:

- VU-IVM, Astrid van Teeffelen, Peter Verburg, Samantha Scholte, PhD candidate NN
 - i. Coordination of Task 3.5 and Deliverable 3.7
 - ii. Develop a methodological /conceptual framework for WP3 and plan for an application in the Scotland exemplar (MS3.5).
 - iii. Key contact person for the European exemplar.
 - iv. Developing and testing the assessment methods
 - v. Coordinate a synthesis paper on the results of task 3.5 (MS3.23)
- KIT, Almut Arneth, Anita Bayer
 - i. Co-coordination of Task 3.5 and Deliverable 3.7
 - ii. Developing and testing the assessment methods, i.e. process-based modelling frameworks to derive metrics useable in the operational ES/NC domain.
 - iii. Organise a synthesis workshop for documentation and user guidance for new methods and the decision trees (Dec. 2015, MS 3.16)
- CNRS, Sandra Lavorel
 - i. Developing and testing the assessment methods, and in developing guidelines for selecting and tailoring different quantitative methods to case study objectives

D1.2: Research Implementation Plan

- ii. Trade-off analysis performed for at least 3 different exemplars, report via MS3.15
- iii. Key contact for the Alps exemplar
 - UP, Ariane Walz
 - i. Deliver a summary table with exemplar needs from WP3 (MS3.8, Feb 2014).
 - ii. Key contact person for the Global exemplar
 - UEDIN, Marc Metzger
 - i. Key contact person for the Scotland exemplar
 - UCD, Craig Bullock, Marcus Collier
 - i. Feedback results and methods from the Task on social valuation to T3.5
 - UFZ, Ralf Seppelt, Martin Volk
 - i. Feedback outcomes from the Meta-analysis T2.1 into WP3
 - UBO, Sven Lautenbach
 - i. Feedback outcomes from the Meta-analysis T2.1 into WP3

Exemplars potentially addressed

- Task 3.5.2 test and enhance methods for assessing trade-offs and synergies, for example using the Central French Alps, Scotland, and the Mediterranean exemplars.
- Task 3.5.3 will develop novel assessment methods reconciling the functional, monetary and social values of ES/NC. These will be tested for applicability 'alongside exemplars' (e.g. Global, European, Scottish and Alps).
- Task 3.5.4 will test synergy/trade-off patterns across the global, European, and e.g. the Scottish and the Alps exemplars. Two experiments will be conducted:
- Simulation experiments to investigate the effects of the implementation of different management (βT4.4) on emerging trade-offs and synergies for the functioning of ecosystems and between social, economic and ecological values arising from this; Results à T4.5 to foster the assessment of strengths and weaknesses of the different instruments.
- Optimization of ES/NC management under constraints, for either ecological, social, or economic objectives (or combinations of these).

Link to WP Instruments

- WP3 has to provide appropriate platforms to incorporate knowledge into instrument development and testing (T3.5.1), for this a number of joint workshops (together with T4.5 and T2.2) to discuss the possibilities for operationalizing new knowledge through instrument development and exemplar testing (T3.5.1).
- Results from 3.5.3 will be used to inform the development of information and decision support instruments (T4.3)

- Results from 3.5.4 will be used to inform the development of information and decision support instruments (T4.2 – T4.3)

Results for resource hub

- A joint workshop with T5.1 to discuss a structured approach for representing new data, metrics and methods in the Resource Hub (T3.5.1).
- Results from 3.5.4 will be synthesized in cooperation with T2.3 adding to the 'lessons learned database'.
- Information and decision support instruments for synergies/trade-off analysis (in collaboration with WP4, T3.5.4)
- A decision tree (with associated arguments) for the applicability of the social, monetary and ecosystem-based perspectives will be provided that fits within social and institutional structures and governance.
- Results of simulation experiments across selected exemplars (e.g. global, Europe, Scotland): present-day and future (range of scenarios) climate regulation services (C, H2O), trade-off and synergy analysis, assessment of uncertainties.

Work package 4: Instruments

Task 4.1 Demand for ES/NC instruments

Lead: IEEP (Marianne Kettunen)

Overall task objective

- 1) Top down analysis: gaps and needs assessment for the integration of ES/NC concepts (T4.1.1)
- 2) Bottom up analysis: demands and needs for ES/NC instruments by key stakeholders (T4.1.2)
- 3) Identifying and assessing emerging issues and the opportunities for ES/NC integration (T4.1.3)
- 4) Analysis of needs for ES/NC in the context of specific policy tools and their implementation (T4.1.4)

Link to deliverable / milestone (number and title)

D4.1 Report and Policy brief on existing and emerging policy needs and opportunities, M16

MS41: Pre-Selection of priority instruments for further development in WP4 (Task 4.5,), M9

MS44: Policy gaps and needs assessment workshops (MS and EU level) (Task 4.1): Workshops with stakeholders (Task 4.4), M15

MS43: Procedures for the integration of the ES/NC into existing decision-support tools, M15

D4.2 A report on lessons learned and recommendations for taking account of ES/NC in key policy instruments, M36

MS47: Partner Feedback and Background report on existing and emerging practical needs for integration and uptake of ES/NC concepts for MS53 workshop, M30

MS48: Emerging needs workshop (EU level) (Task 4.1), M32

Methods to achieve objectives

- Input Data Requirements: state-of-play analysis from WP3 Task3.4.3, information from relevant examples under WP2
- Building on D4.1, with available insights from WP4 Tasks 4.2 – 4.4

Partner contributions

- Active contributions: Biotope, Denkstatt, ALU-OBU, WWF and EFI
- Oversight / synergies: UNEP-WCMC, ETH-Zurich, University of Lund and University of Potsdam, IODINE

Sub task 4.1.1 IEEP, UNEP-WCMC, ETH-Zurich, Biotope, ULUND, Denkstatt, EFI

Sub task 4.1.2 ALU, OBU, IEEP, Denkstatt, PU, WWF, Biotope

Sub task 4.1.3 IEEP, Biotope, Denkstatt, EFI

Sub task 4.1.4 IEEP, ALU, OBU, Denkstatt, EFI, WWF

Link to other WPs

D4.1 builds on / is developed in parallel with WP3 Task 3.4.3 “ES / NC current and potential policy integration”; D4.1 provides information on the broader policy and instrument “landscape” to WP4 Tasks 4.2 – 4.4; D4.1 makes links / builds on information from relevant exemplars under WP2 (e.g. Danube Basin, global and European examples)

D4.2 builds on work under D4.1; D4.2 uses any available insights from WP4 Tasks 4.2-4.4; D4.2 uses insights from relevant examples under WP2 (e.g. Danube Basin, global and European examples); also to the extent relevant D4.2 reflects knowledge related insights and requirements from WP3

Results for instruments

D4.1: Report and Policy brief on existing and emerging policy needs and opportunities at EU and MS level (Task 4.1) in a 4-step approach an assessment of policy objectives, of gaps, of emerging needs and opportunities. Mapping of identified key instruments to address the gaps across sectors.

Outcomes of assessment

- Instrument / sector / objective “combinations” to be focused on under Task 4.1.4 and explored under Task 4.1.2
- Assessment of policy objective landscape and current potential / gaps to address it
- Identification of emerging needs and opportunities

D4.2: A report on lessons learned and recommendations for taking account of ES/NC in key policy instruments and their implementation (Task 4.1). This should include outcomes from an assessment of existing and emerging practical needs for integration and uptake of ES/NC for different stakeholders, responding to policy needs and realizing opportunities, including a review of instruments as a basis for WP11-13 (Milestone 4.12).

Outcomes of assessment:

- Instrument based: Analysis of implementation paths (requirements, potential efficiency etc.) for key ES/NC (implementation) instruments (in a specific sectoral - policy goal context)
- Stakeholder led: Analysis of stakeholder needs for key policy instruments (in sector and policy objective context)
- Sector based: operationalising potential for ES/NC to improve resource efficiency within key supply chains

Task 4.2 ES/NC information tools

Lead: WCMC (Claire Brown)

Overall task objective

- 1) Enhancement and development of innovative data capture tools (T4.2.1)
- 2) Enhancement of selected indicator-based tools and development of new indicator-based tools (T4.2.2)
- 3) Enhancement of information tools to support accounting and ratings systems (T4.2.3)
- 4) Improve data and information storage and presentation including web-based visualization interfaces (T4.2.4)

Link to deliverable / milestone (number and title)

D4.4 New and enhanced existing data capture, indicator based, and information tools including documentation, M48

MS42: Means for enhancing selected ES/NC data tools and accounting and ratings systems identified, M15

MS50: Updated report on testing of information tools for ES/NC data capture, storage, presentation and use, M36

MS51: Trialling new and enhanced data capture, indicator-based, and information tools within Exemplars, M36

Methods to achieve objectives

Links within WP4:

- To Task 4.1 (for Task 4.2.1)
- To Task 4.3 (for Task 4.2.4)

Partner contributions

- UEDIN, Mark Rounsevell, Marc Metzger (T 4.2.1)
- EFI, Marcus Lindner (T 4.2.1, T 4.2.2, T 4.2.4)
- Biotope, Fabien Quetier (T 4.2.2, T 4.2.4)
- ETH Adrienne Gret-Regamey (T 4.2.2)
- Tiamasg George Cojocar (T 4.2.2, T 4.2.4)
- Denkstatt Boyan Rashev (T.4.2.3)
- Lund Paul Weaver (T.4.2.3)
- ECM, Karin Viergever (T.4.2.3, T 4.2.4)

Sub task 4.2.1 UEDIN, EFI

Sub task 4.2.2 WCMC, Biotope, EFI, ETH, Tiamasg

Sub task 4.2.3 Denkstatt, WCMC, LUND, ECM

Sub task 4.2.4 Tiamasg, WCMC, ECM, Biotope, EFI

Link to other WPs

- Links to WP2: Exemplars: Information tools will be tested within exemplars
- Links to WP3: Knowledge: Knowledge generated from this work package will feed into the development of the spatially explicit information tools
- Links to WP4: Instruments: Take into consideration the development of tools in Task 4.2
- Links to WP5: Resource Hub: Tools, protocols etc will be made available through the Resource Hub

Results for instruments

Task 4.2.1

- Enhancing and developing innovative data capture tools focusing on crowd-sourcing methods, based on the current approach in the VOLANTE project
- Testing tools using crowd sourcing methods in exemplars
- Identification of other potential tools for enhancement (link to Task 4.1)
- Link to EU Bon

Task 4.2.2

- Identify opportunities for strengthening existing indicator based tools using T4.1 output
- Develop protocols indicators and indices that take into consideration the supply and benefits of ES/NC
- Drawing on the methods developed under T3.1, develop a set of spatially explicit indicators
- Indicators and indices tested in the context of Europe and global policy and strategies, private sector reporting and assessment frameworks
- Indicators and indices trialled in exemplars

Task 4.2.3

- Review and refine criteria for a range of standards, certification and ratings schemes
- Explore the potential to further elaborate existing and develop new LCA-based tools to incorporate ES/NC
- Trial the use of LCA for EPD criteria in the wine industry exemplar

Task 4.2.4

- Draw together and make accessible information developed in task 4.3
- Examine tools developed in Task 4.2 for their usability as DS tools and propose modes of information transfer, including description of data transfer and translation interfaces, development of databases and metadata standards, web-based visualisation interfaces for data access and review
- Information made available through the Resource hub

Task 4.3 ES/NC Decision Support Tools

Lead: ETH (Adrienne Gret-Regamey)

Overall task objective

- 1) Multi-criteria decision analysis (T4.3.1)
- 2) Cost-Benefit Analyses (T4.3.2)
- 3) Environmental assessments (T4.3.3)
- 4) Scenario and foresight tools (T4.3.4)
- 5) Improving existing and developing innovative user interfaces (T4.3.5)

Link to deliverable / milestone (number and title)

D4.6 New and improved decision support tools and methods, linked with a user interface, M52

MS41: Pre-Selection of priority instruments for further development in WP4 (Task4.5), M9

MS42: Means for enhancing selected ES/NC data tools and accounting and ratings systems identified, M15

MS43: Procedures for the integration of the ES/NC into existing decision-support tools, M15

MS47: Partner Feedback and Background report on existing and emerging practical needs for integration and uptake of ES/NC concepts for MS53 workshop, M30

MS50: Updated report on testing of information tools for ES/NC data capture, storage, presentation and use, M36

MS51: Trialling new and enhanced data capture, indicator-based, and information tools within Exemplars, M36

MS52: Interim analyses of implementation designs in the three arenas (Task 4.4), M36

Methods to achieve objectives

- Link to Task 4.1, Task 4.2.1, Task 4.2.4 (Improve data and information storage and presentation including web-based visualization),
- as a first step, a list of factsheets with available decision support tools and expected development of the tools by the end of June 2013
- Actions/next steps (see Annex for details)

Partner contributions

- Co-authors/contributors/ Partners(real names) : Diana Tuomasjukka (EFI), Fabien Quétier (BIOTOPE),
Further - TBC: Rob Tinch (IODINE), Dariya Hadzhiyska (DENKSTATT) James Paterson/ Marc Metzger (UEDIN), Diana Hanganu/George Cojocaru (TIAMASG), Ariane Walz (PU, Carsten Dormann (ALU)

Sub task 4.3.1 EFI, Biotope, ETH, ALU, OBU

Sub task 4.3.2 IODINE, EFI

Sub task 4.3.3 Biotope, ETH, EFI, DENKSTATT

Sub task 4.3.4 UEDIN, ETH

Sub task 4.3.5 ETH, Biotope, TIAMASG, PU

Link to WP Instruments

Output to Task 4.4, Task 5 and exemplars

Results for instruments

Selection of new and improved decision support tools and methods operationalizing ecosystem services. The new and improved decision support tools will be developed and tested in different individual exemplars. The computing architecture of successful tools including their user interfaces will be made available for other exemplars, and the developed tools and methods tested in the different exemplars will be made available through the Resource Hub. The decision support tools and methods will be accompanied by a report and a factsheet describing the tool and method especially with respect to their incorporation of ES/NC information (Task 4.2).

Task 4.4 Implementation and uptake of ES/NC concepts

Lead: ULUND (Paul Weaver)

Overall task objective

- 1) Design and 'success' criteria in implementing ES/NC concepts (T4.5.1)
- 2) Design of analytical methods and protocols to assess implementation (T4.5.2)
- 3) Implementations of market-based approaches (T4.5.3)
- 4) Implementation of approaches based on spatial planning, permitting, and direct investment, including Green Infrastructure (GI) Interventions (T4.5.4)
- 5) Implementations in Green Business and Finance (T4.4.5)

Link to deliverable / milestone (number and title)

D4.7 Management information tools and manuals for concept mainstreaming in three arenas, M52

MS44: Policy gaps and needs assessment workshops (MS and EU level) (Task 4.1):

Workshops with stakeholders (Task 4.4), M15

MS52: Interim analyses of implementation designs in the three arenas (Task 4.4), M42

Methods to achieve objectives

D1.2: Research Implementation Plan

- Input data of structured descriptions of implementations (operational designs, application contexts, performance), enabling characterisations and analysis of implementations and their effectiveness (data available to task-contributors from literature reviews of theory and practice and from the exemplars of WP2); stakeholder-derived implementation performance criteria (data collected directly from stakeholders in policy-gap and need assessment workshops, Task 4.1, MS44, augmented by literature reviews).
- Activities in coming months: Immediate focus in months 6-15 is to focus on the building blocks of the task: development of the description and reporting template/framework for implementations and specification of stakeholder- relevant implementation performance and design criteria. (More to follow).
- Actions/next steps (see Annex for details)

Partner contributions

Co-authors: IODINE (Rob Tinch); IEEP (Marianne Kettunen); Denkstatt (Dariya Hadzhiyska; Linda Klare).

Other active contributors:

IVM (Peter Verburg, Astrid van Teeffelen, Mark Koetse); EFI (Marcus Lindner, Diana Tuomasjukka); WWF-Bulgaria (Maya Todorova); BIOTOPE (Fabien Quetier); CIFOR (Bruno Locatelli); UCD (Marcus Collier); UNEP-WCMC (Claire Brown)

Task 4.4 Task lead ULUND (Paul Weaver)

Sub task 4.4.1 ULUND

Sub task 4.4.2 IODINE, ULUND

Sub task 4.4.3 IEEP; IVM, IODINE; EFI; WWF-Bulgaria; ULUND; BIOTOPE; CIFOR

Sub task 4.4.4 ULUND, IVM, IEEP, UCD

Sub task 4.4.5 DENKSTATT; WCMC; IODINE, WWF- Bulgaria; ULUND; EFI

Link to other WPs

- WP2: Task 4.4 interacts with exemplars of WP2 (Practice), receiving information about implementations and providing suggestions for new/improved implementations.
- WP3: Task 4.4 interacts with Task 3.4 of WP3 (Knowledge) concerning the role of different governance modes and combinations in implementations. Link within WP4:
- Within WP4, input to Task 4.4 (stakeholder implementation concerns) is received from Task 4.1 (demand for ES/NC instruments).
- Within Task 4.4, subtasks 4.4.1 and 4.4.2 provide (respectively) an implementation framework template and the three other sub-tasks, which provide feedback from all subtasks of Task 4.4.
- Output to Task 4.5 and to WP5. Interactions with WP3 on governance

Results for instruments

A report/manual providing guidance on concept mainstreaming in different arenas (markets, spatial planning, green business/finance, hybrids of these) under different drivers, principles, and implementation logics. The concerns of the report are: (i) to understand and improve the take up and mainstreaming of ES/NC concepts through schemes of implementation in different arenas and, with that, to secure the take up and use of ES/NC tools and information, including those developed in OPERAs; (ii) to identify drivers of and opportunities for mainstreaming as well as barriers to uptake and ways of overcoming these; (iii) to help ensure implementations and operational designs for those that meet stakeholder-defined performance criteria; and (iv) to help secure synergies between schemes. Policy-relevant questions relating to implementation design, such as the relative merits in different contexts of top-down regulatory approaches versus bottom-up governance-based approaches to verification, monitoring, and enforcement (VME), will be identified and addressed.

Task 4.5 Demand for ES/NC instruments

Lead: EFI (Marcus Lindner, Diana Tuomasjukka)

Overall task objective

- 1) Coordinating Instruments Development (T4.1.1)
- 2) Synthesizing operational potentials (T4.1.2)
- 3) Recommendations and good practice guidelines (T4.1.3)

Link to deliverable / milestone (number and title)

D4.3 Synthesis report documenting the operational potential of ES/NC instruments, M47

MS41: Pre-Selection of priority instruments for further development in WP4 (Task 4.5), M9

MS46: Data capture, indicator-based and information tools selected for enhancement, development and trial, M18

MS50: Updated report on testing of information tools for ES/NC data capture, storage, presentation and use, M36

MS51: Trialling new and enhanced data capture, indicator-based, and information tools within Exemplars, M36

MS52: Interim analyses of implementation designs in the three arenas (Task 4.4), M42

D4.5 Good practice guidelines for instrument choice and tutorials for instrument application, M48

MS42: Means for enhancing selected ES/NC data tools and identified accounting and ratings systems, M15

MS43, Procedures for the integration of the ES/NC into existing decision-support tools, M15

MS46: Data capture, indicator-based and information tools selected for enhancement, development and trial, M18

D1.2: Research Implementation Plan

MS47: Partner Feedback and Background report on existing and emerging practical needs for integration and uptake of ES/NC concepts for MS53 workshop, M30

MS50: Updated report on testing of information tools for ES/NC data capture, storage, presentation and use, M36

MS51: Trialling new and enhanced data capture, indicator-based and information tools within Exemplars, M36

MS52: Interim analyses of implementation designs in the three arenas (Task 4.4), M36

Methods to achieve objectives

Link within WP4 to Tasks:

- Task 4.1 Demand for ES/NC instruments,
- Task 4.2 ES/NC information tools
- Task 4.3 ES/NC Decision Support Tools

Actions/next steps (see Annex for details):

- MS 41 Pre-selection of priority instruments (due Month 9)
- Setting up tool library (first due date 1st of March 2013) accessible at dropbox (for the moment)
- Prepare factsheets of each tool (2-3 pages)
- Bi-monthly WP4 meetings (next ones: 13.3.2013, 29.5.2013)

Input Data required are

- a list and descriptions of pre-selected / selected instruments
- Factsheets of exemplars and documentation of progress
- experiences from applying/developing these instruments in selected exemplars

Partner contributions

Paul Weaver (ULUND), Claire Brown (WCMC), Dariya Hadzhiyska (Denkstatt Bulgaria), Adrienne Gret-Regamey (ETH), Marianne Kettunen (IEEP), Rob Tinch (IODINE)

Task 4.5 Task lead: EFI (Marcus Lindner, Diana Tuomasjukka)

Sub task 4.5.1 EFI, ULUND

Sub task 4.5.2 EFI, IEEP, ULUND, WCMC

Sub task 4.5.3 EFI, ULUND, IEEP, ETH, WCMC, PU, ALU, OBU

Link to other WPs

Link to WP3 on Exemplar-Instrument link and development needs

Results for instruments

- Synthesis report documenting the operational potential of ES/NC instruments, including road maps for actions in different policy fields (Task 4.5)
- Overview of different instruments and tools for data capture, information, decision support and implementation which are available within OPERAs. These are critically assessed on their suitability in different application fields, on their operational potential within ES and NC contexts and required development needs within OPERAs.
- In the individual exemplar–instrument cooperation arrangements, the selected and further improved tools and instruments (see D4.3 and D4.4) will be used and tested. Experiences from these applications will be gathered in “Good practice guidelines” for choosing instruments and tutorials for instrument application (Task 4.5)

Work package 5: Resource Hub

Task 5.1 Resource Hub development

Lead: Claire Brown

Overall task objective

1. Understand user needs across a range of constituencies
2. Design and develop the resource hub to meet user (stakeholder needs)
3. Define a process and strategy for longer-term resourcing and maintenance of the hub
4. Build constituencies of support for ES/NC implementation 'logics', and contribute to capacity development amongst practitioners, academics and other user communities.

Link to deliverable/milestone (number and title)

D 5.1 Report on Interoperability (month 18) MS 5.3: User needs assessment report and RH design (month 12)

D 5.2 2nd Report on Interoperability (month 36) MS 5.6: Prototype Resource Hub (month 24)

D 5.3 Market analysis for Business Plan (month 36) D 5.4 Final Report on interoperability (month 54) D 5.5 Operational resource Hub (month 54) D 5.6 Business Plan (month 54)

Methods to achieve objectives

- Review of other hubs currently operating, including functionality and understanding links with key web portals such as BISE and ESP.
- Investigate with the relevant work package of OpenNESS the possibility of developing a combined Resource hub/Clearing House mechanism. The outcomes of the investigation will inform the precise nature of other activities carried out within this task.
- Carry out a user needs assessment and understand lessons from exemplars
- Design and develop structure and content of the Resource Hub (including the web portal)
- User testing of resource hub
- Development of a long term business plan for the Resource Hub

Partner contributions

- ULUND, Paul Weaver (T 5.1.1, T 5.1.2, T 5.1.4)
- UEDIN, Mark Rounsevell, Marc Metzger (T 5.1.1, T 5.1.2, T 5.1.4)
- Prospex, Martin Watson and Katharina Zellmer (T 5.1.1, T 5.1.4)
- UFZ, Ralf Seppelt and Martin Volk (T 5.1.1, T 5.1.4)
- ALU, Carsten Dorman (T 5.1.1, T 5.1.4)
- UBO, Sven Lautenbach (T 5.1.1, T 5.1.4)
- Tiamasg, George Cojocararu (T 5.1.2, T 5.1.3)

- ECM, Karin Biergever (T.5.1.3)
- Denkstatt, Boyan Rashev, Klimentina Rasheva, Nikolay Minkov and Dariya Hadzhiyska (T.5.1.3) § CFIOR, Bruno Locatelli (T.5.1.3)
- VU-IVM, Involved researchers: Peter Verbung, Roy Brouwer and Jan Vermaat (T 5.1.4)
- EFI, Involved researchers: Marcus Lindner (T 5.1.4)

Links to other work packages

Links to WP 2: Exemplars

- Lessons from Exemplars will be made available through the resource hub, but exemplar researchers and stakeholders will also assist in designing the hub

Links to WP4: Instruments

- Tools developed and other materials made available through the Resource Hub; insights and opportunities for the business plan and resource hub continuity supplied from WP4

Links to WP6 – Outreach

- The resource hub will play a central role in outreach to disseminate the materials from other work packages, but also communicate material developed within this work package

Task 5.2 Stakeholder engagement and facilitation

Lead: Martin Watson

Overall task objective

1. Develop a stakeholder analysis and engagement plan (T 5.2.1)
2. Set up and manage the OPERAs Userboard (T 5.2.2)
3. Facilitate stakeholder engagement in selected exemplars (T 5.2.3)
4. Monitor and undertake corrective action for stakeholder engagement (T 5.2.4).

Link to deliverable / milestone (number and title)

D5.7 Comprehensive report on stakeholder workshops and stakeholder engagement monitoring, M56 (July 2017)

M5.1 Coordination with Wing (OpenNESS), M3 (February 2013)

M5.2 Stakeholder Engagement Plan, M10 (September 2013)

M5.4 Userboard Workshop 1, M12 (November 2013)

M5.5 Userboard Workshop 2, M24 (November 2014)

M5.7 Userboard Workshop 3, M36 (November 2015) M5.8 Userboard Workshop 4, M48 (November 2016)

Methods to achieve objectives

D1.2: Research Implementation Plan

- Carry out stakeholder identification and analysis to carefully define specifics of the involvement of each stakeholder group (T 5.2.1).
- Selection of User board members through stakeholder analysis, and engage continuously with them through a protected website and direct communication as well as four professionally facilitated workshops (T 5.2.2).
- Provide professional process design and facilitation in four exemplars, including reporting (T 5.2.3).
- Establishment of a monitoring system tracing the use of inputs received from stakeholders, recording and analysing stakeholder assessments, feeding into corrective action in situations stakeholder input has not been adequately addressed (T 5.2.4).

Partner contributions

- UEDIN: Mark Rounsevell, Marc Metzger (T 5.2.1, T 5.2.2) Identification of stakeholders in general and for the User board in particular, Support the management of the User board
- IEEP: Patrick ten Brink, Marianne Kettunen (T 5.2.1) Identification of European level stakeholders
- ULUND: Kim Nicholas (T 5.2.1, T 5.2.3) Identification of exemplar stakeholders for the User board, Coordination of facilitation of stakeholder engagement in selected exemplars
- UP: Ariane Walz (T 5.2.1, T 5.2.3) Identification of exemplar stakeholders for the User board, Coordination of facilitation of stakeholder engagement in selected exemplars

Links to other work packages

Link to WP 2: Exemplars potentially addressed:

- one stakeholder per exemplar in the User board (T 5.2.2)
- at least 4 in the professional facilitation of stakeholder engagement (T 5.2.3), a.o.
 - i. Europe (KIT, VU-IVM, ...)
 - ii. Scotland (UEDIN,)
 - iii. French Alps (CNRS)
 - iv. Balearic Islands (CSIC)
 - v. Barcelona Dunes (SGM)

Link to WP 4 Instruments

- stakeholder mapping basis for sub-task 4.1.2 (Demands and needs for ES/NC instruments by key stakeholders)

Work package 6: Outreach and dissemination

Task 6.1: Constituency building, outreach and project dissemination

Lead: Marc Metzger

Overall task objective

1. Project Dissemination to maximise impacts in science, policy and practice (T6.1.1)
2. Outreach and constituency building to guarantee successful adoption of the Resource Hub by OPERAs stakeholders (T6.1.2)
3. OPERAs Summer School (T6.1.3)
4. OPERAs peer-to-peer exchange conference to present OPERAs exemplars along with key project results including the Resource Hub (T6.1.4)

Link to deliverable/milestone (number and title)

M6.1 Website launched (Month 3)

M6.2 OPERAs logo and branding (Month 6)

M6.3 First project flyer (Month 9)

D6.1 Dissemination strategy and plan (Month 12)

M6.4 Decision on topics for first films (M12)

D6.2 Short films describing issues (Month 18)

D6.3 Policy Brief Resource Hub (Month 32)

M6.5 Decision on topics and contracting short films RH (Month 44)

D6.4 Short films describing Resource Hub and instruments (Month 50)

M6.6 First plan for summer school (M38)

M6.7 Date set and venue secured (M42)

D6.5 Summer School for post graduate researchers (Month 54)

M6.8 First plan for conference (M38)

M6.9 Dates set and venue secured (M46)

D6.6 Peer-to-peer exchange conference (Month 58)

Partner contributions:

- UEDIN: Mark Rounsevell, Marc Metzger, Jess Bryson § ULUND: Paul Weaver § WCMC: Clair Brown § TIAMASG: George Cojocar
- CNRS: Wolfgang Cramer § ETH: Adrienne Gret § WWF Bulgaria: Maya Todorova § WWF Romania: Orieta Huela
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Links to other work packages

Project dissemination and outreach will have strong links with all WPs, specific linkages include:
WP5: there will be strong collaboration with the resource hub (especially for D6.3, D6.4) and the user board to ensure effective and targeted outreach

D1.1 Management of project dissemination (Month 3)

Appendix 1: Quality Assurance (QA)

The Research Implementation Plan (RIP) is central to the project's QA strategy, and is the main tool for WP leaders and the coordinator to ensure that we achieve the desired result efficiently. The QA strategy consists of two components:

QA objective 1: To ensure that OPERAs delivers ecosystem services tools and instruments that are fit for purpose.

To achieve this:

- a user board will be set up that will guide the entire project (sub-task 5.2.2).
 - policy needs and opportunities will be identified (D4.1)
 - market analysis and scoping for the resource hub (D5.3) will start long before the project's end
 - feedback from the advisory council will be incorporated
- QA objective 2: To prevent failure or outputs that are of insufficient standard. To achieve this:
- the RIP will be used to monitor progress and clarify roles and expectations
 - an outline of each deliverable (structure, context, plan) will be discussed with the WP lead (or a replacement if the WP lead is the author) no less than 3 months before submission date. The outline will then be sent to the DMT.
 - the DMT will review the deliverable no less than 2 weeks before submission, checking for omissions and major inconsistencies.

Appendix 2. OPERAs management structure

This section is not meant to repeat the management agreement in the DoW or the Consortium Agreement, but to provide a summary of roles and expectations for OPERAs researchers. Figure 1 summarises the overall project management structure, and has been updated with the up-to-date named individuals. This structure establishes a relatively small management team that is capable of safeguarding the flow of information between the modules.

The Project Management Team (PMT)

The PMT is the main management and decision-making body of the project, which is chaired by the Project Coordinator with assistance from the Deputy Coordinator and comprises the WP co-leads. The PMT is responsible for decisions about project progress, staff exchanges, political connections and collaboration with other projects or programmes. The PMT will meet at each project meeting and have additional meetings using Internet conferencing facilities as issues arise that require action and coordination. The PMT prepares the documents and agenda for the Consortium Assembly and is in charge of keeping the RIP up to date.

The Consortium Assembly (CA)

The CA is a gathering of representatives of all 27 partners. The Assembly meets once a year at the general project meeting to discuss progress and to advise on project strategy and other outstanding issues. By consent, the CA is the final decision body of the project in matters of major strategy revision and in the eventuality that partners are declared redundant.

The Daily Management Team (DMT)

The DMT is responsible for monitoring and coordinating the project on a daily basis, preparing progress reports, and for dealing with legal, financial and secretarial matters. It implements management tasks delegated by the PMT. The Project Coordinator (Mark Rounsevell) leads the DMT, supported by the project manager (Jess Bryson), the deputy coordinator (Marc Metzger) and other Edinburgh University support staff for legal and financial issues, and public relations and communication.

The WP leaders and Task leaders

The WP leaders are responsible for ensuring the RIP is up to date, and for the efficient and effective implementation of the planned research in the RIP, taking into account the timeliness and quality of the deliverables, and the efficiency of the relationships between the participating partners. Each WP is led by two co-leaders (see Fig. 1). WPs consist of several tasks, which have been assigned a Task leader (see Fig. 1), with specific responsibilities outlined below.

The WP leaders are responsible for:

Design of WP work plans;

- Communication within the WP, including organisation of project meetings;
- Proper interrelationships and information flows between the Tasks;
- Organization of the information flow between WPs;
- Overall progress and quality assurance within the WP;
- Communication with the participants on items discussed in and decisions of the PMT.

Task leaders are responsible for:

- Regularly informing the WP leaders and the Project Coordinator about actions if needed;
- Task assignment for sub-tasks;
- Progress monitoring of milestones and expected outcomes of the task;
- Delivering input to the WP lead and Coordinator for the preparation of periodic reports;
- Organisation of workshops or project meeting (if included in the WP).