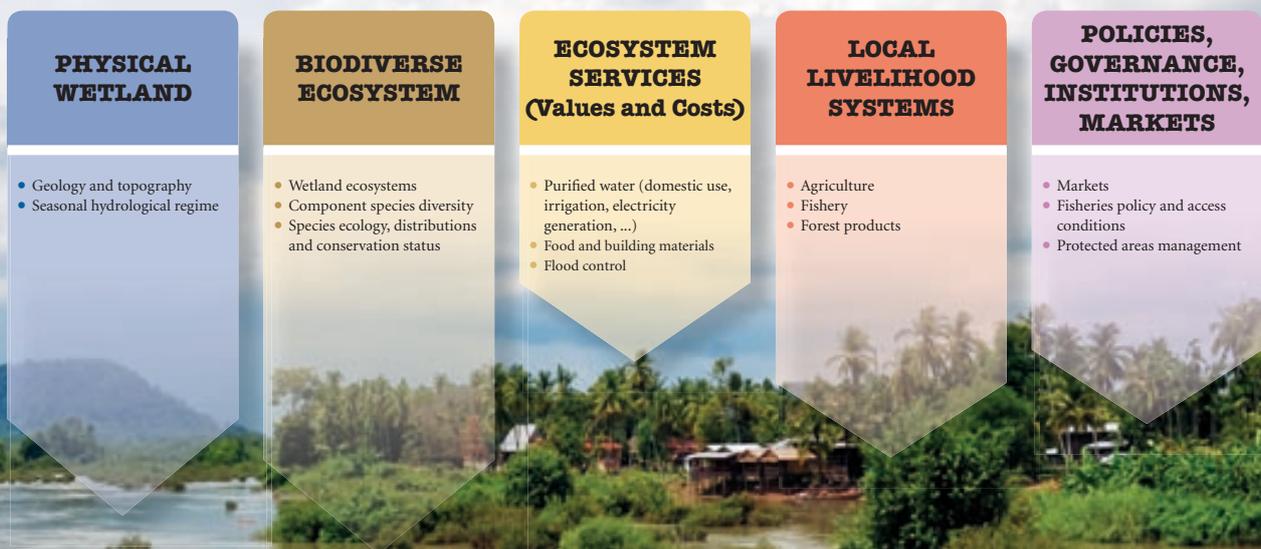




An Integrated Wetland Assessment Toolkit

A guide to good practice

Edited by Oliver Springgate-Baginski, David Allen and William Darwall



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Contents

List of Boxes, Figures and Tables	vi
About the Authors	ix
Acknowledgements	x
Foreword	xii
Terms Used	xiii
Overview	xiv

SECTION I – INTRODUCING THE INTEGRATED WETLAND ASSESSMENT PROCESS

1 Introduction and conceptual framework	1
F1 Purpose of the toolkit	2
F2 Wetland ecosystems and their governance – supporting inclusive and informed decision-making	2
F3 Wetland assessment: improving upon conventional approaches	5
F4 Integrating when, how and by whom the assessment is carried out	8
F5 Conceptual integration in what is being assessed	10
Further reading	16
2 How to conduct an integrated wetland assessment	17
A Overview	18
A1 Identify the management concerns, objectives or issues to be addressed and the questions to be answered	19
A2 Form the multi-disciplinary team and allocate roles and responsibilities	20
A3 Review current state of knowledge and focal issues	21
A4 Plan the field sampling programme and complete a planning matrix	21
A5 Plan data collection according to opportunities and constraints	26
A6 Pilot evaluation of field methods	26
A7 Implement the main field assessment	27
A8 Data management	27
A9 Data analysis and write-up	29
A10 Presentation of results: spatial presentation employing a GIS-based approach	29
A11 Feedback and policy engagement	29
Further reading	30

SECTION II – THE TOOLS

3 Biodiversity assessment tools	31
B1 Overview	32
B2 Planning a field survey	34
B3 Conducting species surveys	35
B4 Fish survey sampling methods	36
B5 Mollusc sampling methods	38
B6 Dragonfly and damselfly sampling methods	41
B7 Sampling methods for non-fish vertebrates associated with wetlands: amphibians, birds and mammals	43
B8 Plant survey methods	45
B9 Market surveys	47
B10 Assessing threats to freshwater species and ecosystems	48
B11 Assessing the conservation status of species	49
B12 Alternative methods for biodiversity assessment	55
Further reading	56

4	Livelihood assessment tools	57
L1	Overview	58
L2	The sustainable livelihoods conceptual framework	59
L3	Nested research design and sampling choices	63
L4	Selecting and using the Livelihood assessment tools in the field research process	65
L5	District, site and location level assessment	66
L6	Village assessment	67
L7	Group discussions and Participatory Rural Appraisal (PRA) methods	68
L8	Wealth ranking	68
L9	Village livelihood timeline and status	70
L10	Institutional review	71
L11	Specific wetland use discussion	71
L12	Key informant interview	73
L13	Household sample survey	73
	Further reading	74
5	Economic valuation tools	75
E1	Why value wetland goods and services?	76
E2	Summary of steps in wetland valuation	77
E3	Stage I: Setting the study scope and parameters	77
E4	Stage II: Defining wetland values	79
E5	Stage III: Valuing wetland costs and benefits	82
E6	Stage III: Applying wetland valuation techniques	83
E7	Stage IV: Analysing and presenting the data for decision-making	94
	Further reading	96
6	Mapping tools	97
M1	Mapping overview	98
M2	Sources of maps and mapping data	98
M3	Finding mapping data on the internet	101
M4	Digitising and manipulating maps	101
M5	Mapping wetland habitats and species distributions	102
M6	Mapping resource harvest areas and factors affecting access to resources	103
M7	Budget and timetable for mapping activities	104
M8	Participatory GIS and mapping	104
M9	Threat mapping	106

SECTION III – CASE STUDIES OF INTEGRATED WETLAND ASSESSMENTS

	Case Studies Introduction	109
7	Mtanza-Msona Case Study, Tanzania	111
T1	Background and site selection	112
T2	Management focus of the assessment	113
T3	Assessment timeline	114
T4	Project outcomes	116
8	Stung Treng Ramsar Site Case Study, Cambodia	119
C1	Background and site selection	120
C2	Management focus of the assessment	121
C3	Assessment timeline	122
C4	Project outcomes	122

REFERENCES

General References	128
Chapter 1 Introduction and conceptual framework references	128
Chapter 2 How to conduct an integrated wetland assessment	128
Chapter 3 Biodiversity references	128
Chapter 4 Livelihood references	130
Chapter 5 Economic valuation references	130
Chapter 6 Mapping references	131
Chapter 7 Mtanza-Msona case study references	131
Chapter 8 Stung Treng Ramsar site case study references	132

APPENDIX: Sample Data Collection Sheets

Biodiversity data sheets	134
Livelihood assessment data sheets	135
Wetland economic valuation data sheets	143

List of Boxes, Figures and Tables

Boxes

Box 1:	The ecosystem approach to wetlands	4
Box 2:	Key messages of the Millennium Ecosystem Assessment Wetland Synthesis	6
Box 3:	Integration in practice: challenges and benefits	18
Box 4:	Examples of single discipline and integrated management questions	19
Box 5:	The importance of pure biodiversity and livelihoods information to an integrated study	22
Box 6:	Participatory research on fish species and fish-based livelihoods	55
Box 7:	Using market price techniques to value freshwater wetlands in the Zambezi Basin, Southern Africa	84
Box 8:	Using effect on production techniques to value forest flood attenuation benefits in Eastern Madagascar	85
Box 9:	Using travel cost techniques to value the impacts of improved environmental quality on freshwater recreation in the USA	86
Box 10:	Using hedonic pricing techniques to value urban wetlands in the USA	87
Box 11:	Using replacement cost techniques to value wetland water quality services in Nakivubo Swamp, Uganda	88
Box 12:	Using mitigative or avertive expenditure techniques to value wetland flood attenuation in Sri Lanka	89
Box 13:	Using damage cost avoided techniques to value the role of flood attenuation in the Lower Shire Wetlands, Malawi and Mozambique and Barotse Floodplain, Zambia	90
Box 14:	Using contingent valuation techniques to value coastal wetlands in Korea	91
Box 15:	Using participatory valuation to value wetland utilisation in Sacred Lake, Kenya	93
Box 16:	Common mapping terms and definitions	98
Box 17:	Schematic maps showing biodiversity, livelihoods and economic values in a wetland	99
Box 18:	Digitising maps	101
Box 19:	How might we map the threats from a proposed dam?	108

Figures

Figure 1:	Interlinked aspects of a wetland landscape	3
Figure 2:	A 'dis-integrated' approach to wetland assessment	7
Figure 3:	Integrating wetland assessments which are already under way as separate studies	8
Figure 4:	Integrating the work of separate field survey teams within a single assessment	9
Figure 5:	Carrying out an integrated assessment with an integrated survey team	9
Figure 6:	Integrated assessment of the links between wetland ecosystems, their ecosystem services and human wellbeing	10
Figure 7:	Integrated Wetland Assessment – conceptual approach	12
Figure 8:	Ecosystem and species contributions to livelihoods, and how human impacts can in turn affect species	13
Figure 9:	Assessing the services ecosystems provide through economic valuations	14
Figure 10:	Adapted Livelihood model illustrating how biodiversity and economic valuation information can contribute to improved understanding of local livelihood systems	16
Figure 11:	The biodiversity and livelihoods information sets, and the subset of information relevant to the project	22
Figure 12:	The main information required as part of an integrated assessment, using wetland resources to link between species and livelihoods information, and highlighting the spatial information components	23
Figure 13:	Suggested planning flow diagram for the biodiversity component of an integrated wetland assessment	34
Figure 14:	An example of a sampling intensity and duration graph, illustrating the decline in the rate of accumulation of species over time	35
Figure 15:	Example of biodiversity data collection sheet	36
Figure 16:	A hand-dredge	40

Figure 17: A hand-net for sampling small bivalves	40
Figure 18: Template for making paper triangles	42
Figure 19: IUCN Red List Regional Categories and Criteria	51
Figure 20: Conceptual scheme of procedure for assigning the IUCN Red List Category at the regional level	53
Figure 21: Livelihood assessment: stages and methods	58
Figure 22: The sustainable livelihoods framework	59
Figure 23: Adapted sustainable livelihood analytical model	60
Figure 24: Summary of stages and steps in wetland valuation	78
Figure 25: The total economic value of wetlands	79
Figure 26: Ecosystem services, human well-being, and the total economic value of wetlands	80
Figure 27: The total economic cost of wetlands	81
Figure 28: Methods for wetland valuation	82
Figure 29: An example of maps showing digitising techniques	99
Figure 30: An example of overlays of georeferenced data	101
Figure 31: River habitat	102
Figure 32: Selection of sampling sites	103
Figure 33: Species habitat	103
Figure 34: Selection of sampling sites where constrained	103
Figure 35: Selecting the GPS locations in Trackmaker	105
Figure 36: Viewing the GPS points in Google Earth	106
Figure 37: Drawing polygons around features	106
Figure 38: An example of a threat map produced by workshop participants as part of the Central Africa freshwater biodiversity assessment project	107
Figure 39: Location of case study assessment sites for the <i>Strengthening pro-poor wetland conservation using integrated biodiversity and livelihoods assessment</i> project	110
Figure 40: Location of Mtanza-Msona, one of the case study assessment sites for the integrated wetland assessment project	112
Figure 41: The Mtanza-Msona assessment area, showing the locations and names of the wetlands (lakes and rivers) utilised by the community	113
Figure 42: Steps and stages in carrying out the Mtanza-Msona integrated wetland assessment, including stakeholder feedback	114
Figure 43: Biodiversity sampling locations for dragonflies and damselflies, herpetofauna, molluscs and birds within the Mtanza-Msona wetland project area	115
Figure 44: The Stung Treng Ramsar Site including locations of the proposed Lower and Upper Island Conservation Zones, and the Preah Sakhon and Anlong Rusei Core Zones	120
Figure 45: The Stung Treng Ramsar Site boundaries	121
Figure 46: Map showing the proposed Upper Island Conservation Zone in the northern part of the Stung Treng Ramsar Site, as well as the Anlong Rusei and Preah Sakhon Core Zones	122
Figure 47: An example GIS map used to illustrate the spatial overlap between biodiversity and areas important for local resource use and conservation	124
Figure 48: Example biodiversity collection sheet	134
Figure 49: Example tabulation for summarising group discussions	135
Figure 50: Example household survey forms	136-142
Figure 51: Valuation checklist #1 – Identifying and listing wetland values	143
Figure 52: Valuation checklist #2 – Selecting wetland costs and benefits to be valued	143
Figure 53: Valuation checklist #3 – Choosing wetland valuation techniques	144
Figure 54: Valuation checklist #4 – Identifying data needs and sources	144

Tables

Table 1: Ecosystem services provided by or derived from wetlands	4
Table 2: Example of compatible and incompatible management approaches for reconciling conservation and development of wetlands	5

Table 3:	Stages of conducting the integrated assessment.....	18
Table 4:	Assessment planning matrix.....	25
Table 5:	Standard sampling techniques to record herpetofauna.....	44
Table 6:	Standard sampling techniques to record birds.....	45
Table 7:	Suggested monitoring schedule for selected sites in Stung Treng town, Stung Treng Province, Cambodia.....	48
Table 8:	Degradation and deterioration of habitats and ecosystems (qualitative/quantitative).....	49
Table 9:	Spread of invasive alien species.....	49
Table 10:	Over-exploitation and destruction of species.....	50
Table 11:	Summary of the five Red List Criteria (A–E) used to evaluate if a taxon belongs in a threatened Category (Critically Endangered, Endangered, or Vulnerable).....	52
Table 12:	Data collection for livelihoods analysis.....	64
Table 13:	Timetable of mapping activities.....	104
Table 14:	The contribution of wetland products to fulfilling basic human needs in Mtanza-Msona.....	116
Table 15:	Designation Criteria for Ramsar Site 2KH003: Middle Stretches of Mekong River north of Stung Treng – Revised Ramsar Criteria (1999).....	121
Table 16:	A summary of (i) threatened, and (ii) Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) listed species traded in Stung Treng during a trial market survey in 2005.....	123

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Mtanza-Msona case study, Tanzania (Chapter 7) http://intranet.iucn.org/webfiles/doc/SpeciesProg/FBU/MtanzaMsona_IWA_TechnicalReport_lowres.pdf

Stung Treng case study, Cambodia (Chapter 8): http://intranet.iucn.org/webfiles/doc/SpeciesProg/FBU/StungTreng_IWA_TechnicalReport_lowrest.pdf

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The authors

Foreword

For billions of people throughout the world, especially the rural poor, wetlands are critical for livelihoods, providing vital supplies of water, food and materials as well as ecological services. Wetlands are, however, suffering from extreme levels of degradation with estimates putting wetland loss and drainage in some parts of the world at more than 50%. Such a high level of wetland degradation not only results in a tragic loss of the wetland species but is also impacting heavily on those people whose livelihoods depend upon wetlands. There are also significant losses to national and regional economies resulting from the loss of hydrological services, such as flood control and water purification, and of material goods such as those provided through fisheries.

The Ramsar Convention on Wetlands covers all aspects of wetland conservation and wise use, recognising wetlands as ecosystems that are extremely important for biodiversity

conservation and for the well-being of human communities. However, it also recognises that no single approach is currently available to enable people to determine the full value of a wetland in terms of its biodiversity, economic value, and importance to people's livelihoods. An integrated assessment methodology is required to determine the full importance of a wetland. This toolkit provides a process for conducting such a fully integrated assessment of wetlands and thus aims to fill this gap in available methodology and assist those concerned with the Ramsar Convention to identify new Ramsar sites and help ensure the future wise use of wetlands in general.

I therefore commend this toolkit to you and urge all those concerned with the management and conservation of wetland resources, and in securing the wise use of wetlands, to read it and use it in their future work.



Anada Tiéga
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The Convention on Wetlands
Ramsar Secretariat
Switzerland

Terms Used

Assessment

“Evaluation, estimation (of the quality, value, or extent of), to gauge or judge”

Oxford English Dictionary 2008

Biodiversity

“the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems.”

Millennium Ecosystem Assessment (MEA) 2005

The importance of this definition is that it draws attention to the many dimensions of biodiversity. It explicitly recognises that every biota can be characterized by its taxonomic, ecological, and genetic diversity and that the way these dimensions of diversity vary over space and time is a key feature of biodiversity. Thus only a multidimensional assessment of biodiversity can provide insights into the relationship between changes in biodiversity and changes in ecosystem functioning and ecosystem services

Ecosystem services

“the benefits people obtain from ecosystems. These include provisioning services such as food and water; regulating services such as regulation of floods, drought, land degradation, and disease; supporting services such as soil formation and nutrient cycling; and cultural services such as recreational, spiritual, religious, and other nonmaterial benefits.”

MEA 2005

This term corresponds with the usage by the Ramsar Convention of the terms *“products, functions and attributes”*.

Governance

The patterns of exercise of public power. In terms of watersheds it can relate to allocation exercise and enforcement of rights to ownership, use of and access to resources. It can also involve management practices, policing and adjudication between claims.

Livelihood

“Means of living, maintenance, sustenance; esp. to earn, gain, get, make, seek a livelihood”

Oxford English Dictionary 2008

Public goods

Products and services which benefit society at large. Public goods are ‘non-rival’ in the sense that one person’s consumption does not affect what is left for others, and ‘non-excludable’ in the sense that no one can be prevented from enjoying the good. Many wetland services are public goods, such as hydrological regulation services.

Ramsar Convention on Wetlands of International Importance

The Convention on Wetlands, signed in Ramsar, Iran in 1971, is an intergovernmental treaty which provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources. There are presently 158 Contracting Parties to the Convention, with 1,759 wetland sites, totalling 161 million hectares, designated for inclusion in the Ramsar List of Wetlands of International Importance.

“The Convention’s mission is the conservation and wise use of all wetlands through local, regional and national actions and international cooperation, as a contribution towards achieving sustainable development throughout the world”

Ramsar COP8 2002

Values and Valuation

“the relative status of a thing, or the estimate in which it is held, according to its real or supposed worth, usefulness, or importance”

Oxford English Dictionary 2008

Value is the subjective estimation of worth. Different people value things differently for a range of personal reasons. However, in order to compare values — which becomes important when decisions over resource management must be made — value may be estimated in terms of some standard, medium of exchange or monetary value, and valuation methods are used to do this. Note that *value* and *price* are different as price involves a market bargaining and exchange situation.

Wetlands

“areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six metres”

Article 1.1 of the Ramsar Convention on Wetlands

Wetlands may be further categorised into freshwater and coastal zones.

Wise use of wetlands

“[Wetlands] sustainable utilisation for the benefit of humankind in a way compatible with the maintenance of the natural properties of the ecosystem”

Ramsar COP3 1987

The Ramsar Scientific and Technical Review Panel (STRP) has proposed updating the definition to: “the maintenance of their ecological character within the context of sustainable development, and achieved through the implementation of ecosystem approaches.”

Overview

The *need* for an integrated wetland assessment toolkit:

Wetlands contain biodiversity of exceptional conservation significance, comprising many unique ecosystems and a wide array of globally-threatened species. At the same time they typically form essential components of local, national and even regional economies, as well as underpinning the livelihoods of adjacent human communities. Wetland goods and services are often particularly important for poorer and more vulnerable groups, which have limited alternative sources of income and subsistence, and have weak access to basic services.

Despite their importance, wetlands are under increasing pressure. According to the Millennium Ecosystem Assessment (MEA) 2005, the biodiversity of inland waters is in a worse condition than that of any other ecosystem; it is estimated that 50% of inland water area (excluding large lakes) has been lost globally. Wetland degradation and loss poses a severe threat to both development and conservation goals, and impacts disproportionately on some of the world's poorest communities.

Poor consideration of wetlands in decision-making remains one of the major factors leading to their degradation. Management decisions affecting wetlands (for example relating to investment, infrastructure or management of land and water resources) rarely consider the wider biological, ecological, developmental or economic values of wetlands as they are. Therefore the costs of wetland loss and benefits of wetland conservation are underestimated. While development planners commonly neglect the wider impacts of wetland degradation on economic, livelihood and poverty indicators, wetland-managing authorities have rarely been able to demonstrate or act on these links, or to factor poverty and livelihood concerns into on-the-ground conservation activities. Furthermore governance of wetlands has typically not effectively represented the interests of those constituencies depending on the wetlands for the provision of 'public goods', and has typically favoured those motivated to convert wetlands in order to increase private gain.

Methodological and information gaps partly explain the omission of wetland values from investment, land, and resource use decision-making. Although techniques exist, and have long been used, to assess wetland biological, economic and livelihood values and trends separately, there has been a lack of available *integrated* methods to assess the interlinkages and connectivity between wetland condition and

economic/livelihood status, or to express this information in a form and with a focus that can inform and influence real-world conservation and development planning.

What this toolkit is:

This toolkit sets out a process for integrated assessment and provides a set of methods that can be used to investigate the links between biodiversity, economics and livelihoods in wetlands, and to identify and address potential conflicts of interest between conservation and development objectives. The integrated approach presented in the toolkit also enables practitioners to assess a wetland in terms of its combined biodiversity, economic and livelihood values. It has a particular focus on strengthening pro-poor approaches to wetland management. It is intended to help overcome the current methodological and information gaps in wetland assessment, thereby facilitating the factoring of wetland values into conservation and development decision-making and management planning. It can be applied to all sorts of wetlands and at all scales. Note that the toolkit is not primarily intended as a village development planning methodology. However it may be adapted to contribute information needed for such a planning process.

Who this toolkit is for:

The toolkit provides a set of practical and policy-relevant methods for information collection which can be used by those involved in wetland conservation and development planning. It is expected to be of use to wetland site managers, environmental impact assessors, conservation and development planners, and researchers from both natural and social science disciplines.

The contents of the toolkit:

There are three main sections:

- Section I presents the ***integrated assessment process***;
- Section II presents the ***tools*** themselves; and
- Section III illustrates the application of the toolkit with two ***case studies***.

In more detail, the toolkit provides:

- A **conceptual and methodological framework** for addressing wetland management issues, especially conservation and development trade-offs, through integrating biodiversity, economic valuation and livelihood assessment (Chapter 1).
- **Guidance on conducting an integrated assessment and methods** for planning and carrying out an integrated wetland assessment (Chapter 2).

- Tools, methods and techniques for **biodiversity assessment** (Chapter 3), **livelihoods assessment** (Chapter 4), and **economic valuation** (Chapter 5) of wetlands.
- Tools, methods and techniques for presenting integrated wetland assessment data through electronic **mapping** (Chapter 6).
- **Case studies** of the application of integrated wetland assessment in a management context in Stung Treng Ramsar Site, Cambodia and Mtanza-Msona Village, Tanzania (Chapters 7 and 8).
- **References:** key readings are provided at the end of each section and additional references at the end of the toolkit.

Ongoing toolkit development process:

The development of this toolkit should be viewed as an evolving process which will benefit greatly through feedback from practitioners' experiences in its application. Please send any comments or suggestions to iwa_toolkit@iucn.org. We anticipate updating and improving the document in the future as we receive new ideas and as we learn from our own experience in its application. We also hope to improve functionality of the toolkit through developing discrete sections on individual methodologies that will be available for download from the project website www.iucn.org/species/IWAToolkit.

WHAT INTEGRATED ASSESSMENT INVOLVES: A QUICKSTART GUIDE TO USING THE TOOLKIT

Chapter 2 presents the practical details of the process. To summarise, the eleven recommended key steps are:

Preparation and orientation:

1. Identify the wetland and clarify the particular management concerns, objectives or issues to be addressed through the assessment. This process should involve multiple national, regional and local stakeholders as far as possible
2. Form the multi-disciplinary assessment field team and allocate roles and responsibilities
3. Review the current state of knowledge regarding the wetland and the focal issues
4. Identify the information needed, define the specific study questions and take sampling frame decisions
5. Plan integrated data collection according to opportunities and resource constraints

Fieldwork:

6. Pilot the field method to trial and adapt to the tools, and gain familiarity with the objectives and concerns of the other disciplines. Orient the team to integrated working practices and methods. Review plans in the light of experience
7. Conduct the full data collection fieldwork
8. Check and collate the data collected. Ensure that relevant links between data are maintained (such as species names and harvesting locations)

Analysis, presentation and engagement:

9. Conduct a joint analysis of data involving representatives from all parts of the team
10. Use Geographic Information System (GIS)-based mapping tools to present results in spatial form
11. Provide feedback and present findings according to an ongoing policy engagement process