



Summary report from the international workshop “Ecosystem Services in Biosphere Reserves”

13-14 September 2012, at the venue Golden Otter in the East
Vättern Scarp Landscape Biosphere Reserve, Sweden

Written by

Jeff Ranara, Stockholm Resilience Center

Simon Jonegård, East Vättern Scarp Landscape Biosphere Reserve Coordinator

36 land-use managers and coordinators, mainly from biosphere reserves in the European Man and the Biosphere (EuroMAB) network (including North America), but also from South Africa, Zimbabwe, and Israel, gathered together for two days at the Golden Otter in Sweden’s newest biosphere reserve to learn about, exchange knowledge, and work actively with the concept of ecosystem services and its applications in landscape management.

Background and Goals

The workshop, hosted by the East Vättern Scarp Landscape Biosphere Reserve, was a response to the needs expressed during the EuroMAB 2011 meeting in the Lake Vänern Archipelago and Mount Kinnekulle biosphere Sweden, and was organized and led by the Stockholm Resilience Center (SRC) and the UNESCO Man and the Biosphere program with the active support and participation of Destination Jönköping, a partnership between the municipality of Jönköping and local businesses, as well as with the support of the Swedish Man and the Biosphere programme.

Workshop goals were to:

- get people acquainted and to talk to each other and start sharing experiences and exploring the concept of ecosystem services
- explore the history of ecosystem service concepts all the way to human well-being challenges of today
- introduce some of the more general ecosystem service assessment, measurement and valuation tools
- introduce social-ecological inventories as a tool for exploring ecosystem services
- provide a forum for biosphere reserve managers and coordinators to present and discuss their work
- more explicitly explore the social dimensions of ecosystem services and biosphere beneficiaries, particularly during local field trips that highlight social conflicts that can arise when trade-offs in ecosystem services affect societal groups in different ways
- work hands-on with the cascade model of ecosystem services
- introduce a way to navigate uncertainty in the future provision of ecosystem services through participatory scenario analysis that develops alternative, issue-focused narratives charting ways in which future events might unfold, and how these may affect ecosystem services

Pre-Workshop Events – Sept. 12

In order to provide added-value to the local community, Claes Hellsten and Simon Jonegård from the East Vättern Scarp Landscape BR coordinating council organized an event the evening before the workshop in which local educators were able to listen to presentations on “Biosphere Reserves and Ecosystem Services”.

After a brief introduction by Claes and Simon, Kristina Börebäck from SRC first reflected on different expressions of environmental communication processes. Jeff Ranara, also from SRC, then followed up with an exploration of the popular terms “biodiversity” and “sustainability”, and the links between them. After a mingle and coffee break, visitors from South Africa then took the floor and concluded the evening with the following presentations:

“Promoting sustainable development through Biosphere reserves in South Africa” (PDF of presentation attached) by Karen Steenkamp from the Department of Economic Development, Environment and Tourism, Limpopo province

“Linking ecosystem services across ecological gradients – science, management, marketing and policy” (PDF of presentation attached) by Mike Peel from the Kruger to Canyons (K2C) Biosphere Reserve

Mampe Sibongile from the South African Department of Environmental Affairs also discussed biosphere reserves in a South African context.

In addition, earlier in the day, four members of the East Vättern Scarp Landscape steering committee (Claes Hellsten, Simon Jonegård, Anders Råsberg, and Håkan Strotz) had also met at the Urnatur ecolodge for an embryonic participatory scenario analysis discussion to explore possible future narratives for the biosphere reserve and how they could affect particular ecosystem services. Facilitated by Jeff Ranara, this enthusiastic conversation provided important input to the ecosystem services workshop and touched on, among others, the social and ecological history of the area, the development of the biosphere reserve – in particular the need for and successful resolution of conflicts, and the struggle for clearer articulation of specific ways to implement general goals for the biosphere reserve.

Workshop Day 1 – Sept. 13

Day 1 began with an acknowledgment of the people key to the organizing and execution of the workshop¹, after which Simon Jonegård and Claes Hellsten presented opening remarks. Meriem Bouamrane, Programme Specialist with the UNESCO Division of Ecological and Earth Sciences and MAB programme coordinator, then presented the overall context of the workshop, “Biosphere reserves, ecosystem services, biodiversity and human well-being” (PDF of presentation attached). In particular, Meriem stressed the interactive methodology of the workshop: participative approach; co-learning; sharing experiences, practices issues; respect diversity of points of view; respect diversity of knowledge.

¹ In particular Lisen Schultz from the Stockholm Resilience Center (SRC), a major driver of the workshop who ultimately was unable to lead the workshop as planned, and Olof Olsson, deputy director of the SRC, who was key in organizing additional resources for the successful execution of the workshop. The support of the Swedish MAB committee was not directly acknowledged at the time, a regrettable oversight herewith corrected.

After a brief round of self-introductions, participants immediately had the opportunity to interact and share their knowledge when Belinda Reyers, an SRC researcher and Chief Scientist at the Council for Scientific and Industrial Research (CSIR) in Stellenbosch, South Africa launched the participants directly into small group work.

Group work 1: Exploring ecosystems services in biosphere reserves: commonalities and uniqueness”.

- Group discussion
 - List the ecosystem services provided by your biosphere reserve
 - Which of these are priority ecosystem services for your biosphere reserve and why?
- Feedback:
 - What 3-5 ecosystem services were found to be common across many biosphere reserves?
 - Which ecosystem services were unique or surprising?

Belinda then presented “***Exploring the concept of ecosystem services in the context of biosphere reserves***” (PDF of presentation attached). Topics covered included: a history of ecosystem service valuation, the evolution of ecosystem services concepts; definitions, frameworks, and values; emerging gaps; and the environmentalist’s paradox – why is human well-being increasing as ecosystem services degrade? The second small group work session then followed.

Group work 2: Exploring human well-being & biosphere reserves

- From your list of ecosystem services for biosphere reserves discuss:
- Who benefits?
- How do they benefit?
- How might you capture/value this benefit?
- Does anyone lose or incur costs?

After a lunch that included a brief presentation of how the Golden Otter works ecologically with its food supplies, Belinda then continued with a summary exposition, “***Tools and approaches for ecosystem services***” (PDF of presentation attached). She covered the definition of and different stages of ecosystem service assessment, and highlighted emerging lessons from assessment projects: 1. Be clear about what you are measuring; 2. Production functions are central; 3. Maps are a great tool and don’t always need lots of data; 4. Think before you value; 5. Change is central; 6. Services come in bundles; 7. Ecosystem services are not the product of ecosystems only

Maria Tengö, researcher from SRC, then continued with “***A social-ecological lens and tool for exploring ecosystem services - experiences from MAB reserves***” (PDF of presentation attached). In particular she discussed the different steps of a social ecological inventory, including perspectives from work in the Kristianstads Vattenrike and Mont-Saint-Hilaire biosphere reserves, as well as from Madagascar. The third small group work session then followed.

Group work 3: Social-ecological inventories

- Revisit key ecosystem services from your BRs
 - Which are strongly influenced by human activities? Pick one or two that are relevant to several people in the group.
- Questions to guide your discussion:
 - Which actors (people or groups) matter for the generation of ecosystem services?
 - What are their main activities?
 - Which knowledge could they contribute?
 - What values motivates people?
- Report back:
 - The service you picked
 - Similarities and differences in actors, activities and values?
 - Surprising insights?

Maria then introduced the following session, “*Biosphere reserves and ecosystem services - experiments in sustainability. Presentations by BR coordinators and Q&A*”. Biosphere reserve presentations included:

“*Biodiversity, Connectivity and Ecosystem Services in Mont-Saint-Hilaire Biosphere Reserve, Canada*” by Geneviève Poirier Ghys

“*From Land Management to Ecological Goods and Services in 5 Canadian Biosphere Reserves*” by Hélène Godmaire and Maureen Reed

“*Kristianstads Vattenrike Biosphere Reserve – ecosystem services*” by Sven-Erik Magnusson

“*Nedre Dalälven River Landscape Biosphere Reserve*” by Cristina Ericson and Anders Telenius

After dinner with an enchanting orange red sunset as a backdrop, the participants were off to a dance and theater evening in a nature reserve where, among old beech and oak trees and inspired by Sweden’s rich natural and cultural heritage, they were regaled by the magical performances of young dance and theater actors.

Workshop Day 2 – Sept. 14

Day 2 of the workshop began early with field trips to the forested landscape in the northern part of East Vättern Scarp Landscape Biosphere Reserve. The sites were chosen in order to highlight tradeoffs in the provision of several ecosystem services as well as social conflicts arising from these tradeoffs, especially when varying benefits accrue to different social groups. In the first site, the main trade off was between provisioning services in highly developed and managed landscapes – and the regulating, cultural, and supporting services in a small, isolated patch of old spruce and pine forest (classified as a key habitat area), which included, among others, water filtration, carbon sequestration, sense of place, recreation possibilities and their attendant physical and mental health benefits, as well as habitats for species and genetic diversity. In the second site, local landowners and residents engaged in a

spirited discussion of the pros and cons of proposed windpower generation facilities, a potential development that has generated a high degree of conflict, with workshop participants contributing to the discussion with their own national and international perspectives. Fresh handpicked local mushrooms were cooked and served as a balm for stomach and spirit.

After lunch back at the Golden Otter, Jeff Ranara began by revisiting targeted concepts/models that had arisen during the workshop (PDF of presentation attached). In particular he stressed that ecosystem services can be understood and classified in different ways, and that understanding the pathway from ecosystem structure and process to human well-being, for example via the cascade model of ecosystem services, is critical to understanding what is being measured or assessed. Participants then worked in pairs with the cascade model.

Group work 4 – the cascade model of ecosystem services in the context of land-use:

- Pick an ecosystem service of importance to you or your reserve
- Think about what the ecosystem properties, function, service, and related land uses are
- Identify possible indicators that you can use for the ecosystem properties, function, service and land uses

Jeff then continued with “*Thinking ahead – or - Navigating an uncertain future*” (PDF of presentation attached) in which he introduced participatory scenario analysis as a way of navigating uncertainty in the future provision of ecosystem services. By focusing on developments in important and uncertain drivers, alternative, issue-focused narratives can be developed that chart ways in which future events might unfold, and how these events may affect ecosystem services and in turn, human well-being. These alternative future narratives can then be the basis for possible management actions. Interest was expressed in conducting such a hands-on participatory scenario analysis workshop at the upcoming EuroMAB 2013 conference.

Meriem then conducted a final session, “Towards a community of practice” (PDF of presentation attached) including the final small group exercise.

Group work 5: A community of practice

- Objective(s) of the community of practice
- Who participates
- Methodology
- Tools
- Achievements/outputs
- Timeline

Workshop materials and pictures are also available in a dropbox (www.dropbox.com) entitled “Sweden BR and Ecosystem services photos and articles”. For access details pls. contact Meriem Bouamrane at M.Bouamrane@unesco.org

Post-workshop events – Sept. 15

The day after the workshop, participants who could stay were guided around the historic island of Visingsö, where a harvest festival was in progress. Carl-Gustaf Tollén from Destination Jönköping (and his partner), led a bicycle tour that included among others, a visit to a breeding station for ligustica bees, a famous oak forest plantation, a church from the days when a count presided over the area, and concluded with a tasty lunch by the waterfront.

Some comments from the participants:

We have really appreciated the workshop, the speakers, the organisation, the site, etc. Congratulations to you and your team for the great great work! (The field trip) can't be better. Visit of the landscape in a historical land management perspective plus the discussion on an actual issue was very well appreciated. Great time to network.
Hélène Godmaire, Canadian Biosphere Reserve Research project, U. Saskatchewan

Tack för en väldigt bra och väl genomförd workshop!(Thank you for a very good and well-executed workshop!)
Göran Blom, Naturvårdsverket (The Swedish Environmental Protection Agency)

Many thanks for the great work and workshop!
Meriem Bouamrane, UNESCO, MAB programme coordinator

These international meetings for MAB:s are very important – you learn a lot all the time and hopefully you can teach something, too.
Dag Fredrikson, Jönköping municipality

I thoroughly enjoyed the workshop last week and meeting everyone. ... Our hosts were remarkable; especially the workshop organisers but also the entire community that we met. It was impressive to realise how many people knew about the BR and how many were excited about it.
Guy Broucke, UNESCO

I found it really interesting to hear about the different ecosystem services, occurring problems as well as possibilities within biosphere reserves in all the different countries. I'm most familiar with the situation in Sweden in Austria and so it was enriching to hear about what other countries (e.g. South Africa or Canada) have to deal with. Moreover I found it important to talk about how one can detect ecosystem services in an area and what different types of services exist. ... Nice location, good food, interesting and amazing people, different skills and opinions, competent speakers - all in all a perfect workshop!
Christoph Kircher, GIS expert, Environmental Consultant, Calluna AB

The most useful of this workshop was to be in touch with people from other places, who deal every day, or who would like to deal, with that concept in a day by day context. The theoretical framework presented simultaneously was a very good way to complete the scheme.
Anna Echassoux, Réserve de Biosphère de Fontainebleau & Gâtinais, France

Some desired improvements/follow-up:

Case studies of ES as a tool for management (in BR or elsewhere). ... Sharing of a document database + info from other BR on ES projects/research. Possibly agreeing a research agenda among interested BR (what would we like as research by 2014; what is being planned; who can do what; etc)

Guy Broucke, UNESCO

How to work more practical with the issues. How to get people, politicians and companies involved in these issues. ... A practical with scenario planning involving all different stakeholders

Dag Fredrikson, Jönköping municipality

I would like to get more insight in which tools there are to measure and detect ecosystem services.

Christoph Kircher, GIS expert, Environmental Consultant, Calluna AB

The analysis of the results in concrete situations: to see experiences of gain and loss of ecosystem services and how people communicate and work on that.

Anna Echassoux, Réserve de Biosphère de Fontainebleau & Gâtinais, France

List of participants:

Name		E-mail	Organization	Country
Godmaire	Hélène	h.godmaire@videotron.ca	University of Saskatchewan	Canada
Poirier-Ghys	Geneviève	genevieve@centrenature.gc.ca	Centre de la nature	Canada
Bouamrane	Meriem	M.Bouamrane@unesco.org	UNESCO	France
Echassoux	Anna	a-echassoux@biosphere-fontainebleau-gatinais.fr	Fontainebleau et Gatinais Biosphere Reserve	France
Szilvia	Ádám	szilvia.adam@vm.gov.hu	Ministry of Rural Development	Hungary
Lotan	Alon	alonlotan99@yahoo.com	Ramat Menashe Biosphere Region	Israel
Steenkamp	Karen	steenkampk@ledet.gov.za	Dep of Econ Development Env and Tourism	South Africa
Peel	Mike	Mikep@arc.agric.za	Kruger to Canyons Biosphere	South Africa
Seani	Reckson Lusani	SeaniLR@ledet.gov.za	State Owned Nature Reserves	South Africa
Pila	Mpho	mpila@environment.gov.za	Department of environmental affairs	South Africa
Mampe	Sibongile		Department of environmental affairs	South Africa
Mac Taggart	Johanna	johanna.magtaggart@vanerkulle.se	Biosphere Reserve Vänerskärsgården med Kinekulle	Sweden
Olsson	Johanna	johanna.olsson@vanerkulle.se	Biosphere Reserve Vänerskärsgården med Kinekulle	Sweden
Ericsson Turstam	Christina	cristina.ericson@telia.com	Biosphere Reserve Nedre Dalälven	Sweden
Magnusson	Sven-Erik	sven-erik.magnusson@kristianstad.se	Biosphere Reserve Kristianstads Vattenrike	Sweden
Olsson	Tommy	heleen@blekingearkipelag.se	Biosphere Reserve Blekinge Arkipelag	Sweden
Blom	Göran	goran.blom@naturvardsverket.se	Environmental Protection Agency	Sweden
Jonegård	Simon	simon.jonegard@destinationjonkoping.se	Biosphere Reserve East Vättern Scarp	Sweden

			Landscape	
Hellsten	Claes	claes.hellsten@bredband.net	Biosphere Reserve East Vättern Scarp Landscape	Sweden
Hugander	Erik	erik.hugander@gmail.com	Biosphere Reserve East Vättern Scarp Landscape	Sweden
Ranara	Jeff	jeff.ranara@stockholmresilience.su.se	Stockholm Resilience Center	Sweden
Fredriksson	Dag	dag.fredriksson@jonkoping.se	Jönköping municipality	Sweden
Hassel	Linda	linda.hassel@lansstyrelsen.se	County Administration Board in Jönköping	Sweden
Telenius	Anders	atelenius@gmail.com	Biosphere Reserve Nedre Dalälven	Sweden
Thorell	Maria	maria.thorell@calluna.se	Calluna AB	Sweden
Kircher	Christoph	christoph.kircher@calluna.se	Calluna AB	Sweden
Reyers	Belinda	BReyers@csir.co.za	Stockholm Resilience Center	Sweden/SA
Tengö	Maria	mtengo@ecology.su.se	Stockholm Resilience Center	Sweden
Olsson	Olof	olof.olsson@stockholmresilience.su.se	Stockholm Resilience Center	Sweden
Bjurulf	Helen	helen.bjurulf@jonkoping.se	Jönköping municipality	Sweden
Gustavsson	Stellan	Stellan.Gustavsson@lansstyrelsen.se	County Administration Board / Consultant	Sweden
Kucuk	Dr. Mahir	mkucuk58@gmail.com	Turkish MAB National Committee	Turkey
Ulgen	Huma	huma.ulgen@dkm.org.tr	Turkish MAB National Committee	Turkey
Bailey	Mike	lu.jones@ccw.gov.uk	Countryside Council for Wales	Wales
Broucke	Guy	g.broucke@unesco.org	UNESCO	Zimbabwe
Koniak	Gili	koniakg@gmail.com	Ministry of environmental protection	Israel