

Realising the potential of biosphere reserves as learning sites for sustainable development

Reflections on experience of participatory, comparative BR research

Lisen Schultz, sustainability scientist

Stockholm Resilience Centre

Stockholm university, Sweden

My research interest

- How can governance and management be designed to support the biosphere's capacity to maintain human wellbeing in the Anthropocene?
- Focus on the relationships between stakeholder participation, learning processes and outcomes in various social-ecological contexts
- Explore biosphere reserves as examples of on-the-ground attempts to achieve this
- Bridge practice, policy and research

GLEAN (gleanproject.org) 2012-2016

A Global Survey of Learning, Participation, and Ecosystem Management in BRs

Lisen Schultz, Andreas Duit, Simon West, Alba Mohedano Roldan, Örjan Bodin,
Cecilia Lundholm, many master students.
Stockholm university (Sweden).

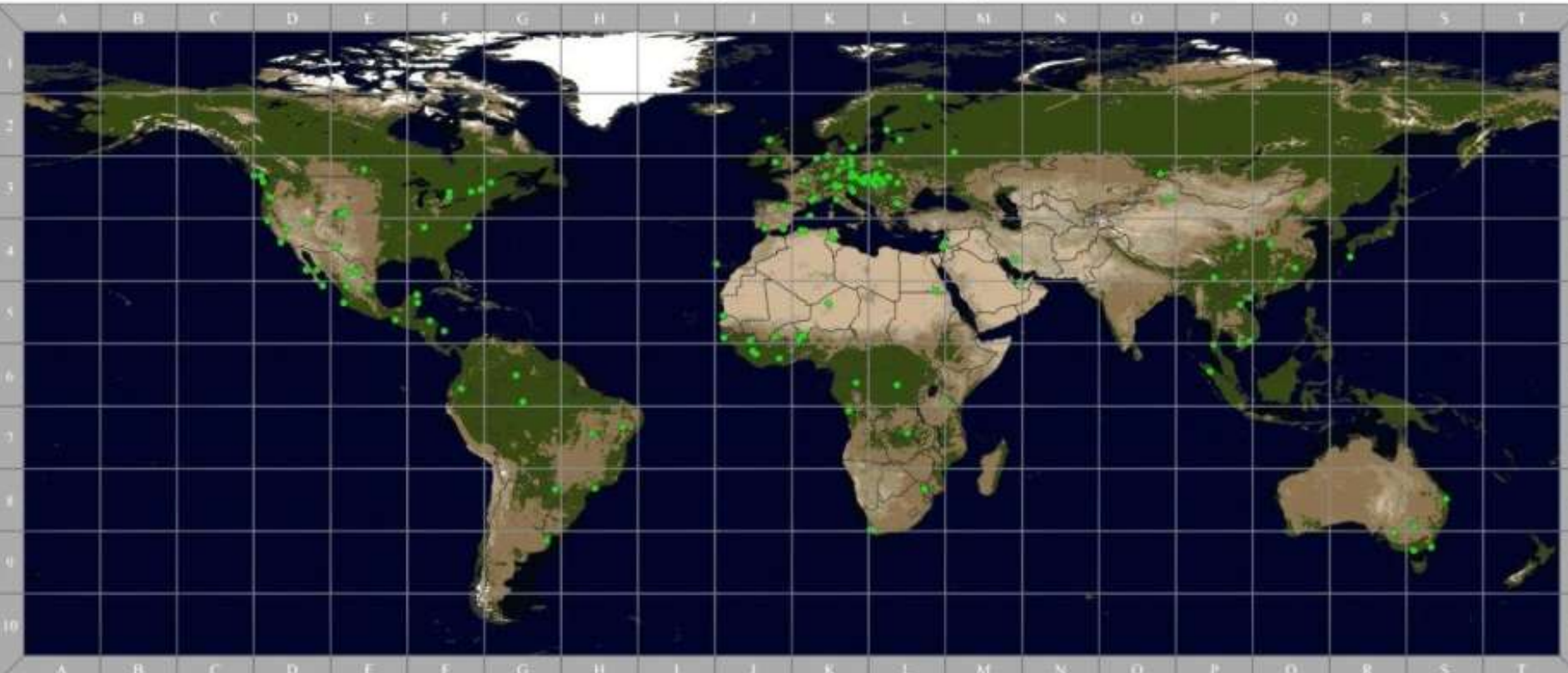
BiosACM 2013-2016

Diagnosing processes and outcomes in BRs of adaptive co-management

Lisen Schultz, Ryan Plummer, Julia Baird, Örjan Bodin, Beatrice Crona,
Derek Armitage and several assistants
Stockholm university, Brock university and University of Waterloo (Canada)

GLEAN

A Global Survey of Learning, Participation and Ecosystem Management in Biosphere Reserves



Aggtelek, Hungary.....L3	Central Plains, USA.....H7	Frontenac Arch, Canada.....N8	Lake Manyash, Tanzania.....M6	Parí Saline, Switzerland.....K3	Spreewald, Germany.....K7
Am er Tmari, Niger.....K5	Canada, Brazil.....H7	Guangdong Moatouan, China.....P4	Laptevskiy, Russian Federation.....L2	Pays de Fontainebleau, France.....K3	Sremski, Bulgaria.....L3
Alto Onizco - Canguare, Venezuela.....G6	Chamela-Cuicatlan, Mexico.....E5	Guangxi Bay Littoral, Canada.....F3	Lower Morava, Czech Republic.....K3	Podjuzh, Bosnia.....K3	Szatmar, Ecuador.....F6
Archipelago Sea Area, Finland.....L2	Chamela Islands, USA.....D4	Gouraya, Algeria.....K4	Lufes, Democratic Republic of Congo.....L7	Pillarswald/Vogels du Nord, France/Germany.....K3	Somera, Czech Republic.....K3
Arjan, Islamic Republic of Iran.....M4	Charleyo, Canada.....G3	Groovy Wabersal, Austria.....K3	Lola, Democratic Republic of Congo.....K7	Piericel Mare, Romania.....L3	The Karst, Slovenia.....K3
Baba Gora, Poland.....L3	Chaling, China.....Q5	Groovy Lesser, Indonesia.....P6	Manoroth Cave Area, USA.....F4	Plo, Hungary.....L3	Tinian Bios, Czech Republic.....K3
Banxiang, China.....P4	Chis, Algeria.....K4	Gurgler Karst, Austria.....K3	Mapiri, Mexico.....E4	Podcarpas-Dj Condit, Ecuador.....N8	Tunichina, Bulgaria.....L3
Banxianan, China.....Q4	Chiquet Sound, Canada.....C3	H. J. Andrews, USA.....D3	Mariposa, United Arab Emirates.....M3	Polina, Slovakia.....L3	Valles del Jabara, Liria, Callosa y Albana, Spain.....J3
Beira Eagle, United Kingdom.....E2	Castoreo del Sur, Argentina.....G4	Mari Nijer, Guinea.....F9	Mari au Nippayommas, Thailand/France.....E5	Prutskio-Turany, Russian Federation.....M2	Vennertal-Drauzgen Forest, Germany.....K3
Bea, Ghana.....E6	Cyngingaling, Australia.....W9	Horsingy, Hungary.....L3	Mariposa Mountains, Mexico.....N5	Porcice Kampyovska, Poland.....L3	Virginia Coast, USA.....F4
Bill Kocsey, Czech Republic.....K3	Cuicatlan, Mexico.....E4	Ida Mueitas, Mexico.....N5	Masul de Ziama, Guinea.....J6	Rawang, Thailand.....P5	W' Region, Bosnia.....K5
Bogota, China.....G3	Dirba de Flore Niagal, Senegal.....J5	Jala del Golfo de California, Mexico.....D4	Maté Altitosa, Brazil.....H8	Rio Lagartos, Mexico.....P5	W' Region, Balkans/Pan.....K5
Burles, Bulgaria.....L3	Desert, USA.....D4	Jerudo, USA.....E4	Menorca, Spain.....K3	Riding Mountain, Canada.....E3	Waldenau and Hallig Islands of Schleswig-Holstein, Germany.....K3
Bolana Mijapay, Guinea-Bissau.....J5	Dybelk Bna Hedra, Tunisia.....K4	Jubna Alps, Slovenia.....K3	More Saint-Hilary, Canada.....F3	Rio Platano, Honduras.....P5	Waldenau Area, Netherlands.....K3
Bosque Mijapay, Paraguay.....G4	Dybelk Chantel, Tunisia.....K4	Karasiky, Russian Federation.....O1	More Vainos, France.....K3	Riverland, Australia.....B9	Wadi Allagi, Egypt.....L3
Caatinga, Brazil.....H7	Djendere, Bulgaria.....L3	Kim Giang, Vietnam.....P6	Mores Nibos, Guinea.....J6	Rocky Mountains, USA.....E3	Western Nghe An, Vietnam.....P4
Cabo de Gato-Nigar, Spain.....J4	Deban, Spain.....J4	Kinkonag, Hungary.....L3	Mount Puntalao & Western Port, Australia.....J9	Schwarzwald, Germany.....K3	Wuyishan, China.....Q4
California Coast Ranges, USA.....D4	Dyck, United Kingdom.....E5	Kristinorad Vistovska, Slovenia.....K2	Mount Arrowsmith, Canada.....B9	Schwarzwald, Austria.....K3	Yakushima Island, Japan.....Q4
Carapuz de la de Biber, France.....K3	Euro-Capobian, Poland.....L3	Krivoklaka, Czech Republic.....L3	Mount Carmel, Israel.....L4	Seaflower, Colombia.....F3	Yanagubo, Democratic Republic of Congo.....L4
Ca Gio Mangrove, Vietnam.....P5	Euro-Capobian, Ukraine.....L3	Kruger to Gonyosi, South Africa.....K8	Niagara Escarpment, Canada.....E4	Selva El Guine, Mexico.....N3	Yarlong, Australia.....B4
Cape West Coast, South Africa.....L8	Euro-Capobian, Slovakia.....E3	La Encarnada, Mexico.....E5	Noos, Australia.....E8	Selva Piene, Italy.....L3	
Cape Westland, South Africa.....L4	El Cielo, Mexico.....E5	La Michela, Mexico.....E5	North Vilmora, Latvia.....L2	Sequoia Kings Canyon, USA.....D4	
Canimere of Fleet, United Kingdom.....N5	El Triunfo, Mexico.....F5	La Palma, Spain.....J4	Obrata, Congo.....D4	Shreef, Lebanon.....L4	
Ca Da, Vietnam.....P5	El Yunque, Mexico.....D4	Las Salas-Pierre, Canada.....J4	Olympic, USA.....K3	Sier Ka'in, Mexico.....F7	
Central Amazon, Brazil.....G6	Hautes-Alpes, Germany.....K3	Lake Fert, Hungary.....K3	Pantanos de Centla, Mexico.....N8	Sierra La Laguna, Mexico.....D4	

Coordinate System: WGS 84
 Data Source: USGS-NASA Blue Marble/WOPA
 Map Created by: Matthew David Pivovoy

Case studies

GLEAN: On-site case studies by master students and PhDs, 2 months field work including interviews, observations, collection of documents, maps etc

- La Palma, El Hierro, Menorca, Donana, Cape West, Kruger to Canyon, Mornington Peninsula, Noosa, Bosque Mbaracayú

BiosACM: Parallel case studies during 3 years, including social-ecological inventory, interviews, survey, social network analysis, participatory resilience assessment

- Frontenac Arch, Georgian Bay, Kristianstads Vattenrike, Östra Vätterbranterna

Some observations

- There is a wealth of experience in BRs that can inform sustainability science
- There is a need to synthesize these to improve policy & practice – important role for scientists
- Need to find mutual interests between science, knowledge and practice
- Biosphere reserves are very diverse in governance approaches, aims, activities, contexts, challenges – BR science and knowledge is equally diverse
- There is no central repository of BR data that researchers and other knowledge holders can use

Potential opportunities and challenges of international network

Potential opportunities

For local knowledge-holders:

- Help in generalizing insights from individual site level – improve policy and practice
- Help in monitoring progress

For scientists:

- Access to real-world cases, data, and relevant research
- Target audience for their research

Potential challenges

For local knowledge-holders:

- Takes time from their daily work (respond to surveys, share experiences etc)
- Research not always aligned with their needs

For scientists:

- Takes time from other tasks (respond to requests, share info etc)
- Not all info is relevant to their specific interest

Core features of a living network

- Shared interest
- Shared values
- Sense of community
- Open, transparent, inclusive
- Benefits of participating outweighs costs
- Suggestion: Start small, with individuals who show genuine interest and share the MAB vision and mission, grow organically