

Report on EuroMAB 2013 Conference

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The World Network of Biosphere Reserves was initiated in 1974 by UNESCO's Man and the Biosphere Program (MAB). Biosphere Reserves (BR) are landscapes (and seascapes) containing significant biodiversity that are nominated by national governments, designated by UNESCO, and envisioned as centers of excellence for integration of conservation, science, and socioeconomic development. This integration is achieved logistically by enabling BR stakeholders to develop, share, and apply information, experience, and best practices to sustain healthy ecosystems, economies, and social environments in local communities inspired by the importance of Nature in community life. The World Network currently includes 621 BRs in 117 countries, of which 289 areas are located in the United States, Canada, and 32 of the 50 European countries represented in EuroMAB, a voluntary partnership under the auspices of UNESCO for regional cooperation among BRs.

EuroMAB 2013, the first EuroMAB conference in North America, was hosted jointly by the Canadian Biosphere Reserves Association and the Frontenac Arch Biosphere (FAB), in cooperation with the UNESCO MAB Secretariat and the Canadian National Commission for UNESCO. The conference included more than 190 BR practitioners from 27 countries, including 4 from the U.S. (3 additional U.S. participants were unable to attend due to a Federal government shutdown). The conference was notable for the large representation of women, young people, and indigenous nations. The presence of individuals involved from the earliest days of BR planning and administration contributed valuable historical perspective to the conference consultations.

The Conference theme, "Engaging Our Communities," reflected the increasing worldwide emphasis on enlisting communities of interest, particularly local people, as committed BR partners and beneficiaries.

The opening plenary on Tuesday afternoon included brief remarks by hosting and cooperating organizations, First Nations, and members of Canada's provincial and national parliaments. The presenters provided perspectives on the status, challenges, and vision for BRs as the World Network enters its fifth decade.

Morning sessions for the next two days consisted of 9 topical workshops, with U.S. participants attending 7. Workshops focused on the following areas of challenge, opportunity, and recent progress in BRs: development of social enterprises, transboundary biosphere reserves, tools for engaging communities, working with indigenous peoples, BR communications and marketing, sustaining ecosystem services, sustainable mining in BRs, training in facilitation skills, and an especially timely session on strengthening the World Network management framework. The latter shared information from UNESCO and country case studies that the U.S. attendees found especially relevant to ongoing U.S. efforts to respond to UNESCO's new BR periodic review

process and exit strategy. Afternoon plenary sessions addressed the benefits of partnership and social learning. Presentations included case studies from 9 Canadian BRs, followed by facilitated panel discussions on 1) the “value added” from BRs in education, land management, and sustainable tourism; 2) a cooperative project of Queens University and the Frontenac Arch Biosphere (FAB) to develop and test indicators of sustainability; and 3) the proposed establishment of the International Center for Rural Sustainability as a joint venture of the Canadian Biosphere Reserves Association, Queen’s University, and the new Aquatarium in Brockville (one of FAB’s gateway cities).

In the final plenary session, the conclusions and recommendations from the morning topical workshops were presented, discussed, and approved as EuroMAB’s contributions toward addressing global priorities in the upcoming development of the UNESCO/MAB strategy for 2014-2021.

On the final day, participants visited the Thousand Islands-Frontenac Arch Biosphere Reserve, a large (>150,000 ha) and biologically rich landscape, and met with members of its community of interest in southeastern Ontario. The area, designated as a BR in 2002, is a mosaic including a section of the St. Lawrence River, its associated floodplain and islands, and adjacent uplands in a granitic rock land bridge corridor known as the Frontenac Arch that connects the mega-scale Algonquin (Ontario) and Adirondack (New York) Parks. The tour was organized by the Frontenac Arch Biosphere Network (FABN), a non-profit corporation, which inspires, facilitates, and coordinates committees of volunteers, organizations, and agencies working to protect natural and cultural heritage and demonstrate sustainable socioeconomic development based on respect for Nature, wide sharing of information and experience, and best practices. FAB’s web portal (<http://www.frontenacarchbiosphere.ca>) is effectively designed to serve the diverse community of interest participating in the BR. FAB’s innovative geographic information system (<http://www.fabexperiences.ca/>) includes an interactive regional directory which promotes eco- and cultural tourism, including local arts, crafts, agriculture industries (e.g., wineries, farmers’ markets), and restaurants serving locally grown foods as partners and beneficiaries of the BR. The directory is widely used and recognized for its “value added” to stakeholders and the public support it generates for the BR.

Topical presentations, workshop reports, the participant list, and other conference materials are available through the FAB website: <http://www.frontenacarchbiosphere.ca/euromab2013>.

RELEVANCE OF THE CONFERENCE TO REVITALIZING U.S. BIOSPHERE RESERVES

The conference sessions and our discussions with other participants during plenary session breaks, mealtimes, the field trip, and informal meetings were productive and relevant to the ongoing periodic review and related efforts to revitalize U.S. participation in the World Network. Long-term MAB colleagues, recalling the significant US role in the strategic planning and implementation of BR concepts during the first 3 decades, especially welcomed the possibility of renewed U.S. participation.

1. PERIODIC REVIEW OF BIOSPHERE RESERVES.

The workshop on the network management framework underscored the value of periodic reviews in providing and sharing information, fostering a culture of learning in BRs, and assisting BRs in becoming “centers of excellence” in fulfilling UNESCO criteria for BRs. Presentations highlighted various approaches and challenges in conducting periodic reviews. Reviews are generally prepared by each BR with local support and general guidance from the reserve’s National MAB Committee, and sometimes with assistance from independent BR organizations, such as the Canadian Biosphere Reserves Association. Reported challenges include conflicting authorities of the sometimes multiple administering entities within a BR partnership, lack of familiarity with BR concepts, inadequate training in participatory methods, need for an effective fund raising entity, and obtaining qualified reviewers.

In the United Kingdom, the National MAB Committee enlisted consultant teams to conduct two nationwide reviews, including meetings with stakeholders at each BR, in 1999 (cost: \$25K) and 2009. Based on these reviews, BRs were delisted, expanded, or combined. In 1999, the UK had 13 BRs, mostly small protected areas not meeting all elements of the UNESCO criteria. Today, the UK has 6 BRs working to implement UNESCO criteria. Based on the reviews’ recommendations, new programs aimed at community sustainability and enhancing Nature conservation are being developed. The coordinator for the strategic reviews, who also is a current member of the UNESCO MAB Bureau, offered to share the experience of the UK should the U.S. wish to consider pursuing such an approach.

Canadian national BR Program specialists enthusiastically offered to share recent experiences in developing, reviewing, and improving the functionality of Canada’s biosphere reserves---the majority of which (10 ex16) were designated after the year 2000. Examples of such experiences include: successful BR programs based on non-governmental organizations and volunteer frameworks; strategies for more effectively involving Native Americans in BR partnerships and programs; and developing and presenting educational programs about sustainable development. We believe Canadian positive experiences such as these during roughly the last 20 years of declining U.S. involvement in MAB are especially relevant to future U.S. revitalization efforts.

UNESCO BR zonation terminology is politically contentious in the U.S. Our sense is that controversy, especially regarding the implications of buffer zones, may be associated with the slow to emerge communities of interest following our early successes in designating numerous highly-regulated Federally-protected conservation and research areas as BRs. This situation created a political vacuum in which opposition from small-government proponents, focused on BR zonation being a harbinger of future regulation, quickly flourished, despite that fact that the U.S. Biosphere Reserve Program in 1994 specifically adopted area-of-use terminology that adapted UNESCO zonation concepts to the reality of the U.S. situation. The fervor of the small-government proponents resulted eventually in the reduction or withdrawal of Federal agency funding and deactivation of the U.S. National MAB Committee. Several EuroMAB2013

conference participants indicated to us that UNESCO requirements relating to delineation and management of buffer zones have been problematic in some BRs (e.g., Canada, Germany).

A significant problem for the U.S. and some other countries is that the required decadal periodic review of each BR is based on criteria in Article 4 of UNESCO's Statutory Framework - which states that BRs should have a clearly defined buffer zone or zones, and mechanisms to manage human use and activities in those zones. We do not believe that BR authorities in many countries can achieve this, so eventually this criterion may require revision. We recommend that UNESCO accept having countries give greater attention to the introduction to the Statutory Framework, which reads, "States are encouraged to elaborate and implement national criteria for biosphere reserves which take into account the special conditions of the State concerned." We believe this guidance provides appropriate and sufficient flexibility for application of UNESCO criteria in U.S. biosphere reserves. In the network management workshop and in discussions, U.S. participants noted that the ongoing periodic review process can help inform and catalyze local engagement in U.S. BRs, provided the importance of flexibility is recognized in the use and application of UNESCO terminology.

RECOMMENDATION: Based on what we learned in the network management workshop, we recommend that the State Department ask the U.S. National Commission for UNESCO to convene a task force to develop strategies for cost-effective restructuring of U.S. biosphere reserves. Its members would include administrators, specialists, and stakeholders thoroughly familiar with BR criteria, trends, opportunities, and review processes. Its terms of reference should include provision for enlisting the assistance of colleagues from other countries (e.g., Canada and the UK) and relevant international organizations.

2. OPPORTUNITIES FOR TRANSBORDER AND TRANSNATIONAL COOPERATION

BR coordinators from Canada's Niagara Escarpment, Long Point, Ten Thousand Islands-Frontenac Arch, Waterton, and Clayquot biosphere reserves expressed interest in exploring opportunities for cooperation with appropriate U.S. BRs -- the last three with the Champlain -- Adirondack, Glacier, and Olympic BRs, respectively.

In a productive meeting of all U.S. participants with Ernesto Enkerlin, Chair of IUCN's World Commission on Protected Areas and former member of Mexico's National Commission on Protected Areas, we explored mutual interests in expanding cooperation along the U.S.-Mexico border involving the Big Bend and Sierra del Carmen BRs (in Texas and Coahuila), and potentially the Organ Pipe Cactus and Pinacate BRs (Arizona and Sonora). Dr. Enkerlin expressed the hope that BRs -- including some new initiatives in our two countries -- would have a significant presence at the upcoming World Parks Congress (November 2014 in Sydney, Australia).

Gary Clarke, EuroMAB2013 Conference organizer, and Principal of Aquilon Consulting *Growing Sustainable Communities*, expressed interest in hosting a meeting of Canadian, U.S.,

and Mexican BR representatives to plan specific collaborative, North American-focused BR activities

In a workshop focusing on ecosystem services, Miren Onaindia reported on a project in Spain's Basque region using a GIS land use/land cover approach to assess ecosystem services, especially water and biodiversity. Following the workshop and in subsequent communication, Jack Ranney identified potential opportunities for enhancing landscape connectivity, habitats, and ecosystem services in redesigning the region's widespread Eucalyptus plantation monocultures.

We propose to discuss these consultations with U.S. BR administrators and provide contact information to enable them to explore mutual interests with colleagues in the relevant EuroMAB region BRs.

Immediately following the EuroMAB conference, Vernon Gilbert, with input from other U.S. participants, prepared a preliminary proposal to enhance cooperation among BRs in Canada, Mexico, and the U.S., including use of the new Biosphere Reserve Information-sharing Portal (<http://www.georgewright.org/brinfo>) hosted by the George Wright Society.

RECOMMENDATION: We recommend that the State Department develop mechanisms for encouraging U.S. agencies to engage their BR partnerships in enhanced cooperation with BRs in Canada and Mexico. For example, with the assistance of the State Department and the international programs of U.S. agencies, U.S. BRs could offer to exchange personnel for short-term projects, share equipment, share data, develop common data base capabilities, or conduct joint programs of stakeholder engagement.

3. VALUE ADDED FROM BIOSPHERE RESERVES

The role of government agencies in BRs is shifting from principal proprietors to partners in landscape-scale communities of interest in the sustainable development of their regional landscapes. In most countries, government funding for BR partnerships is currently limited or none; and there is increasing reliance on volunteers and private sector support. It is clear that a visionary and inclusive approach is needed in welcoming diverse partners to the community of interest, as exemplified by the Frontenac Arch Biosphere Network. The involvement of artisans, "green" small businesses, historical societies, cultural groups, First Nations, faith communities, etc., can make important contributions to biosphere reserve activities and community support.

It seemed apparent from discussions that achieving community involvement may be challenging for single unit biosphere reserves that contribute primarily to only one BR function, such as research. In such situations, achieving full BR functionality may require restructuring of the biosphere reserve, e.g., through regional integration with another biosphere reserve performing complementary functions, cooperation with complementary sites and partners, or linkages with existing local-to-global networks for monitoring, research, education, community development, etc..

In the workshop on ecosystem services, there was considerable, albeit somewhat unfocused, discussion on the role of BRs in developing, evaluating, improving, and utilizing indicators of all kinds, including indicators for socioeconomic, cultural, and health conditions and trends. We note that BR managers universally share the challenge of enhancing awareness and engagement of local communities and the public with the policy-relevant and problem-solving benefits of using indicators to help understand trends in conditions of interest to the community.

Although there was limited discussion of habitat fragmentation and connectivity, workshop participants underscored the need for more emphasis on the unique potential of BRs for fostering voluntary cooperation on these issues at landscape scales.

Our sense from these discussions is that BRs could particularly help local residents, business organizations, and governments to engage with sources of reliable information regarding landscape-scale influences (e.g., pollutants, invasive species, climate change, habitat loss) on the resource-dependent components of local economies, cultures, community health, and lifestyles. In the U.S., these sources could include Cooperative Ecosystem Studies Units, Climate Science Centers, Landscape Conservation Cooperatives, and Agricultural Extension Offices.

The marketing and communications workshop participants agreed that the purpose and value added of BRs are not well understood by local communities -- an observation which appeared to be universally shared. Reflecting on several examples of local successes, participants noted that messages to communities should be a) positive, b) elicit happy emotions, and c) be simple and short with a "Wow!" factor.

The sustainable mining workshop, underscoring the fundamental role of BRs as ambassadors of sustainable development, started with the observation that sustainable development is not a goal but a process which BRs facilitate by, for example,

- facilitating productive dialog based on factual knowledge and involvement of disparate stakeholders,
- focusing on both sustainable extraction of non-renewable resources and sustainable uses of the extracted materials,
- focusing on solving problems before participants become polarized,
- creating and nurturing shared responsibility for the stakeholders' collective decision, and
- serving as laboratories and landscapes for learning that encourage excellence in operations.

The key premise that BRs bring to sustainable development is that BRs are forever and change is part of their experience. Mining, on the other hand, is not forever – it has a beginning and an end. The start-up, operations, and close-down phases of mining create local changes that can be accommodated within the broader BR landscape and cooperative partnerships. This framework can help address even long-term changes through more effective up-front planning and more rigorous attention given to mitigating and containing impacts during mining activity; closing down mining operations; and remediating residual impacts. Recognizing that comparable non-renewable resources are found around the globe, the World BR Network can facilitate the sustainable development thinking at the global level that helps inform decisions as to the best local sites for extraction.

The workshop concluded that the long term sustainable development purpose of BRs can include industry and mining, and that mining is more likely to reflect sustainable development concepts in BRs than in other landscapes. UNESCO's BR application and periodic review processes provide tools to encourage teamwork among disparate participants and to develop a clear, shared vision that can include sustainable development of non-renewable resources in the path to the future. Because BRs are special places, they can uniquely foster social responsibility in developing non-renewable resources through the moral authority and influence they convey.

CONCLUDING THOUGHTS

EuroMAB 2013 made an important contribution toward demonstrating the value-added benefits of biosphere reserves. The conference provided a window on a globally ongoing process of integrating conservation, science, and sustainable development at the landscape level. This process extends to local residents the benefits of outstanding protected areas and ecological research and demonstration sites---the founding contributors in implementing the vision of biosphere reserves---by enabling the sharing of information, technologies, and best practices in diverse communities of interest working together to understand the importance of healthy ecosystems to their economy, health, and social well-being. By providing recognition and practical support through a global information-sharing network, biosphere reserve designation inspires and facilitates the work of these landscape-level problem-solving partnerships through fostering a culture of learning based on respect for Nature, mutual trust, effective communication, and wide sharing of information and experience.

We left the EuroMAB conference convinced that the contributions of biosphere reserves to sustainable development are real, significant, and increasing globally. We returned home more convinced than ever that the visionary concept of biosphere reserves---perhaps ahead of its time almost 40 years ago---today offers practical opportunities to integrate and expand the capacities of governments, organizations, and individuals to voluntarily and cooperatively address urgent local-to-global problems, based on shared knowledge and experience. We believe biosphere reserves can help provide an antidote to emotional, intellectual, and institutional barriers (so-called "stovepipe" tendencies) which have historically limited the full release of human creativity. The time is long overdue for a concerted U.S. effort to reawaken interest in biosphere reserves, revitalize U.S. participation, and renew the U.S. leadership which was so instrumental in the creation of MAB and the formative development of the World Network of Biosphere Reserves. New information from the ongoing periodic review process in the U.S. can provide the nation a catalyst for developing the vast information-sharing potential of biosphere reserves to support domestic and foreign policy goals.

By helping people find common purpose and share reliable information in voluntarily weaving their economic and cultural activities into the natural fabric of their shared landscapes, biosphere reserves make important contributions toward achieving a more harmonious polity at the local, national, and global levels.

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2/ William Gregg is an emeritus scientist (ecology) with the U.S. Geological Survey. During his 33 year government career he served as Biosphere Reserve Coordinator for the National Park Service and co-chair of the U.S. MAB Directorate on Biosphere Reserves from 1980-1992, and participated in MAB in various agency capacities until his retirement in 2004.

3/ Jack Ranney is a retired senior research ecologist (University of Tennessee) and a board member of the International Biosphere Trust. During his career, he served in senior executive positions with the Southern Appalachian Cooperative Ecosystem Studies Unit, the Joint Institute for Energy and Environment, the Department of Energy's Biofuels Production Program, and served as Invasive Species Initiative Leader for the Southern Appalachian Man and Biosphere Cooperative.

The preparers express appreciation to fellow EUROMAB2013 participant John Dennis, who attended the conference in his private capacity, for his helpful comments on our report. Dr. Dennis serves as Deputy Chief Scientist, National Park Service.