

# Governance Challenges for Wildland Preservation in Canada and Mexico

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**Abstract:** The proposed Castle Wilderness (Canada) and the Monarch Butterfly Biosphere Reserve (Mexico) are used to demonstrate the application of a pluridimensional spectrum of governance framework to evaluate the influence of governance on the establishment and management of protected areas. The objectives are to understand (a) the relevant similarities and differences between the two countries, (b) the interactions across governance dimensions, and (c) the factors that influence conservation outcomes. The analysis shows that in both cases protected area governance is affected negatively by weak environmental and economic governance. Public support, funding, and improvements in protected area governance do not deliver positive conservation outcomes because of apparent inconsistencies among economic and conservation policies.

## Introduction

The conservation of wildlands in North America is crucial for maintaining ecological processes such as transboundary migration of wildlife, ecological connectivity, and hydrological regimes. In 2009, Mexico, Canada, and the United States signed a Memorandum of Understanding on Cooperation for Wilderness Conservation (Martin 2010). One identified topic of mutual interest is the “establishment of sustained relationships between wilderness managers across the continent for the purpose of mentoring, sharing research and technology, exploring common challenges and solutions, and potentially developing transcontinental goals and plans of action.” We discuss increasing the transcontinental understanding of the role of governance in wilderness protection in Canada and Mexico.

Wildlands not geographically adjacent may still constitute complementary habitats for migratory species and contribute to the preservation of biodiversity at multiple geographical scales. For instance, Canada and Mexico are connected ecologically through a web of interactions among species and habitats despite the lack of a shared border. The success of national and international conservation efforts



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may be positively or negatively influenced by the way political, economic, and administrative authority is exercised in a country (e.g., United Nations Development Program [UNDP] 1997).

Governance is reflected in the social, economic, environmental, and political conditions of a country. It results from, and depends on, the processes, institutions, regulations, and interactions that determine how groups and individuals behave and relate to each other. Governance is also related to (a) the way citizens and governments express

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their interests, exercise their rights and obligations, and solve their disagreements; and (b) the way resources are allocated and managed to respond to collective needs. Finally, governance also implies accountability for consistent, cohesive policies, processes, and decision rights (UNDP 1997; World Bank Group [WBG] 2003).

The management and governance challenges faced in the fields of natural resources and protected areas (PAs) have been described in the literature (e.g., Graham et al. 2003 and Dearden et al. 2005). Such discussions focused mainly on the different styles of management and/or ownership, for instance private, comanagement, or public. Effective management of wildlands and PAs in Canada and Mexico is needed to ensure the survival of migratory species and native biodiversity. Established protected areas may exemplify wilderness conditions, but may not be formally designated as wilderness.

Wilderness Areas (category Ib within the World Conservation Union [IUCN] system) are different and independent from National Parks (Category II, IUCN 2009). The national systems of protected areas of Canada and Mexico have national parks as a federal category but neither has wilderness areas as an independent category. In Canada, wilderness areas are federally designated as a zone within national parks: "The Governor in Council may, by regulation, declare any area of a park that exists in a natural state or that is capable of returning to a natural state to be a wilderness area" (Canada National Parks Act 14[1], Government of Canada [GC] 2000). One national park reserve (Nahanni) and seven national parks contain wilderness areas: Banff, Jasper, Kootenay, Yoho, Waterton Lakes, Fundy, and Vuntut (GC 2009). In addition, six provinces have wilderness

areas or wilderness parks (Dawson and Hendee 2009). It is expected that the Mexican government will take action to protect wilderness. To this date, however, neither the Secretaría del Medio Ambiente y Recursos Naturales (SEMARNAT) nor the Comisión Nacional de Áreas Naturales Protegidas (CONANP) have announced the introduction of wilderness areas in protected areas legislation either as a new category or in other ways. In 2005, Maderas del Carmen (Mexico) was announced as the first wilderness area in Latin America (Conservation International 2005); however, in 2010 it is still listed as an Area for Protection of Flora and Fauna (CONANP 2010), a designation that offers a lower level of protection. Its management plan (Secretaría de Medio Ambiente, Recursos Naturales y Pesca 1997) considers four zones. The plan allows grazing and forestry in the zones of Restoration and Use of Natural Resources, which together cover more than half of the protected areas. The Wild Zone is the most preserved. The Natural Outstanding Zone shows evidence of use of natural resources and of natural regeneration.

What governance factors influence wilderness conservation? Our primary purpose here is to demonstrate a framework to identify key factors of influence by analyzing the role of governance in establishing and managing PAs. By comparing the Monarch Butterfly Biosphere Reserve (Mexico) and the proposed Castle Wilderness (Canada), we show: (a) the different actors involved, (b) the types of governance associated with those actors, and (c) the similarities and differences between the two countries.

## Methodology

A case study method demonstrates the utility of a framework for governance analysis to examine the challenges

associated with establishing PAs. We assumed that the chosen case studies, one from each country, embody critical characteristics of wilderness. Although they differ significantly in history, ecology, and socioeconomic context, their contrast provides a valuable demonstration of the framework.

## Document Review

The majority of information was obtained from official documents available on the Internet. The web pages consulted for Mexico included the Official Diary of the Federation (*Diario Oficial de la Federación*), and the Secretariat of the Environment and Natural Resources (Secretaría del Medio Ambiente y Recursos Naturales SEMARNAT). The documents included those available at the Monarch Log (SEMARNAT 2008). Web pages for Canada included those from the Castle-Crown Wilderness Coalition, the Sierra Club of Canada, and the Government of Alberta. Additional information included the environmental impact assessment for a ski resort expansion (Vacation Alberta Corporation [VAC] 1992), court decisions, and notes taken by one of the authors (Mendoza) during the court hearing on November 23, 2003. Both cases were complemented with journal articles, press releases, and articles from newspapers and environmental newsletters. A chronology of events was constructed for each case to get a relation of events and actors involved (Mendoza 2010).

## A Pluridimensional View of Governance

Mendoza and Thompson (2005) analyzed the influence of governance on PAs using three dimensions of governance:

1. Economic governance: Governmental and self-imposed rules guiding a business's operation and behavior toward other businesses,

society, and the environment.

2. Environmental-regulatory: Policy and rules set by a government for environmental protection.
3. Protected area governance: Policy and practices guiding management of PAs and staff attributions.

In this work we add two dimensions:

4. Social governance: Written and unwritten policies and rules guiding the participation of different stakeholders in policy design, decision making, and implementation (including conservation and park management).
5. Intellectual governance: Written and unwritten laws, regulations, codes, and other formal or informal agreements determining how data, information, and knowledge are generated, owned, shared, and used by groups or individuals. This includes popular, scientific, community, and traditional indigenous knowledge.

The result is the pluridimensional model of governance (see figure 1). We define pluridimensional governance as the combined influence that different types of governance, acting simultaneously at various spatial and temporal scales, have on the achievement of planned outcomes. It is different from multilevel governance, a term used in the European Union (EU) to refer to governance acting across levels of government (e.g., EU parliament to municipal government; Organisation for Economic Co-Operation and Development 2009). In the pluridimensional model, multilevel governance corresponds to one dimension such as regulatory/environmental governance.

## Actors, Interactions, and Factors

Each governance dimension has associated actors and factors at different

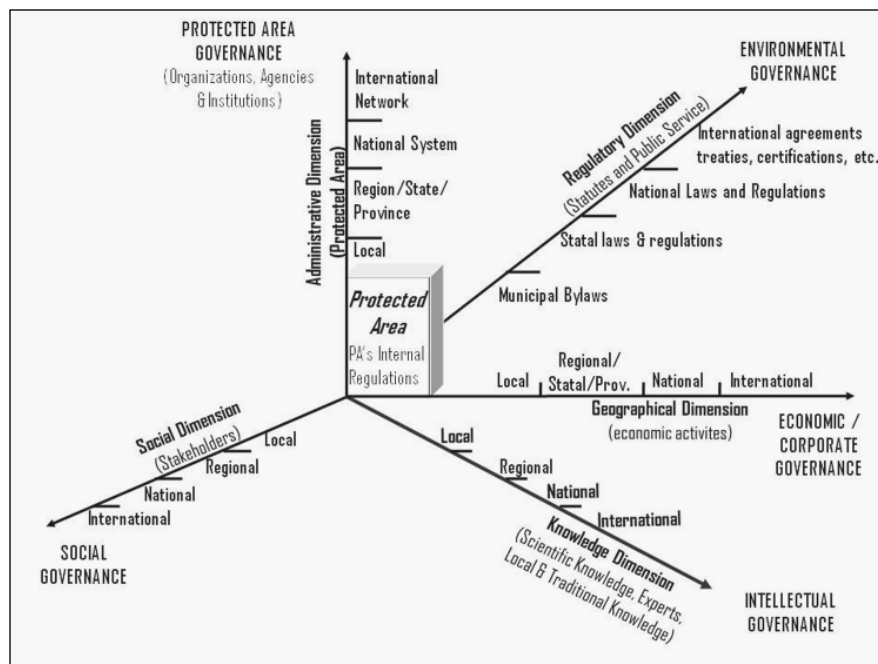


Figure 1—Five dimensions of governance that influence the achievement of conservation goals. The interactions among actors across dimensions and levels (internal to international) are used to identify the most influential factors (positive or negative).

spatial and temporal levels. Here we only use spatial levels: international, national, state or provincial, local, and internal/park. Theoretically, the interactions among actors are regulated by the political structures (laws and regulations) set by a country and international agreements. The factors, such as group interests, statutes, activism, and codes of conduct, work as driving forces, neutral forces, or barriers. Some actors may not apply to a particular situation, their influence may not be known, or they may have dual influence; the last one usually indicates poor quality of governance.

## Results

### Protected Areas in Canada and Mexico

Canada exemplifies a developed country with relatively stable governance. Mexico exemplifies a developing country with governance challenges. Although PAs originated in both

countries in the same period, the corresponding park agencies and legislation did not. In 1876, a presidential decree established Desierto de los Leones as the first Mexican protected area. In 1887, the Rocky Mountains Park Act declared Banff (then Rocky Mountain) as the first Canadian national park (McNeely et al. 1994). In Canada, the Dominion Forest Reserves and Parks Act of 1911 set the basis for managing PAs and created the world's first modern park management agency, the Dominion Parks Branch, which later became Parks Canada (Dearden and Rollins 2002; McNeely et al. 1994). In Mexico, the General Law of the Environment and Environmental Protection of 1988 (Ley General del Equilibrio Ecológico y Protección al Ambiente) was the first law that set clear objectives for PAs. PAs were passed from one secretariat to another from 1876 until 2000, when the National Commission for Natural PAs (CONANP) was cre-

ated (Mendoza and Thompson 2005). Both countries have the capacity to designate protected areas at the state or provincial level.

The efforts to protect the proposed Castle Wilderness and the forested areas that constitute Monarch show the challenges faced by society to protect habitats and the species that depend on them. Space limitations dictate that we only highlight some of the key factors arising from the case studies. For additional information about the case studies and interactions, please see Mendoza (2010).

## Castle Wilderness

The Castle Wilderness (CW) is a region of forested land along the eastern slopes of the Rocky Mountains (southwestern Alberta, Canada) (see figure 2). In 1914, the area was designated as part of Waterton Lakes National Park. Its level of protection was subsequently lowered to a game reserve in 1921 when its lands were transferred to the province of Alberta. In 1954, it lost its protected status and became public multiple-use land. Since 1958, wilderness advocates have been actively seeking formal protection of this landscape as wilderness. In 1994, Alberta's Natural Resource Conservation Board (NRCB) recommended establishing a PA in the CW after reviewing the environmental impact assessment statement (VAC 1992) for a proposed expansion of a downhill ski resort within the CW region. To date, no strictly protected designation has been established and wilderness advocates continue to pursue its protection. It is currently designated as the Castle Special Management Area Forest Land Use Zone, a category of public land established for multiple use, including recreation and industrial resource



Figure 2—Eastern approach to the Castle Special Management Area Forest Land Use Zone. Photo © by Michael Quinn.

extraction. Continuing debates on the use and designation of the area provide an ideal context to examine the role of governance in PA establishment.

Thirty-two actors were identified, most of them at the local and

state/provincial levels (see figure 3). Twelve of the 27 interactions identified among actors had a positive influence. The social and environmental/regulatory dimensions account for more than half of the actors (nine actors each).

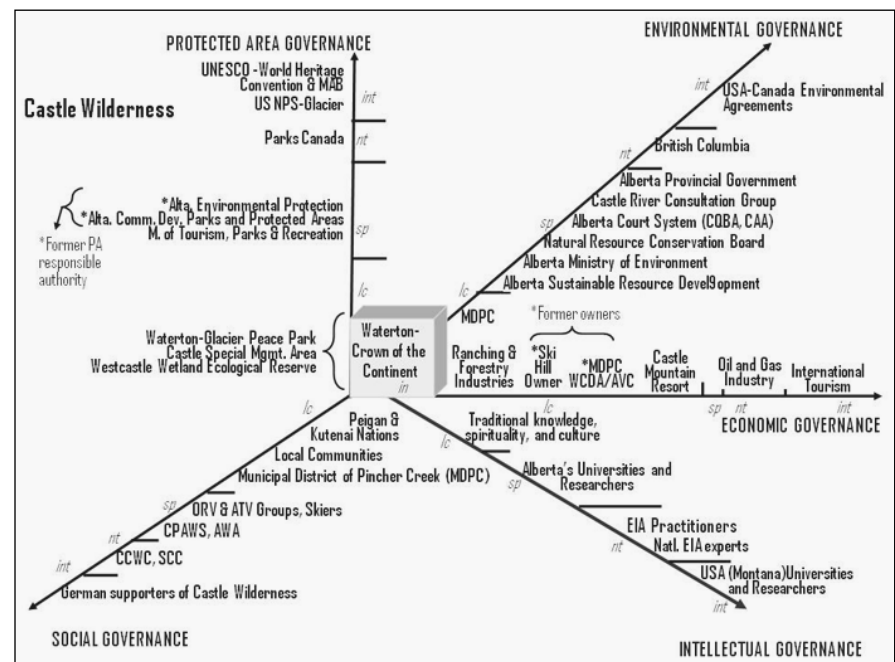


Figure 3—Actors involved in the CW Case: COBA = Court of Queen's Bench of Alberta; CA = Court of Appeals of Alberta; MDPC = Municipal District of Pincher Creek; WCDA = Westcastle Development Authority; AVC = Alberta Vacation Corporation; CPAWS = Canadian Parks and Wilderness Society; WA = Alberta Wilderness Society; SCC = Sierra Club of Canada; CCWC = Castle-Crown Wilderness Coalition; ORV = off-road vehicles; ATV = all-terrain vehicles.

## Monarch Butterfly Biosphere Reserve

The Monarch Butterfly Biosphere Reserve (MBBR) is a region with relict mountaintop forest patches of Oyamel fir (*Abies religiosa*) located in central Mexico. Between 1971 and 1986, the wintering areas of monarch butterfly (*Danaus plexippus*) were discovered in Oyamel fir patches scattered over the states of Mexico and Michoacán (Bower 1995). The land belongs to indigenous communities and *ejidos* (farming communal lands) whose main activity is forestry (see figure 4). In 1980, MBBR was decreed a Reserve and Wildlife Zone; in 1986, a Special Biosphere Reserve; and in 2000, a Biosphere Reserve. In 2009, a new decree modified one of the three core zones. The core zones, scattered on the two states, cover approximately 24% of MBBR's surface. The rest is declared as a buffer (Gobierno de México 2009). Degradation of MBBR due to legal and illegal activities increased after 2000. This happened despite the establishment of the Monarch Conservation Fund (Missrie and Nelson 2005) and collaboration with Canada and the United States (Fox 2006; Trilateral Committee for Wildlife and Ecosystem Conservation and Management [TCWECM] 1997). MBBR provides a relevant context to examine the role of governance in the establishment and management of PAs.

Forty-four actors were identified in this case (see figure 5), most of them along the environmental/regulatory dimension. Six of the 40 interactions across actors had a positive influence. The influence of three recent interactions is still unknown. International actors dominate in the intellectual dimension.

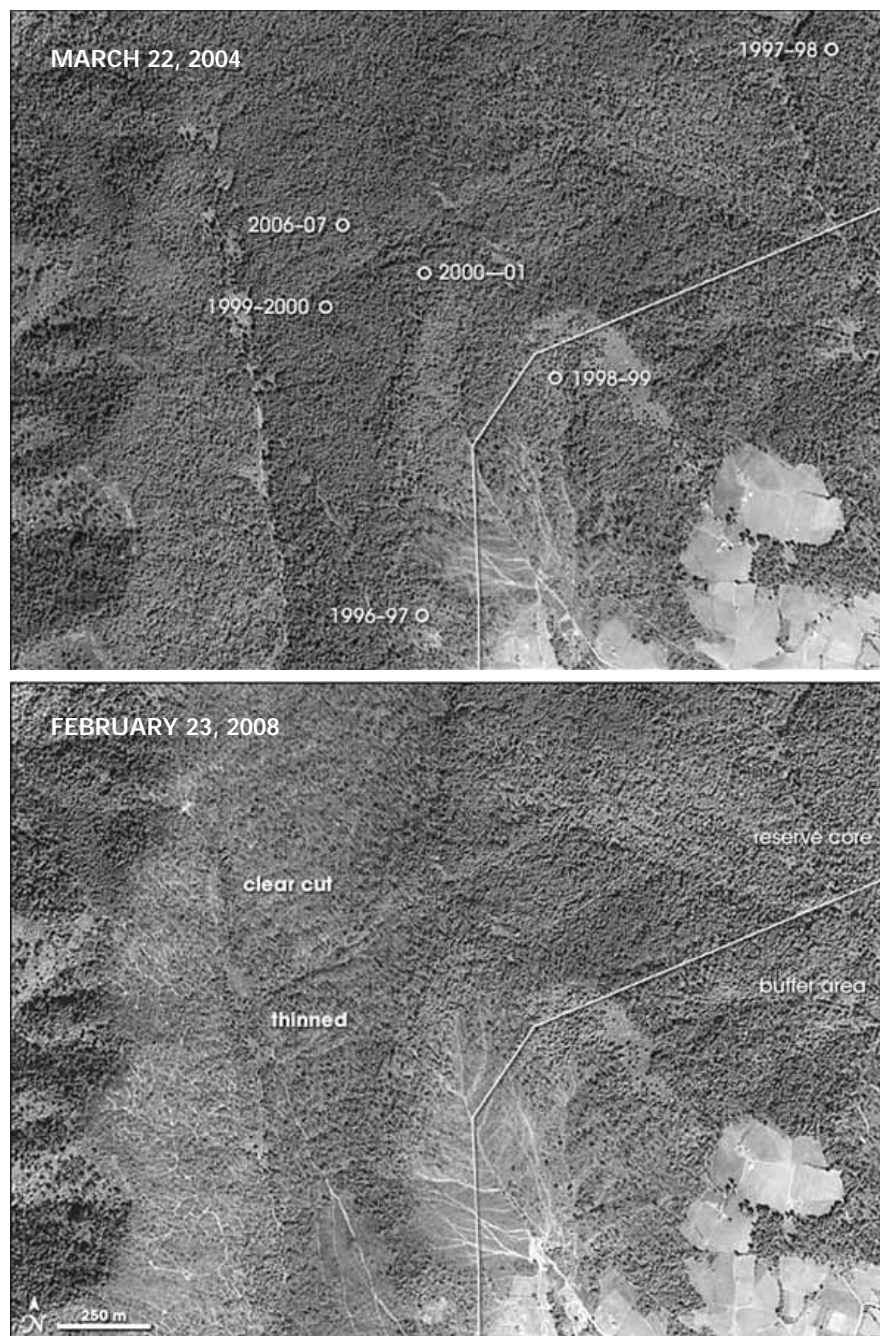


Figure 4—Deforestation at MBBR, 2004–2008. Photo courtesy of GeoEye satellite image; [www.geoeye.com](http://www.geoeye.com).

## Protected Area (PA) Governance

In a study of global trends in PA governance, Dearden et al. (2005) identified the need for secure funding, capacity building, and community involvement. We expected those factors to be influential in Mexico, a developing country. However, our pluridimensional analysis identified poor

economic and environmental governance as the primary factors hindering the successful creation of both PAs. The principal actors concentrate at local and provincial levels for CW, whereas in MBBR there is a mix from local to international actors.

In both cases, jurisdictional authority for the lands has changed over time. This affected conservation

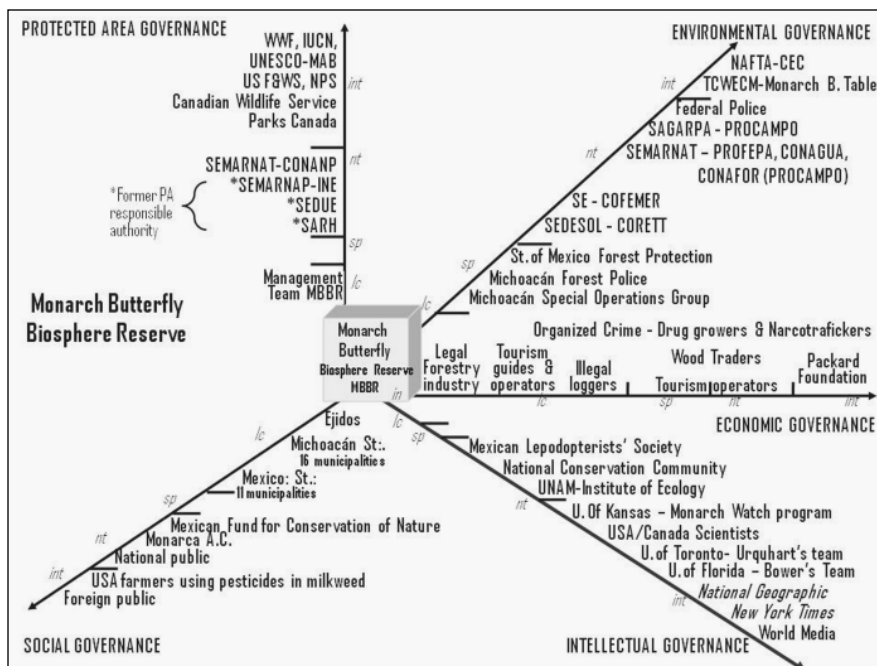


Figure 5. Actors in the MBBR case: CEC = Commission for Environmental Cooperation; COFEMER = Comisión Federal de Mejora Regulatoria; CONAFOR = Comisión Nacional Forestal; CONAGUA = Comisión Nacional del Agua; CONANP = Comisión Nacional de Áreas Naturales Protegidas; CORETT = Comisión para la Regularización de la Tenencia de la Tierra; INE = Instituto Nacional de Ecología; NAFTA = North American Free Trade Agreement; PROFEPA = Procuraduría Federal de Protección al Ambiente; SAGARPA = Secretaría de Agricultura, Ganadería, Desarrollo Rural, Pesca y Alimentación; SARH = Secretaría de Agricultura y Recursos Hidráulicos; SE = Secretaría de Economía; SEDESOL = Secretaría de Desarrollo Social; SEDUE = Secretaría de Desarrollo Urbano y Ecología; SEMARNAP = Secretaría de Medio Ambiente, Recursos Naturales y Pesca; SEMARNAT = Secretaría de Medio Ambiente y Recursos Naturales; TCWECM = Trilateral Committee for Wildlife and Ecosystem Conservation and Management; U = University; UNAM = Universidad Nacional Autónoma de México; US F&WS = US Fish and Wildlife Service; NPS = U.S. National Park Service.

negatively through lack of continuity in PA policy. The transfer of the CW lands from national park protection to provincial multiple use was particularly detrimental. The CW is currently under the jurisdiction of Alberta Ministry of Sustainable Resource Development, but would transfer to the Ministry of Tourism, Parks and Recreation if Provincial PA designation were to be achieved (Government of Alberta [GA] 2009). Two positive changes in Mexico were creating CONANP in 2000 and giving it the administration of funds for community sustainable development programs. However, CONANP is still subordinated to SEMARNAT in matters of land use, environmental policy, and enforcement.

## Social Governance

The work of conservation groups is the main factor supporting conservation in both cases. The Castle-Crown Wilderness Coalition (CCWC) and a cadre of related environmental organizations are pursuing the NRCB recommendation to protect the CW as the Andy Russell-I'tai sah kòp Wildland Provincial Park. The coalition of environmental groups has received international support for the request. Most social actors support protecting the CW. The opposition comes from groups of snowmobile and other motorized recreationists not keen on restricting motorized vehicles in the wilderness (Houghtaling 2009). Local communities support the protection of MBBR. Still, part of the population

participates in illegal activities because of economic alternatives (Merino Pérez and Hernández Apolinar 2004; Consejo Civil Mexicano para la Silvicultura Sostenible [CCMSS] 2007; Lazaroff 2002).

## Intellectual Governance

The existence of traditional and scientific knowledge (provincial and international) supports protection of the wilderness and provides it with additional cultural and spiritual values. Contrary to what might be expected, the Environmental Impact Assessment (VAC 1992) conducted for a proposed ski hill expansion had little positive influence due to the disregard for the potential impacts that the expansion would have on aquatic ecosystems and of the regional cumulative effects. Despite that, the NRCB was able to determine the significance of the potential impacts on the regional ecosystem and recommend the protection of the CW (Court of Appeal of Alberta 2005). Traditional knowledge and cultural values are weak in MBBR. International actors dominate, having dual influence. On the negative side, the scientific community has been divided with controversial delays in publishing some research findings (e.g., Brower 1995). On the positive side, most research on the monarch butterfly has been by U.S. and Canadian scientists, but with little collaboration between Mexican and international scientists to provide a solid strategy to protect habitat along the butterfly's migratory range.

## Economic Governance

In both cases, economic actors are present from local to international levels. The CW has been significantly degraded by an economic policy based on energy/oil and gas production and forest exploitation (Alberta Wilderness Association [AWA] 2007; Sierra Club

of Canada 2009). Nevertheless, the petroleum and forest industries supported its protection as a special place (Hryciuk and Struzik 1999). Because of the NRCB ruling, expanding the resort incrementally through municipal approvals suggests poor environmental governance by the regulator and poor corporate governance and social responsibility by the ski resort operator.

The major threat for MBBR is the loss of fir forest, which has accelerated with every decree (Brower 1995) and despite the creation of the Monarch Fund (World Wildlife Fund 2006). Illegal logging led by criminal groups supplies more wood to the market than legal forestry (CCMSS 2007; United Nations Environment Programme [UNEP] 2008). Clearing for agriculture, grazing, or urbanization represents 80% of forest loss in Michoacán (Osorio 2007). This results from much higher subsidies for agriculture than for forestry, subsidies to inefficient agricultural and forestry programs, excessive regulation to access development funds or harvest permits, corruption, and poor control of forest permits (CCMSS 2007; Osorio 2007; Agren 2009). The interest of social actors to exploit natural resources is a negative influence in both cases. However, it is likely that such influence would not be significant if there were strong environmental governance.

## Environmental Governance

The effect of land tenure on conservation of wilderness is highly complex. The CW was part of Waterton Lakes National Park in 1914 but was removed from Waterton and transferred to the province in 1921. It was a Provincial Game Reserve from 1921 to 1954. Calls to protect it again started in 1958 (AWA 2007). Calls for formal establishment of a PA arising from the

NRCB decision in 1994 were unrealized due to disagreements among the actors (Court of Queen's Bench of Alberta [CQBA] 2004). The CW was subsequently proposed for protection under the "special place" program however, the program concluded in 2001 (GA 2009) and discussions regarding protected area designation remain unresolved (Houghtaling 2009). The removal of protection for CW apparently is a local/regional decision, but it has repercussions at provincial, national, and international levels. As part of the Crown of the Continent Ecosystem, which includes the Waterton-Glacier International Peace Park World Heritage Site, its protection is crucial to maintain the ecological integrity of Waterton, the smallest of Canada's Rocky Mountain Parks (Parks Canada 2008). In addition, failure to come to resolution on a protected area has resulted in a loss of trust toward the government from industry representatives and conservation groups. Governance issues contributing to the failure of protected area establishment include not setting standards for protection of special places (Francis n.d.), failing to set priorities for land use, and refusing to consider trade-offs for conservation suggested by the industry, such as land swaps, lease credits, or outright cash settlements (Hryciuk and Struzik 1999).

Despite having four decrees, MBBR is still a "paper park." The lack of compensation to communities and *ejidos* affected by its creation is one of the causes of illegal land use within it (CCMSS 2007; Merino Pérez and Hernandez Apolinar 2004). The Monarch Fund was created to help communities in the MBBR move to a conservation-based economy. However, it has not been successful because of corruption in government at different

levels (Martínez Elorriaga 2007), institutional complexity, excessive regulation to access funds, and lack of integration of social goals into conservation policy (Missrie and Nelson 2005; CCMSS 2007). The area is under control of criminal gangs that use heavy weaponry to subdue the forest patrols and discourage local population from protecting the forest (Grillo 2005). Foreign PA and wildlife authorities represent international concern for the destruction of MBBR. Other major threats for MBBR derive from poor environmental-regulatory governance (Martínez Elorriaga 2007; UNEP 2008).

## International Collaboration

The discussion for the CW presented above focused on the Canadian side; however, its regional ecosystem includes the Waterton-Glacier International Peace Park World Heritage Site. The regional ecosystem is threatened by development and industrial activities in Alberta, British Columbia, and the United States. Both countries have agreements for maintaining air quality and protecting migratory species, for instance, the North American Waterfowl Management Plan. Yet such agreements do not seem to help protect the CW. The discussion for MBBR focused on Mexico; however, the monarch butterfly is also threatened by loss of habitat and pesticide use in the United States (Brower 1995). Conservation of the monarch butterfly has been a priority for trilateral collaboration at least since 1997 (TCWECM 1997). Not much has been achieved to date despite memorandums of understanding and informal agreements such as the Trilateral Committee for Wildlife and Ecosystem Conservation and Management (TCWECM 1997) and the Trilateral Monarch Butterfly Sister Protected Area Network (Fox 2006).



The implications of a new Memorandum of Understanding on Cooperation for Wilderness Conservation between Mexico, the United States, and Canada, signed at WILD 9 in Mérida, Mexico (November 2009), remain unclear, but promising.

Another factor is the lack of influence that international agreements had at the local level to produce tangible conservation outcomes, despite their positive influence in national environmental policy. This may result from the voluntary nature of many conservation agreements and the consequent lack of accountability (Mendoza 2010). This pluridimensional analysis shows the need to work from local to international levels to effectively protect wilderness. Perhaps it is time to set higher priorities for regional conservation and introduce more accountability for conservation outcomes in North America. Further research could analyze mechanisms to do so through the Commission for Environmental Cooperation or the TCWECM.

## Conclusion

The pluridimensional analysis of governance for the CW and MBBR provides a more detailed picture to target factors that influence protected areas and conservation success than simply looking at protected areas governance alone. It shows that successful conservation outcomes are hindered by deficiencies in environmental/regulatory governance, especially the inconsistency between the economic and conservation policy set by the respective governments and their lack of leadership. Both case studies have had federal protection, although today CW is under provincial government jurisdiction and MBBR is under federal jurisdiction. Both cases showed governance limitations in three aspects: implementing conservation policy, setting priorities for land use, and solving

conflicts among actors. In the case of the CW, poor environmental governance resulted in lost opportunities to protect the wilderness and loss of trust of economic and social actors on the ability of the provincial government to create the conditions to reconcile economic and conservation interests. In the case of the MBBR, poor environmental governance combined with poor economic governance resulted in loss of productive alternatives for the communities that used to make a living from forestry before the reserve was decreed. This situation favored criminal gangs who took advantage of the lack of vigilance on protected sites and deficiencies in the control of forest industry to dominate the market commercializing wood harvested illegally by unemployed people.

Protection of the CW may improve if it can be designated as a provincial park. It is still uncertain how the new decree will work for the MBBR. Nevertheless, both cases show that improvements in PA governance can do little in absence of good environmental and economic governance. The Commission for Environmental Cooperation could be a starting point to introduce accountability mechanisms for conservation outcomes in North America.

## Acknowledgment

A version of this paper was presented at the Symposium on Science and Stewardship to Protect and Sustain Wilderness Values: 9th World Wilderness Congress; November 6–13, 2009, Mérida, Mexico.

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