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Protected Areas Within Industrial Landscapes: Meeting Research and Conservation Goals Through Corporate Partnerships

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Abstract

Corporate interest in providing funding to Non Profit Organizations (NPOs) for environmental research and education has provided opportunities where NPO's and industry can achieve mutually beneficial goals. Government agencies conducting conservation-based research however, have often been unable to participate in such partnerships to address a lack of sufficient funds to meet research program requirements. More recently where government fiscal policy has permitted integration of external funding into internal programs, corporate partnerships with government have begun to play a vital role in accomplishing conservation goals.

In 2004, Lafarge North America and World Wildlife Fund (WWF) entered into a conservation partnership to sustain wildlife populations in the Bow Valley near Exshaw, Alberta, where Lafarge operates several quarries and a large cement plant. As industrial activity in this area impacts wildlife moving between adjacent Bow Valley Wildland Park and Bow Valley Provincial Park, WWF and Lafarge invited Alberta Parks and Protected Areas to join the partnership to develop and lead a multi-year research program in support of the interests of all three parties. This paper will review this unique partnership, the policies required to make it possible, and the benefits realized by these joint commitments.

Introduction and Background

The world's system of protected areas has seen widespread expansion in recent years, making great strides in the protection of biodiversity and representative ecosystems. As significant advances continue to be made in securing additional land for protected areas, concurrent increases in protected area budgets have not followed suit (McNeely et al. 2005). Competing demands from other government departments given higher priority (e.g. health care and education) often detract from funds available for management, operations, and conservation-based initiatives in protected areas. In Alberta, Canada, for example, the protected areas system has seen rapid growth over the last two decades, from 202 sites in 1991 (representing 1.5% of the provincial land base) to 518 sites in 2005 (representing 4.5% of the provincial land base). During this same period, program funding has decreased by over ten percent, and the number of permanent staff has dropped by almost fifty percent, from 731 to 379 employees (Government of Alberta, unpublished data).

Insufficient government funding has resulted in the need for park agencies to work creatively to generate resources to fund conservation-based initiatives and essential services (McNeely 2005). External partnerships are a method by which protected areas may achieve conservation goals (McNeely et al. 2005) where government fiscal policy allows. This paper outlines such a partnership and highlights the conservation goals that are being achieved and the mechanisms through which it was made possible.

The Role of Big Business in Funding Conservation Initiatives

Corporate social responsibility is increasingly recognized as an important business concept that enables corporations to measure and mitigate their impacts on society and the environment. The nature of corporate involvement in environmental programs has evolved from that of undirected corporate gifting to proactive environmental management partnerships, attained as the result of forming strategic alliances with environmental non-profit organizations (ENPO's) (Rondinelli and Berry 2000). Despite a history of adversarial relationships and mutual distrust (Rondinelli and London 2003, Carter 2005), large corporations and ENPO's are increasingly working together to solve environmental issues and achieve conservation goals.

Corporations may give to ENPO's through direct contributions of resources, employee participation in ENPO programs, assisting in fostering environmental awareness, or direct financial support of ENPO programs. However, the most environmentally beneficial and mutually rewarding involvement is achieved through the creation of environmental management alliances whereby partnerships are formed between corporations and ENPO's (Rondinelli and London 2003). These cross-sector collaborative partnerships bring together the knowledge, experience and skills of both partners to improve the environmental practises and performance of the corporation, enhance corporate reputation and profitability, and achieve ENPO goals. Such alliances involve the formation of a team including both corporate and ENPO members who work closely together to achieve the goals outlined in the partnership.

Environmental benefits of corporate/ENPO alliances include preservation and reclamation of habitat, reduction of CO₂ or hazardous emissions, protection of endangered species, waste reduction, corporate involvement in community-led environmental programs, development of new eco-friendly or “green” products and technologies, and resource and raw-materials conservation. Furthermore, businesses are likely to experience a favourable corporate image, more positive relationships with regulatory agencies, increased customer loyalty, a stronger ability to attract and retain employees due to high employee morale, lower costs, less risks and liabilities, and more efficient operations (Rondinelli and Berry 2000). Large corporations can also invoke change by influencing their suppliers, external vendors, competitors, contractors and distributors (Rondinelli and London 2003).

The Mining Industry and Conservation Partnerships

The mining industry is often viewed negatively by the public due to the widespread perception of environmental degradation associated with extractive activities (Jenkins 2004). The industry requires public support to access new sources of the resource, i.e. new lands on which to extract minerals, and public opposition often thwarts negotiations between the mining industry and government (Humphreys 2001). Hence, public pressure has forced the industry to change the way they do business.

Mining operations may substantially affect nearby protected areas through air, water and noise pollution, habitat destruction, road and railway mortality of wildlife, and indirectly

through increasing access for hunters and poachers. There is significant potential for the mining industry to apply their technical and engineering expertise and innovation to environmental challenges (Carter 2005), and hence, to become strong partners with protected areas or with ENPO's operating within or near protected areas. Contributions to protected area agendas may include improved environmental planning and management, conducting or funding environmental or ecological research, and building public support for conservation and sustainable development best practices (Carter 2005). There is also potential for mining operations to manage their lands as 'de facto' protected areas, to work collaboratively with protected area managers to achieve conservation goals (McNeely et al. 2005), and to restore biodiversity in previously exploited areas through comprehensive reclamation programs.

For the mining industry, the adoption of more environmentally sustainable practises results in higher energy efficiencies, lower carbon and other hazardous emissions, less waste and waste disposal costs, and overall improved industry efficiency, with the bottom line being improved returns on capital investments (Humphreys 2001).

Case Study: The Lafarge/WWF Conservation Partnership Achieving Conservation Goals in Bow Valley Wildland Park

In 2000, Lafarge International became the first industrial group to enter into a conservation partnership with World Wildlife Fund (WWF). The partnership is geared toward both supporting global conservation initiatives, such as decreasing CO₂ emissions

and restoring forested landscapes, as well as developing local initiatives between Lafarge business units and local WWF branches.

The alliance brings a multitude of benefits to both partners. The WWF team is rich in scientific expertise and in-depth knowledge of a vast spectrum of environmental challenges. Through the partnership, Lafarge gains expert consultation in areas such as reducing energy consumption, reducing CO₂ emissions, incorporating renewable energy sources into plant operations, waste and energy recovery, quarry rehabilitation, and environmental auditing systems. The partnership further benefits Lafarge through strengthening corporate reputation, while honoring their corporate mission statement which supports contributing to the long-term sustainability of the locations where they operate. The benefits WWF realizes from the partnership include a decrease in global CO₂ emissions, a minimized industrial footprint of Lafarge's operations, reclamation of forested landscapes thereby enhancing biodiversity and habitat security, quarry rehabilitation, and support for WWF's regional conservation objectives.

In July 2004, under the umbrella of this international partnership, Lafarge North America and WWF Canada entered into a partnership to decrease the footprint of Lafarge's operations in the Bow River Valley west of Calgary, Alberta, where Lafarge has owned and operated a cement plant and various mines since 1973.

The Bow River Valley is considered one of the most important wildlife linkage zones in the Canadian Rocky Mountains. Its northwest/southeast orientation and relatively low

elevation provide habitat connectivity between the Kananaskis and Spray valleys in the south, and Banff National Park and the Ghost Wilderness Area to the north and west. In addition, the valleys highly productive montane habitat type supports a great diversity of bird and mammal species (Paquet et al. 1994). From the Banff National Park boundary in the west to Bow Valley Provincial Park in the east, the valley is a multi-use landscape that encompasses the town of Canmore, the hamlets of Exshaw, Dead Mans Flats, Harvie Heights and Lac des Arcs, numerous mining leaseholds, industrial lands, various commercial enterprises such as resorts and golf courses, a vast system of recreational trails and facilities, and provincial parks and protected areas (Figure 1).

Present and anticipated levels of human development within the Bow Valley threaten, and in some cases have already curtailed habitat connectivity and habitat effectiveness for many species (Paquet et al. 1996, Serrouya 1999, Gibeau 2000, Duke 2001, Percy 2003). A concurrent increase in highway and railway traffic, industry, recreational use of trails, and a general increase in number of human residents and visitors may result in the permanent loss of large mammalian and sensitive species from the Bow Valley ecosystem. The Bow Valley is considered a potential fracture zone to large carnivore movements and genetic exchange in the central Rocky Mountains (Servheen et al. 1998).

In 1992, the Alberta Natural Resources Conservation Board (NRCB) conducted a public hearing regarding a proposed development by Three Sisters Resorts near Canmore, Alberta, which would serve as the turning point for wildlife corridor conservation in the Bow Valley. One of the recommendations of the hearing was the creation of an

interagency ecosystem advisory group to provide direction for commercial developments in the Bow Valley, particularly in relation to wildlife corridors. Hence, the Bow Corridor Ecosystem Advisory Group (BCEAG) was formed, and in 1993 the Bow Valley Wildlife Corridor Task Force and Wildlife Corridor Technical Committee were appointed to collect and analyse data, and provide reports to BCEAG. A 1994 report to the Bow Valley Wildlife Corridor Task force identified the importance of developing high levels of coordination between government agencies, landowners and non-government organizations in order to successfully implement a strategy for the conservation and restoration of habitat and vital linkage zones throughout the Bow Valley (Paquet et al. 1994).

As the largest land manager in the Bow Valley, Alberta Parks and Protected Areas (APPA) have identified wildlife corridor conservation as being a top priority, and the department, in conjunction with Alberta Sustainable Resources Development (ASRD), has been monitoring wildlife corridors in the area since the late 1990's, particularly around the town of Canmore. Corridor research further east in the valley, near Dead Mans Flats and Lafarge's operations at Exshaw was essentially lacking due to a paucity of internal research funds. Hence, an important piece of the regional wildlife corridor puzzle was missing.

Making the Connection

WWF Canada has identified wildlife corridor restoration and large carnivore conservation in the Rocky Mountains as being a significant issue for the organization. A key component of their partnership with Lafarge is therefore aimed at conserving corridors and protecting large carnivore populations in the eastern Bow Valley near Exshaw and Dead Man's Flats. Important government fiscal policy changes within APPA coincided with the development of the WWF-Lafarge alliance, and enabled APPA to join the partnership to achieve these common goals.

Prior to 2003, the APPA program fell under the Ministry of Environmental Protection, and a system for retaining revenue (either internally or externally generated) within the department did not exist. Hence, funding for projects was restricted to annual budgets, and there was no incentive for managers to seek external funding for research or conservation programs. However in 2003, the APPA program was transferred into the Ministry of Community Development, a ministry that routinely dealt with externally generated revenue. The ministry had in place a system for dealing with funds earmarked for specific projects, known as Dedicated Revenue Funds (DRF). DRF's were intended as a way of capturing revenue for ministry programming, without the funds going into the general provincial revenue coffers, and externally generated revenue could now be retained and directed toward specific projects within ministry programs.

As a result of these fiscal policy changes, a collaborative effort between Lafarge North America, WWF Canada, and APPA came to fruition in 2004, and the Eastern Bow Corridor Study was launched. The research goals of the study include: delineating wildlife corridors and habitat patches in the Eastern Bow Valley; determining habitat connectivity around human-use features such as wildlife highway crossing structures, mines, residential areas, trails and roads; identifying barriers to wildlife movement; and determining temporal activity patterns relative to human-use patterns across the landscape. Species of interest include cougar (*Puma concolor*), lynx (*Felis canadensis*), bobcat (*Felis rufus*), wolf (*Canis lupus*), coyote (*Canis latrans*), red fox (*Vulpes vulpes*), black bear (*Ursus americanus*), grizzly bear (*Ursus arctos*), elk (*Cervus elaphus*), moose (*Alces alces*), bighorn sheep (*Ovis canadensis*), white-tailed deer (*Odocoileus virginianus*), mule deer (*Odocoileus hemionus*), river otter (*Lutra canadensis*) and any species known to be rare to this area.

Within the umbrella of the Eastern Bow Corridor Study are five project components, including winter track transect monitoring and snow tracking, remote wildlife camera monitoring, monitoring wildlife highway crossing structures, an elk ecology project utilizing GPS technology to determine habitat patches and fine scale movement patterns, and human use trail monitoring within the study area. Due to the high level of expertise within APPA relative to wildlife corridors, carnivore movement patterns, and familiarity with the local landscape, project data is collected and analysed in-house by biologists with APPA, or by local biologists working under contract with APPA. The study is scheduled to be completed by 2010. The results of the study are essential to future land

use planning in the eastern Bow Valley and for decision-making relative to quarry rehabilitation.

Summary

In an era of budget cutbacks and staff reductions, Alberta Parks was able to benefit from a significant change in government fiscal policy that allowed the department to join a collaborative conservation partnership between WWF and Lafarge North America.

Involvement in the partnership has been instrumental in meeting APPA conservation and research goals, primarily identifying, protecting, and restoring wildlife habitat and movement corridors in the eastern Bow River Valley. Furthermore, through the partnership, alliances have been formed between government and industry, allowing for the integration of science into operational planning and site reclamation. WWF and APPA will continue to work with Lafarge to restore landscape connectivity and ensure the long term persistence of carnivore populations in the eastern Bow River Valley.

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