Voluntary Biodiversity Offsets: Improving the environmental management toolbox

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Public concern for the impact of human development on natural systems has been growing for the better part of fifty years. Within the last decade, the level of concern has led to public pressure for corporations and governments to demonstrate that they are addressing the environmental impacts of their activities. For example, many companies are developing innovative environmental initiatives and rigorous sustainability reporting. More recently companies have begun to focus on reducing their impacts to biodiversity.[1]

Public pressure is driving companies to consider reducing their impacts on biodiversity

Corporate concern for biodiversity conservation is increasing as companies seek to reduce, or even eliminate, their net environmental impacts. Several corporations in the mining and utilities sectors have adopted ambitious but feasible goals to have a 'net zero' or a 'net positive' impact upon biodiversity wherever they operate. However, it is seldom possible to eliminate negative impacts to biodiversity while still proceeding with development activities, no matter how rigorous the environmental management program, or how extensive the site restoration efforts. So how can companies achieve no net impact?

One answer is *voluntary biodiversity offsets*. Leaders in biodiversity management are beginning to use offsets to mitigate their unavoidable adverse impacts. With recent improvements in offsetting methodologies, particularly for the development of carbon trading markets, offsets are becoming a viable and effective tool in the corporate environmental management toolbox.

What are voluntary biodiversity offsets?

A biodiversity offset is a piece of land that is set aside from development to maintain its biodiversity values and thereby offset the effects of development on biodiversity values elsewhere.

Biodiversity offsets can compensate for unavoidable impacts of a development project

Biodiversity offsets are best applied near to where the development takes place, to offset any damage to natural vegetation, ecosystem function, animal habitat or other components of biodiversity, by improving biodiversity of similar type and quantity. They are intended to compensate for unavoidable, residual impacts to biodiversity caused by the development project, where avoidance, mitigation, and restoration activities are insufficient to protect the resident biodiversity. Offsets can involve land purchase, conservation easements, funding for biodiversity

[1] Biodiversity is defined by the Convention on Biological Diversity as "the variety of life on earth at all levels, including diversity within species, between species and of ecosystems."

management planning and implementation, or other protection measures. When offsets are applied in addition to other biodiversity conservation or restoration measures, they can help companies to achieve a *net zero impact* for specific projects.

Offsetting is the last in a series of environmental management steps that should be considered in the development process. During the preliminary stages of a project, the planners should first consider how to *avoid* impacting biodiversity, and then create a management plan that *minimizes* the project's impacts to biodiversity and *restores* biodiversity to the site if the project is temporary. The final step to implementing a rigorous biodiversity management plan is to *compensate* for any remaining negative effects through an offset project. This sequence of steps ensures that biodiversity offsets are used to improve a company's biodiversity management above and beyond what is otherwise possible; it is not intended to replace other management techniques.

Why do companies use offsets?

While there are clear biodiversity benefits to implementing offsets, what is the business case? Recent work indicates that companies receive substantial benefits by adopting best-practice methods[2]. Some of the major benefits that can be derived from well-implemented biodiversity offsets include:

Recent work indicates that companies receive substantial benefits by adopting best-practice methods

- **License to operate:** A "no net loss" biodiversity management plan can engender community support for a project and greatly improve a company's access to a region.
- **Reputation:** A strong environmental track record will help win the trust of permit officials and can minimize costly legal battles and project delays.
- **Access to capital:** International lending institutions are becoming increasingly strict with regards to project funding that involves environmental damage; therefore "no net loss" commitment can reduce funding restraints.[3]
- **First-mover competitive advantage:** As new compensatory environmental legislation evolves, the front-runners in biodiversity conservation will gain a competitive advantage while those who fall behind will lose time adapting.

Because complete restoration of biodiversity to a site is extremely costly and often impossible to achieve, it can be more cost-effective and environmentally beneficial to partially restore biodiversity on-site, and achieve remaining biodiversity objectives through an offset project.

[2] The International Finance Corporation's "Guide to Biodiversity for the Private Sector (2006)" lists the incentives for businesses to protect biodiversity.

[3] The Safeguard Policies, adopted by most international lending institutions, require that companies commit to the protection and conservation of biodiversity, through compensatory methods if necessary.

Designing biodiversity offsets

Let's assume that you're committed to making your project *biodiversity neutral*. You've reduced the project's negative effects on biodiversity by avoiding and minimizing impacts, and you've created a site rehabilitation plan to restore biodiversity at the end of the project's lifespan. Now you want to establish an offset. How do you go about doing this?

Because the concept is relatively new, best-practice methods for biodiversity offsets are still being established. This means that developers who lead the way will benefit from a high level of flexibility in designing an offset project. Conversely, the lack of established methods can make it more difficult to create a defensible offset.

The lack of best-practice methods for establishing biodiversity offsets means flexibility for early adopters

The credibility of an offset project can be increased by basing the offset on current legislative frameworks in the United States, Canada, Brazil, and Australia, which require developers to create offsets for specific aspects of the environment like wetlands and endangered species. These legislative frameworks and available literature concerning biodiversity offsets, suggest that the following crucial elements should be addressed in each offset project:

- Equivalence: impacted biodiversity values are the same as those that are offset
- Additionality: biodiversity benefits are a direct result of the offset project, and would not have existed otherwise
- Ratio: the biodiversity benefits of the offset are greater than the biodiversity costs the offset is intended to address, to account for risk of offset failure
- Timing and duration: the biodiversity offset is implemented when the negative impacts to biodiversity begin, and lasts for the duration of the impacts (e.g., the offset is established in perpetuity if the development project impacts are permanent).

Real-life offsets: Who is using them now?

Biodiversity offset projects are being implemented around the world at an accelerating rate, and several companies are establishing themselves as leaders in the field. For example, BHP Billiton and Rio Tinto recently committed to have *no negative impact* on biodiversity. However, given the long planning horizons of major developments, examples of fully implemented and rigorous offsets are difficult to find. Nonetheless, the intention is there, and for now small offset projects are serving as models for the larger ones to come. Some examples of these projects follow.

Recently, several companies have committed to have *no negative impact* on biodiversity

- **Dynatec Corporation of Canada:** Detailed plans are in progress to offset the impacts of Dynatec's Ambatovy Nickel mine in Madagascar. The 1700 hectare impact of the development will be offset by conserving 7100 hectares both on- and off-site. The company has developed a detailed monitoring system to calculate impacts as the mine progresses, and to ensure that the offset is preserved for the duration of the impacts.

- **Rio Tinto:** In July 2006, Rio Tinto designated the ilmenite mine site near Fort Dauphin, Madagascar as a pilot project for developing practices to achieve their commitment to having a *net positive impact* to biodiversity. Preliminary biodiversity assessments have been ongoing. The proposed offset program includes reducing the pressures of illegal charcoal logging on natural forests by planting fast growing forests for that purpose.
- **Wal-Mart:** In 2006, Wal-Mart made a ten-year commitment, totaling $35 million, to the National Fish and Wildlife Foundation for the creation of permanently protected reserves. Wal-Mart's "Acres for America" project is intended to ensure that the company preserves one acre of priority wildlife habitat for every acre developed by the company. To date, over 140 thousand acres of land have been protected in perpetuity. One project conserved a stretch of Lake Michigan shoreline that is highly desired for residential development. While Acres for America does not account for the company's international and indirect impacts, it is an example of how partnering with a non-government organization can facilitate the offset process.

Gaining social license

Organizations are employing an ever increasing range of best-management practices to improve environmental performance, including environmental management systems; sustainability reporting; environmental impact assessments; and carbon, sulphur dioxide, and nitrogen oxide accounting and trading. The primary purpose of these practices is to promote a more complete internalization of the costs of doing business by recognizing the direct and indirect impacts industries have on the environment. However, an important by-product of these initiatives is to gain social license and reap the market benefits associated with positive image and exemplary performance. The use of biodiversity offsets is another tool that organizations can use to promote the full accounting of costs and to achieve social license for their operations.

Biodiversity offsets can help companies to achieve social license

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