



## Short communication

## Policy flaws of biodiversity offsetting as a conservation strategy

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## ABSTRACT

Biodiversity offsetting is increasingly popular as a policy tool for pursuing economic growth and development with minimal environmental impact, through achieving ‘no net loss’ in terms of biodiversity. However, by analysing the application of biodiversity offsets, this article shows that there are significant organizational limitations to implementing the tool effectively. Our analysis of the tool is framed by the articulation of public policy and strategic analysis, and based on empirical case studies of French linear infrastructure projects. Three organizational limitations are identified: restrictive regulatory procedures, negotiations about appropriate ecological targets which are affected by unbalanced power relationships; and a preference for unambitious but “realistic” measures that are more likely to be implemented. These realities of biodiversity offsetting in practice have three detrimental effects on the conservation sector: they saturate the capacity of administrative organizations responsible for nature conservation; they destabilize nature protection associations looking for funding; and they generate ambiguity about protected area policies. As a consequence, implementation of the tool demands substantial human resource input for limited ecological gain. It destabilizes conservation policies and weakens environmental stakeholders. The latter should get involved themselves in biodiversity offset activities only if this involvement provides additional resources for their core conservation activities. By designing and managing areas for conservation, these activities also frame spatially the previous steps of the mitigation sequence. These conclusions suggest that we should not prioritize biodiversity offsetting as a tool for biodiversity conservation within biodiversity strategies.

## 1. Introduction

Biodiversity offsetting is becoming more common as a policy tool for achieving economic growth and development with minimal environmental impact through achieving ‘no net loss’ of biodiversity. A growing number of governments have introduced biodiversity offsetting into their conservation strategies or legislations. Biodiversity offsets are defined as “measurable conservation outcomes designed to compensate for significant residual adverse biodiversity impacts arising from project development after appropriate prevention and mitigation measures have been taken. In effect, offsetting seeks to compensate for losses to biodiversity in one place (and at one time) by creating equivalent gains elsewhere” (BBOP, 2012: 13). Biodiversity offsetting is now often presented as a key tool for biodiversity conservation, a situation that makes it worth evaluating. The aim of the study is to contribute to the ongoing international debate about the suitability of biodiversity offsetting as a strategy for conserving biodiversity.

In addition to numerous studies, which aim to improve the ecological basis of the tool (Bull et al., 2014), a growing literature evaluates the impacts of biodiversity offsetting (Calvet et al., 2015). Ecological

studies consider the ecological and technical challenges (Gonçalves et al., 2015) concerning metrics, ratios, spatial delivery of offsets, ecological equivalence, longevity of measures, and so on, and demonstrate that the tool cannot reach its core objective of ‘no net loss’ (Curran et al., 2015). Others studies evaluate the impact of the tool on the conservation agenda and raise questions regarding the regulatory aspects (Boisvert, 2015) and its potential conservation incentives (Gordon et al., 2015; Moreno-Mateos et al., 2015). This article aims to complement these evaluations by analysing the political and strategic processes which underpin its implementation. As reiterated by Devictor (2015), biodiversity offsetting should be understood for what it is: a governmental tool proposed by policy-makers. Our analysis uses the sociology of public action (Lascoumes and Le Galès, 2012) and strategy (Mermet, 2011) to evaluate the impact of organizational and political factors on biodiversity offsetting outcomes, based on the hypothesis that the tool can provide ecological benefits only if it strengthens the stakeholders acting in favour of biodiversity conservation. We demonstrate the existence of some major organizational limitations to the efficient implementation of biodiversity offsetting. These organizational limitations include the incapacity of the institutional system to

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implement the tool as expected and the unintended effects due to stakeholders' interactions. Our study is based on an empirical analysis of the French version of biodiversity offsetting. In France, a mitigation hierarchy was incorporated into environmental law in 1976 but offsets remained, for the most part, ignored or ill-applied until European Union (EU) directives were progressively transposed into French legislation from 2007 onwards. Since this date biodiversity offsetting has increased significantly, both in public debate and in practice. It has been restated as a key tool for biodiversity conservation in the new French nature protection law passed in 2016.

After presenting our analytical framework for analysing public policy and strategy, two aspects of biodiversity offsetting are considered. Firstly, we focus on the implementation of the tool, identifying three organizational limitations that affect its outcomes beyond any technical and ecological limitations. Secondly, we discuss three consequences of those limitations, analysing the influence of biodiversity offsetting on wider public policies which aim to regulate development in terms of conservation impacts. Having highlighted the destabilization of the conservation sector and its policies, we conclude by considering the efficiency and relevance of biodiversity offsetting.

## 2. Theoretical framework and methodology

Our concern is to evaluate the impacts of organizational and political factors on the ecological outcomes that can be achieved through biodiversity offsetting. As part of national legislation, biodiversity offsetting is a government tool that is intended to inform the implementation of public policy for regulating urbanization. Governmental tools are defined as technical and social systems which are used to organize the social relationships between a public authority and concerned stakeholders (North, 1990). The implementation of policies thus relies on ongoing negotiations between the stakeholders concerned; it is shaped by interpretation and appropriation, leading to both expected and unintended effects (Lascoumes and Le Galès, 2012). Our aim is to analyse the unexpected effects that potentially impact on the ecological outcomes of biodiversity offsetting. To identify these effects we use both public policy analysis and strategic environmental management analysis (Mermet, 2011). In line with this approach, we hypothesize that biodiversity offsetting could deliver ecological outcomes if it reinforces the capacity of those stakeholders who pursue ecological objectives. Strategic environmental management analysis thus assumes that biodiversity conservation outcomes are the result of strategic actions wherein 'environmental stakeholders' who prioritize biodiversity conservation have to work hard to make other stakeholders improve their practices or modify those projects that have an environmental impact. So conversely, processes that weaken environmental stakeholders are to be considered as detrimental. The goal is to understand whether biodiversity offsetting creates a clear framework for regulating development and whether it provides strategic resources for stakeholders involved in regulating development from an ecological viewpoint.

Understanding the impact of public policies necessarily requires empirical analysis. The analysis presented here is based on three case studies of linear infrastructures (including one gas pipeline and two railway line projects) and a sociological survey conducted with stakeholders concerned with biodiversity offsetting. Our qualitative approach (Olivier de Sardan, 1995) involves document analysis (general grey literature relevant to the mitigation sequence and other documents specific to the case studies), semi-structured interviews (5 to 14 semi-structured interviews per case study with stakeholders involved and 18 interviews with key people in the French biodiversity offset community, conducted in 2015–2016) and observations at conferences and discussion workshops.

## 3. Results

Implementing biodiversity offsetting generates a new system of stakeholders, in which the key players are project managers and environmental administrations responsible for evaluating dossiers and preparing notices for administrative decision. In parallel, the environmental authority checks that dossiers are compliant with procedures. The National Council for the Protection of Nature also provides recommendations to improve offset measures. Prefects give the final authorization. Consultancy officers are also part of this system as they carry out environmental impact assessments for project managers and sometimes implement biodiversity offset measures such as searching for sites and monitoring targets. Nature protection associations are also involved in biodiversity offsetting, sometimes to assist the administration in the identification of local biodiversity issues, or sometimes by taking part in designing the environmental assessment and implementing measures.

This system of stakeholders generates specifically *organizational* challenges which may influence the ecological outcomes of biodiversity offsetting (Section 3.1). The consequences of these organizational limitations include a destabilization of pre-existing conservation policies, and a weakening of environmental stakeholders (Section 3.2).

### 3.1. Organizational limitations to biodiversity offsetting: regulatory, political and economic aspects

#### 3.1.1. Regulatory limitations: the necessary simplification of biodiversity

The fundamental principles framing biodiversity offsetting, primarily *no net loss* of biodiversity, constitute a normative horizon but provide neither a clear qualitative or quantitative agenda nor a specific reference framework for evaluating the efficacy of the tool (Gonçalves et al., 2015). Biodiversity offsetting is thus managed based on existing procedures. On the one hand, the effectiveness of front-end regulatory procedures is an advantage from the point of view of the coherence of public policies. But, on the other hand, it can become a restrictive framework, as is the case for biodiversity compensation relative to the protected species procedure. The lists of species in the European Birds and Habitats directives provide a framework for biodiversity offsetting. Ecological diagnostics and impact studies are built with reference to these lists, because they indicate which species legally obligate the project managers. Administration officers also evaluate environmental studies using this framework, as it is the main tangible tool they have to negotiate with the petitioner. This is where the first level of restriction appears: far from the no net loss theory, this framework only takes into account the protected species, leaving out ordinary biodiversity. A second level of restriction arises because these lists are considered too large and not always relevant by operators and administration officers, because some protected species are locally abundant, in which case then the impact is considered as acceptable. It is also implicit that dealing with *all* protected and impacted species would be technically and economically unrealistic, both for the project managers who have to compensate for any impact and for the organizations responsible for instructing the projects. As a consequence, the final negotiation focuses mainly on locally endangered species, as already shown through an ecological analysis by Regnery et al., 2013.

#### 3.1.2. Political limitations: negotiation within unbalanced power relationships

Although the French policy infrastructure has officially adopted the sustainable development agenda, new projects generally benefit from political (government and local prefects) and financial support (mainly from the state and regions) (Capo-Canellas et al., 2016). This is evident in all three of our case studies: the basis of negotiations was that the infrastructure had to be constructed, the focus of the debate between project managers and the environmental administrations being to find common ground for 'satisfying biodiversity offset measures'. The

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