

Could well-designed offset policies actually increase loss?

Perverse incentives may yield unintended biodiversity outcomes

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The idea of biodiversity offsetting is that impacts on biodiversity from development are compensated for by actions elsewhere in the landscape. It's a simple idea but one that is generating a lot of controversy. Despite the noble-sounding goal of 'no net loss' of biodiversity, many are sceptical about how realistic this is, and for many reasons.

The pressures for development – be it for new suburbs, mines or farms – are powerful. In the past the impacts on biodiversity from development have often simply been 'written off' as the inevitable price of progress. Offsetting is an attempt to compensate for these impacts. Surely we can at least agree that offsetting, for all its imperfections, is probably better than nothing. Or is it?

In a recent paper we authored with Joe Bull (Imperial College London) and Chris Wilcox (CSIRO), we discussed how introducing biodiversity offsetting into the conservation policy mix can create incentives that might actively make things worse for biodiversity, potentially without us even realizing it (Gordon et al, 2015). This can occur even if the offset policy is rigorously implemented and the offsets successfully achieve their intended biodiversity gains.

Perverse incentives

So how could requiring developers to offset their environmental impacts actually be worse than not requiring it at all? Well, we identified four ways that could happen:

1. Exacerbating declines in baseline biodiversity trends

To determine what is required of an offset in order to achieve 'no net loss' of biodiversity, a baseline trend in biodiversity must be established from which to measure losses and gains. When a development takes place, the impact causes a drop in biodiversity. The aim of the offset is that, over time, biodiversity gains accrue at an offset site, with the net result of the impact and offset being a return to the baseline trend. The crucial point here is that if this baseline represents a declining trend in biodiversity (which is often the case here in Australia), then the offset gains, when added to the impact losses, are only required to maintain this declining trend.

Because of this, the selected baseline becomes 'locked in' by the offset policy: at best the offset gains result in maintaining the assumed baseline. In other words, it becomes a self-fulfilling prophecy across the impact and offset sites. If an unrealistically steep baseline of decline is used due to uncertainty or an incentive to exaggerate it (see below), this steeper rate of decline is then, perversely, made real by the policy. (See box 'Baselines: locked and loaded')

2. Winding back non-offset conservation actions

Offsets can usually achieve biodiversity gains in two ways: by actively generating new biodiversity, for example through restoration or revegetation; or, by 'averted loss'—averting biodiversity losses

that would have otherwise been likely to occur without the offset in place. The steeper the baseline of decline is assumed to be, the more credits a given offset site can generate, because more loss is assumed to have been averted.

Avverted loss offsetting is often less-expensive and easier than generating new biodiversity. So some parties involved in the offset exchange might have the incentive to assume a steeper baseline of decline than is justified from available information on biodiversity trends.

In addition, government-mandated offset schemes often state an intention to use offsets to 'reduce green tape' and ensure offset credits can be obtained at reasonable cost. Yet any conservation action done outside the offset policy effectively competes within the offset market, reducing opportunities for buyers of credits.

For example, the designation of land for conservation extinguishes the potential for these areas to be used as offsets. This argument was used against increasing the protection of parts of Cape York under the Wild Rivers legislation in Queensland – protections that subsequently were removed. Thus where the policymaker has an interest (direct or indirect) in facilitating development, there could be an incentive to reduce other conservation activities and maintain these steep baselines of decline, or even to worsen them.



Many people gladly give their time to community plantings. It's an opportunity to 'give back' to the environment. But what if the revegetation work was retrospectively exchanged for an equivalent amount of environmental damage by a developer? Would people still be happy about donating their time?

“If people react to discovering they're doing work that will be negated by biodiversity impacts elsewhere to generate profit for someone else, they might just withdraw their volunteer labor.”

