

## Biodiversity Offset Management Plans

It is *good practice* to develop and submit with a resource consent application a BOMP that clearly communicates objectives and methods, key roles and responsibilities, adaptive management and monitoring processes and provisions for stakeholder participation. The success of the offset depends on ensuring that an effective institutional structure is in place, that financial flows are sufficient and that systems are in place to ensure that the offset objectives are achieved.

The Business and Biodiversity Offsets Programme (BBOP) suggests that a good way to plan the implementation of a biodiversity offset is to develop a 'Biodiversity Offset Management Plan' (BOMP).

Developing a BOMP that details how key offset implementation issues will be addressed over an offset's project lifecycle and beyond can help offset planners organise necessary activities and anticipate challenges.

Such a management plan could usefully answer the following questions:

- What are the offsetting activities and targets, how do they link to impacts and where will they be carried out?
- How will the offset operate and be managed?
- Who is responsible for the range of management actions and what are the timeframes for their implementation?
- How will the offset be financed over the long term? (legal, institutional and financial aspects)
- How will the offset be adaptively managed?
- What are the risk and adaptive management considerations? (e.g. what are the triggers for adaptive responses, how will they be monitored and who is responsible for monitoring them?)

Developing a BOMP (often called an Ecological Management Plan in New Zealand) reduces risk of offset failure by assisting project managers in the organisation and implementation of activities necessary to achieve offset objectives. This is important because the people implementing an offset may not be those who developed it. The BOMP provides the framework from which to develop consent conditions. Thus, it is critical that a BOMP clearly states the offset's no net loss goal and states and describes the associated objectives (e.g. management targets, such as residual trap catch indices or area of vegetation community type canopy cover and condition) and methods to achieve objectives as well as details of monitoring so that the path to no net loss can be effectively managed. It is also important to avoid confusion by separating from the BOMP any other environmental management activities that are not part of the offset (e.g. amenity planting and wetlands constructed for stormwater treatment).

### What components should a BOMP contain?

In New Zealand, key components that should be included in a BOMP include:

**Identification of an offset's management objectives.** An offset's management objectives should be defined through following the Guidance on Good Practice Biodiversity Offsets in New Zealand (the Guidance). To facilitate successful implementation of the offset, these objectives should be clearly stated in a management plan, with all subsequent outcomes, activities, outputs and costs designed to support their achievement. In New Zealand, BOMPs or Environmental Management Plans have usually been required as a condition of resource consent after it has been granted. However, it is *good practice to develop a biodiversity offset management plan early, and to submit it with the resource consent application*. This is

likely to improve decision-maker and stakeholder confidence that an offset can be achieved and increase the likelihood that a consent application is successful and the decision less likely to be appealed.

- *Identification of necessary activities and outputs to achieve management objectives.* A management plan should detail what specific activities (e.g. possum control) and outputs (e.g. residual trap catch index targets) will be required to fulfil each of an offset's management objectives. The various timeframes for activities (e.g. pulsed rat control prior to bird breeding seasons) and outputs (e.g. rat tracking tunnel index measured during bird breeding season following rat control), as well as the roles and responsibilities of the various stakeholders involved in undertaking specific offset activities or producing specific outputs and reporting, should also be included.
- *Identification of necessary resources, or inputs, (funding, technical expertise, etc.) to carry out necessary activities and produce outputs.* BOMPs should detail what specific resources (funding, technical expertise, etc.) will be needed to successfully implement project activities and produce specific outputs over various timeframes (including after a developer's operations have ended, if that is necessary for no net loss to be achieved and maintained). This includes resource requirements for financing mechanisms like trust funds that may be required to support long-term offset activities. In addition, the plan should identify where resources such as funding will be secured. In the event there are specific funding gaps, project managers should detail how the gaps will be filled (see BBOP Offsets Implementation Handbook Sections 3.3 and 3.4—see below for link to handbook).
- *Identification of roles and responsibilities.* The BOMP should outline the final agreed roles and responsibilities (particularly for oversight, direction and management, operational activities and monitoring). This is further explored in the BBOP Offsets Implementation Handbook, Section 2.1. In New Zealand, provisions under condition of consent requiring the establishment of independent expert ecology review panels reporting to council can provide additional confidence that adaptive BOMPs are effectively implemented and outcomes reported.
- *Identification of assumptions and risks.* Offset developers need to identify the assumptions and risks inherent in whether the activities and outputs will achieve the outcomes and whether the outcomes are sufficient to meet the objectives. Identification of these risks allows for their management by offset implementers.
- *Identification of how the offset will be monitored and adapted to changing conditions.* Most (if not all) conservation projects need to have monitoring and adaptation components to ensure objectives are successfully being met. A BOMP should detail how an offset will be monitored, and what mechanisms will be in place to adapt project activities to changing circumstances (e.g. specify triggers for adaptive responses and what those responses will entail; see Section 4 of the BBOP Offsets Implementation Handbook for more details on offset monitoring and adaptive management). Further details on monitoring are provided below.

## Monitoring the offset

Without a means to measure an offset's assumptions (e.g. estimated targets for biodiversity gain) against reality, it is not possible to determine whether the selected actions are actually contributing to the offset's goals. Ideally, a project should be monitored at two levels:

1. *The offset's implementation performance.* Are the offset inputs producing the desired outputs (such as monitoring reports) as required by any conditions of the offset's resource consent?

2. *The offset's actual impact on the biodiversity of the area being managed.* Are the desired biodiversity outcomes being achieved? This should be assessed based on using the same accounting system or model employed to estimate no net loss.

Both levels require appropriate mechanisms to be developed to measure their respective performances. During the course of implementing the monitoring programme, it is important to establish a data management system to regularly collect and store the data used to inform the decision-making process. Ideally, such a system would allow for easy, routine collection and storage of data that can be accessible to a wider audience. In addition to providing the raw data needed to make decisions, a data management system will also serve a record-keeping function, showing when data were collected and what the conditions were at the time that data were collected. Additional characteristics that a monitoring plan should have under an adaptive management system include:

- *Offset assumptions are made explicit.* If an offset's assumptions are not made explicit at the beginning of the monitoring process, it runs of the risk of both creating confusion about what certain actions are supposed to achieve and what data need to be collected to test the assumptions' validity. Offset assumptions should be particularly explicit with respect to what effects specific actions will cause in project implementation. These are best described as quantitative targets to facilitate validation. Not explicitly stating a predicted 'cause-effect' can lead to confusion about why a particular management action is being carried out and its expected outcome, which could compromise management. For example, if an offset assumption is that predator control will lead to increased bird breeding success in the offset, the monitoring programme has to monitor the success of predator control where meaningful thresholds linking predator control to reproductive success exist (usually via some trap or tracking index). Depending on the scenario (e.g. the relationship between predator indices and bird reproductive success is unknown), the offset may also need to explicitly monitor the reproductive success of the birds in question. If predator control is not meeting target thresholds, or leading to the desired increase in reproductive success in the offset, the offset's assumptions and actions need to be adaptively managed.
- *Collect only the data needed to assess offset performance.* Monitoring should allow project managers to explicitly test assumptions/outcomes on which actions were taken. Quantitative targets used in monitoring should be developed from the accounting system used to estimate no net loss that allow for such testing and are explicitly stated in the BOMP. Only data that help measure these targets should be collected; data that do not should not be collected, as the limited monitoring resource will be unnecessarily diverted to an activity that does not advance the offset's goals.

## Analysing data and communicating results

Once data are collected, they need to be analysed and communicated to key audiences. In New Zealand, conditions of consent usually require reporting to the authority granting consent, but may also include other stakeholders, such as the Department of Conservation. Offset monitoring programmes that collect a lot of data, but lack subsequent analysis and communication of results, negate the benefits derived from collecting data in the first instance. Through regular dissemination of offset results to key internal and external audiences, project managers can promote transparency and allow for 'lessons learnt' to be shared with a wider audience. Failure to communicate data analysis results to key internal and external audiences in a timely manner could threaten project performance on a number of levels, including:

1. Poorly informed adaptive management decisions that do not result in desired change, or confusion about offset progress.

This document contains supplementary material only and is intended to be used in conjunction with the primary reference "[Guidance on Good Practice Biodiversity Offsetting in New Zealand](#)"

2. Decreased trust or confidence in the project or developer, particularly if some external audiences interpret a lack of communication of results as the developer 'hiding something' from them.

Given that some data analysis results could be technical and difficult for the layperson to interpret, it is also important that results be communicated in as simple and accurate terms as possible.

## **Linking results from monitoring data to adaptively manage the offset**

Based on the results of analysing monitoring data, offset managers can then validate the model and assumptions developed for the offset. If the monitoring data validate the model and its assumptions, then few (if any) changes need to be made in offset implementation. However, if the monitoring data show that the original model and assumptions are not being validated by the monitoring results (e.g. restoration planting targets are not being met), appropriate adaptations need to be made to the offset implementation. Through flexible application of this process, an offset can adapt, as appropriate, in response to the data being collected (e.g. if possum residual trap catch indices are higher than targets specified in the offset, the intensity of possum control may need to be increased and monitoring continue). As adaptive management is an ongoing process, once the first project cycle is completed, the next can begin, with subsequent iterations and modifications continuing (ideally) to improve project performance.

*In summary, it is good practice to develop and submit with a resource consent application a BOMP effectively communicating objectives and methods, key roles and responsibilities, adaptive management and monitoring processes and provisions for stakeholder participation.*

More detailed technical guidance on offset implantation is available from the BBOP at [http://www.forest-trends.org/documents/files/doc\\_3092.pdf](http://www.forest-trends.org/documents/files/doc_3092.pdf)