Biodiversity offsetting and compensation in the marine environment

Further reflections from a regional council officer's perspective

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We read with interest Tommaso Alestra and Jacqui Bell's article on biodiversity offsetting and compensation in the marine environment in the November issue of *Coastal News* (see box for article link). Alestra and Bell touched on a number of important points relevant to the increasing pressure of development on coastal marine ecosystems in New Zealand. We have three reflections we'd like to add to theirs from a regional council officer's perspective.

In a nutshell, these are: (1) a paucity of dedicated technical guidance is hampering efforts to understand and coordinate impact management in the coastal marine environment; (2) many of the interim measures being used to redress adverse effects are unproven and may not meet their stated objectives; (3) when contemplating the management of adverse effects on marine ecosystems, greater emphasis should be placed on the avoidance of those effects by applicants and decision makers.

Paucity of guidance

There is currently little direct guidance to support the management of adverse effects on biodiversity in the coastal marine environment in New Zealand. National-level guidance does, however, exist to support implementation of good practice impact management in general. This includes the New Zealand Government's 2015 guidance on the use of biodiversity offsetting, Local Government New Zealand's 2018 guidance on the use of offsetting and compensation, and the Environment Institute of Australia and New Zealand's revised 2018 guidance on ecological impact assessment in terrestrial and freshwater environments.

The overarching direction, and many of the principles identified, in these documents is very helpful for managing effects on coastal marine ecosystems. Nevertheless, as Alestra and Bell rightly note, they do not identify impact management issues that are unique to the coastal marine environment, they provide no examples or case studies from coastal marine ecosystems, and they offer no guidance on limits or constraints specific to those ecosystems. The need for such information is becoming increasingly apparent.

Over the past few years large-scale consent applications involving effects on coastal marine ecosystems in regions such as Auckland and Wellington have had to progress in the absence of any targeted technical direction. Experts involved in these consents have had to rely on international case studies and bespoke methods generated under significant time pressure. Opportunities to potentially coordinate and optimise outcomes at a regional level have been lost. All of this has significantly increased the chances of these projects resulting in poor outcomes in the marine environment.

We have to be careful about 'innovation'

Alestra and Bell note that many of the practices for redressing adverse effects in the coastal marine environment remain undeveloped. This is especially notable when considering that equivalent measures may be relatively well developed in other domains (for example, the terrestrial environment). For the reasons identified by Alestra and Bell, and others, developments in marine impact management practice simply have not kept pace and are now badly lagging.

Recent experience in this area indicates that this slowness is not for a lack of options or imagination when it comes to potential practical effects management measures. Alestra and Bell note just some of the increasing number of possibilities, from living seawalls to seaweed restoration. But there is a problem: the vast majority of these measures are unproven. Most of them have been imported from recent applications overseas where their efficacy may also be questionable. Long-term data on the

This article is published in response to an earlier article by Tommaso Alestra and Jacqui Bell ('Biodiversity offsetting and compensation in the marine environment'), published in *Coastal News* 76, November 2021, page 7. Download a copy of this article at: www.coastalsociety.org.nz/assets/Uploads/files/CN-76-2021-11.pdf#page=7

Decorator crab scrambling over red algae (Adamsiella) *beds in Wellington Harbour (Photo: NIWA Peter Marriot, NIWA).*

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reliability of most 'innovative' measures is hard to come by; generally non-existent.

Coupled with this uncertainty is the fact that many of these new techniques do not offset for effects in the necessary 'like-for-like' manner. They may provide benefits, but many of those benefits are to species and ecosystems not directly impacted by the development – hence why many of them can be considered only 'compensation', the lowest step in the effects management hierarchy. Alestra and Bell explain, for instance, how this comprehensive default to compensation was the case for the various measures planned to be used to redress adverse effects in relation to a coastal marine project they have recently assisted with.

It is important here to be clear: the compensation measures to be implemented – creation of mussel habitat, living seawalls, artificial tidal pools, etc. – will result, by definition, in a net loss of biodiversity value *even if they succeed*. Their perceived success, therefore, is a matter only of whether they are subsequently determined to comply with consent conditions, not whether the coastal marine environment gains or loses per se. The latter is locked in and will happen regardless. Those concerned with the effects of development on coastal ecosystems – and the contribution of compensation measures to alleviating them – should thus temper any nascent enthusiasm with such new measures.

Many of these 'innovative' techniques might more accurately be described as 'exploratory' – closer perhaps to research than application. In such circumstances decision makers might consider limiting the extent to which such novel approaches can be considered as part of a consenting decision (or consider them only where a backup option is provided in the event of failure). In Australia, for example, the contribution of 'other compensatory actions' implemented under the Environment Protection and Biodiversity Conservation Act 1999 – including research projects to inform future management initiatives – are capped at 10% of the overall offset package. This may help to ensure that uncertain and barely-tested approaches do not become the norm in impact management.

Avoidance of adverse effects remains the most important step

Alestra and Bell correctly note that, ultimately, avoidance remains the most important step in the effects management hierarchy. Much of the resource consenting conversation is had at the offset and compensate steps though (that is, at the opposite end of the hierarchy). This is particularly concerning in the marine environment as there is strong national direction, not just to apply the effects management hierarchy, but to avoid effects on many ecosystems, habitats and species entirely.

New Zealand Coastal Policy Statement (2010) Policy 11 directs the protection of indigenous biodiversity through the avoidance of adverse effects of activities on a wide range of indigenous taxa, ecosystems, habitats and community types. It further requires the avoidance of *significant* adverse effects, and the avoidance, remediation or mitigation of *other effects* on a range of further habitats and ecosystems. This direction is critical to the fulfilment of the objectives of the Aotearoa New Zealand Biodiversity Strategy 2020. Goal 10.4.2, for example, seeks to ensure no loss of the extent or condition of marine and coastal habitats which have been identified, mapped and designated as having high biodiversity value by 2030.

This national direction is invariably reflected in regional coastal plan policies and rules. Activities within recognised coastal sites of significance, in particular, are generally non-complying activities, meaning that an applicant must establish that the adverse effects of their activity on the environment will be minor, or that the activity will not be contrary to the objectives of the relevant plan or proposed plan. Applications for resource consent involving significant adverse effects on such ecosystems should necessarily contain a detailed options analysis to determine the case for proposing the activity in that location in the first instance.

Finally, there are limits to offsetting, and indeed to compensation as well. In the Wellington region, for example, these limits are stated in Schedules G2 and G3 of the proposed Natural Resources Plan for the Wellington Region. Applications to offset or compensate must not result in residual adverse effects following implementation. Consideration of offsetting is inappropriate where there is no appropriate site, knowledge, proven methods, expertise or mechanism available to design and implement that offset. When such limits cannot be met, applicants must instead revert to the mitigation, remediation or outright avoidance of adverse effects. It is incumbent on applicants, and especially the marine ecologists advising them, to rigorously test their applications – and their associated impact management measures – against these principles.

Future direction

The need for more technical guidance on impact management in the coastal marine environment has been previously identified by local government and others. Recognising this, we are currently working with a group of council officers and others to secure funding for new guidance in this area. The focus is intended to be on identifying and quantifying the value of practical measures (for example, installation of new habitat on seawalls, creation of rocky reef structures) that can be contemplated to meet mitigation, offsetting or compensation requirements, and on specifying how such measures could be assessed as part of a consenting decision. We hope to be able to share this work with the New Zealand Coastal Society in due course.

About the NZCS

The New Zealand Coastal Society was inaugurated in 1992 'to promote and advance sustainable management of the coastal environment'. The society provides a forum for those with a genuine interest in the coastal zone to communicate amongst themselves and with the public. The society's mission is to take a leading role in facilitating robust discussion and nationally-coordinated interactions to better manage and learn about our coastal and marine environment. The society currently has over 300 members based in New Zealand and overseas, including representatives from a wide range of coastal science, engineering and planning disciplines, employed in the consulting industry; local, regional and central government; research centres; and universities.

Membership applications should be sent to the NZCS Administrator Renée Coutts (nzcoastalsociety@gmail.com).