

Marine ecosystems and biodiversity

How can we improve marine ecosystems and biodiversity management in our regional plans? This is a summary of our initial ideas.

What are marine ecosystems and biodiversity?

With its exposure to warm ocean currents, an impressive array of islands and long complex coastline, Northland is recognised as a national and an international hot spot of biodiversity. The region's marine environment is scattered with sites that are home to threatened and endangered species and areas important to migratory species.

Indigenous ecosystems and species and the continued availability to a plentiful, diverse and healthy marine environment is highly cherished by Northlander's and visitors alike for recreation, food, amenity, and spiritual values.

This review deals with:

- Identification and management of indigenous biodiversity in the coastal marine area;
- Measures to improve the way we deal with aquatic pests;
- Ability to control the spread of unwanted mangroves; and
- Biodiversity offsetting – what it is and isn't, and how can it be best used to achieve desirable outcomes when managing the effects of development.

Not included in this review are:

- Terrestrial (non-aquatic) ecosystems (dealt with by district councils);
- Freshwater ecosystems, except for biodiversity offsetting (see water quality topic); and
- The harvest or allocation of fisheries (not a regional council function).

Overview of the regional plans review

This is one of 10 summary reports for the review of Northland's regional plans.

Northland has three regional plans:

- Regional Air Quality
- Regional Coastal Plan
- Regional Water and Soil Plan

We are required to review the regional plans every 10 years. We have reviewed all three regional plans at the same time.

The review is the first step to prepare a new regional plan. The review looks at:

- What we know about our resources and their use;
- Lessons learnt from administering the regional plans
- Current legal and policy drivers; and
- Feedback from key stakeholders and tangata whenua

The review concludes with options or recommendations for the new regional plan.

We've split the review up into 10 topics:

- Water quality
- Water quantity
- Marine ecosystems and biodiversity
- Coastal water space
- Air quality
- Significant natural heritage values
- Māori participation in resource management
- Natural hazards
- Infrastructure and mineral extraction
- Hazardous substances

For more information go to - nrc.govt.nz/newregionalplan

What needs to change in the regional plans?

1 The regional plans do not accurately identify significant ecological areas or give effect to the New Zealand Coastal Policy Statement

Section 6(c) of the Resource Management Act 1991 (RMA) identifies the protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna as a matter of national importance. The New Zealand Coastal Policy Statement 2010¹ (coastal policy statement) expands on this requirement in the coastal environment. Policy 11 of the coastal policy statement requires a two tiered to biodiversity protection as follows:

- Policy 11(a): Avoid adverse effects of activities on significant indigenous biodiversity. Clauses (a)(i-vi) list the values to subject to this high level of protection.; and
- Policy 11(b): Avoid significant adverse effects (and minimising other effects) on other biodiversity values (such as indigenous vegetation and habitats with important recreational, commercial, traditional or cultural values – again these values are listed in clauses (b)(i-vi)).

Provisions in the Proposed Regional Policy Statement for Northland give effect to these statement requirements through:

- Policy 4.4.1 that reflects the two tiered approach in Policy 11 of the coastal policy statement;
- Providing assessment criteria (Appendix 5) for determining significant biodiversity²; and
- Commitment to identification of significant biodiversity (the areas / values set out in Policy 11(a) and subject to the highest protection).

Regional plans must have regard to the Proposed Regional Policy Statement (and must give effect to an operative regional policy statement). Identification of significant biodiversity must be consistent with these criteria and the protection applied to biodiversity must also meet the requirements of the coastal policy statement. The current Regional Coastal Plan does not fully reflect the policy direction of either of these higher order documents.

The Regional Coastal Plan uses the Marine 1 (Protection) Management Area (Marine 1 Management Area) to identify significant conservation areas and applies a protection regime to such sites. However, the Marine 1 Management Area identifies and manages multiple values (biodiversity, cultural, historic, scientific, scenic landscape and amenity values). The Regional Coastal Plan lists nine criteria that are used to define Marine 1 Management Areas, four of which are biodiversity related (see Regional Coastal Plan Appendix 9³). This adds uncertainty for plan users as to the actual values sought to be protected.

Given the multi-value scope of the Marine 1 Management Area, the policy and rules also tend to be generic and do not apply a values-specific management regime (that is, they tend to be 'catch-all' in nature rather than targeted at specific values).

¹ Coastal policy statement: <http://www.doc.govt.nz/documents/conservation/marine-and-coastal/coastal-management/nz-coastal-policy-statement-2010.pdf>

² Proposed Regional Policy Statement Appendix 5 (Pages 176-177):- <http://www.nrc.govt.nz/Resource-Library-Summary/Plans-and-Policies/New-Regional-Policy-Statement/Proposed-Regional-Policy-Statement---Council-Decisions---Appeals-Version/>

³Regional Coastal Plan Appendix 9 <http://www.nrc.govt.nz/Resource-Library-Summary/Plans-and-Policies/Regional-plans/Regional-Coastal-Plan/>

In many cases Marine 1 Management Area applies over extensive areas (for example, the outer Kaipara Harbour) and it is often not clear what the biodiversity values are that are intended to be protected. While there are significant biodiversity areas included in Marine 1 Management Areas, it is unlikely the entire extent of every Marine 1 Management Area is significant on biodiversity grounds. There is also a risk that some significant biodiversity areas are not identified in Marine 1 Management Areas.

In other words, the approach to biodiversity management in the Regional Coastal Plan is 'blunt' both in terms of the manner of identification and the provisions that apply. While the Marine 1 Management Area appears to have been reasonably effective in protecting subject areas, there is a lack of certainty over what the actual values of concern are – hence, assessment and identification of actual biodiversity values at stake (or in some cases absence of) tend to emerge through the consent process rather than being identified clearly from the outset.

The coastal policy statement biodiversity provisions apply to the 'coastal environment' which extends inland beyond the foreshore to varying extents. The coastal environment has been mapped as part of the Proposed Regional Policy Statement. Responsibility for biodiversity provisions in the coastal environment is split between regional and district councils. The regional council is responsible for water bodies (including wetlands); in, on, or under the beds of rivers and lakes, and in the coastal marine area (below mean high water springs). The district council's are responsible for biodiversity on all other land.

1.1 Possible changes to the regional plans

To achieve the levels of protection required for biodiversity as set out in the coastal policy statement and Proposed Regional Policy Statement, we consider the identification of significant ecological areas in the coastal marine area is logical. This can be achieved through applying robust criteria based on Appendix 5 of the Proposed Regional Policy Statement to map significant biodiversity values (where practical). This process will need to be heavily informed by experts in marine ecology and pooling current scientific data. There may still be some areas where a broad zone/risk based approach may be preferable where values are high and pressures low.

Identifying significant marine biodiversity will also be of benefit to community groups interested in establishing marine protected areas. However, it is not realistic to map the complete range of values set out in Policy 11(a) and (b) of the coastal policy statement. To ensure areas that have not been mapped are appropriately protected, policy and robust assessment criteria are also likely to be required. This policy / assessment approach also appears to be the more practical option for the Policy 11(b) areas, as these are not likely to be mapped for practical reasons (e.g. cost, data deficiency and resourcing).

As noted above, significant biodiversity (Policy 11(a) areas) require a very high level of protection. Arguably the current Marine 1 Management Area rules generally achieve this level of protection - most activities require consent and those with known potential for significant impacts are non-complying or prohibited. Defining the scale of adverse effects that are acceptable (or not), will be particularly important in light of the recent interpretation of the coastal policy statement and the meaning of 'avoid adverse effects' (the Supreme Court 'King Salmon' decision⁴).

⁴ The decision of the Supreme Court in Environmental Defence Society Inc v New Zealand King Salmon Company Limited 2014 NZSC38:
<https://www.google.co.nz/#q=decision+of+the+Supreme+Court+in+Environmental+Defence+Society+Inc+v+New+Zealand+King+Salmon+Company+Limited+2014+NZSC38>

We believe the plan review process provides an opportunity to clarify what is meant by 'avoid' adverse effects in the context of biodiversity protection and this point has been reinforced through discussions with key stakeholders. This may include setting out the circumstances where effects are acceptable (e.g. where they are minor and / or temporary) and the extent to which beneficial effects can be taken into account (also see 'Biodiversity Offsetting' Section 3 below). This would then set the 'thresholds' (in plan rules and policy) for protection for areas of biodiversity value. These thresholds would also reflect the two-tier approach directed in both the coastal policy statement and Proposed Regional Policy Statement.

The above would mean more accurate identification of significant biodiversity values and a more targeted rule / policy regime designed specifically to manage biodiversity (as opposed to the more generic approach in the current Marine 1 Management Area provisions). This may also mean tighter rules around activities with known adverse effects within areas identified as having significant biodiversity value, and more assessment criteria and policy designed to ensure other values are identified and managed in decision making.

2 Marine pest management is a gap in the Regional Coastal Plan

Marine pests are a major threat to Northland's coastal environment and typically the obligation for pest management lies with those parties causing or adding to risks. The introduction and spread of marine pests is most likely to be associated with the movement and cleaning of contaminated vessels (and ballast water), equipment and stock, especially those originating from outside the region. Fishing equipment and marine farming equipment and stock also pose a risk for the introduction and spread of marine pests.

The New Zealand Coastal Policy Statement (coastal policy statement)⁵ and Proposed Regional Policy Statement⁶ call for pest management provisions in regional plans. Predicted climate change involving warming waters and increased storm intensity is also only likely to increase the risk of pest incursions.

Marine pests can be managed under the Resource Management Act (through regional plans) and under the Biosecurity Act 1993 through regional 'pest' and regional 'pathway' management plans. Information on the current Regional Pest Management Strategies review can be found on council's website⁷. Whilst there is some overlap between these two legal frameworks, they manage pests in different ways – see following table.

⁵ New Zealand Coastal Policy Statement Policy 12

⁶ Proposed Regional Policy Statement Policy 4.4.3(1)(e) and 4.4.3(3)(a)

⁷ <http://www.nrc.govt.nz/Resource-Library-Summary/Plans-and-Policies/Pest-management-strategy-review/>

Legislation	Main ways marine pests can be managed	Control measures available
RMA	Regional Coastal Plan provisions managing discharge and disposal activities, construction and maintenance of coastal structures and aquaculture.	Conditions in resource consents to assist with managing the risk of adverse effects caused by marine pests and can therefore take a preventative approach. Rules prohibiting or requiring resource consent for high risk activities.
Bio-security Act 1993	Regional Pest Management plans (known as pest management strategies prior to recent changes to the Biosecurity Act 1993).	Measures require presence of ranked pest organisms, and are therefore by nature responsive not pro-active. Pest species are identified that threaten cultural, environmental, social or economic values. These species are ranked into response categories ranging from total exclusion/eradication to action aimed at lessening some of the impacts.
Bio-security Act 1993	Pathway Management Plans.	These are able target ways to reduce the spread of pest species (including across regional boundaries) by identifying and managing risks and parties involved. They may include rules to achieve identified objectives.

Marine pest management is currently a weakness in the Regional Coastal Plan. While there are some references to invasive species/exotic organisms (such as rules preventing deliberate release of exotic organisms), these tend to be reactive and mimic measures available under the Biosecurity Act. The exception is in the MM5 area (ports), where ballast water is recognised in a policy as a vector for the spread of marine pests⁸. Feedback from key stakeholders confirmed that more should be done to better safeguard Northland from marine pests including making better use of RMA provisions.

2.1 Possible changes to the regional plans

More explicitly provide for pest management and in particular better manage high risk activities/high value sites. This should include:

- Policies and/or assessment criteria that identify potential risks;
- Policy support for consent conditions or rule standards to manage risks, for example:
 - requirement for surveillance of high-risk structures/activities; and
 - measures to prevent transport of pests such as controls on movement of and discharges from fouled vessels.

3 No guidance on biodiversity offsetting

Note: the following considers biodiversity offsetting for the coastal marine area and freshwater bodies.

Biodiversity offsets are measureable outcomes resulting from actions designed to provide new positive effects to counter residual adverse effects of subdivision, use and development on indigenous biodiversity. For example, a quarry proposal to extend operations involving loss of an area of indigenous wetland may propose restoration of a degraded wetland to offset the area of lost wetland. Whilst council has to take this into account when assessing the application, there is little guidance as to how to judge what is acceptable.

⁸ Policy 29.4.4(f)

In reality, we think that indigenous wetlands have the greatest potential for biodiversity offsetting proposals⁹. This is because development pressure often involves wetlands, their values are well recognised and there are many opportunities to enhance and restore degraded sites.

Environmental compensation is a similar concept. However it involves measures to counterbalance the adverse effects of an activity on identified values for those elements of biodiversity where either 'no net loss' is not achievable or where the exchange is distant from the site or not 'like for like', that is, involving values other than those identified as affected.

The Proposed Regional Policy Statement provides for biodiversity offsets to be considered in appropriate circumstances¹⁰ and gives a glossary definition that outlines principles to consider when assessing applications. There is no specific provision in the Proposed Regional Policy Statement for environmental compensation.

Offsetting is particularly valuable in relation to large projects (for example, infrastructure) with limited options for alternative sites/routes and where there are practical limits on the ability to completely avoid, remedy or mitigate adverse effects. In such circumstances, appropriately designed offsets can ensure that any biodiversity loss is adequately 'compensated' by positive effects.

Biodiversity offsetting and environmental compensation are relatively new concepts to regional planning and with the exception of a biodiversity enhancement fund associated with the Marsden Point Port development, they have not been used. However, the recent King Salmon¹¹ Supreme Court cases have increased the likelihood of biodiversity offsetting proposals due to a greater emphasis on avoiding adverse effects of development.

There are no mechanisms in any regional plan to provide for, or control the use of offsetting. There is a risk that without a framework biodiversity offsetting could:

- Be used in an ad hoc manner (different expectations, considerations and/or results).
- Be used in inappropriate circumstances (without assessing alternatives or where impacts are not appropriate for offsetting).
- Fail to achieve the outcomes sought.

3.1 Possible changes to the regional plans

Key stakeholders were generally supportive of us providing methods outlining the circumstances where and how biodiversity offsetting can be used or environmental compensation considered in the regional plans.

⁹ Does not include indigenous biodiversity managed by district councils.

¹⁰ Policy 4.4.3(3)(b)

¹¹ Supreme Court in *Environmental Defence Society Inc v New Zealand King Salmon Company Limited* [2014] NZSC 38

The factors that require resolution in any offset mechanisms are identified in the Table below.

Key issue	Explanation
Equivalence	Equivalence and similarity of compensatory action with the impact being addressed (that is, in-kind or out-of-kind).
Spatial proximity	Location of compensation in relation to the site of impact, with an assumption that closer is better.
Additionality	The compensation action must be a new contribution to conservation that would not have otherwise occurred.
Timing	Timing of demonstrating the compensation, relative to the timing of the impact.
Duration and compliance	The required longevity of the compensation action and security of delivery.
Currency and ratios	Metrics used to determine exchanges including mitigation replacement ratios.

(Key implementation issues identified by McKenney and Keisecker (2010)¹².)

4 Mangroves

Land-use changes, deforestation, and structural modifications in the estuarine environment (for example, causeways) have caused significant changes in sediment dynamics and input in some estuaries leading to increased mangrove growth and spread. Mangrove expansion is generally a symptom of these wider issues.

Mangroves can have both positive and negative effects on the social, economic and cultural wellbeing of communities. Communities are often polarised in their views about mangroves and the extent to which they should (or should not) be removed or managed. This reflects the debate between public use and enjoyment of the coastal marine area and the ecological value of mangroves and their role in the wider marine ecosystem.

The Regional Coastal Plan underwent a plan change (operative 2008) to relax the rules for pruning and removing mangroves in specific circumstances. Mangrove removal is only permitted (that is, no resource consent required) for keeping artificial land drainage channels clear. The only mangrove removal as a controlled activity is for maintaining sight lines on roads; otherwise all other mangrove removal is a restricted discretionary or non-complying activity.

4.1 Possible change to the regional plans

As discussed, the community often has differing views on mangrove removal, and therefore in principle will want the ability to participate in the resource consent process for proposals for large-scale removal. There are however situations where the rules for smaller scale mangrove removal may be more relaxed (for example, permitted or requiring no public notification). Key stakeholders generally support this position, and that applications to remove mangroves for amenity reasons need to be clear about the:

- rationale for removal, scale & methods, and
- outcome sought and achievability (i.e. being based on sound science).

We will also have the benefit of identifying high value areas of mangrove (significant ecological areas). Within these areas it's expected that the rules will be quite restrictive, however outside these areas we can probably be more relaxed.

¹² McKenney BA, Kiesecker JM 2010. Policy development for biodiversity offsets: a review of offset frameworks. *Environmental Management* 45: 165–176.

Consequently, a new policy and rule structure may look something like this for mangrove clearance and trimming activities:

- Permitted:
 - hand pulling seedling removal outside significant ecological areas;
 - keeping artificial land drainage channels where adjacent land is likely to become flooded;
 - road sight line trimming; and
 - mangrove removal interfering with the operation of port and wharf facilities.
- Controlled removal or pruning where mangrove growth has led to:
 - obstruction of existing lawful public access to and along the coastal marine area;
 - interference with the reasonable or safe use or operation of authorised structures or facilities on adjoining land or in the coastal marine area; or
 - the blockage of channels and stream mouths where adjacent land is likely to become flooded;
 - Mangrove invasion into areas with high ecological values that would be adversely affected by mangroves such as significant saltmarsh and wading bird habitat.
- Discretionary:
 - removal or pruning of mangroves which is not otherwise a permitted, controlled or non-complying activity.
- Non-complying:
 - Mangrove removal, pruning or grazing within significant ecological areas identified for mangrove protection.