

Purpose of this BN

This Briefing Note provides supporting information to Draft Resolution XI.9, An Integrated Framework and guidelines for avoiding, mitigating and compensating for wetland losses, developed by the STRP in response to Resolution X.10 (2008). It is important to note, however, that the selection of examples is not intended to represent endorsement or any comment on the level of implementation on the ground but simply to demonstrate the widespread adoption of the avoid-mitigate-compensate approach in all the Ramsar regions.

Background

Resolution X.10 calls for the development of “guidance in mitigation of and compensation for losses of wetland area and wetland values, in the context of Resolution X.16 on A Framework for processes of detecting, reporting and responding to change in wetland ecological character.” The research for this Briefing Note was conducted by the Institute for Biodiversity Law and Policy, Stetson University College of Law, USA.

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Avoiding, mitigating, and compensating for loss and degradation of wetlands in national laws and policies

Ramsar Draft Resolution XI.9 reaffirms the Contracting Parties’ commitment to avoiding negative impacts on the ecological character of Ramsar Sites and other wetlands as the primary step in any wetland management approach. Ramsar Draft Resolution XI.9 also states that if such avoidance is not feasible, appropriate mitigation and/or compensation actions should be implemented as far as possible. This Briefing Note provides examples of the variety of approaches that Contracting Parties have taken in adopting the “avoid-mitigate-compensate” sequence in laws and policies throughout the Ramsar regions.

Key messages and recommendations

The avoid-mitigate-compensate sequence is an important tool for maintaining the ecological character of wetlands, and it is not a novel or radical approach. There are a number of Resolutions and Recommendations already adopted by the Ramsar Conference of the Parties (COP) that recognize the three-stage approach to avoiding, mitigating (or minimizing), and compensating for residual wetland losses. These official documents emphasize the need to avoid wetland losses as an imperative.

A variety of national laws and policies are currently in place throughout the Ramsar regions which already recognize this approach in different forms, ranging from wetland-specific and biodiversity-related laws and policies to more general environmental impact assessment instruments.

While not all of these Contracting Parties use the precise avoid-mitigate-compensate formulation, they use interchangeable or related terms that are consistent in essence. Moreover, while Parties have adopted different forms of the avoid-mitigate-compensate approach, their approaches generally recognize that the avoidance or prevention of wetland losses is essential, in line with the COP Resolutions and Recommendations.

The examples highlighted in this review describe the various ways in which the avoid-mitigate-compensate sequence has been reflected in national laws and policies. The examples are not exhaustive and are not intended to indicate the level and effectiveness of implementation on the ground.

Introduction

This Briefing Note begins with explanatory definitions of the three terms ‘avoidance’, ‘mitigation’, and ‘compensation’. It then cites law and policy examples of the avoid-mitigate-compensate approach in each Ramsar region, proceeding

alphabetically. The terms “law and policy” are used in a general sense. They include legislation, such as statutes, acts, decrees, and ordinances; regulations and other rules promulgated by agencies that have the force of law; and policies, which depending on the jurisdiction may also have the force of the law or may merely provide principles or rules that guide a decision-making process.

Many Contracting Parties, recognizing the importance of the conservation and wise use of wetlands, have adopted some form of an avoid-mitigate-compensate approach to wetland loss and degradation. In this context, national, regional, and local laws and policies emphasize that negative wetland impacts should be avoided if at all possible. If such negative impacts cannot be avoided or prevented, actions should be taken to mitigate (minimize or reduce) this wetland loss or degradation. Finally, if wetland loss or degradation remains after such mitigation, actions should be taken to compensate for (i.e., offset) these residual impacts.

RELATED DOCUMENTS

Ramsar Resolutions and Recommendations which recognize the three-stage approach of avoiding, mitigating (or minimizing), and compensating for wetland losses and degradation

- Recommendation 2.3 (1984), Action points for priority attention
- Resolution VII.24 (1999), Compensation for lost wetland habitats and other functions
- Resolution X.12 (2008), Principles for partnerships between the Ramsar Convention and the business sector
- Resolution X.17 (Annex), Environmental Impact Assessment and Strategic Environmental Assessment
- Resolution X.19 (Annex), Wetlands and river basin management
- Resolution X.25, Wetlands and "biofuels"
- Resolution X.26, Wetlands and extractive industries

Relevant Ramsar Publications

- Ramsar Handbook 2, National Wetland Policies (4th edition, 2010)
- Ramsar Handbook 3, Laws and institutions
- Ramsar Handbook 18, Managing wetlands
- Ramsar Handbook 19, Addressing change in wetland ecological character

The avoid-mitigate-compensate approach is not limited to wetlands: while we find this approach in wetland-specific laws and policies, it is also present in many broader water-related laws and policies. Moreover, a number of Contracting Parties have adopted general biodiversity-related laws and policies which encompass wetlands, and these also promote an avoid-mitigate-compensate approach to habitat and species conservation. Finally, many Contracting Parties require an environmental impact assessment (EIA) for certain proposed actions that could affect wetlands, and an avoid-mitigate-compensate approach is a common feature of these EIA laws and policies.

Some Contracting Parties have been influenced and guided by the work of the Business and Biodiversity Offset Program (BBOP), a collaborative program of over 40 companies, financial institutions, governments, and civil society organizations, whose efforts have been recognized in Ramsar Resolution X.12 (2008). The BBOP vision is that “offsets are applied worldwide to achieve no net loss and preferably a net gain of biodiversity relative to development impacts” (Forest Trends, 2012). The use of compensation or offset markets as a tool for achieving no net loss or net gain is an emerging trend in many Parties but is beyond the scope of this Note.

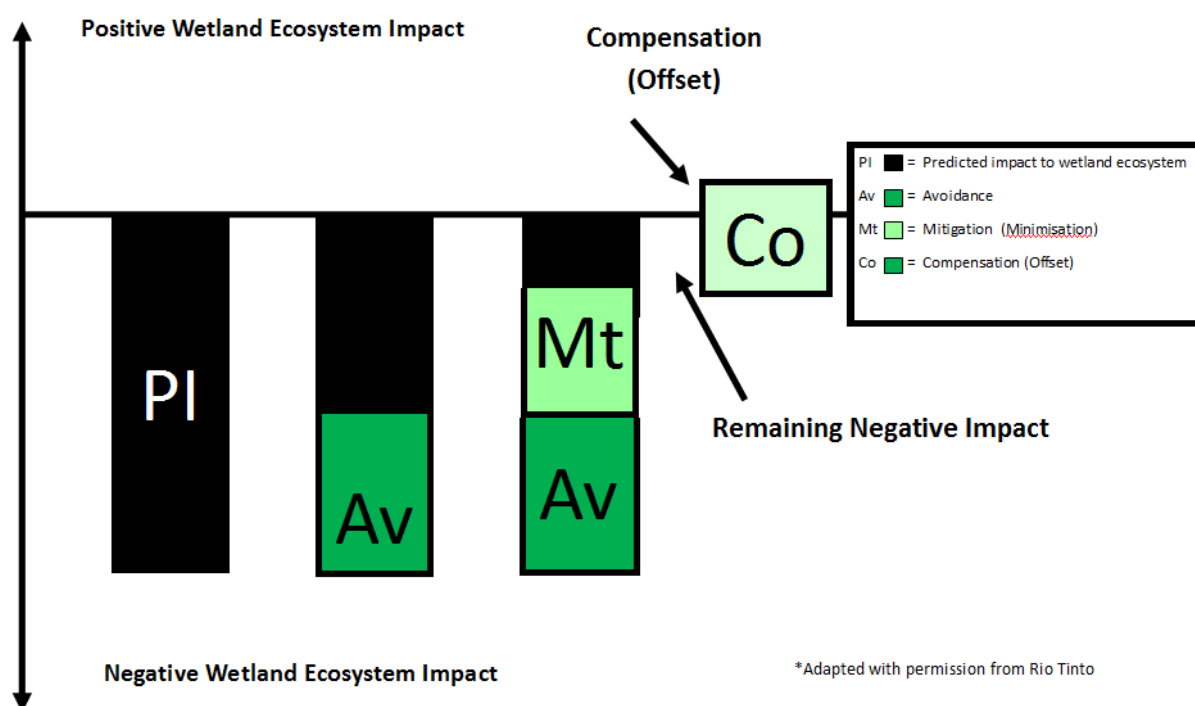
While this Briefing Note offers examples of the avoid-mitigate-compensate approach from all Ramsar regions, it should be reiterated that the examples are illustrative and not exhaustive.

Definitions

It is important to observe from the outset that the terms ‘avoid’, ‘mitigate’, and ‘compensate’ are used in a broad sense. Not every Contracting Party uses this precise formulation; others more closely align with the BBOP definitions and principles. Yet the concepts behind the terms are in essence consistent. For example, ‘prevent’ is the equivalent of ‘avoid’, and ‘reduce or minimize’ fits neatly under the definition of ‘mitigate’.

Avoidance: Avoiding wetland impacts involves proactive measures to prevent adverse change in a wetland’s ecological character through appropriate regulation, planning or activity design decisions. Examples would include choosing a non-damaging location for a development project, or choosing a “no-project” option when the risks to the maintenance of ecological character are assessed as being too high.

THREE-STAGE SEQUENCE FOR AVOIDING, MITIGATING (OR MINIMIZING), AND COMPENSATING FOR WETLAND LOSSES



Three-stage Mitigation Sequence Chart: Rio Tinto, 2008. Rio Tinto and biodiversity: Achieving results on the ground. Rio Tinto's Biodiversity Strategy. Available at: <http://www.riotinto.com/documents/ReportsPublications/RTBiodiversitystrategyfinal.pdf>.

Mitigation: Mitigating wetland impacts refers to reactive practical actions that minimize or reduce *in situ* wetland impacts. Examples of mitigation include “changes to the scale, design, location, siting, process, sequencing, phasing, management and/or monitoring of the proposed activity, as well as restoration or rehabilitation of sites” (Ramsar Resolution X.17 annex, para. 23). Mitigation actions can take place anywhere, as long as their effect is realized in the site where change in ecological character is likely. In many cases it may not be appropriate to regard restoration as mitigation, since doing so represents an acknowledgement that impact has already occurred: in such cases the term ‘compensation’ may be a truer reflection of this kind of response.¹

Compensation: Compensating for wetland impacts refers to actions that are intended to offset the residual impacts on wetland ecological character that remain after any mitigation has been achieved. An example of compensation would be an off-site wetland restoration or creation project, provided it adds value beyond what would have happened otherwise (i.e., relying on an al-

ready-planned benefit would not constitute compensation). Contracting Parties have highlighted the fact that it is preferable to compensate for wetland loss with wetlands of a similar type and in the same local water catchment (Resolution VII.24).

Avoid-mitigate-compensate approaches in Africa

Burkina Faso: The EIA decree (2001) reflects the precautionary principle to prevent damage to the environment as a consequence of human activities. Under this framework, an EIA must identify proposed mitigation or compensation measures, while avoiding or reducing the negative impacts to acceptable levels (Desire, 2007).

Egypt: The document “Guidelines of Principles and Procedures for Environmental Impact Assessment” (2009) describes the EIA process as the “systematic examination of consequences of a proposed project, aiming to prevent, reduce or mitigate negative impacts on the environment, natural resources, health and social elements as well capitalize on impacts of the project.”

Ghana: Environmental Assessment Regulations (1999) make an EIA mandatory for undertakings that drain wet-

¹ N.B. The interpretation of mitigation in this context does not relate to climate change mitigation.

lands. To enable the Environmental Protection Agency to make this assessment, an applicant must submit a report that contains a commitment “to avoid any adverse environmental effects which can be avoided on the implementation of the undertaking ... [and] to address unavoidable environmental and health impacts and steps where necessary for their reduction.” The report must also suggest “alternatives to the establishment of the undertaking.” Ghana’s Strategic Environmental Assessment (SEA) Manual (2004) defines mitigation measures as “[m]easures that avoid, reduce, remediate or compensate for the negative impacts of a strategic action.”

Namibia: The Environmental Management Act (2007) requires Environmental Assessments for all projects that may “have significant effects on the environment or the use of natural resources.” Among the principles of environmental management set forth in the Act are the prevention of damage to the environment and the reduction, limitation, or control of activities causing environmental damage. In practice, this can lead to or encourage an avoid-mitigate-compensate approach. For example, a Strategic Environmental Assessment for the central Namib Uranium Rush (2010) calls for the avoidance, minimization, mitigation/and or restoration of biodiversity impacts, as well as the implementation of biodiversity offsets.

South Africa: The National Biodiversity Framework (2009), which applies to wetlands, expressly discusses an avoid-mitigate-compensate (offset) approach:

In some cases, following avoidance and mitigation, there is still residual damage to biodiversity as a result of a development. In such cases, if the development is socially and economically sustainable, ecological sustainability may be achieved through a biodiversity offset. A biodiversity offset involves setting aside land in the same or a similar ecosystem elsewhere, at the cost of the developer.

Similarly, at the provincial level, the 2010 draft guidelines on biodiversity offsets in the province of KwaZulu-Natal suggest a sequence of “avoiding, minimizing, repairing or restoring” to address negative biodiversity impacts.

South Africa’s National Environmental Management Act No. 107 (1998), which specifically covers wetlands under development pressure, outlines sustainable development principles in an “avoid, minimize, remedy” sequence, whereby negative impacts to biodiversity are

“avoided” and unavoidable impacts are “minimised and remedied.”

Uganda: Wetland policies and regulations are in accord with an avoid-mitigate-compensate approach. The national Wetland Policy (1995) encourages the avoidance of wetland impacts, stating that there will be “no drainage of wetlands unless more important environmental management requirements supersede” and “[o]nly those uses that have been proved to be nondestructive to wetlands and their surroundings will be allowed and/or encouraged.” If a permit is issued to allow development in a wetland, the permit holder shall, within a year after the permit expires, “restore the wetland to as near the state it was as possible immediately before the commencement of the permitted activities” (National Environment Management Authority, 2000).

Avoid-mitigate-compensate approaches in Asia

China: The 1998 Forest Law and the 2002 Forest Vegetation Restoration Fee Levy, Use and Management Provisional Measures require development projects such as mining and construction to be conducted so as to avoid and minimize impacts to forest areas (Bennett, 2009). In addition, to offset any remaining impacts, developers pay a Forest Vegetation Restoration Fee, which forest management authorities “use for afforestation and forest vegetation recovery for an area no less than that taken up by the developer’s operations” (Bennett, 2009).

At a local level, the Town Planning Board of Hong Kong adopted a precautionary and “no net loss” approach to protect and conserve the Mai Po and Inner Deep Bay Ramsar Site (Advisory Council on the Environment, 2008). For example, proponents of residential developments within certain zones must

assess and mitigate all possible adverse environmental impacts arising from the project. In case ecological impacts are identified, mitigation measures to be implemented to ensure that the proposed development would not result in any significant residual impacts, should include, in the order of priority, avoidance of impacts, minimization of impacts, and compensation for loss of ecological functions.

India: Environmental impact assessment notifications are required for development projects that are likely to adversely impact sensitive ecosystems, including wetlands. The EIA and environment management plan



Malua BioBank, located in a conservation area in Sabah, Malaysia, issues biodiversity conservation certificates for the rehabilitation and preservation of critical orangutan habitat. Copyright © JPHTN. Available at: <http://www.maluabank.com/gallery.html#>.

should address “the prevention, elimination or mitigation of the impact, right from the inception stage of the project” (Notification I, S.O. 85(E), 1992).

Japan: The Environmental Impact Assessment Law (originally enacted in 1997), which requires an EIA for all large-scale projects that may adversely affect the environment, follows an avoid-minimize-compensate sequence (Tanaka, 2008). The Environmental Impact Assessment Guidelines, contained in The Third National Biodiversity Strategy of Japan (2007), make clear that avoiding impacts is the first step, stating that “avoidance and decrease of environmental impact[s]” be given priority, “rather than taking compensatory mitigation by creating an equal environment to the one that would be lost by the project.”

Malaysia: The State of Sabah’s Environment Protection Enactment (2002) requires an EIA or a proposal for mitigation measures for development projects that may have a significant adverse impact on the environment. A ‘mitigation declaration’ is defined as “an agreement signed by a person before commencement of any [prescribed] development activity.” The law imposes a duty to “avoid, remedy or mitigate any adverse effect on the environment arising from any activity ... whether or not such activity is ... permitted.”

Mongolia: The Law on Environmental Impact Assessment (2001) requires an EIA for development activities that may adversely impact the environment. The EIA must identify potential adverse environmental effects, as well as measures to “minimize

and mitigate” them. The environmental protection plan requires consideration of measures to “reduce, mitigate, or eliminate the adverse impacts” identified in the detailed EIA. In addition, the Law on Environmental Protection (1995) establishes that citizens shall have the duty to “prevent adverse environmental impacts and to restore or compensate for any damage or loss in the form of adverse environmental impacts arising from their conduct.” The law refers to compensation in the context of natural resources valuation, stating that a resource’s “economic value shall form the basis for determining the level of payments and fees for resource use and the amount of compensation payable in the case of adverse environmental impacts and direct damage.” Restoration costs may be part of the compensation.

Vietnam: The 2011 decree on “protecting strategic environmental assessment, environmental impact assessment and environmental protection commitment” requires that any strategic environmental assessment report must include “measures to prevent and mitigate adverse environmental impacts.”

Avoid-mitigate-compensate approaches in Europe

European Union: The EU has endorsed an avoid-mitigate-compensate approach in several contexts. For example, guidance on Article 6 of the Habitats Directive 92/43/EEC (2000) defines mitigation as “measures aimed at minimising or even cancelling the negative impact of a plan or project, during or after its completion.” Guidance on these measures calls for a “hierarchy of preferred options” where avoiding impacts is the highest preference (European Commission, 2001). Where no alternative solutions exist (i.e., where impacts to a Natura 2000 site cannot be avoided) and adverse impacts remain, then “compensatory measures” must be

Approach to mitigation	Preference
Avoid impacts at source	Highest
Reduce impacts at source	
Abate impacts on site	
Abate impacts at receptor	Lowest

European Commission, 2001. Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites: Methodological Guidance on the Provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC. Available at: http://ec.europa.eu/environment/nature/natura2000/management/docs/art6/natura_2000_assess_en.pdf.



Severn Estuary, UK. Example of avoidance of changes to ecological character by government denial of permit for tidal energy project. Copyright: © Severn Estuary Partnership. Available at: <http://www.flickr.com/photos/severnestuary/5163687605/>.

assessed. Compensatory measures may consist of restoration, creation, enhancement, and/or preservation of habitat.

The Water Framework Directive (2000), which applies to wetlands, directs Member States to adopt legislation that encompasses the concepts of avoiding impacts, mitigating impacts, and pursuing “supplementary measures” (such as wetland restoration).

The EU 2020 Biodiversity Policy Strategy has set a target of “[h]alting the loss of biodiversity and the degradation of ecosystem services in the EU by 2020, and restoring them in so far as feasible” (European Commission, 2011). To ensure no net loss of biodiversity and ecosystem services, the Strategy contemplates compensation and offset schemes.

Russia: The Water Code (2006) authorizes the federal government to “implement measures and arrangements to prevent adverse impact on water and mitigate its consequences with respect to federally-owned water bodies and water bodies located in more than two constituent territories of the Russian Federation.”

Serbia: The Law on Environmental Impact Assessment (2004) defines an EIA as a “preventive measure” that aims to determine and propose the implementation of measures to “to prevent, reduce or eliminate” the adverse impacts of certain projects.

Avoid-mitigate-compensate approaches in the Neotropics

Colombia: A technical guide for the elaboration of wetland management plans in Colombia (2006) applies the

Ramsar Convention’s wise use concept and calls for wetland impacts to be prevented, controlled, absorbed, repaired, or compensated in the context of wetland zonation. With respect to mangroves, Colombia has adopted measures requiring forest management plans to include measures to “prevent, mitigate, control, compensate, repair, and correct” potential negative environmental impacts resulting from forest usage activities (Ministerio de Ambiente, Vivienda y Desarrollo Territorial, 1995).

An example of a local law employing a variant of the avoid-mitigate-compensate approach is Decree 062 de 2006—Alcaldía Mayor de Bogotá, which establishes mechanisms and guidelines to create and implement environmental management plans for wetlands located inside the urban perimeter of Bogotá. The decree uses the terms “prevent, mitigate, compensate” in the context of administering and implementing wetland management plans.

Costa Rica: The 1998 Biodiversity Law states that “the Ministry of Environment and Energy, in collaboration with other public and private organizations, will prepare a system of parameters” to take appropriate conservation measures, “including mitigation, control, restoration, recuperation and rehabilitation” of ecosystems. Similarly, Costa Rica’s EIA rules (2004) follow a sequence requiring “prevention, mitigation, and compensation” measures depending upon the project’s impact.

El Salvador: El Salvador’s Law of the Environment (1998) requires an EIA, following a similar sequence or hierarchy of “prevent, attenuate, compensate” for proposed projects on fragile or protected areas and in wetlands.

Peru: Peru’s National Environmental Impact Assessment System Law (2001) provides for a similar approach of “prevent, mitigate, or correct.”

Trinidad and Tobago: The 2001 Certificate of Environmental Clearance Rules require that applicants conduct an EIA, which may include “an account of the measures proposed to avoid, reduce, mitigate, or remedy” any identified significant, adverse environmental impacts.

Uruguay: The 2000 General Environmental Protection Law embraces, as part of its policy and goals, the “prevention, elimination, mitigation, and compensation of negative environmental impacts.”

Venezuela: The 2008 Biodiversity Management Law states that “preventive, mitigating, corrective, and compensatory” measures are to be considered to manage

the impacts on ecosystems and components of biological diversity. Venezuela also has specific norms applicable to mangroves, which call for “prevention, minimization, mitigation, and correction” measures to address potential environmental damages resulting from a proposed project or activity (Decreto No. 1843, 1991).

Avoid-mitigate-compensate approaches in North America

Canada: The Federal Policy on Wetland Conservation (1991) espouses a commitment to no net loss of wetland functions on federal lands and waters. The Implementation Guide for Federal Land Managers (1996) states that to achieve the goal of “no net loss,” project proponents must adhere to a “strict sequence of mitigation alternatives—avoidance, minimization, and compensation.”

Several Canadian provinces also follow the hierarchical progression of avoid-minimize-compensate, including Alberta, New Brunswick, Prince Edward Island and Nova Scotia (Rubec and Hanson, 2009). Interestingly, the New Brunswick Wetlands Conservation Policy (2002) contains a particularly strong endorsement of avoidance of wetland impacts. It commits to “no loss of Provincially Significant Wetland habitat and [to] no net loss of wetland functions for all other wetlands” in the province.

México: The General Law for Ecological Equilibrium and Environmental Protection (2011) requires the “prevention, minimization, or reparation” of adverse environmental impacts from projects/activities. The law also requires an EIA for projects on wetlands, mangroves, lakes, rivers, lagoons, and estuaries to “preserve and restore” the impacted ecosystems in order to “avoid or reduce to a minimum” adverse environmental impacts.



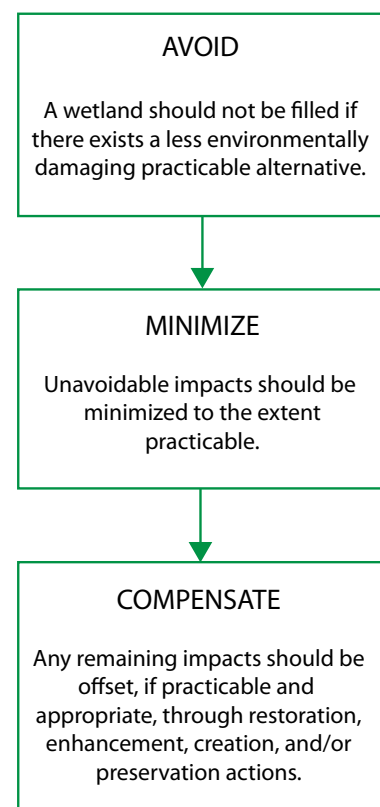
Corkscrew Swamp Sanctuary, US Ramsar Site that includes wetland compensation. Copyright: © Allyson Webb.

USA: The federal Clean Water Act (CWA)(1972, as amended) requires permits for impacts to aquatic resources, including most wetlands. Environmental Protection Agency regulations (2008) require an “avoid-minimize-compensate” sequence. Thus, for CWA permits, a permittee should avoid wetland impacts to the extent practicable. If impacts cannot be entirely avoided, they should be minimized. Any remaining wetland impacts must be compensated for through restoration, enhancement, creation and/or preservation. Many states and local governments have similar requirements. At the federal level, compensation provided through wetland banks is the preferred mechanism (EPA, 2008).

Avoid-mitigate-compensate approaches in Oceania

Australia: Australia has numerous forms of biodiversity offset programs, and a common feature is an avoid-mitigate-compensate framework. For example, Queensland’s Environmental Offsets Framework Policy of 2008 provides that “[e]nvironmental impacts from development must first be avoided and if not avoidable then minimised” and “[e]nvironmental offsets are only applicable when the impacts cannot be avoided or minimised.” Thus, Queensland’s Policy for Vegetation Management Offsets (2011) emphasizes that a

land-based offset may be proposed by an applicant for particular development activities . . . only . . . where the applicant has demonstrated to the chief executive that the development has first avoided and minimised the impacts of the development on vegetation prior to proposing an offset.



U.S. National Research Council, 2001. *Compensating for Wetland Losses Under the Clean Water Act*. Available at: http://www.nap.edu/openbook.php?record_id=10134&page=66.

Western Australia offers similar guidance for its environmental offset program. Biodiversity Guidance Statement No. 19 (2008) notes that “[m]itigation, in an environmental context, refers to a sequence of considerations designed to help manage adverse environmental impacts, which includes (in order of preference): avoidance, minimisation, rectification, reduction and offsets.” A position statement (2006) underscores the hierarchical nature of the approach: “[E]nvironmental offsets represent a ‘last line of defense’ for the environment, only being used when all other options to avoid and mitigate environmental impacts have been considered and exhausted.”

The Kingborough Biodiversity Offset Policy in Tasmania (2010) echoes the theme: “Offsets will only be considered where . . . [t]he proponent has adequately demonstrated the need for an offset, including that all effort has been made to avoid and minimise impacts on natural values, including alternative locations or designs for the development.”

Fiji: The Environment Management Act 2005 governs environmental impact assessments and states that “the approving authority must take into account whether there exist any technically or economically feasible measures that would prevent or mitigate any adverse environmental or resource management impact.” Additionally, approval of the EIA “may be subject to the requirement of an environmental cash bond to be deposited into the [Environmental Trust] Fund as a security to cover the probable cost of preventing or mitigating any environmental damage to the area and its surroundings.”

New Zealand: The Resource Management Act of 1991, which can apply to activities affecting wetlands, imposes “a duty to avoid, remedy, or mitigate any adverse effect on the environment,” which can be seen to be the equivalent of an avoid-mitigate-compensate approach. In the context of a Biodiversity Offsets Programme, the Department of Conservation (2010) has affirmed that

The priority is to avoid impacts, first by transparent exploration of all alternatives, then by avoidance through careful footprint design. The second priority is to minimise the impacts of a project on biodiversity; the third is restoration. A biodiversity offset is the final option in this ‘mitigation hierarchy’.

The Department of Conservation (2011) emphasizes that “[i]t is essential to note that offsets do not replace

the mitigation hierarchy, but are a means to address the residual adverse biodiversity impacts arising from project development after appropriate avoidance and mitigation measures have been taken.”

Conclusion

This review of environmental laws and policies demonstrates that an avoid-mitigate-compensate approach is common throughout all Ramsar regions. It is neither new nor radical, and it appears in many forms all over the globe. The approach is often applied to all ecosystems, not just wetlands.

It is important to note, however, that the examples presented in this review are not intended to suggest the level of implementation on the ground but have been chosen to illustrate the widespread adoption of the approach in a variety of laws and policies. The extent to which these laws and policies are applied in a manner that results in effective avoidance, mitigation, and compensation requires further study.

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